

## Best Practices and Benchmarking World Class Higher Education

### WAM 4-1-1

## Perceived Value Index in Indonesian Higher Education: The Impact of Academic Services Delivery System

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### *Abstract*

The study aims to find an index of perceived value based on students' perception of academic services delivery system. The index was calculated based on the methodology used by the perceived value indexes. Thus, a score of perceived value was calculated by estimating a multiple benefits and sacrifices of students' perception. The sample used consisted of 115 students of Indonesian private universities. The results show that the perceived value index (on a scale 0 to 1) is approximately 0.963. The strategic location become determinant factor of perceived value, however the effort should be devoted to learning by students as an element of sacrifices. Another interesting finding is library facility as a determinant factor of the academic services delivery system.

**Keywords:** Perceived Value, Index, Higher Education, Academic Service Delivery System

### INTRODUCTION

The most important sector in national economy development is education. The top priority of Indonesia's economic development was addressed to education sector in a large portion of the state budget. Education is very important in improving the quality of life of human resources. It is needed for economic development in order to improve the quality life of Indonesian people. With an integrated and superior quality of education, human resources in a country will have higher value. Hence, with the knowledge that they have, it can be used to create new innovations to improve the quality as a whole human life and as a preparation to face the challenges of global competition [1].

The higher education sector has undergone major changes in the world that led to increased competition for the institutions in this sector [2] [3]. The increasing number of higher education will encourage the emergence of competition in facilities and infrastructure. Increasing competition motivates every educational institution to offer the best quality of education, so that it can enhance the benefits received by the student. Each private university in

Indonesia are also trying to improve their quality to enhance their value.

The recent growth of the number of students enrolled has decreased in private universities. This is presumably caused by competition among private universities in Indonesia are getting tighter. Each offers a range of their advantages. Academic service delivery system is one of the important factors to improve the quality of higher education.

The creation of value has been identified as a means of differentiation and crucial to the creation of sustainable competitive advantage [4]. To achieve organizational targets and objectives, the company have to change their emphasis in measuring of satisfaction so as to incorporate a profound understanding as to what the client most values [5].

The purpose of this study is to determine the students' perception which is calculated by perceived value index and their impact of academic services delivery system. The results of this study are expected to contribute and provide additional useful information for the private universities in term of improving the quality of education and also to determine the most appropriate form of academic service to improve the quality of education.

### LITERATURE REVIEW

According to Zeithaml [6], the perceived value is the overall evaluation that consumers makes of a product based on perceptions of that given in exchange for that which is received. Various other studies have also adopted this perspective on value. Customer-perceived value (CPV) is the difference between the assessment of the potential customer benefits and all of the sacrifices they feel. Total perceived of customer benefits is the monetary value of a number of economic benefits, functional, and psychological that they expect from the specific market that offers products, services, personnel and image involved. While sacrifice is a customer perceived of his/her effort in evaluating its efforts

to hope, acquire, use and dispose of energy and time in certain markets, including monetary, expenditure of time, effort, and psychological [6]. Thus, the perceived value is the differences between the total benefits of the customer perceived and the customer's sacrifices. Total values for the customer include the collection of expected benefits derived by customers such as products, services, employees, and imagery. While the sacrifices of the customer is a collection of the sacrifices that the customer expects will occur in evaluating, acquiring and using a particular product or service such as monetary cost, time, energy, and thought. While Zeithaml and Bitner [6] defines value as the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given [6]. So, values are related with students' perception from benefits which they get rather than spending cost like money, time, and effort. The customer might think that the quality which is given by the private universities are good and get a satisfaction experience with these private universities. However, maybe he/she did not get any value if it is compared with spending cost to get the quality from that institution.

There is a different definition between the distribution channels for goods and services. Distribution channels, especially for goods, are intermediaries that connecting between suppliers and consumers. It is different in the distribution of services, especially in education. For that we have to determine the distribution channels that are specific for education sector as a tool or an effort to increase the availability and accuracy / suitability of services that will enhance the use of or income from users. Goncalves [7] mentioned that there are three major components in Academic Service Delivery, namely:

#### 1. Participants

Quality of service is highly depend on the quality of the people who provide quality service. The quality can be obtained since the beginning of the recruitment program, while providing training for new employees, training and development for employees in general, and when evaluating the performance of employees and management are conducted periodically. All programs should be oriented to customer needs. The main purpose is to train employees to have a high performance, high accuracy in work context, low fault, working energetically and not easily stressed at work. All these reasons will provide an assurance to customers that they will receive a high quality in service. In the education sector, especially higher education, services can be demonstrated by the level of lecturers in providing teaching materials, learning materials and teacher discipline. While in the academic services can be demonstrated by the friendliness and speed of the academic staff in providing academic services and easily get a wide range of academic services.

#### 2. Physical Evidence

In the services sector requires a physical support to produce quality service. It is important to remind the subscriber to the service quality. Physical evidence can be formed through logos, colors, design, corporate image, print materials, employee uniforms, decorations, or even standardization of services that can provide real guarantee of a company that provides the best service to consumers. In distribution services (place), both tangible and intangible elements, consider all the elements of real obvious importance for universities such as all the equipment and attractive design. For tangible elements can be seen from the campus facilities that support the teaching activities, as well as the comfort of classrooms that are used in teaching activities.

#### 3. Process

The efforts of the company in offering services to meet the needs and desires of consumers is an element of the process. Consumers will feel the satisfaction of the service directly when using the services of the company. It required good cooperation from the various divisions within a company in order to create a quality service. Likewise will take place in a university, we need a process of academic service quality in order to create a good perception in the minds of students. The process of academic services include services provided by academic staff to support learning activities, such as the schedule of lectures, academic transcript services, to the process of preparation for graduation day.

In higher education, academic service delivery systems is very important to be considered. Academic service delivery system include how the company's business or educational institutions delivering services to its customers. Hence, to achieve the students expectations, higher education institutions have to provide a service as well as possible. Thus, it will eventually form a high customer value in the consumers view. Based on this, the role of good employees who are involved in the interaction with the customer in the service delivery process to determine the success of marketing services can perform the value for its customers. Therefore, in highly competition among private Higher Education, using the synergy of the elements of customer relationship and academic service delivery systems to customers aim to achieve customers both new customers as well as competitors' customers, development productivity with collaboration with customers and enhance customer value in the consumers point of view.

Based on the promise above, hypothesis testing between the academic service delivery system to the students' perception which is calculated by perceived value index can be formulated as follows:

There is significant influence of academic services delivery

system on students' perceived value.

## METHOD

The present study was addressed on the index of perceived value based on students' perception of academic services delivery system. Therefore, unit analysis of the present study is individual, that is, the students. Interviews on pilot study (30 participants) were conducted prior the data collection. The purpose of the pilot study is to ensure that the instructions and content of the questionnaire are clear and understandable. Interview results were used to validate the operational definition of perceived value and academic services delivery system assessment. Then, data were collected as a part of activities on the present study. Due to time constraint, convenience sampling was employed. The sample size is 115 students from several higher educations in Indonesia. Factor analysis and regression analyses are needed for this type of research (Cohen et al., 2003[8]; Hair et al., 2006 [9]; Kim & Mueller, 1978[10]; Saunders, et al., 2003[11]), and thus, efforts were made to encourage the targeted respondents to respond. Questionnaires and rating-forms were distributed through the "put and pick up system" to the potential respondents, and they were instructed to put the completed questionnaire in a return envelope addressed to researcher.

## RESULTS AND DISCUSSION

In order to test the validity of the questionnaires, the Pearson's product-moment correlation method is used. Items questionnaire are declared valid if the value of Pearson Product-Moment correlation is greater than the critical value. Critical  $r$  values set at 0.3 [12]. The results of the validity coefficient are greater than the critical  $r$ , so it can be concluded that all of the items are valid. While the Cronbach Alpha Coefficient Methods were used to test the reliability (see table 1).

Table 1 - Result of Reliability Test

Variable	Reliability Coefficient
Academic Services Delivery System (X)	0.816
Perceived Value (Y)	0.768

### Student Perceptions of Higher Education in Academic Services Delivery System

Scores from each of the indicators in the service delivery system is derived as follows: ideal score (if each item gets the highest score) multiplied by the number of items multiplied by the number of respondents question, that is equal to:  $1 \times 4 \times 115 = 460$ . Lowest score (if each item received the lowest score) multiplied by the number of items multiplied by the number of respondents' question that is equal to:  $1 \times 1 \times 115 = 115$ . After that, created a range of scores and then divided into five categories. Students' perceptions on academic services delivery system is shown in the table 2:

Table 2 - Students' Perceptions of Higher Education on Academic Services Delivery System

INDICATORS	SCORE	CATEGORY
Teaching ability of lecturer	451	Good
Quality of lecture subject matter	434	Good
Ability of academic staff	425	Good
Responsiveness of academic staff	387	Quite good
Academic services system	390	Quite good
Classroom facility	435	Good
Classroom comfortness	412	Comfortable
Laboratorium facility	411	Good
Library facility	456	Good
<b>TOTAL</b>	<b>4290</b>	<b>Good</b>

Source: primary data, October 2011

Based on Table 2, the total score classification indicates that students' perceptions of the higher education in academic services delivery system is in good level. This indicates that the efforts made by the higher education already good by students' perception where the higher education can delivered the good service to their students.

### Students' Perceived Value

Indicators to measure students' perceived value index, namely benefits and Sacrifices, has good reliability and validity. Each dimension is measured through several statements relating to the benefits and sacrifices. This instrument was formulated in the index scale, which we call the Perceived Value Index (PVI). This index can be used to measure the level of benefits received, and how much sacrifice incurred based on the level of correlation between these two dimensions. This index ranges between 0 (zero) to 1 (one). Index value closer to 1 (one) indicates the higher the students' perceptions on the perceived benefits exceed the sacrifices that have been made to take lectures. The Index formulation is as follows.

$$PVI = \frac{(n_{pos}/n)(\alpha_{pos}) + (n_{neg}/n)(\alpha_{neg}) + 2r(n_{pos}/n)(n_{neg}/n)}{(n_{pos}/n) + (n_{neg}/n) + 2r(n_{pos}/n)(n_{neg}/n)}$$

Where  $n$  = the number of items in the perceived value;  $n_{pos}$  = number of items benefit;  $n_{neg}$  = number of items Sacrifices and  $r$  = the correlation between benefits and sacrifices that shape students' perceived value.

Based on calculations of Perceived Value Index, the index result is 0.963, which means that the students' perceptions on benefits beyond the Sacrifices that have been performed during the study in the university is high. So it can be proven that the existing system of academic services at the university to support students in taking courses, and the sacrifices that have been made by the student does not have a considerable effect on the benefits obtained.

### The Effect of Academic Services Delivery System on Students' Perceived Value

As we mentioned earlier that in order to test the hypotheses, it can be seen from the coefficient of correlation between these two variables. According to Sugiyono [12], coefficient of correlation in 0.5 or above indicates a fairly strong correlation, on the contrary, if lower than 0.5 the correlation

was weak. The result of correlation analysis can be seen in table 3:

**Table 3 - Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.812 <sup>a</sup>	.659	.658	2.37322
a. Predictors:		(Constant),		
system_delivery_services				

Table 4 showed that the coefficient of determination (R<sup>2</sup>) of 0.659, its means that 65.9 percent of the students' perceived value can be explained by the academic services delivery system.

Then, to test the strengthened of the influence between system delivery values and students' perceived value, results show as follows:

**Table 4 - Anova**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1231.42	1	1231.42	218.64	.000 <sup>a</sup>
Residual	636.43	113	5.63		
Total	1867.86	114			

a. Predictors: (Constant), system\_delivery\_services

b. Dependent Variable: perceived\_value

Based on statistical analysis F value is 218.642. Where the criteria for rejection of H<sub>0</sub>, if: F<sub>value</sub> greater than F<sub>table</sub> or F<sub>0</sub> > F<sub>α, n-1</sub>, by taking the significance level (α) of 5%, then from F distribution table F<sub>table</sub> got value for F<sub>0.05, 1, 114</sub> = 3.92. Because of this F value (218.642) is greater than 3.92 and significancy of F-test is 0.000, it can be concluded that H<sub>0</sub> is rejected. This means that there was a positive relationship between the academic service delivery system and students' perceived value.

Furthermore, in order to know to what extent the effect of academic service delivery system on the perceived value of students, the results shown as follows:

**Table 5 - Coefficient**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.50	1.66		2.08	.03
system_delivery	.70	.04	.81	14.7	.00

a. Dependent Variable: perceived\_value

Criteria for hypothesis testing is as follows:

- Criteria for rejection of H<sub>0</sub>, if: t<sub>value</sub> greater than t<sub>table</sub> or t<sub>0</sub> > t<sub>α, n-3</sub>
- Beta coefficient for the academic service delivery system is 0.812, meanwhile the value of t is 10.622 to take the α significance level of 5 percent, then the value of t-table or t<sub>0,025 115</sub> = 1.98, therefore H<sub>0</sub> is rejected. It can be concluded that academic services delivery system affect the students' perceived value.

## CONCLUSION

This study has already done to prove that service delivery system is significantly influence the students' perceived value. The results showed that 65.93% of students' value influenced by the service delivery system. There are other factors that have a significant impact on students' perceived value, such as student relationship management, lack of promotional activities by universities, lack of alumni's belonging, lack of anticipated changes in terms of the lack of innovation that lead to increased consumer interest, the image of people which assume that the lack of guarantees for graduates to be employed in reputable company.

Efforts to improve academic service delivery system will enhance the competitive advantage of a college. This system should adopt some of the systems that have been implemented in other universities both locally or internationally. This new system can be accessed by students using information technology. For example, students can access their learning progress by e-learning facilities, or to pay tuition fee using ATM or mobile banking technology. Furthermore, the future research can be done by looking around effort in building better relationships with customers as well as the most appropriate promotional efforts to be made by each college.

## REFERENCES

- Stevens & Weale. *Education and Economic Growth*. National Institute of Economic and Social Research. London. 2003
- Kirp, D.S. Einstein and the Bottom Line: The Marketing of Higher Education//Harvard University Press. Cambridge, MA. 2003
- Maringe, F., P. Gibbs. *Marketing Higher Education: Theory and Practice*. Open University Press. McGraw-Hill Education. England. 2009
- Christopher, M., A. Payne, D. Ballantyne. *Relationship Marketing: Bringing Quality, Customer Service and Marketing Together*. Oxford: Butterworth-Heinemann, 1991.
- Woodruff R. Customer Value: *The Next Source for Competitive Advantage*//Journal of the Academy of Marketing Science, 1997, Vol.25-No.2-pp.139-53.
- Zeithaml, V. A, Bitner, M.J. (2000). *Service Marketing : Integrating Customer Focus Across The Firm 2nd Edition*. Mc Graw Hill, Richard D. Irwin, Boston, pg. 24.
- Goncalves, K. P. (1998). *Service Marketing A Strategic Approach*. Prentice Hall, Upper Sadle River : New Jersey, pp. 80.
- Cohen, et.al. *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences Third Edition*, Published 2002, Routledge.
- Hair, et.al. *Multivariate Data Analysis*, Sixth Edition. Pearson Prentice Hall, 2006
- Kim & Mueller. *Factor Analysis : Statistical Methods & Practical Issues*. SAGE University. Printed in the United

State of America. 1978.

- Saunders, et.al. *Research Methods for Business Students Fifth Edition*. Pearson, 2009.
- Sugiyono. (2007). *Metodologi Penelitian Bisnis (Pendekatan Kuantitatif, Kualitatif, R&D)*. Bandung: Penerbit Alfabeta, pg. 116.

