# Website Quality 4.0 on Admission of New Students (PMB) at Higher Education

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*Abstract*—This study aims to measure the quality of higher education websites in Bandung using the Webqual 4.0 method based on user ratings of actual perceived quality of expected quality so as to make it easier for prospective students to obtain the information needed and make it a one stop information. The research method used in this research is descriptive quantitative method. Researcher use primary and secondary data with Convenience sampling technique, the minimum number of respondents based on the Bernoulli method is 97 respondents. Data analysis techniques using Importance Performance Analysis (IPA). The results of this study in terms of usability are in the important category and the achievement level of satisfaction is 96.46%, in terms of Information Quality is in the important category and the level of achievement satisfaction is 96.01%, in terms of Service are in the important category and the level of achieving satisfaction 96.20 %.

*Keywords: information quality, level of satisfaction achievement, service, usability, web quality*

## I. INTRODUCTION

University X as an Islamic Private University, ranked 194 of the best tertiary institutions in Indonesia based on Webometrics accessed in December 2018. Measurement from the user's perspective based on the quality of the website pmb.X.ac.id using the Webqual method. Website users are translated into two points of view of consumers, namely Parents and Prospective Students. The website object selection is pmb.X.ac.id because this website is the main access to a brief profile of University X. This research aims to improve website management, used as an evaluation material for the university to improve website services. This is urgent to do given the increasing competition in marketing education services in Indonesia each year and as a material to maintain the satisfaction of prospective new students in the selection process for registration.

Based on these problems, looking at the results of the Observation result the need to prove the quality of the Website, the researcher conducted a research conducted by the University Website under the title "Website Quality 4.0 on PMB at Higher Education".

## II. LITERATURE REVIEW

According to Laudon and Traver [1], Chaffey [2], O'Brien and Marakas [3], Kotler and Keller [4], it can be concluded that the website is a system site information that is accessed effectively and efficiently for information according to the needs and desires of the user. The website is based on the development of information and communication technology that accompanies the organization to realize and express information to internet users.

According to Lockhart, quoted by Wijaya D [5], marketing education services is a way in which students, parents, school employees, and the community perceive schools as community support institutions to serve education service customers.

Webqual is a measurement of website quality developed by Stuart Barnes and Richard Vidgen, based on Quality Function Deployment (QFD), the process of "voice of customer" in the development and implementation of products or services [6]. From QFD, Webqual is compiled on the end-user perception of a website [6], and is a development of Servqual used in measuring service quality in general.

New version of Webqual 4.0 uses three categories (usability, information and service interaction). Usability categories are based on human relations, computers and web usability, including ease of navigation, compatibility of designs and images to users. Information categories are based on general information systems and relate to the quality of website information for users, for example the accuracy, format and relevance of the information presented. The service interaction category relates to the services perceived by users [6].

WebQual was developed in 1998 and experienced a literacy dimension of questions. WebQual is based on three dimensions forming the quality of web design content Barnes and Vidgen [6], namely: (1) The quality of website information (web information quality). (2) Website design quality (site design quality). (3) Usability quality.

Yaghou explain the WebQual model of each version in different studies [7], namely (1) WebQual 1.0. Namely usefulness, easy of use, entertainment, and interaction. (2) WebQual 2.0, Namely quality of website, quality of information, and quality of service interaction. (3) WebQual 3.0, namely usability, information quality, and quality of

service interaction. (4) WebQual 4.0 is a development of WebQual versions 1 to 3 developed from SERQUAL.

Later, according to Barnes and Vidgen WebQual 4.0 has 22 instruments namely usability, information quality, and interaction service [6].

TABLE I.     PRIOR RESEARCH

| Name | Year | Title | Result |
|---|---|---|---|
| •Ernesto Ersalda Barus<br>•Suprapto<br>•Admaja Dwi Herlambang<br>[8] | April 2018 | Analisis Kualitas Website Tribunnews.com Menggunakan Metode Webqual dan Importance Performance Analysis.<br>Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer<br>Vol. 2 No. 4 Hal. 1483-1491 | • Whereas all three variables are in the high category with the level of satisfaction in the satisfied category.<br>• There are similarities in the use of the Webqual 4.0 method and the Importance Performance Analysis instrument. |
| •Himawat Aryadita<br>•Dyah Ayu Widyastuti<br>•Niken Hendra<br>•Kusuma<br>•Wardani<br>[9] | 2017 | Analisis Kualitas Layanan Website E-Commerce thdp Kepuasan Pengguna Webqual 4.0.<br>Jurnal Sistem Informasi Universitas Brawijaya, Vol. 10 No. 1 Hal 29-35 | Usability (0.70), Information Quality (0.70) & Service Interaction Quality (0.65).<br>using Webqual 4.0 method. |
| •Ike Putri Kusuma -wijaya<br>•Cut Maisyarah Karyati<br>[10] | August 2016 | Pengukuran Kualitas Website Fashion E-Commerce menggunakan Metode Webqual 4.0. Jurnal Ilmiah Informatika dan Komputer Vol. 21 No. 2 Hal. 113-128 | • The highest group of questions includes a good reputation, attractive appearance, increasing competence or competition, and website design according to website type.<br>• There are similarities in using the Webqual 4.0 method |
| •Ida Giyanti<br>•Erni Suparti<br>[11] | May 2016 | Penilaian Kualitas Aplikasi Halal MUI dengan Webqual 4.0 dan Pengaruhnya terhadap Keputusan Penggunaan.<br>Jurnal Teknik Industri Universitas Setia Budi, Vol. 13 No. 2 Hal 91-98 | • Based on the measurement results of the Halal MUI application quality it is known that from a maximum scale of 4.00, users give a score of 3.08 which means that according to the perception of users of the Halal MUI application has good quality.<br>• There are similarities in using the Webqual 4.0 method. |
| •Widya Sastika<br>[12] | March 2016 | •Analisis Pengaruh Kualitas Website (Webqual 4.0) terhadap Keputusan Pembelian pada Website E-Commerce Traveloka. Jurnal SENTIKA 2016, ISSN: 2089-9815 Hal 649-657 | •Website quality variable significantly influences the purchase decision variable, where the website quality variable can explain the purchase decision variable by 40.5%, while (100-40.5%) = 59.5% is explained by other variables.<br>• There are similarities in using the Webqual 4.0 method |
| •Gazal Punyani<br>[13] | 2015 | An Assessment of Costumers'e E-Service Quality Perception Through WebQual Scale: A Study On Online Banking Service (Web Perbankan India).<br>Mody University of Science and Technology,<br>Lakshmangarh, Rajasthan, India. | •Banking websites must provide relevant and timely information as well as web designs that must meet customer needs.<br>•Using web quality dimensions. |
| •Suci Ramadhan Arifin<br>•Eko Nugroho<br>•Bimo Sunafri Hartono<br>[14] | July 2015 | •Analisis Kualitas Layanan Website Universitas Hasanuddin dengan Metode Webqual 4.0 Modifikasi<br>•Jurnal TEKNOMATIKA Vol. 8 No. 1 Hal. 81-92 | •The highest question groups include good reputation, attractive appearance, increasing competence or competition, and website design according to the type of website.<br>There are similarities in the use of the Importance Performance Analysis method. |
| •Rola Hengki<br>[15] | 2014 | Analysis Quality Dino Tour Travel Management Website,<br>Bandar Lampung University. | •The website is said to be in a good category so it fulfills aspects of webqual. |
| Nour Mohammad Yaghou [7] | 2014 | Internet Bookstore Quality Assesment: Iranian Evidence.<br>University of Sistan and Baluchestan, Zahedan, Iran. | • Describe the index value of similar websites, namely Amazon. Amazon index value is still higher, so there must be an increase in quality in order to compete<br>• Using the same research method, Webqual. |
| •N. Elangovan [16] | 2013 | Evaluating Perceived Quality of B-School Websites.<br>Department of Management Studies, Christ University, Bangalore. | • Factors in usability and service interaction are predicted to most affect user satisfaction. Information also has a significant influence on User Satisfaction.<br>• Using the same variables and research methods. |
| •Sakharosa Citra Dewi Fortuna<br>•Lutfi Harris<br>[17] | 2012 | Factors Influence Individuals, organizations, and systems to the Acceptance E-banking.<br>University of Ibadan, Nigeria. | All of dependent variables influence attitude in the usage of e-banking<br>• Use the same research variables. |

University X as a higher education institution uses pmb.univX.ac.id to register at University X and transact and interact with prospective new students. Website quality measurement is done by WebQual and Importance Performance Analysis (IPA). Evaluation based on importance and performance on WebQual quality is depicted in the IPA matrix. WebQual Quality in the IPA matrix, provides information for management in the strategic treatment of quality. A framework for thinking is described as follows:

Source: Data processed, 2019

Fig. 1.  Conceptual framework.

Objective of this study is to determine whether the services provided by pmb.univX.ac.id match the user's expectations, where the website is perceived (actual) with a level of expectation (ideal) balanced. So that a good website feature is known or needs improvement.

## III.  RESEARCH METHOD

The research method used is exploratory research method which aims to make the exploration of dominant indicators in assessing the quality of the website factually and accurately so that it can be measured the nature and relationship between the phenomena studied.

Importance Performance Analysis is technique used to identify important performance factors that must be demonstrated by an organization in meeting the satisfaction of their service users

In this study primary data were obtained from questionnaires distributed to respondents namely pmb.univXac.id website users who were active registrants and / or students while secondary data used in this study were obtained from the internet, literature sources such as books, articles, journals, and previous research.

In this study, the population determined by the author is the users of the pmb.univX.ac.id website, identified as X university students, the Bernoulli method is used to find the minimum number of samples used in this study with a confidence level of 90%, the level of accuracy (α) 10% so the minimum number of samples is 97 respondents.

The sampling technique used in this study is convenience sampling technique where each element of the population or sample is chosen based on coincidence or meeting and is available to be a respondent without any consideration.

## IV.  RESULTS AND DISCUSSION

Assessment of the Performance Level and the importance of the overall pmb.univX.ac.id is needed to measure the average rating of respondents.

Overall average of the level of performance is 330, the respondents stated that so far the performance of the web

pmb.univX.ac.id is quite good. Meanwhile the level of importance has an average score of 343 which states that this website is an important thing to be developed in order to achieve better student targets, and overall the level of satisfaction of respondents to this website is 96.23%.

TABLE II.  RECAPITULATION PER DIMENSION

| Dimensions | Scores | | Quadrant |
| --- | --- | --- | --- |
| | *Level of Performance* | *Level of Importance* | |
| Usability | -0,0016 | -0,0094 | 3 |
| Information quality | 0,0031 | 0,0111 | 2 |
| Service Interaction | -0,0012 | -0,0003 | 3 |

Partially based on dimensions, usability has a performance level score of 330 with quite good category and based on the importance level with a score of 342 is in the important category and the level of satisfaction achievement is 96.46%. This indicates that the ease of operation, appearance, competence and performance of the web are important things that must be considered so that the level of performance is better.

Dimensions of Information Quality have a score of 331 performance level with a fairly good category and based on the level of importance with a score of 344 are in the important category and the level of achievement of satisfaction is 96.01%. Quality information such as providing information that is accurate, trustworthy, precise, relevant and easy to understand is important on the web, therefore this website must continue to improve the level of performance so that it can be better.

The Service Interaction dimension has a score of 330 performance levels with a fairly good category and based on the level of importance with a score of 343 in the important category and a satisfaction level of 96.20%. This interaction is needed to be able to absorb information that can reduce user misunderstanding from the admission process so that this interaction path must be easier by utilizing emerging technologies, so that user ratings can change for the better.

From the various dimensions discussed above, it can be mapped into an Important Performance Analysis (IPA) diagram so that we can find out which statements or parts must be quickly addressed so that the web pmb.univX.ac.id becomes better and is no less competitiveness with other new student acceptance websites, for more details can be seen in the picture below:
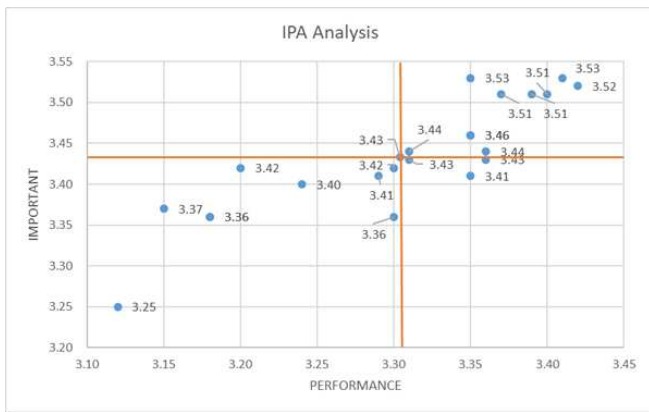
Fig. 2. IPA analysis.

Source: Data processed, 2019

## V. CONCLUSION

Overall average of the level of performance is 330, respondents stated that so far the performance of the web pmb.X.ac.id is quite good. Meanwhile the level of importance has an average score of 343 which states that this website is an important thing to be developed in order to achieve better student targets, and overall the level of satisfaction of respondents to this website is 96.23%.

## ACKNOWLEDGMENT

## REFERENCES

[1] K.C. Laudon and C.G. Traver, E Commerce 2017 13th Ed. Pearson, 2018.

[2] D. Chaffey, Digital Business and E Commerce Management 6th Ed.. Pearson, 2015.

[3] J.A. O'Brien and G.M. Marakas, Management System Information. McGraw Hill: New York, 2010.

[4] P. Kotler and K.L. Keller, Marketing Management 15th. New Jersey: Pearson Education Limited, 2016.

[5] D. Wijaya, Pemasaran Jasa Pendidikan. Jakarta Selatan: Penerbit Salemba Empat, 2012.

[6] S. Barnes and R. Vidgen, Data Triangulation in Action: Using Comment Analysis To Refine Web Quality Metrics, In: Proceedings of the 13th European Conference on Information Systems. Regensburg. Germany. 2005, pp. 26–28.

[7] N.M. Yaghou, Internet Bookstore Quality Assesment: Iranian Evidence, 2014.

[8] E.E. Barus and A.D.H. Suprapto, "Analisis Kualitas Website Tribunnews. com Menggunakan Metode Webqual dan Importance Performance Analysis," Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer e-ISSN, 2548, 964X, 2018.

[9] H. Aryadita, "Analisis Kualitas Layanan Website E-Commerce terhadap Kepuasan Pengguna menggunakan Metode Webqual 4.0," Jurnal Sistem Informasi Universitas Brawijaya, vol. 10, no. 1, pp. 29-35, 2017.

[10] I.P. Kusumawijaya and C.M. Karyati, "Pengukuran Kualitas Website Fashion ECommerce menggunakan Metode Webqual 4.0," Jurnal Ilmiah Informatika dan Komputer, vol. 21, no. 2, pp. 113-128, 2017.

[11] I. Giyanti and E. Suparti, "Penilaian Kualitas Aplikasi Halal MUI dengan Webqual 4.0 dan Pengaruhnya terhadap Keputusan Penggunaan," Jurnal Teknik Industri Universitas Setia Budi, vol. 13, no. 2, pp. 91-98, 2016.

[12] W. Sastika, "Analisis Pengaruh Kualitas Website (Webqual 4.0) terhadap Keputusan Pembelian pada Website E-Commerce Traveloka," Jurnal SENTIKA 2016, ISSN: 2089-9815 Hal 649-657, 2016.

[13] G. Punyani, And Assessment of Costumers'e E-Service Quality Perception Through WebQual Scale: A Study On Online Banking Service, Mody University of Science and Technology, Lakshmangarh, Rajasthan, India, 2015.

[14] S.R. Arifin, E. Nugroho and B.S. Hantono, "Analisis Kualitas Layanan Website Universitas Hasanuddin dengan Metode Webqual 4.0 Modifikasi," Jurnal TEKNOMATIKA, vol. 8, no. 1, pp. 81-9, 2015.

[15] R. Hengki, Analysis Quality Dino Tour Travel Management Website Using WebQual 4.0 (Case Study: pulautidungdino.com), Faculty of Computer Science and Faculty of Engineering, Bandar Lampung University,2014.

[16] N. Elangovan, Evaluating Perceived Quality of B-School Websites, 2013.

[17] S.C.D. Fortuna and L. Harris, Factors Influence Individuals, organizations, and systems to the Acceptance E-banking. University of Ibadan, Nigeria, 2012.