

Gap Analysis of Indonesian State-Owned Bank Internet Banking Website

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Abstract

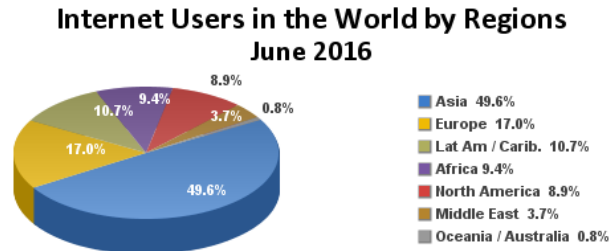
This study aimed to describe the level of quality perceived by internet banking customers of a state-owned bank in Indonesia. We use Website Quality (WebQual) theory for this research. By analyzing usability, information quality, and service interaction of the internet banking website, we then interpret the result with Gap Analysis method. With the participation of 100 respondents collected from all over Indonesia, we found that there are value gaps between the actual quality (performance) and ideal quality (importance).

Keywords

Internet banking, e-commerce, website quality, online business

1. Introduction

In this modern era, the role of information systems and information technology has changed the pattern of people's lives, be it business, economic, social and cultural interactions (Fadillah et al., 2015). The internet makes modern customers want practicality in their every activity. That is why internet is very influential among the global community. Many means of using the internet as a marketing tool and marketing media in business (Pradana & Novitasari, 2017). Internet growth from year to year has increased to 7.6 percent. In 2015 there were 3,175 billion people who used the internet in the world from 7,357 billion inhabitants in the world (<http://wearesocial.sg>).



Source: Internet World Stats - www.internetworldstats.com/stats.htm
 Basis: 3,611,375,813 Internet users on June 30, 2016
 Copyright © 2016, Miniwatts Marketing Group

Figure 1
 Percentage of Internet Usage in the World
 Source: <http://www.internetworldstats.com/> (accessed 1st of September 2019)

The percentage of internet users from various continents in the world in 2016 which is the greatest use of the internet is the ASIA continent as much as 49.6%. This is influenced by several things, first: the rise of Asia as a major contributor to the world internet population, second: 42 percent of internet users live in Asia, and the three countries of China, India, and Japan already have the number of European and North American users combined (quoted: [id.techinasia / internet-users-asia](http://id.techinasia.com/internet-users-asia)). From figure 1, you can see various activities carried out by people using the internet, which are recorded by the Indonesian Internet Service Provider Association (APJII), showing that internet users conducting online trading transactions are at level 3, which is in the percentage of 11%.

According to Hafid et al. (2019), e-commerce is a business transaction that occurs in electronic networks such as the internet. Anyone who has an internet network can participate in e-commerce activities. Indonesia is one of the countries with the largest e-commerce market growth in Asia-Pacific. Below is an estimated number of e-commerce sales for the Asia-Pacific region.

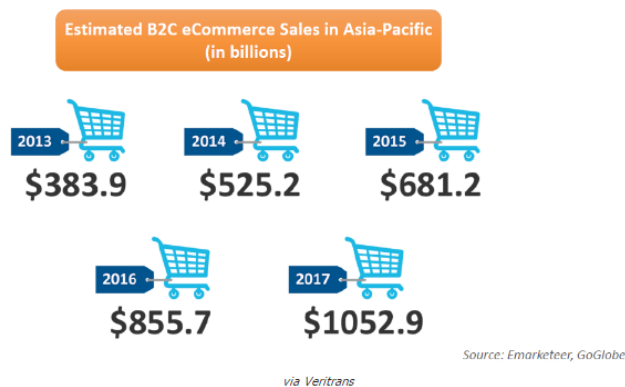


Figure 2
 E-commerce growth in Asia-Pacific World Region

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As we believe that internet banking is one of the fastest-growing internet mechanism in e-commerce, we would like to see in this research:

1. How is the level of quality of e-banking application website seen from the importance of performance analysis (IPA)?
2. Is there a website quality indicator in accordance with the wishes of users and which ones need improvement?

The core of this research is "BNI Website Importance-Performance Analysis (IPA) Analysis". BNI is one of the biggest state-owned banks in Indonesia. Hence, the objective of this research:

1. In order to know the extent of the quality level of e-banking application websites based on the importance of performance analysis with the desired quality?
2. To describe the position of the e-banking application website quality indicators so that they can be seen which indicators are in accordance with user expectations and which ones need improvement.

2. Literature Review

Internet applications have now entered various segments of human activity, both in the political, social, cultural, economic and business sectors (Fadillah et al., 2015). In the field of commerce, the internet has begun to be used as a medium for business activity mainly because of its contribution to efficiency (Natyari & Pradana, 2016). Trading activities through internet media are popularly called electronic commerce (e-commerce) (Maharani et al., 2016). According to Pradana & Puspitasari (2016), e-commerce is using a computer network, especially the internet to conduct transactions of buying and selling products both in the form of goods and services as well as information. The results of e-commerce in the form of expanded operational reach and low cost electronic services because, because through e-commerce, information between business activities and technology can quickly develop. In popular e-commerce terminology, transactions are based on several types, namely: Business-to-business (B2B) that is usually applied to transactions

1. Business-to-business (B2B) that is usually applied to transactions that is nonprofit or government organizations.
2. Business-to-consumer (B2C) where e-commerce transactions whose buyers are individuals.
3. Consumer-to-consumer (C2C) here consumers directly to people or others as individual consumers through electronic advertising or auctions site (through an agent).
4. Consumer-to-business (C2B) in this category individuals sell goods and services to the company.

With e-commerce, information technology has a very important role for companies to promote products, disseminate various services, provide special discounts, including cooperation between business partners and business people, and open new businesses in potential areas. These activities can be done offline or online through the official website (Pradana, 2015).

For our method of analysis, we use WebQual, which is a method or technique for measuring website quality based on end user perception developed by Stuart Barnes and Richard Vidgen (2000). This method is a development of SERVQUAL which was widely used before in measuring service quality in general. WEBQUAL (Website Service Quality) is based on the concept of Quality Function Deployment (QFD), namely "structured and disciplined processes that provide a means to identify and carry the voice of the customer through each stage of product and service development and implementation, which can be interpreted as a structured and disciplined process that presents a means of identifying and carrying the voice of customers through each stage of development and implementation of a product or service (Barnes & Vidgens, 2000).

3. Research Methodology

This type of research is categorized into quantitative descriptive research. Descriptive research is a problem statement regarding the question of the existence of an independent variable, whether only on one or more variables (a stand-alone variable). Therefore, in this study the researchers did not make a comparison of these variables in other samples and look for the relationship of these variables with other variables (Malhotra et al., 2006).

Importance Performance Analysis (IPA) is an analysis technique used to identify important performance factors that must be demonstrated by an organization in meeting the satisfaction of their service users. This technique was introduced by Martilla and James (1977). The method was initially intended for research in the field of marketing. However, its use has expanded in various fields of service such as health, schools and government.

WebQual has experienced several iterations in the preparation of categories and question points (Barnes & Vidgen, 2002). The indicators can be seen below:

<i>Quality</i>	<i>Description</i>
<i>Usability</i>	<i>1. I find the site easy to learn to operate</i>
	<i>2. My interaction with the site is clear and understandable</i>
	<i>3. I find the site easy to navigate</i>
	<i>4. I find the site easy to use</i>
	<i>5. The site has an attractive appearance</i>
	<i>6. The design is appropriate to the type of site</i>
	<i>7. The site conveys a sense of competency</i>
	<i>8. The site creates a positive experience for me</i>
<i>Information Quality</i>	<i>9. Provides accurate information</i>
	<i>10. Provides believable information</i>
	<i>11. Provides timely information</i>
	<i>12. Provides relevant information</i>
	<i>13. Provides easy to understand information</i>
	<i>14. Provides information at the right level of detail</i>
	<i>15. Present the information in an appropriate format</i>
	<i>16. Has a good reputation</i>

<i>Service Interaction</i>	17. <i>It feels safe to complete transactions</i>
	18. <i>My personal information feels secure</i>
	19. <i>Creates a sense of personalization</i>
	20. <i>Conveys a sense of community</i>
	21. <i>Make it easy to communicate with the organization</i>
	22. <i>I feel confident that good/ services will be delivered as promised</i>

Table 1: WebQual indicators (source: webqual.co.uk)

IPA is used to understand more deeply the perception of service users about the quality of the service. The importance dimension shows how important quality attributes are according to users, while the performance dimension shows how well those quality attributes are perceived by users (Pradana & Ichsan, 2018).

Gap analysis is conducted to answer the problem formulation "how is the level of website quality www.bni.co.id viewed from the gap (gap) between perceived quality (actual) and desired quality (ideal)?" . The actual quality is shown by the respondents 'assessment of the performance (quality) attributes forming the quality of the website based on the dimension of WEBQUAL, while the ideal quality is shown from the respondents' assessment of the importance of these quality attributes. To determine the value of the gap, it can be seen from the difference between the value of actual quality (performance) and ideal quality (importance).

$$Q_i = P_i - I_i$$

Where:

Q_i = quality level

P_i = actual quality value (performance)

I = ideal quality value (importance)

A good level of quality is indicated by positive results or $Q_i \geq 0$. This means that the actual quality value meets the ideal quality expected by the user

In this study, samples were taken from the large number of people who follow official accounts of BNI internet banking application. The sample size (number of respondents) was determined using the Slovin Formula (Fakhri et al., 2017) with the following formula:

$$n = \frac{N}{1 + Ne^2}$$

where:

n = Number of elements / sample members N =

Number of elements / population members

e = Error level

In this study researchers used an error level (error rate) of 10%. If the calculation is done using a formula, the number of samples obtained is 100 respondents. Instruments that use a Likert scale have a gradient from very positive to very negative. The Likert scale design used in this study follows the original WEBQUAL 4.0 instrument with a scale of 1-5 (1 = strongly disagree and 5 = strongly agree).

4. Result and Discussion

From the results of the analysis of primary data derived from the results of the distribution of questionnaires to respondents in accordance with established criteria. The questionnaire was aimed at 100 respondents who had been determined. This data collection aims to obtain the opinions of respondents regarding the statements contained in the questionnaire relating to the analysis of the BNI Bank website. Next, the answers to these statements will be analyzed based on gaps and Importance Performance Analysis (IPA).

Importance Performance Analysis (IPA) is used to answer the problem statement "Are there indicators that the quality of the website is in accordance with the wishes of the user and which needs improvement?" the results of the IPA analysis show the location of each indicator in the IPA matrix consisting of 4 (four) quadrants. In determining the coordinates for each indicator, the average value of indicator weighting. The following is Figure 3 showing the position of the indicators in the IPA matrix graph.

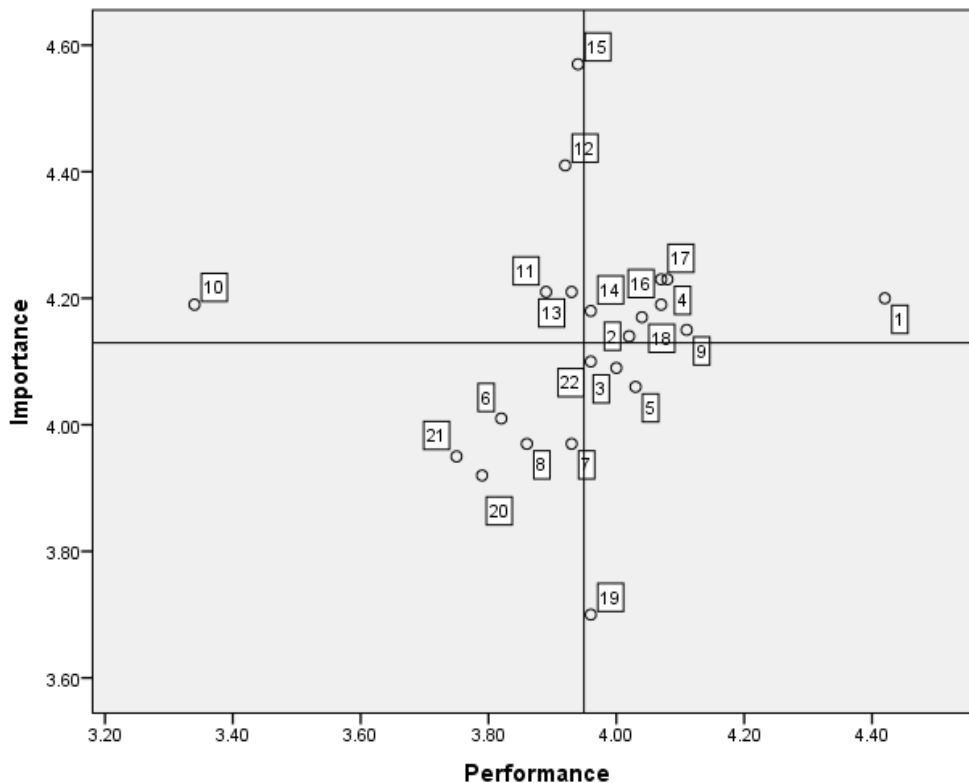


Figure 3
The IPA Matrix

Based on the graphic image above, it can be seen the position of each indicator in the IPA matrix. Each quadrant has a specific interpretation that explains what strategic actions should be taken for each indicator.

- Quadrant I (Concentrate here)

This quadrant contains attributes / statements that are considered important by visitors but in fact that these attributes / statements are not in accordance with the customer's importance. The level of performance of the attribute / statement is lower than the level of importance of visitors to the attribute / statement. Attributes / statements that are in this quadrant must be enhanced even more so that the performance can satisfy visitors. Attributes / statements that are in Quadrant I are as follows:

1. Statement no. 5: Attractive appearance
2. Statement no. 10: Reliable information
3. Statement no. 11: Actual information
4. Statement no. 12: Relevant information
5. Statement no. 13: Information is easy to understand
6. Statement no. 15: Information in the appropriate format

- Quadrant II (Keep up the good work)

This quadrant contains attributes / statements that are considered to have a high level of importance and performance. This shows that the attribute / statement is important and has a high performance, so it must be maintained for the next time because it is considered very important / expected and the results are very satisfying. Attributes / statements that are in Quadrant II are as follows:

1. Statement no. 1: Easy to navigate
2. Statement no. 3: Design accordingly
3. Statement no. 4: Have personnel space
4. Statement no. 9: Accurate information
5. Statement no. 14: Information with the right level of detail
6. Statement no. 16: Good reputation
7. Statement no. 17: Transaction security

- Quadrant III (Low priority)

Attributes / statements contained in this quadrant are considered less important by visitors and in reality the performance is not too special / ordinary. It means that the attributes / statements contained in this quadrant have a low level of importance and their performance is also considered to be unfavorable by visitors. Improvements to the attributes / statements included in this quadrant need to be reconsidered by looking at the attributes / statements that have an influence on the benefits felt by visitors large or small and also to prevent these attributes / statements shifting to Quadrant I. Attributes / statements that are in Quadrant III are as follows:

1. Statement no. 6: Design accordingly
2. Statement no. 7: Competitive design

3. Statement no. 8: Positive experience
4. Statement no. 20: A sense of community
5. Statement no. 21: Ease of communicating with companies

- Quadrant IV (Possible overkill)

Attributes / statements contained in this quadrant have a low level of importance according to visitors but have good performance, so they are considered excessive by visitors. This shows that the attributes / statements that affect visitor satisfaction are considered excessive in its implementation, this is because visitors consider it is not too important / less expected for the existence of these attributes / statements, but the implementation is done very well.

Attributes / statements that are in Quadrant IV are as follows:

1. Statement no. 2: The interaction is clear and understandable
2. Statement no. 3: Easy to navigate
3. Question no. 5: Attractive appearance
4. Question no. 19: Personnel room
5. Statement no. 22: Service delivery as promised

5. Conclusion

From the results of the research and discussion in the previous chapter, the following conclusions can be drawn:

The results of the study indicate that the level of quality of the BNI website has not met the expectations desired by the user. There are differences that indicate a gap (gap) between the two perspectives of the assessment between the level of performance (performance) and the level of importance (importance) or the expected ideal quality. Overall obtained from the study, between the indicators Usability, Information Quality, and service interaction have an average value difference of (-0.18), so it is stated as a negative result that proves that there are still many things that must be addressed by the parties BNI in order to improve the website in order to achieve the ideal level of user authority. As for all the indicators that have a Gap difference that is valued higher than the other indicators, the Usability indicator which has an average difference in value of the gab on that indicator of (-0.06). And what should get more attention because it has the lowest average gap value is the Information Quality indicator which has an average difference of (-0.40).

Based on the analysis in the IPA quadrant which consists of 4 (four) quadrants, quality attributes that become the top priority in order to get a web that is in accordance with the wishes of the user are attractive appearance, reliable information, actual information, relevant information, information easily understood, information in appropriate format. Furthermore, what must be maintained is easy to navigate, design accordingly, have personnel space, accurate information, information with the right level of detail, good reputation, security in transactions. And there are things that according to the user do not need to but must still pay attention to the appropriate design, competitiveness design, positive experience, a sense of

community, ease of communication with the company. Finally, the attributes that ordinary users think are very well packaged on the BNI website are clear and understandable interactions, easy to navigate, attractive appearance, personnel room, service delivery as promised.

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Internet:

- <http://wearesocial.sg>
- <http://www.internetworldstats.com/>
- <http://id.techinasia>

Biographies

Mahir Pradana is a lecturer in Business Administration Program at Telkom University, Bandung, Indonesia. He is now in his final year of PhD in Business at Universidad Pablo de Olavide, Spain. His research interests are innovation and business policies.

Wahyuddin S. was born at Malaka-Bone-Sulawesi Selatan in 1992. In 2011, he attended STMIK Dipanegara Makassar and was completed in 2015. He was completed after attending 7 semesters and active on an XPcom (Extreme Programmer Computer) campus organization. He was also active as a lecturer assistant for three semesters and taught several courses on programming. He continued his Master of Information systems at UNIKOM Bandung in 2016 and was completed in April 2019. He worked as a lecturer at AMIK Lamappapoleonro, Soppeng, Indonesia, from 2019 to present and also a Freelance Web Programmer. Has competence in the field of software engineer, application developer, multimedia, web developer, network security, and data analyst

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