

E-Service Quality at the First Movers on Sustainable Banking in Indonesia

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Abstract—This study aims to evaluate the quality of mobile banking services at banks classified as The First Mover on Sustainable Banking. Quantitative method using questionnaires was conducted to explore dominant dimensions that affect the quality of mobile banking services at banks. In total, there are 16 e-service quality dimensions with 28 indicators used to then be analyzed by the Importance Performance Analysis (IPA). The IPA result reveals top five dimensions of e-service quality need to be improved, like communication, security, speed, diverse mobile application service features, and competence dimensions. The indicators of those dimensions are clear answers, login security, timely up-to-date information, diverse mobile application features, diverse m-banking services, and the ability to develop m-banking apps. This result supported by the existence of gap among the quality of mobile banking services with customers' expectation. This result give recommendations to banks to improve their e-service quality performance to meet customer expectations so banks can enhance their competitive advantages. At the end, it is expected to support banks in achieving their sustainable development goals.

Keywords—service quality, sustainable banking, sustainable development, importance performance analysis

I. INTRODUCTION

Sustainable development is one of the major agendas [1] as well as requires the commitment of all countries around the world in achieving that agenda, the Indonesian government is no exception. This program aims to improve welfare and prosperity for all aspects of community, nation, and state life in the long term [2]. Sustainable development is a great agenda of countries in the world to realize equitable development for the current and future generation society. However, before achieving the sustainable development, there are several problems related to the economic, social, and environmental need to be solved first. This program integrates three interrelated aspects, which are economic, social, and environmental interests [3-5].

Currently, one of the industries that is starting to apply the environmentally friendly concept in its activities is the banking industry [6]. There are eight banks in Indonesia classified to 'The First Movers on Sustainable Banking'. The establishment

of this group shows that environmental sustainability is being the concern of various parties, including the banking sector [7].

The real step that has been taken by banks to support sustainable development is the development of a mobile banking application. Through mobile banking, banks are trying to balance economic, social and environmental aspects in their business activities. Mobile banking is a service provided by banks to perform various financial services [8] through applications on smartphones.

Banks that are classified to the First Movers on Sustainable Banking also emphasize the application of mobile banking as their action in supporting the green industry concept. Table below shows a list of eight banks that consistently seek to implement a green industry through their mobile banking applications.

TABLE I. MOBILE BANKING AT THE FIRST MOVERS ON SUSTAINABLE BANKING

No	Banks	Mobile Banking Aps
1	Bank Mandiri	Mandiri Online
2	BRI	BriMo
3	BNI	BNI Mobile Banking
4	BCA	BCA Mobile
5	Bank Muamalat	Muamalat Mobile
6	BRI Syariah	BRIS Online
7	BJB	BJB Digi Application
8	Bank Artha Graha Internasional	AGI Mobile

Table 1 shows a list of banks that consistently seek to implement green industry concept. Companies must have green strategies, through emerging market opportunities, early mover advantage in markets, managing cost and risk, and environmental stewardship to increase the company's competitive advantage [9].

Beside of those strategies, e-service quality performed by the mobile banking apps of each bank also becomes a support in increasing their competitive advantage. Therefore, there is need for a study about the e-service quality of mobile banking as a process of evaluating the performance and quality of

banking services, especially for the First Movers on Sustainable Banking in Indonesia.

II. METHODS

This study uses an exploratory approach to explore the dominant variables or indicators that affect the quality of banking sector services in Indonesia in creating competitive advantage in the context of sustainable development. Quantitative data in the form of a questionnaire was distributed to 80 bank customers who are classified as The First Movers on Sustainable Banking.

A. Research Object

The population in this study were all banks in Indonesia. While the samples used are banks that are included in The First Movers on Sustainable Banking that apply the concept of green industry and sustainability, namely Bank Mandiri, BRI, BNI, BCA, Bank Muamalat, BRI Syariah, BJB, and Bank Artha Graha Internasional.

B. Operationalization of Variables

This study analyzes the indicators on the dimensions of E-Service Quality. The dimensions in this study are described in the Table 2 below [10].

TABLE II. OPERATIONALIZATION OF VARIABLES

Variables	Dimensions	Indicators
Mobile banking application quality	Content	Information on m-banking services
		Other information that customer needs
	Accuracy	Errors in content
		Errors in financial transactions
	Ease of use	Easy to use m-banking applications
		Easy login
	Speed	Downloading speed
		Processing speed
		Timely up-to-date information
	Aesthetics	Attractiveness of m-banking
Security	Login security	
Diverse mobile application service features	Diverse mobile application features	
	Diverse m-banking services	
Mobile banking customer service quality	Reliability	Correct service
		Keep service promise
	Responsiveness	Quickly solve problems
	Competence	Ability to develop m-banking app
		Ability to provide service
		Knowledge to answer questions
	Courtesy	Address complaints friendly
	Credibility	Confidence in the m-bank's services
		Good reputation
	Access	Availability for help
	Communication	Clear answer
		Inform customers of important information
	Understanding the customer	Listen to the customer
Personal attention		
Continuous improvement	Continuous improvement on m-banking servic products	

Questionnaire data were processed using SPSS v.26 software by conducting validity and reliability analysis and analyzing Importance Performance Analysis (IPA) to provide an evaluation of the current performance of mobile banking and provide an overview of service attributes that need to be improved.

III. RESULTS AND DISCUSSION

In the previous section, the authors have explained that the data needed are collected by distributing research questionnaires to the customers of the eight banks. At this stage, researchers used data from 80 respondents. All of these respondents were asked to fill in their expectations of the mobile banking services they have been using. Then, they were also asked to assess the actual condition of the performance of the mobile banking. Those data then will be tested using validity and reliability test and then will be analyzed using IPA. The results are shown below.

A. Validity and Reliability Test

Table 3 shows the summary of validity and reliability test for the data processed using SPSS v.26.

TABLE III. VALIDITY AND RELIABILITY RT

Test	Indicators	Result
Validity Test	Calculated r value > r table	Valid
Reliability Test	Cronbach's Alpha > 0.06	Reliable

All of variables studied are valid and reliable. So, the collected data can enter the next process which is Gap Analysis stage.

B. Gap Analysis

The results of the gap analysis show consumer dissatisfaction with the 5 attributes with the highest gap, namely: login security, clear answer, errors in financial transactions, and information on m-banking service as shown in Table 4.

TABLE IV. GAP ANALYSIS RESULT

Indicators	No	Points	Expectation	Actual	GAP
Login security	45	Improved transaction security	4,68	4,2	-0,48
Clear answer	83	Clear and straightforward information	4,29	3,84	-0,45
Errors in financial transactions	16	Transaction notification	4,55	4,15	-0,4
Information on m-banking service	4	Ease of getting transaction proof	4,69	4,3	-0,39
Login security	41	Improved security login service	4,53	4,15	-0,38

Table above shows the five indicators with the highest gap, banks need to improve their services in terms transaction security, providing clear and straightforward information, availability of transaction notification (success or failure), ease of obtaining transaction evidence, and login security service.

C. IPA Matrix

Importance Performance Analysis (IPA) is used to determine the level of consumer satisfaction with m-banking services by measuring the level of consumer expectations and the service performance. Consumers will feel satisfied if the mobile banking's performance is greater than what they expect so that the following criteria can be made.

Based on the research conducted, of the 28 indicators tested, there are 12 indicators with the average IPA is below 100%. Those are errors in content, errors in financial transactions, attractiveness, login security, diverse m-banking features, diverse m-banking service, correct service, and ability to provide service, address complaints friendly, confidence in the m-banking services, personal attention, and continuous improvement.

TABLE V. IMPORTANCE PERFORMANCE ANALYSIS (IPA) RESULT

Indicators	No	Points	Expectation	Actual	GAP
Ability to provide service	68	Ease of handling transaction claims	3,93	4,23	93
Login security	43	Availability of OTP feature at login	3,96	4,24	94
	38	There is a level of data encryption	4,21	4,45	95
Attractiveness of m-banking app	36	Good app display	4,14	4,3	96
Diverse mobile application features	48	Different features from other m-banking	4,11	4,25	97
Errors in content	8	High-quality of m-banking network	3,71	3,8	98
Login security	42	Customers security	4,34	4,41	98
Diverse m-banking services	50	Advantages of m-banking service	4,1	4,18	98
Correct service	53	System performance for 24 hours	4,04	4,11	98
Address complaints friendly	74	Right solution form Customer Services	4,16	4,24	98
Personal attention	93	User input is well received	4,28	4,38	98
Errors in content	11	Transaction procedures to reduce information input errors	4,06	4,1	99
Errors in financial transactions	13	There are no obstacles in payment transaction	4,1	4,13	99
Address complaints friendly	73	CS responds to complaints politely and friendly	4,39	4,41	99

Table V. Cont.

Confidence in the m-banking services	77	M-banking facilities as needed	4,24	4,26	99
Personal attention	90	Solutions can be applied easily	4,21	4,25	99
	92	CS offers other help	4,35	4,38	99
Continuous improvement dalam m-banking apps	94	Consistent in improving m-banking	4,3	4,33	99
	95	Consistent in making service improvements	4,24	4,28	99

Table 5 above shows that those twelve indicators with IPA below the average indicate customer dissatisfaction with these indicators. Most of these attributes come from the internal bank of the m-banking service provider. So, banks should take more attention to improve those indicators.

Although the result shows that there are still some indicators with low IPA values, with a satisfaction index below 100%, the percentage is still above 90%, which means that banks are still very likely to make slight improvements and evaluations for maximum service. The first mover banks in sustainable banking need to make improvements to the content contained in mobile banking, the success of financial transactions, login security, and transaction processing speed, to improve their continuous improvement.

Then, from the results of the table above, a graph shows the IPA Matrix as Figure 1.

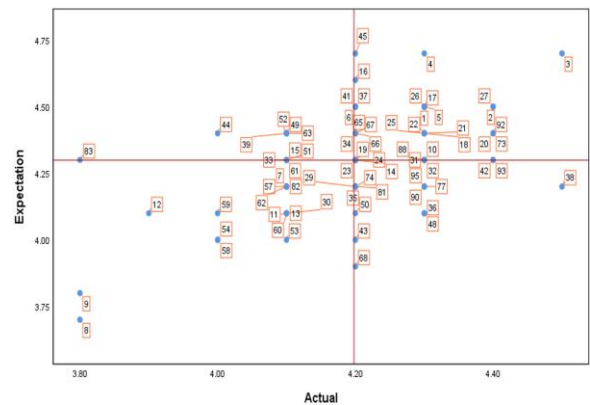


Fig. 1. IPA matrix.

Below are the description for each quadrant in the matrix:

1) *1st quadrant (A)*: Quadrant A describes the low performance of mobile banking but the high level of consumer expectations. The indicators contained in quadrant A include clear answers, login security, timely up-to-date information, diverse mobile application features, diverse m-banking services, and the ability to develop m-banking apps. These indicators should be made a top priority to improve their quality so that the gap between performance and consumer expectations is not too high. The types of services that need to

be improved include those related to clarity regarding the information provided, transaction security, smooth transactions, transaction features, availability of transaction notifications, etc.

2) *2nd quadrant (B)*: Quadrant B describes a condition where both the performance and the level of customers' expectations are high. Indicators that fall into this category must be maintained in quality. Those indicators are information on m-banking, personal attention, easy to use m-banking applications, etc. The types of services that need to be improved include products and features information, m-banking service procedures, ease of obtaining proof of transactions, smooth transactions, services provided by Customer Service, ease of registration, renewal of features and m-banking services, customers data security.

3) *3rd quadrant (C)*: Quadrant C explains both performance of mobile banking and the level of consumer expectations are low. The indicators that fall into this quadrant include other information that customer needs, errors in content, keep service promises, and quickly solve problems, etc. The types of services that need to be improved include clarity in changing procedures, smooth m-banking system, ease of downloading mutations, and number of CS, complete payment features, responsiveness of CS, and others.

4) *4th quadrant (D)*: Quadrant D explains the performance of mobile banking is high but the level of consumer expectations is low. So, banks effort in providing services for these indicators is considered excessive. The indicators in this quadrant are address complaints friendly, confidence in the m-banking service, processing speed, etc. The types of services that need to be improved include those related to information related to the accuracy of CS in providing solutions, the suitability of m-banking facilities with customers need, and transaction's speed.

From the four quadrants analysis above, e-service quality dimensions that need to get more intention from banks are below.

TABLE VI. E-SERVICE QUALITY DIMENSIONS SHOULD BE IMPROVED

Dimensions	Indicators
Communication	Clear answer
Security	Login security
Speed	Timely up-to-date information
Diverse mobile application service features	Diverse mobile application features Diverse m-banking services
Competence	Ability to develop m-banking apps.

Form this result, it is clear that banks classified to the First Movers on Sustainable Banking in Indonesia should take more intention to enhance their e-service quality performance, especially in several dimensions as shown in Table 6 above.

IV. CONCLUSION

Based on the results of quadrant analysis, it can be concluded that at least there are five dimensions of e-service quality need to be improved. Those dimensions are communication, security, speed, diverse mobile application service features, and competence dimensions.

Meanwhile, the main priority indicators to be improved are clear answers, login security, timely up-to-date information, diverse mobile application features, diverse m-banking services, and the ability to develop m-banking apps. Those indicators make m-banking users less satisfied. It supported by the result of the gap analysis on service quality. The gap analysis shows that there is a gap between the quality of services provided by the bank and what customers expect. Gaps exist in many service quality indicators. The variable that has the largest GAP is the login security indicator, especially in the transaction security dimension.

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