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Analysis of Service Quality of Mitra Mart Online Vegetable Store Using E-Servqual & Importance Performance Analysis (IPA) Method

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ABSTRACT

The implementation of online learning necessitates the provision of adequate IT infrastructure support and the dissemination of awareness among all relevant parties, including lecturers, students, and parents. The prevailing pandemic situation has underscored the necessity for such measures encourages the adoption of online learning. Learning Management System (LMS), often referred to as e-learning, plays an important role in facilitating this transition. Another critical aspect to consider is user readiness and acceptance. The Technology Readiness and Acceptance Model (TRAM) is a method that can be used to analyze these factors. This study utilizes TRAM to evaluate the readiness and acceptance of LMS, focusing specifically on lecturer users in the East Java Province area, encompassing both public and private universities. The purpose of this article is to assess the level of readiness and acceptance of LMS among lecturers in East Java and to identify factors influencing their adoption. The findings reveal that the level of readiness among lecturers in adopting LMS tends to be low. Furthermore, several hypotheses related to the use of LMS by lecturers are explored, providing insights into the factors influencing technology adoption in higher education.

Introduction

Improving service quality and satisfying consumers is a unity that is the goal for every company (Chen & Li, 2010; Erica & Al Rasyid, 2018). Mitramart is one of the agribusiness-based MSMEs engaged in the sale of vegetables, fruits, and agricultural products from Jember Regency which markets its products through e-commerce with the address mitra-mart.com. Mitramart was established with the aim of helping local Jember Regency farmers market their crops at competitive prices. Mitra Mart plays an important role in helping to strengthen agribusiness, especially focusing on the sale of vegetable and agricultural products. This concept is in line with the principle of Sustainable Agribusiness which encourages the sale of agricultural products at competitive and sustainable prices.

This research will evaluate the quality of Mitramart services (mitra-mart.com) using the E-Servqual method proposed by Parasuraman & Colby (2015) and Importance Performance Analysis (IPA) proposed by Martilla & James (1977). The E-Servqual

method is a service quality measurement method that connects the views of customers and service providers regarding electronic service quality, and is a good basis for understanding, measuring and improving the quality of e-commerce services, known as a method that analyzes the causes of a service problem and to find out how service quality can be improved (Astuti and Salisah, 2016). The measurement results using the E-Servqual method will get a gap value which is then analyzed using the IPA method to identify attributes that need to be given priority improvement recommendations. The IPA method is a method for measuring the quality of a service in terms of users based on an assessment analysis at the level of expectations (Importance) (Martilla and James, 1977).

This study aims to evaluate the quality of Mitramart services (mitra-mart.com) by applying the E-Servqual method and Importance Performance Analysis (IPA). Specifically, the objective is to identify service quality gaps and provide priority recommendations for improvements to enhance user satisfaction.

Research Methods

E-Servqual

Electronic Service Quality (E-Servqual) is a part of Servqual that discusses the quality of internet-based services (Hastuti, 2021). E-Servqual can be defined as the extent to which a website facilitates efficient and effective shopping, purchasing, and delivery of products and services (Komharudin et al., 2021)**.** E-service quality can be defined as an extension of a website's ability to facilitate shopping, purchasing, and distribution activities in an effective and efficient manner. E-service quality that is good and in accordance with what customers want proves that the company aims to increase customer satisfaction (Saodin, 2021). There are seven dimensions of E-Servqual including four core dimensions of efficiency, fulfillment, system availability, privacy, and three recovery dimensions of responsiveness, compensation, contact (Parasuraman et al., 2005).

Table 1. Variables and Attributes

Variable	Attributes
Efficiency	Ease of site search for customer needs
	Ease of browsing anywhere on the site
	Ease of quick transactions
	Information on the site is well organized
	Site can load pages quickly
	Easy to use site
	Site allows customers to access it quickly
	Well-organized site
Fulfillment	The site provides an estimated time that the goods can be received
	The site always provides goods for delivery within the appropriate timeframe
	The company quickly delivers what the customer ordered
	The company delivers the ordered goods
	The actual stock of goods corresponds to the information on the availability of goods on the site
	The company is honest in offering products or services
	Provide accurate promise in product delivery
System Availability	Site is always available for transactions anywhere and anytime

	Site can be launched and running properly
	Site does not crash or break
	Pages on the site do not freeze or crash after entering order information
Privacy	The site protects information about customers' shopping behavior and shopping history
	Site does not share customer information with other sites
	Site protects information about customer credit card information
Responsiveness	The company provides convenient options for returning goods
	Site handles product purchases well
	Site offers a guarantee or warranty
	The company tells customers what to do if the transaction is not processed
	The company handles problems promptly
Compensation	The site informs customers about compensation for a problem they have caused
	The company provides compensation if the customer's order does not arrive on time
	The company refunds the transaction costs of goods that cannot be shipped
Contact	The site provides a phone number to contact the company
	Site has customer service representatives available online
	The company offers help via live chat if there is a problem

Importance Performance Analysis

The Importance-Performance Analysis method is a quadrant analysis model used to determine the perceived relationship between performance and interests related to the services provided. This method is also able to analyze marketing aspects which provide a focus for developing marketing strategies, through analysis of the four quadrants presented (Martilla & James, 1977) (Manley et al., 2021). In this method, it can be seen the level of customer perception of the performance of a service provided by the provider and can find out how much the company understands customer interests in the services provided (Nugraha et al., 2018).

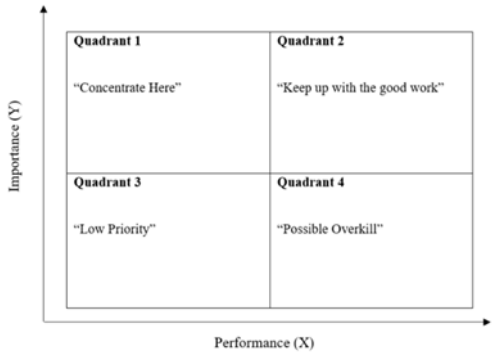

Figure 2. IPA Quadrant Cartesian Diagram

- Quadrant I: In this quadrant, statements or attributes are considered to be needed by users, but are still worth less for user expectations. The company has not done according to customer interests, often customers feel disappointed with the performance provided not in accordance with the required interests (Natassia, 2012) (Liang et al., 2022).
- Quadrant II: In the second quadrant, the attributes shown between the interests and the resulting performance have a high value as well as the implementation based on the user's perspective. The company has provided performance on existing attributes in accordance with the interests of users, so that the attributes included in the second quadrant get the designation "maintain achievement" because the performance and importance of both have a high value and need to be maintained.
- Quadrant III: This quadrant has a relatively low user usability value and low user expectations. The lowest value is in this quadrant for users and the performance provided by the company is also ordinary. The results assessed have a low level of importance and expectations, so it is necessary to reconsider making improvements by looking at the importance of attributes and the influence felt by users.
- Quadrant IV: This part of the quadrant has an importance value that is less needed which is classified as low but the performance provided by the company is high in other words it has an excessive value, so users consider it unnecessary and excessive. Users consider the attributes in this quadrant not to be needed in the interests of users, but the implementation or performance provided by the company is excessive, this is considered less important but has a satisfied value (Natassia, 2012).

Results and Discussion

Respondents

The study's respondents were 400 active lecturers utilizing e-learning/LMS at both state and private universities in East Java. The characteristics of the respondents included institutional status, gender, and city/region. Making questionnaires is done utilizing Google Form media, so that filling out the questionnaire can be done online. The distribution of questionnaires utilizes the forum/group of lecturers both through Facebook and Instagram social media.

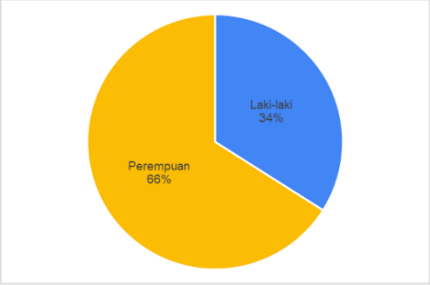

Figure 2. Distribution of respondents by gender

Instrument Test

1. **Validity Test**

   The validity test in this study uses a significant level of 95% and an error of 5% (0.05) so that the research instrument used has an accuracy level of 95% and an error level of 5%. The r table value is obtained through the r table by calculating the total sample used to test the instrument, namely as many as (N) = 30, then the degree of freedom

(df) = N-2, namely 28 (for a df value of 28 and a significance level for a two-way test of 0.05% = 0.3610).

Table 2. Validity Test Results

Indicator	Calculated r value	Table r value	Description
OPT1	0,852	0,3610	VALID
OPT2	0,947	0,3610	VALID
OPT3	0,873	0,3610	VALID
INN1	0,850	0,3610	VALID
INN2	0,850	0,3610	VALID
INN3	0,889	0,3610	VALID
INN4	0,669	0,3610	VALID
PU1	0,865	0,3610	VALID
PU2	0,787	0,3610	VALID
PU3	0,773	0,3610	VALID
PU4	0,856	0,3610	VALID
PU5	0,775	0,3610	VALID
PU6	0,794	0,3610	VALID
PEOU1	0,902	0,3610	VALID
PEOU2	0,968	0,3610	VALID
PEOU3	0,932	0,3610	VALID
PEOU4	0,902	0,3610	VALID
ITU1	0,886	0,3610	VALID
ITU2	0,762	0,3610	VALID
DISC1	0,856	0,3610	VALID
DISC2	0,807	0,3610	VALID
DISC3	0,866	0,3610	VALID
DISC4	0,928	0,3610	VALID
INS1	0,829	0,3610	VALID
INS2	0,902	0,3610	VALID
INS3	0,752	0,3610	VALID

2. Reliability Test

The reliability of the research instrument was evaluated using the Chronbach's Alpha method. The threshold for determining the reliability of a measuring instrument is a Chronbach's Alpha value exceeding 0.6. The results of the reliability test on the research instrument are presented in Table 3.

Table 3. Reliability Test

Variables	Cronbachs Alpha Value	Critical Value	Description
Optimism	0,871	0,6	Reliable
Innovativeness	0,832	0,6	Reliable
Perceived Usefulness	0,894	0,6	Reliable
Perceived Ease Of Use	0,924	0,6	Reliable

Intention to Use	0,719	0,6	Reliable
Discomfort	0,882	0,6	Reliable
Insecurity	0,772	0,6	Reliable

Data Analysis

1. Readiness Level Analysis using TRI

The questionnaire used in this study amounted to 14 statements with details, optimism variables with 3 statements, innovativeness variables with 4 statements, discomfort variables with 4 statements, and insecurity variables with 3 statements. Data from questionnaire statements are grouped according to 4 research variables in order to obtain the overall value of each variable in the form of a mean value. Especially for values that have negatively-keyed items, the values must be reversed. What is meant by negatively-keyed items are negative questionnaire statements such as discomfort and insecurity. Based on the calculations that have been carried out, the TRI total score described in Table 4 has been obtained.

Table 4. Results of Total TRI Score

Variables	Score
Optimism	0,7119
Innovativeness	0,7658
Discomfort	0,6911
Insecurity	0,7031
TRI Total Score	**2,8719**

In accordance with the categorization outlined in reference (Parasuraman, 2000), and with due consideration to the results of the TRI value as presented in Table 4, it can be posited that the level of readiness of users (lecturers at both state and private universities in East Java) in using LMS is in the Low Technology Readiness category (=< 2.89). The Low Technology Readiness category can be interpreted that the level of user readiness in adopting the use of LMS by lecturers at state and private universities in East Java tends to be low (Balakrishnan et al., 2021; Cimbaljević et al., 2024; Godoe & Johansen, 2012). The level of readiness on each TRI variable in this study can be seen in Table 5.

Table 5. Readiness level on each TRI variable

Variables	Code	Mean	Readiness Level
Optimism	OPT1	2,9575	Medium
	OPT2	2,8550	Low
	OPT3	2,7300	Low
Innovativeness	INN1	3,0100	Medium
	INN2	3,0900	Medium
	INN3	3,0925	Medium
	INN4	3,0600	Medium
Discomfort	DISC1	2,6050	Low
	DISC2	2,4250	Low
	DISC3	2,9875	Medium

	DISC4	3,0396	Medium
Insecurity	INS1	2,8300	Low
	INS2	2,8300	Low
	INS3	2,7775	Low

2. Structural Model Analysis

The model structure was analyzed in this study through path coefficient (β) testing. The boostrapping method was employed to test the research hypotheses at a significance level of 5% (0.05) using path coefficient testing. The hypothesis will be said to be significant if it has a t-statistic greater than 1.96 (Hair et al., 2011). Meanwhile, to determine the positive or negative relationship of a variable is to look at the original sample value in https://jist.publikasiindonesia.id/index.php/jist/user/register?source=the path coefficient table after the boostrapping process, if the resulting value is positive then the variable relationship can be said to be positive and vice versa. The results of the analysis can be seen in table 6.

Table 6. Conclusion of Path Coefficients Test Results

	Original Sample	T Statistics	Critical Value	Description
DISC -> PEOU	0.202	5.591	1.96	Positive and Significant
DISC -> PU	-0.078	1.803	1.96	Negative and Not Significant
INN -> PEOU	0.679	18.962	1.96	Positive and Significant
INN -> PU	0.134	2.879	1.96	Positive and Significant
INS -> PEOU	-0.080	2.211	1.96	Negative and Significant
INS -> PU	0.311	3.796	1.96	Positive and Significant
OPT -> PEOU	0.077	2.011	1.96	Positive and Significant
OPT -> PU	0.538	7.710	1.96	Positive and Significant
PEOU -> ITU	0.044	0.719	1.96	Positive and Not Significant
PU -> ITU	0.513	9.157	1.96	Positive and Significant

Hypothesis Test Results

Based on the results of the path coefficients in Table 21, it is found that of the 10 hypotheses used in the study, 6 hypotheses are accepted and 4 hypotheses are rejected. The accepted hypotheses are as follows:

a. H1: Optimism (OPT) has a positive and significant effect on Perceived Ease of Use (PEOU).
b. H2: Optimism (OPT) has a positive and significant effect on Perceived Usefulness (PU).
c. H3: Innovativeness (INN) has a positive and significant effect on Perceived Ease of Use (PEOU).
d. H4: Innovativeness (INN) has a positive and significant effect on Perceived Usefulness (PU).
e. H7: Insecurity (INS) has a negative and significant effect on Perceived Ease of Use (PEOU)
f. H10: Perceived Usefulness (PU) has a positive and significant effect on Intention to Use (ITU).

While the rejected hypotheses are:

a. H5: Discomfort (DISC) has a negative and significant effect on Perceived Ease of Use (PEOU).
b. H6: Discomfort (DISC) has a negative and significant effect on Perceived Usefulness (PU)
c. H8: Insecurity (INS) has a negative and significant effect on Perceived Usefulness (PU)
d. H9: Perceived Ease of Use (PEOU) has a positive and significant effect on Intention to Use (ITU).

Discussion

Of the 4 influences of user readiness, only the hypothesis with the relationship between the influence of optimism (OPT) and innovativeness (INN) on perceived usefulness (PU) is accepted, so it can be explained that if there is an increase in self-confidence (optimism) and innovative attitude (innovativeness) of the lecturers, the lecturers' perceptions of the usefulness of the system (e-learning/LMS) to support the lecture process will also increase significantly (Hallikainen & Laukkanen, 2016).

Of the four effects of user readiness, only the hypothesis concerning the relationship between the effect of discomfort (DISC) and perceived ease of use (PEOU) is rejected. This allows us to posit that an increase in self-confidence (optimism) and innovative attitudes among lecturers (innovativeness) will also lead to a significant increase in lecturers' perceptions of the ease of using the system (e-learning/LMS). Furthermore, an increase in the insecurity associated with the use of the system (e-learning/LMS) will result in a notable decline in the perceived ease of use of the system (e-learning/LMS).

Conclusion

The findings of this research indicate that perceived usefulness (PU) has a positive and statistically significant impact on intention to use (ITU). Therefore, an increase in the lecturers' perception of the benefits of using the system (e-learning/LMS) will significantly affect their interest in using the system (e-learning/LMS). The hypothesis that perceived ease of use has a positive and significant effect on intention to use was rejected. Therefore, an increase in the perception of ease of use of the system (e-learning/LMS) is not a significant factor in increasing the lecturers' interest in using the system (e-learning/LMS).

This research has several limitations that need to be acknowledged. First, the sample size, while adequate, focuses solely on lecturers in East Java, which may limit the generalizability of the findings to other regions or academic contexts. Additionally, the study only evaluates lecturer perspectives without considering other stakeholders such as students or administrators. Future research could expand the sample size to include diverse geographical regions and academic roles, as well as explore the impact of LMS features on student outcomes. Moreover, incorporating longitudinal studies could provide insights into the long-term adoption trends and effects of LMS use in education

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