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EVALUATING HIGHER EDUCATION WEBSITE QUALITY USING WEBQUAL 4.0 AND IMPORTANCE PERFORMANCE ANALYSIS (IPA)

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Abstract— *LLDikti Region III is a unit operating under the Ministry of Education, Culture, Research, and Technology, responsible for promoting the enhancement of higher education quality in Jakarta. One of the media used by LLDikti Region III to serve stakeholders is through its website; therefore, the quality of services on the website must be continuously enhanced. The aim of this research is to determine whether the LLDikti Region III website meets user expectations, measured using the Webqual 4.0 method and Importance-Performance Analysis (IPA). Usability, information quality, and service interaction quality that will be used to evaluate the quality of this website. The respondents consist of members of the academic community from universities within the LLDikti Region III. Data was collected through an online questionnaire using stratified sampling techniques with 165 respondents. The results of this study show that 54.9% of the website's quality affects user satisfaction, while the remainder is influenced by variables not tested in this study. Based on the analysis conducted using the IPA method, several indicators in quadrant I still require significant attention, as they are considered important by users but have low performance. From these findings, the researcher suggests developing the website in areas where performance is low, particularly for indicators in quadrant I.*

Keywords: *analysis, importance performance analysis (IPA), webqual 4.0.*

Abstrak— *LLDikti Wilayah III adalah satuan kerja di bawah Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi yang bertugas untuk memfasilitasi peningkatan kualitas pendidikan tinggi di Jakarta. Salah satu media yang digunakan LLDikti Wilayah III dalam pelayanan kepada stakeholder adalah dengan memanfaatkan website, sehingga peningkatan kualitas layanan pada website senantiasa harus terus ditingkatkan. Tujuan dari penelitian ini adalah untuk mengevaluasi apakah website LLDikti Wilayah III telah memenuhi ekspektasi pengguna, yang diukur dengan metode Webqual 4.0 dan Analisis Kinerja Importance (IPA). Untuk mengukur kualitas situs web ini, variabel yang akan digunakan adalah kemudahan penggunaan, kualitas informasi, dan kualitas interaksi dengan layanan. Responden terdiri dari civitas akademika di perguruan tinggi yang berada di lingkungan LLDikti Wilayah III. Pengumpulan data diperoleh dari penyebaran kuesioner online dengan teknik Stratified sampling menggunakan 165 responden. Hasil dari penelitian ini adalah 54.9% kualitas website mempengaruhi kepuasan pengguna sementara sisanya dipengaruhi oleh variabel yang tidak diuji dalam penelitian ini. Berdasarkan analisis yang dilakukan menggunakan metode IPA, beberapa indikator yang berada pada kuadran I masih membutuhkan banyak perhatian karena indikator tersebut dinilai penting bagi pengguna namun kinerjanya masih rendah. Dari hasil tersebut, peneliti menyarankan untuk dilakukan pengembangan website pada indikator yang masih memiliki kinerja rendah khusus indikator yang masuk ke kuadran I.*

Kata Kunci: *analisis, analisis kepentingan-kinerja, webqual 4.0.*

INTRODUCTION

The Government of Indonesia has demonstrated a strong commitment to developing e-government through Presidential Instruction No. 3 of 2003, which emphasizes the importance of data integration between central and regional governments to ensure rapid and up-to-date information distribution. In accordance with Ministerial Regulation of Education, Culture, Research, and Technology No. 35 of 2021, the

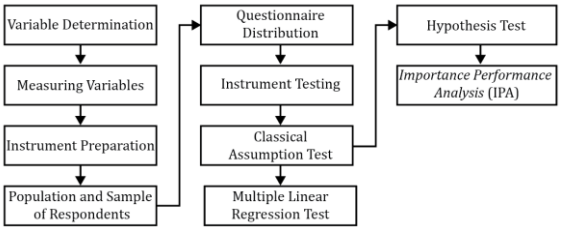
Higher Education Service Institute (LLDIKTI) Region III, under the Ministry of Education, Culture, Research, and Technology, has the duty and function to facilitate the improvement of higher education quality in the Jakarta region, utilizing websites as one of the media to provide services to stakeholders. Based on the researcher's observation, the LLDikti Region III website has not yet implemented responsive layout principles, integration with other services/applications, or live chat. Data from the Central Statistics Agency in 2022 indicates that mobile phone users were the primary choice for internet access, accounting for about 98.70 percent in 2021 and 98.44 percent in 2022. Therefore, it is essential to evaluate quality from the user's perspective.

In measuring website quality, the Webqual 4.0 method can be used, which includes three variables to be measured: usability, information quality, and quality of service interaction (Gani et al., 2020). The Webqual 4.0 method was selected because it evaluates website quality primarily based on users' overall perceptions (Dien & Iwan, 2022). Importance-Performance Analysis (IPA) compares the performance of the service quality of a system that is currently in use with the expectations or interests of users regarding the ideal service quality. It achieves this by evaluating the importance and performance factors on a two-dimensional graph (Hanifah et al., 2022).

The method of measuring website quality using Webqual 4.0 and IPA has been widely used in several research, but few have combined these two methods to measure website quality, especially for public service websites in Indonesia such as LLDikti Wilayah III. This research aims to bridge that gap and analyze user perceptions compared to expected performance. Furthermore, this research provides more in-depth information on how users perceive a system by using the importance level and revealing areas where improvements need to be made by combining both approaches, so that the results of this study serve as a basis for providing information that can support further development of public service websites, especially in LLDikti Region III, in enhancing end-user satisfaction.

MATERIALS AND METHODS

This research employs multiple stages to assess the influence of the LLDikti Region III website's quality on the user experience, utilizing the Webqual 4.0 approach and IPA. The stages are presented in Figure 1.



Source : (Research Results, 2024)

Figure 1. Research Stages

Variable Determination

The independent variables in this study are usability, infomation quality, and quality of service interaction, while the dependent variable is the overall impression. This variable refers to the Webqual 4.0 method (Mashuri et al., 2022).

Measuring Variables

The variable measurement in this research uses a Likert scale consisting of four scores: 1 for strongly disagree, 2 for disagree, 3 for agree, and 4 for strongly agree.

Instrument Preparation

The questionnaire design used in this research adapts the Webqual 4.0 with four measurement categories containing 28 questionnaire items: usability, information quality, quality of service interaction, and overall impression, assessed based on the performance and importance of website users.

Population and Sample of Respondents

The researcher combines two techniques in determining the sample size: The Slovin method is used to calculate the minimum sample size required for population estimation, while stratified sampling is employed for collecting the actual samples (Akhmad Fauzy, 2019).

$$n = \frac{N}{1+N(d)^2} \quad (1)$$

Where:
n = sample size
N = population → $N = 282$
e = error rate (5%) → e = 5% = 0.05

The calculation results are as follows:

$$n = \frac{282}{1 + 282(0{,}05)^2}$$

$$= \frac{282}{1{,}705} = 165$$

The sample size is distributed proportionally among subgroups based on the number of higher education institutions.

Questionnaire Distribution

Distribute the questionnaire to higher education institutions in the LLDikti Region III area to assess the quality of the LLDikti Region III website. This questionnaire distribution uses an indirect or online method.

Instrument Testing

This stage tests whether the distributed questionnaire can be trusted and is valid. There are two tests at this stage: first validity test then reliability test.

a) Validity Test

The technique used in this test is the Corrected Item Total Correlation. The instrument is deemed valid when its calculated r value surpasses the r table. The correlation coefficient must exceed the coefficient value obtained from the corrected item-total correlation table (Dien & Iwan, 2022). The validity test is expressed in the following manner:

$$r_{xy} = \frac{N\sum xy-(\sum x)(\sum y)}{\sqrt{\{N(\sum x^2)-(\sum x)2\}\{N(\sum y^2)-(\sum y)2\}}} \quad (2)$$

Where:
r_{xy} = correlation coefficient between the scores of item X and item Y
N = total number of respondents
ΣX = sum of all values of variable X
ΣY = sum of all values of variable Y
Σ_X^2 = sum of the squared values of variable X
Σ_Y^2 = sum of the squared values of variable Y
ΣXY = total of the product of the values of item X and the values of variable Y

The formula for calculating the r table can be seen in the following Equation 3 (Briyant Rosario & Bertalya, 2023):

$$df = (N-2) \quad (3)$$

Where:
df = degree of freedom
N = sample size

If the correlation coefficient (r_{xy}) is larger than or equal to the critical value of r from the table at a specific level of significance, then the instrument satisfies the validity criteria.

b) Reliability Test

This test uses Cronbach's Alpha technique, where the value of the answers consists of a range of values with a coefficient alpha (α) greater than 0.6 (Mardalena & Andryani, 2021). The reliability test is formulated in the following Equation 4:

$$\propto_u = \left[\frac{k}{k-1}\right]\left[1-\frac{\sum {S_i}^2}{{S_i}^2}\right] \quad (4)$$

Where:
α_u = the reliability of the instrument
k = number of questionnaire items
ΣS_i^2 = total variance of item scores
S_i^2 = variance of item scores.

A higher Cronbach's alpha score indicates a greater level of reliability in the research.

Classical Assumption Test

The Classical Assumption Test used includes:

a) Normality Test

In this test, graphical analysis and statistical analysis are used.

- Histogram Normality Test

The histogram graph shows a bell-shaped curve, not skewed to the left or right, so the data with such a pattern has a normal distribution, as shown in Figure 2 (Novelia et al., 2021).

- Probability Plot Normality Test

The Probability Plot method in graphical analysis involves comparing the cumulative distribution of observed data with the cumulative distribution of the normal distribution. Steps for making decisions: (Ghozali, 2018):

1) The regression model is considered normal if the data is distributed along the diagonal line and aligns with its orientation.
2) The regression model fails to satisfy the normality assumption if the data is dispersed and lacks a linear trend.

- Kolmogorov-Smirnov Normality Test

This normality test compares the data distribution being examined for normality with the conventional normal distribution. The value utilised in this examination is the unstandardized residual value. If a significance value (Asymp. sig) exceeds 0.05, it indicates that the residuals follow a normal distribution (Nuryadi et al., 2017).

b) Linearity Test

The linearity test employed in this research is the explanatory (mean compare) approach. This method assesses the presence of a linear correlation between the independent variable (x) and the dependent variable (Y). A Sig. value for the Deviation from Linearity greater than 0.05 signifies a statistically significant linear association between the independent and dependent variables (Rizky Navianti et al., 2023).

c) Multicollinearity Test

The goal of the Multicollinearity Test is to confirm the presence of a correlation among the independent variables. The presence of multicollinearity can be assessed by looking at the tolerance and Variance Inflation Factor (VIF) values. These metrics reflect how much one independent variable can be accounted for by other independent variables. When the Tolerance value exceeds 0.10 and the VIF is below 10, it indicates that multicollinearity is not present (Putra & Yulianto, 2022).

Multiple Linear Regression Test

This analysis is a statistical technique used to predict the impact of two or more independent factors on a dependent variable. Its purpose is to establish the functional connection between the independent variables and the dependent variable (Noor Aini Muflikhatun, 2024).

Hypothesis Test

A hypothesis is a proposition or supposition that serves as a tentative explanation or solution to a problem. It could additionally be seen as a preliminary inference concerning the connection between one variable and one or more other variables (Nuryadi et al., 2017).

a) Partial Regression Coefficient Test (T-Test)

The T-test is performed to evaluate a partial hypothesis. Its purpose is to determine whether there is an individual effect of independent variables on the dependent variable (Saputri & Alvin, 2020). This test compares the calculated T value with the T table value based on the following criteria: if the calculated T value is greater than the critical T value from the table and the probability (sig) is less than 0.05, then the independent variable individually affects the dependent variable.

b) Joint Regression Coefficient Test (F-Test)

The F test is used to see if all independent factors collectively have an impact on the dependent variable (Robbaniyah & Indriyanti, 2022). The F-test is synonymous with the ANOVA test. This test involves comparing the computed F value with the F table value, if the F-value is more than the F-table value and the probability (sig) is less than 0.05, The variables of usability, information quality, and quality of service interaction have a notable impact on the variable of overall impression.

Importance Performance Analysis (IPA)

This research utilizes four types of analysis in the IPA calculation:

a) Analysis of Performance and Importance Assessment Levels

Analysis of Performance and Importance Assessment Levels functions to determine the extent of the website's performance as perceived by users currently, while the importance rating calculation is used to ascertain the desired state of the website according to users (Noor Aini Muflikhatun, 2024). The calculation of usability, information quality, and quality of service interaction rating levels involves multiplying the scale of each score by the number of scores.

b) Conformity Analysis

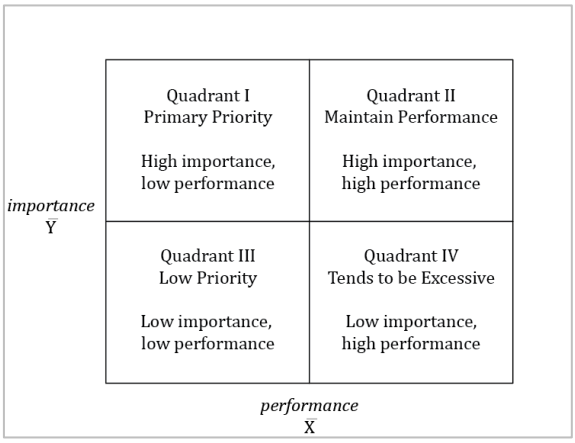
The conformity level analysis compares the performance score with the importance score. This level will determine the priority order for improving the factors influencing user satisfaction. This includes the calculation of conformity levels for usability, information quality, and quality of service interaction variables.

c) Gap Analysis

The gap analysis calculates the difference between the performance value and the importance value. If performance > importance, it indicates that the current website quality meets user expectations. Conversely, if performance < importance, it suggests that the current website quality does not yet meet user expectations (Hanifah et al., 2022).

d) Quadrant Analysis

The quadrant analysis is utilized to assess the position of each variable impacting user satisfaction, determining whether they are in a position that requires improvement or should be maintained. The illustration of the IPA quadrant in Figure 2.



Source : (Noor Aini Muflikhatun, 2024)

Figure 2. Quadrant IPA

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RESULTS AND DISCUSSION

Research Instrument Testing

a) Validity Test

The results of the validity test for each question indicator in each section can be seen in the Corrected Item Total Correlation values using SPSS in Table 1.

Table 1 Validity Test Results for Performance and Importance Level

Variable	Indi-cator	r_{table} 0,05 (165-2)	r_{xy}	Status
Performance (Usability)	XP.1.1	0,153	0,650	Valid
	XP.1.2	0,153	0,733	Valid
	XP.1.3	0,153	0,679	Valid
	XP.1.4	0,153	0,750	Valid
	XP.1.5	0,153	0,723	Valid
	XP.1.6	0,153	0,660	Valid
	XP.1.7	0,153	0,549	Valid
	XP.1.8	0,153	0,658	Valid
Performance (Information Quality)	XP.2.1	0,153	0,778	Valid
	XP.2.2	0,153	0,726	Valid
	XP.2.3	0,153	0,753	Valid
	XP.2.4	0,153	0,775	Valid
	XP.2.5	0,153	0,783	Valid
	XP.2.6	0,153	0,757	Valid
	XP.2.7	0,153	0,691	Valid
Performance (Service Interaction Quality)	XP.3.1	0,153	0,574	Valid
	XP.3.2	0,153	0,833	Valid
	XP.3.3	0,153	0,833	Valid
	XP.3.4	0,153	0,791	Valid
	XP.3.5	0,153	0,658	Valid
	XP.3.6	0,153	0,700	Valid
	XP.3.7	0,153	0,601	Valid
Importance (Usability)	XI.1.1	0,153	0,702	Valid
	XI.1.2	0,153	0,710	Valid
	XI.1.3	0,153	0,758	Valid
	XI.1.4	0,153	0,821	Valid
	XI.1.5	0,153	0,789	Valid
	XI.1.6	0,153	0,792	Valid
	XI.1.7	0,153	0,558	Valid
	XI.1.8	0,153	0,703	Valid
Importance (Information Quality)	XI.2.1	0,153	0,804	Valid
	XI.2.2	0,153	0,763	Valid
	XI.2.3	0,153	0,798	Valid
	XI.2.4	0,153	0,821	Valid
	XI.2.5	0,153	0,775	Valid
	XI.2.6	0,153	0,694	Valid
	XI.2.7	0,153	0,661	Valid
Importance (Service Interaction Quality)	XI.3.1	0,153	0,791	Valid
	XI.3.2	0,153	0,885	Valid
	XI.3.3	0,153	0,883	Valid
	XI.3.4	0,153	0,839	Valid
	XI.3.5	0,153	0,819	Valid
	XI.3.6	0,153	0,788	Valid
	XI.3.7	0,153	0,818	Valid
Importance (Overall Impression)	YI.1	0,153	0,73	Valid
	YI.2	0,153	0,786	Valid
	YI.3	0,153	0,850	Valid
	YI.4	0,153	0,814	Valid
	YI.5	0,153	0,802	Valid
	YI.6	0,153	0,884	Valid

Source: (Research Results, 2024)

The results of the validity test indicate that all indicators for the performance level and importance in the three variables of Usefulness, Information Quality, and Quality of Service Interaction, with all Corrected Item Total Correlation (rxy) values exceeding the threshold value (rtable) of 0.153. The consistently high correlation values suggest that the questionnaire items are well-structured and measure what they are intended to measure.

b) Reliability Test

The study employs the Cronbach Alpha technique to assess reliability. Figures 3 and 4 display the results of the reliability test.

Reliability Statistics

Cronbach's Alpha	N of Items
.924	22

Source: (Research Results, 2024)

Figure 3. Reliability Test (Performance)

Reliability Statistics

Cronbach's Alpha	N of Items
.947	22

Source: (Research Results, 2024)

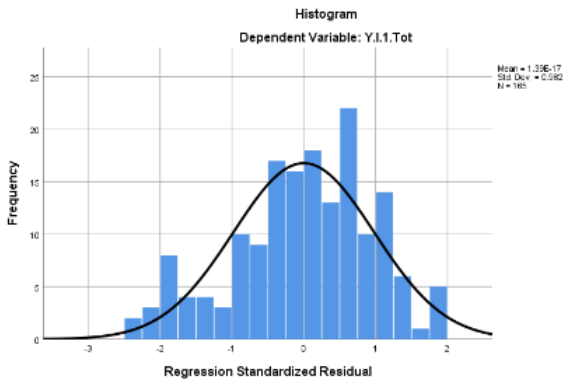
Figure 4. Reliability Test (Importance)

The reliability test results for the level of performance and importance above the Alpha Cronbach threshold of 0.6, which indicates a high level of reliability in the test. This indicates a strong consistency in the instruments used to assess all variables.

Classical Assumption Test

a) Normality Test

- Histogram Normality Test



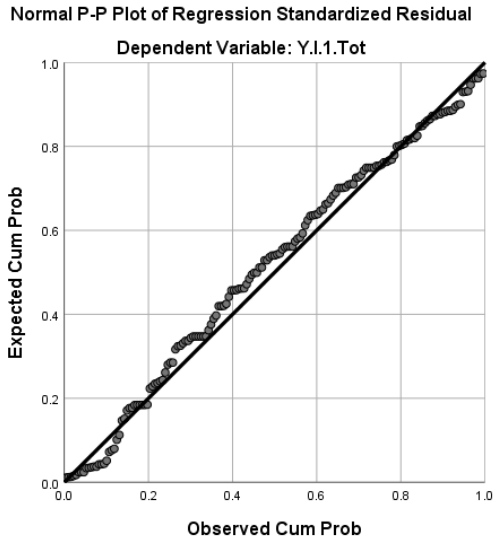
Source: (Research Results, 2024)

Figure 5. Histogram Normality Test Results

In Figure 5, a bell-shaped curve is shown, which is symmetrical and extends infinitely in both positive and negative directions, represents a normal

distribution. The area under the curve on both the right and left sides is approximately 50%, indicating that the data meets the assumption of normality. The normal distribution is likely a result of the relatively large sample size (165 respondents), which corresponds with the Central Limit Theorem, which states that as the sample size increases, the distribution of sample means tends to approach normality.

- Probability Plot Normality Test



Source: (Research Results, 2024)
Figure 6. Probability Plot Normality Test Results

The data are normally distributed and satisfy the normality assumption, as evidenced by the plot (points) that extend around the diagonal line and follow its direction. The results of the Probability Plot Normality Test Results can be seen in Figure 6.

- Kolmogorov-Smirnov Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		165
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	2.96316990
Most Extreme Differences	Absolute	.062
	Positive	.056
	Negative	-.062
Test Statistic		.062
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Source: (Research Results, 2024)
Figure 7. Kolmogorov-Smirnov Normality Test Results

In Figure 7, the test results show an (Asymp. sig) value of 0.2 > 0.05, indicating that the data are normally distributed and meet the normality assumption.

b) Linearity Test

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Y * X2	Between Groups	(Combined)	596.977	21	28.427	2.966	.000
		Linearity	314.674	1	314.674	32.830	.000
		Deviation from Linearity	282.303	20	14.115	1.473	.100
	Within Groups		1370.635	143	9.585		
	Total		1967.612	164			

Source: (Research Results, 2024)
Figure 8. Linearity Test Results

In Figure 8, the derived Sig. Deviation from Linearity value from the test is 0.100, which exceeds the threshold of 0.05. This indicates a linear association between the independent and dependent variables.

c) Multicollinearity Test

In Figure 9, the Collinearity Tolerance value exceeds 0.10, while the VIF Statistics value is below 10.00, suggesting that the independent variables are not affected by multicollinearity.

Coefficients[a]

Model		Collinearity Statistics: Tolerance	VIF
1	X1	.479	2.087
	X2	.311	3.215
	X3	.374	2.676

a. Dependent Variable: Y

Source: (Research Results, 2024)
Figure 9. Multicollinearity Test Results

The absence of multicollinearity indicates that the independent variables have different influences and do not overlap in their contributions to the dependent variable. This supports the conclusion that usability, information quality, and quality of service interaction independently influence the overall impression.

Multiple Linear Regression Analysis

a) Regression Model

Coefficients[a]

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.
1	(Constant)	5.074	2.176		2.332	.021
	X1	.037	.053	.069	.694	.489
	X2	.015	.074	.025	.204	.838
	X3	.241	.065	.416	3.683	.000

a. Dependent Variable: Y

Source: (Research Results, 2024)
Figure 10. Regression Model Test Results

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Based on the measurements in Figure 10, the following can be explained:

- The constant value shows that when all independent variables are zero, the dependent variable takes an exact value of 5.074. In this study, if usability, information quality, and quality of service interaction have no effect, the overall impression level is 5.074%.
- The regression coefficient (b1) for the usability variable is 0.037, indicating that a 1-unit increase in the usability score results in a 0.037-unit increase in the overall impression, assuming other independent variables remain unchanged.
- The regression coefficient (b2) for the information quality variable is 0.015, meaning that a 1-unit increase in information quality leads to a 0.015-unit increase in the overall impression, holding other independent variables constant.
- The regression coefficient (b3) for the service interaction quality variable is 0.241, signifying that a 1-unit increase in service interaction quality leads to a 0.241-unit increase in the overall impression, with all other independent variables kept constant.

The stronger influence of service interaction quality on overall impressions is due to its direct role in user satisfaction, especially in contexts where interaction plays a crucial role in the user experience. Conversely, usability and information quality, while important, may have a smaller impact on overall satisfaction compared to the more personal aspects of service interaction.

b) Multiple Correlation Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.741[a]	.549	.541	1.530

a. Predictors: (Constant), X3, X1, X2

Source: (Research Results, 2024)
Figure 11. Multiple Correlation Analysis

Based on the measurements in Figure 11, the overall impression variable is strongly correlated with the usability, information quality, and quality of service interaction variables, as evidenced by the R-value of 0.741. A high R value indicates that these three factors collectively explain a significant portion of the variation in overall impressions. This strong relationship likely stems from the interdependent nature of these variables, where improvements in usability and information quality naturally enhance service interaction, and vice versa.

c) Coefficient of Determination Analysis

The R Square value in the Output Model Summary is utilized to ascertain the proportion of the impact that the independent variables have on the dependent variable. Figure 11 shows a R Square value of 0.549, indicating that the independent variables in this study have a 54.9% influence on the dependent variable. The remaining 45.1% is influenced by factors not considered in this research. The unexplained variables could be attributed to factors such as user expectations, personal preferences, or external influences like reputation or previous experiences. Including these factors in future research could enhance the explanatory power of the model.

Hypothesis Testing

a) Partial Regression Coefficient Test (T-Test)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	8.900	2.113		4.213	.000
	X1	.187	.039	.351	4.792	.000

a. Dependent Variable: Y

Source: (Research Results, 2024)
Figure 12. T-test for Variable X1

In Figure 12, the T-value for the usability variable (X1) is 4.792, which is greater than the value in the T-table. Additionally, the probability (sig) is less than 0.05. The results indicate the quality usability variabel significantly and favorably affects the overall impression.

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	7.520	2.067		3.638	.000
	X2	.240	.043	.400	5.571	.000

a. Dependent Variable: Y

Source: (Research Results, 2024)
Figure 13. T-test for Variable X2

In Figure 13, the T-value for the quality information variable (X2) is 5.571, which is greater than the value in the T-table. Additionally, the probability (sig) is less than 0.05. The results indicate the quality information variabel significantly and favorably affects the overall impression.

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6.059	1.864		3.251	.001
	X3	.277	.040	.479	6.974	.000

a. Dependent Variable: Y

Source: (Research Results, 2024)

Figure 14. T-test for Variable X3

In Figure 14, the T-value for the quality service interaction variable (X3) is 6.974, which is greater than the value in the T-table. Additionally, the probability (sig) is less than 0.05. The results indicate the quality service interaction variabel significantly and favorably affects the overall impression.

The significant influence of each independent variable on the overall impression underscores the importance of these three factors in shaping user satisfaction. The particularly strong impact of service interaction quality may indicate that respondents value the human aspect of their interactions more than technical aspects such as usability or information quality.

b) Joint Regression Coefficient Test (F-Test)

The F-Test results in Figure 15 indicate that the value of 16.364 is greater than the F-table, and the probability (sig) is less than 0.05. The variables of usability, information quality, and quality of service interaction collectively have a positive and significant impact on the overall impression.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	459.759	3	153.253	16.364	.000[b]
	Residual	1507.853	161	9.366		
	Total	1967.612	164			

a. Dependent Variable: Y

b. Predictors: (Constant), X3, X1, X2

Source: (Research Results, 2024)

Figure 15. F-Test Results

The collective significance of these three factors indicates that an improvement in one variable is likely to enhance the others, ultimately resulting in a cumulative positive effect on the overall impression.

Importance Performance Analysis (IPA)

a) Performance and Importance Level Assessment Analysis

The overall variable performance calculation results show a value of 3.228. This value will be the intersection of the X-axis in the IPA quadrant analysis. The overall importance calculation results show a value of 3.489. This value will be the intersection of the Y-axis in the IPA quadrant analysis.

This performance gap indicates that users perceive a difference between actual performance and the importance of these factors. The negative gap in certain areas suggests that user expectations have not been met, particularly in service interaction quality and information quality.

b) Conformity Analysis

The mean conformance level for the usability variable is 94.58%, for the information quality variable it is 91.84%, and for the service interaction quality variable it is 90.86%. Therefore, the variables of usability, information quality, and quality of service interaction fail to match user expectations.

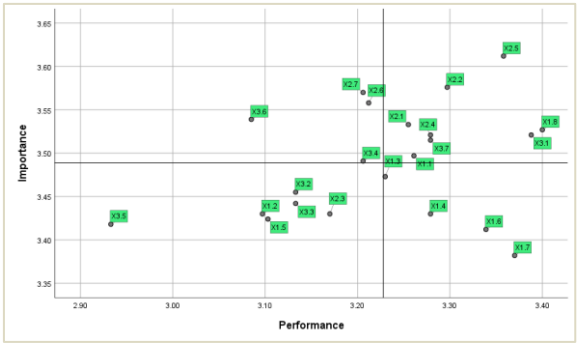
The high level of conformity indicates that the organization has performed reasonably well in these areas; however, there is still room for improvement to fully meet user expectations.

c) Gap Analysis

The average performance section usability, information quality, and quality of service interaction scores are lower than the average importance score, creating a negative gap. This indicates that the performance of these three variables does not meet user expectations.

This negative gap highlights areas where users feel improvements are necessary, particularly in service interaction quality, where expectations might be higher due to the direct nature of user interactions.

d) Quadrant Analysis



Source: (Research Results, 2024)

Figure 16. IPA Quadrant of the LLDikti Region III Website

Based on Figure 16, the following can be explained:

1. Quadrant I

Indicators considered important but have low performance are included in Quadrant I and should

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be improved, including indicators X2.6, X2.7, X3.4, and X3.6.

2. Quadrant II

Indicators that are considered important and have high performance are included in Quadrant II and should be maintained, including indicators X2.1, X2.2, X3.2, X1.4, X1.5, X1.6, X1.7, X3.1, and X3.3.

3. Quadrant III

Indicators considered less important and have low performance are included in Quadrant III and can be a low priority for improvement, including indicators X2.5, X1.1, X1.2, X1.8, X3.5, X3.7, and X1.3.

4. Quadrant IV

Indicators considered less important but have high performance are included in Quadrant IV and can be reduced, including indicators X2.3, X2.4, and X1.8.

Quadrant Analysis provides actionable insights by focusing on the areas that need improvement to enhance user satisfaction. Indicators in Quadrant I require the most attention, while indicators in Quadrants II and IV offer opportunities for optimizing resource allocation.

CONCLUSION

The user experience quality of the LLDikti Region III website is significantly and positively impacted by the Webqual 4.0 dimensions, which include Usability, Information Quality, and Quality of Service Interaction. The evaluation of the LLDikti Region III website's quality, based on its performance in relation to its level of importance, revealed an average conformance level of 94.58% for the Usability factor, 91.84% for the Information Quality factor, and 90.86% for the Service Interaction Quality factor.

The research found that the Usability, Information Quality, and Quality of Service Interaction variables of the LLDikti Region III website have a significant impact of 54.9% on the Overall Impression. The remaining 45.1% of the impact is attributed to other aspects that were not examined in this study.

The gap analysis results suggest that all indicators exhibit negative values. This indicates that the LLDikti Region III website's quality or performance does not currently meet user expectations.

In line with the results of the Importance Performance Analysis (IPA) quadrant, the researcher recommends that the LLDikti Region III website management improve performance on indicators in Quadrant I. This includes the Information Quality variable (information presented in detail and information presented in the correct format) and the Service Interaction Quality variable (providing space for user personalization and ease of communication with service providers).

The results of this research quantitatively identify the website components that do not meet user expectations, thereby facilitating the identification of indicators that need to be developed to enhance the quality of user experience. However, the dimensions of Webqual 4.0 are the main focus of this research, contributing 54.9% to the overall impression. The remaining 45.1% is influenced by factors that are not addressed in this study. The quality of the user experience may be influenced by variables that were not measured in this research. These variables could be investigated in future studies that employ alternative methodologies.

The research in quantitative bases restrict the knowledge of qualitative characteristics with relation to user engaging experience. Further research may address these unexplored areas using a mixed-methods design whereby quantitative as well as qualitative analyses help better identify end-user requirements. Furthermore, exploring additional and broader variables of visual design and accessibility for the disabled or comparing it to public service websites might also provide us with a true image about the opportunities to improve the overall performance quality of this web and user satisfaction itself.

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