

## ANALYSIS OF USER SATISFACTION TOWARDS OF DHYANA PURA UNIVERSITY WEBSITES USING THE WEBQUAL 4.0 METHOD

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### ABSTRACT

*In this day and age, electronic media that utilizes network connectivity that knows no space and time limits is Website. As an institution in education, Dhyana Pura University in Bali requires a website, teaching and learning activities (KBM) between lecturers, administrative staff and students to be posted on a Website [www.undhirabali.ac.id](http://www.undhirabali.ac.id). As time goes by, many problems are encountered, that is, there are still problems in terms of quality of use such as searching content that does not function properly, from the quality of information that is rarely updated, especially the news content, from the quality of service interactions such as the abundance of news found long time that is inaccessible as well as the appearance of a website application that is less attractive so it is less attractive from readers. In analyzing user satisfaction with the quality of a website it is necessary to do an assessment. The assessment conducted is the user's assessment of the quality of a Website using the Webqual method. In the Webqual 4.0 method, there are 4 (four) main variables, namely Usability, Information Quality, Service Interaction, and Overall Impression. The assessment of a website's quality is best done using the Webqual 4.0 method, which is the assessment of the end-user of the quality of a website. End users in this study are lecturers, administrative staff and students from Dhyana Pura University. The method of collecting data in this study is to distribute questionnaires using a random sampling method where respondents are taken at random. Therefore, this research was conducted in the environment of the University of Dhyana Pura Badung - Bali. Webqual 4.0 method is used to test the correlation between variables on the analysis of user satisfaction in this study. Testing is done through approaches with quantitative descriptive methods, namely by means of Chi Square testing. Chi Square is used to measure the four webqual variables, namely: usability quality, detailed and accurate information (Information Quality), service interaction quality (Overall Service Interaction), and overall user opinion (Overall Impression) on the quality of Dhyana Pura University website.*

**Keywords:** *user satisfaction, random sampling, dhyana pura university, webqual, website.*

### INTRODUCTION

In this day and age, electronic media that utilizes network connectivity that knows no space and time limits is Website. Website or internet site is a collection of pages that contain and display data information in the form of text, images either static or dynamic, animation, sound, video or a combination thereof [1]. These data form a series of forms that are interrelated with one another network of pages or hyperlinks. World Wide Web (www or web).

Higher education creates a site to introduce and promote educational institutions. The purpose of creating a university website is to provide information on profiles, academic programs, facilities and facilities, activities that have been and will take place, achievements that have been obtained and so on [2]. With the site makes it easy for users to get information without having to come directly to the location.

As an institution engaged in education, of course Dhyana Pura University in Bali requires a website, teaching and learning activities (KBM) between lecturers, administrative staff and students to be posted on a Website [www.undhirabali.ac.id](http://www.undhirabali.ac.id). As time goes by many problems encountered namely there are still problems in terms of

quality of use such as search content (searching) is not functioning properly, from the quality of information that is rarely updated, especially the news content, from the quality of service interactions such as the number of news found long time that is inaccessible as well as the appearance of a website application that is less attractive so it is less attractive from readers.

Based on the statshow.com site, it records 45,260 people accessing the undhirabali.ac.id website annually [3]. Found several problems, namely the website is less popular than the websites of several universities in Bali. At present the undhirabali.ac.id website is ranked 14,320 in Indonesia far behind the websites of several other universities in Bali [4]. As a result, users or website users have difficulty getting complete information and updates related to news from any content provided, and also the management has difficulty establishing cooperation with other agencies because the website rating is still low. Then found news content that is rarely updated, as a result users / website users find it difficult to get complete information and updates related to news from any content provided, thus causing reduced interest in visitors to open the website.

Furthermore, many old stories are found that cannot be opened again, namely published news. In analyzing user satisfaction with the quality of a website it is necessary to do an assessment. The assessment conducted is the user's assessment of the quality of a Website using the Webqual method. In the Webqual 4.0 method, there are 4 (four) main variables, namely Usability, Information Quality, Service Interaction, and Overall Impression. [2] The assessment of a website's quality is best done using the Webqual 4.0 method, which is the assessment of the end-user of the quality of a website. End users in this study are lecturers, administrative staff and students from Dhyana Pura University. The method of collecting data in this study is to distribute questionnaires using a random sampling method where respondents are taken at random. Therefore, this research was conducted in the environment of the University of Dhyana Pura Bali.

Several studies have been conducted to measure the quality of website pages using the webqual method with the title of the journal "Quality Pages: Case Study on Local Government Banks and State Owned Banks in Bekasi City" [6], and "Evaluating Wap News Sites: The Webqual / M Approach "[5], research " Benchmark Page Bhineka.Com and Eleveneia.Co.Id with the Webqual Method "with a journal entitled" Analysis of Page Quality Using the WebQual Method and Importance - Performance Analysis (IPA), "Measurement of website quality using the Webqual method "[7].

Some researchers have examined the effect of the webqual method on a website, but research that has been done relating to measuring website quality only compares a quality of a web page and learns about the behavior of consumers towards the use of the website. Based on this, the researcher is interested in researching about the measurement of the quality of the Bali Dhyana Pura University website.

### **Definition of Quality**

"Quality is the totality of features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs" [6]. This means that quality is the totality of features and characteristics that make a product capable of satisfying needs, both stated and not stated. [8] Quality is the overall description and characteristics of goods and services that show their ability to satisfy a specified or implied relationship. While the definition formulated by Goetsh and Davis (1994) states that quality is a dynamic condition related to products, services, people, processes, environments that meet or exceed expectations. [9] A complete explanation regarding the definition of quality is the opinion of David (1988), according to him quality is divided into 9 (nine) dimensions. The 9 dimensions of quality include:

1. Performance, the main characteristics of the product, for example clear image on a television screen.
2. Features, additional characteristics, facilities or additional features, for example remote control.

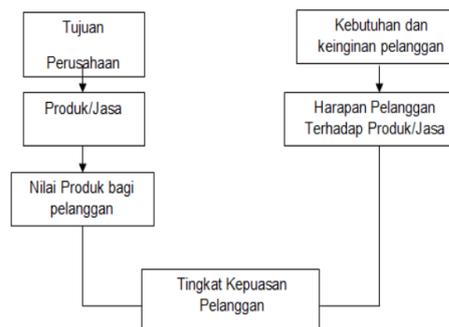
3. Conformance, industry specifications and industry standards.
4. Reliability, work consistency
5. Durability, the usefulness / durability of the product, including the warranty and repair period.
6. Service, responsibility for product problems and various consumer complaints about the product.
7. Response, producer-consumer relations, including the role of dealers.
8. Aesthetics, various characteristics related to psychological producers, distributors / dealers, and consumers.

### Definition of Satisfaction

Satisfaction according to the Big Indonesian Dictionary (KBBI) is a matter (which is) satisfied; enjoyment; relief and so on. The definition is very simple, but when viewed from the perspective of management and consumer behavior, the definition changes to be so complex. Satisfaction is more defined from the perspective of consumer experience or customers after consuming or using a product or service.

Customer satisfaction is: "... a person feeling of pleasure or disappointment resulting from comparing a product's received performance (or outcome) in relations to the person's expectation" - one's feelings of pleasure or disappointment as a result of the comparison between perceived achievements or products and which he hoped [10].

Basically the notion of customer satisfaction includes the difference between the level of importance and the performance or perceived results [11]. Engel (1990) and Pawitra (1993) say that this understanding can be applied in the assessment of satisfaction or dissatisfaction with a particular company because they are closely related to the concept of customer satisfaction can be seen in the following diagram.



Sumber: Oliver dalam Engel et al. (1990) dan Pawitra (1993)

**Figure 1. Concept Diagram of Customer Satisfaction**

### Explanation of Pages

Pages can be interpreted as a collection of web pages that are used to display text information, still or motion pictures, animation, sound, and or a combination of all, both static and dynamic that form a series of interrelated buildings, each of which connected by page networks [1]. The relationship between one page and another page is called Hyperlink, while the text used as a connecting media is called Hypertext.

### Measuring Quality of a Page

There are five criteria to measure a page, namely accuracy (accuracy), source (authority), destination (objectivity), circulation (currency), and news coverage (coverage) [6].\_Measuring Quality of a Page. Meanwhile, there are five criteria to measure a page, namely accuracy (accuracy), source (authority), destination (objectivity), circulation (currency), and news coverage (coverage) [6].

## WebQual

WebQual is a method of measuring page quality based on the perception of end users (the public). This method is the development of Servqual which was widely used before in measuring service quality [6]. The research instruments at WebQual were developed with a meaningful QFD method: Structured and disciplined processes that provide meaning to identify and carry the customer's voice through each stage of production or development and application (Slabey, 1990).

Page quality (WebQual) is based on the QFD method. The application of QFD starts with finding "the voice of the consumer" in other words finding the quality needs according to the wishes of the consumer. The quality demanded by these consumers then becomes an evaluation of a product or service. WebQual is made to learn the characteristics or features of a page [6].

From 12 dimensions, including appropriate information, appropriate topics, reliable information, response time, easy to understand, intuitive operation, attractive appearance, innovative, emotionally attractive, consistent, complete and useful image display [ 6]

WebQual began to be developed since 1998 and in its development has experienced several iterations in the compilation of dimensions and question points. WebQual is compiled based on research from four areas, namely (1) user quality, (2) information quality from information system research, (3) interaction quality and service quality from information system quality research, and (4) quality of all attributes. Metobe WebQual is currently one of the best methods used to measure the quality of a page.

WebQual 4.0 is based on research consisting of four dimensions of the area:

1. Quality of Use (Usability of human computer interaction)  
Usability is quality related to page design, for example appearance, then user, navigation and images that will be conveyed to users (Barnes and Vidgen; 2002 in Tarigan, 2008). The quality of use includes, ease of understanding, ease of tracing, ease of use, very interesting, displaying a pleasant visual form, having good competence, giving a pleasant new experience.
2. Information Quality from Information Systems Research (Information Quality)  
Information Quality is the quality of the content contained on the page, whether or not the information is suitable for user purposes such as accuracy, format and relevance (Barnes and Vidgen; 2002 in Tarigan, 2008). The quality of information includes things such as accurate information, reliable information, the latest information, information in accordance with the topic, information that is easy to understand, very detailed information, and finally the information presented in an appropriate design format (Barnes, 2003).
3. Interaction Quality and Service Quality from Researchers Information System Quality (Service Interaction Quality)  
Service Interaction Quality is the quality of service interactions experienced by users when they investigate deeper web pages. For example, issues of transaction and information security, product delivery, personalization and communication with website owners (Barnes and Vidgen; 2002 in Tarigan, 2008). The quality of interaction includes the ability to provide security during transactions, have a good reputation, facilitate communication, create more personal emotional feelings, have confidence in storing users' personal information, be able to create more specific communities, be able to provide confidence that promises delivered is kept.
4. Overall Quality (Overall Impression)  
Research the quality of all three qualities above. The user's perception consists of two parts, namely the perception of perceived service quality (actual) and the level of expectation (ideal). Barnes and Vidgen (2003) conducted a study entitled "An Integrative Approach to the Assessment of E-Commerce Quality" which uses WebQual to measure page quality.

Dimension quality of web	WebQual 4.0 Items
<i>Usability</i>	<ul style="list-style-type: none"> <li>• <i>I find the site easy to learn to operate</i></li> <li>• <i>My interaction with the site is clear and understandable</i></li> <li>• <i>I find the site easy to navigate</i></li> <li>• <i>I find the site to use</i></li> <li>• <i>The site has an attractive appearance</i></li> <li>• <i>The design is appropriate to the type of site</i></li> <li>• <i>The site conveys a sense of competency</i></li> <li>• <i>The site creates a positive experience for me</i></li> </ul>
<i>Information Quality</i>	<ul style="list-style-type: none"> <li>• <i>Provides accurate information</i></li> <li>• <i>Provides believable information</i></li> <li>• <i>Provides timely information</i></li> <li>• <i>Provides relevant information</i></li> <li>• <i>Provides easy to understand information</i></li> <li>• <i>Provides information at the right level of detail</i></li> <li>• <i>Present the information in an appropriate format</i></li> </ul>
<i>Service Interaction/ Interaction Quality</i>	<ul style="list-style-type: none"> <li>• <i>Has a good reputation</i></li> <li>• <i>It feels safe to complete transactions</i></li> <li>• <i>My personal information feels secure</i></li> <li>• <i>Creates a sense of personalization</i></li> <li>• <i>Conveys a sense community</i></li> <li>• <i>Makes it easy to communicate with the organization</i></li> <li>• <i>I feel confident that goods/service will be delivered as promised</i></li> </ul>
<i>Overall Impression</i>	<i>My overall view of this website (Pendapat secara keseluruhan tentang laman ini)</i>

Source: Barnes dan Virgen, 2003

## METHODS

Based on Website Quality (WebQual) modeling, there are three dimensions of website quality which will then be used as Independent Variables. Three dimensions of website quality [6], namely:

1. Variable X1 is the Usability Quality dimension.
2. Variable X2 is the dimension of Information Quality.
3. Variable X3 is the dimension of Service Interaction.

While the Bound Variable (Y) is user satisfaction (User Satisfaction). Therefore, the conceptual model of this study can be seen in the following figure:

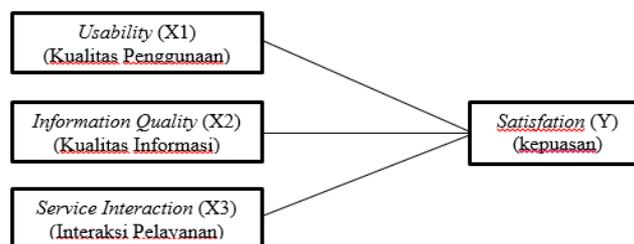
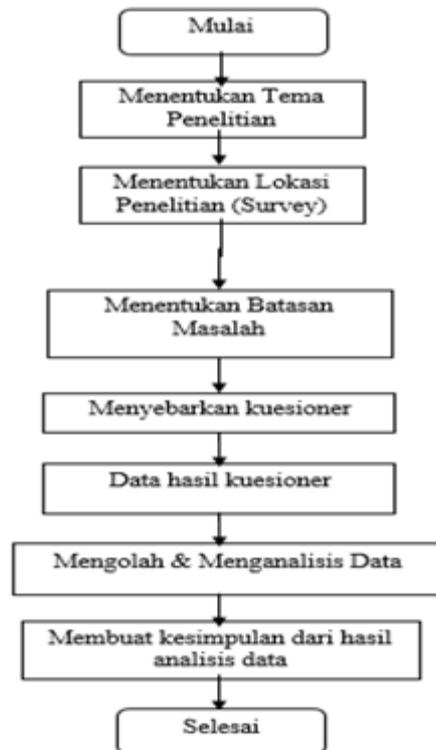


Figure 2. Conceptual Framework for Research

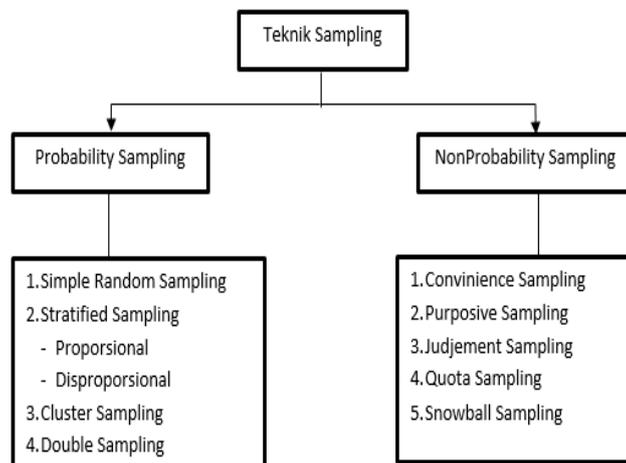
**Research Stage**



**Figure 3. Research Design**

**Sample Collection Techniques**

In sampling from a population can be divided into two categories of sampling techniques, as contained in the picture below:



**Figure 4. Sampling Technique**

**Probability Sampling**

This is a sampling method where each member of the population has the same chance of being selected as a sample.

1. Simple Random Samples (Simple Random Sampling)

Simple random sampling is a sampling technique that provides equal opportunities to every member in a population to be sampled [12]. The requirements to be able to do a Simple Random Sampling technique are:

- Members of the population do not have strata so it is relatively homogeneous.

- The existence of a sample framework that is a list of population elements that are used as a basis for sampling.
- 2. Stratified Sampling  
Stratified Sampling is a sampling technique with populations that have strata or levels and each level has its own characteristics [12]. Because the number of populations in each stratum is not the same, in its implementation there are two types, namely:
  - Proportional, i.e. the number of samples taken from each stratum is proportional, according to the proportional size.
  - Disproportional, i.e. the number of samples taken from each stratum is not equal in proportion to the total population with the proportion of samples in each stratum. Calculations to determine the number of samples taken from each stratum.
- 3. Cluster Sampling  
The sampling technique using this method is that the population is divided first into groups based on area or cluster, then some clusters are selected as samples, from the cluster can be taken in whole or in part to be sampled [12]. Members of the population in each cluster need not be homogeneous, the sample is drawn by a combination of stratified and cluster sampling techniques.
- 4. Double Sample  
Double sample is often referred to as sequential sampling (multilevel sample) multiphase sampling (multi-stage sample) [12]

**Population and Research Samples**

The population in this study were lecturers, administrative staff and students from Dhyana Pura University, Bali. The number of indicators used in this study is 24, so the number of respondents as a sample between 120 to 240 respondents. This study uses 150 respondents, while the sampling technique uses random sampling.

**FINDINGS AND DISCUSSIONS [VERDANA, 11PT]**

Data Reliability Test Results The reliability test was measured using SPSS software version 22 using the Cronbach Alpha method, a reliable instrument when it met the Cronbach Alpha coefficient standard greater than 0.4 ( $\alpha > 0.4$ ). From the results of reliability measurements where  $N = 23$  (number of questions) obtained a Cronbach Alpha value of 0.481, this means that this research instrument meets the requirements to be declared reliable whose results are shown in Table 1.

**Table 1. Data Reliability Test Results**  
**Case Processing Summary**

		N	%
Cases	Valid	150	100.0
	Excluded <sup>a</sup>	0	.0
	Total	150	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.481	23

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between People	144.341	149	.969		
Within People					
Between Items	642.907	22	29.223	58.168	.000
Residual	1646.832	3278	.502		
Total	2289.739	3300	.694		
Total	2434.080	3449	.706		

Grand Mean = 3.4400

**Chi Square Test**

Crosstab test is a table-shaped analysis mode that is used to identify and find out whether there is a correlation or relationship between one variable with another variable. It can be said that Crosstab test analysis is a method for tabulating several different variables into one matrix. The table analyzed here is the relationship between variables in rows and variables in columns.

The cross table (Crosstab) in this study was conducted on five dimensions contained in descriptive analysis where there are attributes that are part of descriptive analysis.

The chosen test is Chi Square to see whether there is a relationship [8] [9] [10] [11] [12] [13] [14] n between row and column variables, namely user characteristics and perceived level of user satisfaction.

**Table 2. Test Results of Research Instrument Validity**  
Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
U1	75.3733	20.974	.133	.199	.471
U2	75.3533	21.317	.065	.224	.483
U3	76.3000	21.487	.024	.201	.492
U4	75.2333	21.106	.099	.161	.477
U5	76.3267	20.423	.170	.253	.464
U6	76.2133	20.384	.200	.145	.458
U7	76.1133	20.222	.163	.316	.465
U8	75.3867	20.695	.190	.177	.461
IQ9	75.3800	21.123	.104	.188	.476
IQ10	75.3667	20.596	.186	.164	.461
IQ11	76.3200	22.085	-.048	.167	.502
IQ12	75.3733	22.115	-.049	.192	.501
IQ13	75.3867	20.816	.156	.183	.467
IQ14	76.2800	21.505	.028	.203	.490
IQ15	75.2067	20.876	.154	.168	.467
SI16	75.4200	21.306	.091	.067	.477
SI17	75.4000	20.779	.160	.107	.466
SI18	75.5000	21.326	.092	.145	.477
SI19	75.3133	19.787	.308	.316	.439
SI20	75.2533	20.794	.169	.265	.465
SI21	76.2467	20.737	.125	.165	.472
SI22	76.2667	20.318	.196	.170	.458
OI23	75.6267	19.148	.455	.389	.415

Source: Questionnaire Analysis

From the output analysis in the reliability test above, when viewed the Corrected Item-Total Correlation column is the calculated  $r$  value for each question item for each variant. The value of  $r$  count for each item is positive and the value is greater than  $r_{table}$ , then it is computed  $r_{count} > r_{table}$  alias item statement is said to be valid.

**Table 3 Summary Cross Table (Crosstab) for the Usability dimension**

Dimensi Usability	Hasil Tabel Silang (Uji Crosstab) & Uji Chi Square	Hasil Analisis
Pendidikan	Asymptot signifikan, yaitu $0,124 > 0,04$	H0 Diterima
Kelamin	Asymptot signifikan, yaitu $0,798 > 0,04$	H0 Diterima
Usia	Asymptot signifikan, yaitu $0,952 > 0,04$	H0 Diterima
Pekerjaan	Asymptot signifikan, yaitu $0,086 < 0,04$	H1 Diterima (H0 Ditolak)

From table 3 it can be concluded that for Education, Sex, Age, and Occupation there is no influence or relationship to the Usability (HO Accepted) dimension.

**Table 4 Summary of the Crosstab for the Interaction Quality dimension**

Dimensi Information Quality	Hasil Tabel Silang (Uji Crosstab) & Uji Chi Square	Hasil Analisis
Pendidikan	Asymptot signifikan, yaitu $0,318 > 0,04$	H0 Diterima
Kelamin	Asymptot signifikan, yaitu $0,477 > 0,04$	H0 Diterima
Usia	Asymptot signifikan, yaitu $0,403 > 0,04$	H0 Diterima
Pekerjaan	Asymptot signifikan, yaitu $0,737 > 0,04$	H0 Diterima

From Table 4 it can be concluded that for Education, Sex, Age, and Occupation there is no influence or relationship to the dimensions of Interaction Quality (HO Received).

**Table 5 Summary of the Crosstab for the Services Interaction dimension**

Dimensi Services Interaction	Hasil Tabel Silang (Uji Crosstab) & Uji Chi Square	Hasil Analisis
Pendidikan	Asymptot signifikan, yaitu $0,904 > 0,04$	H0 Diterima
Kelamin	Asymptot signifikan, yaitu $0,914 > 0,04$	H0 Diterima
Usia	Asymptot signifikan, yaitu $0,468 > 0,04$	H0 Diterima
Pekerjaan	Asymptot signifikan, yaitu $1,000 > 0,04$	H1 Diterima (H0 Ditolak)

From Table 5 it can be concluded that for Education, Sex, Age, and Occupation there is no influence or relationship to the Services Interaction dimension (HO Received).

**Table 6 Summary of the Cross Table (Crosstab) for Overall Impression dimensions**

Dimensi Overall Impression	Hasil Tabel Silang (Uji Crosstab) & Uji Chi Square	Hasil Analisis
Pendidikan	Asymptot signifikan, yaitu 0,168 > 0,04	H0 Diterima
Kelamin	Asymptot signifikan, yaitu 0,702 > 0,04	H0 Diterima
Usia	Asymptot signifikan, yaitu 0,050 > 0,04	H0 Diterima
Pekerjaan	Asymptot signifikan, yaitu 0,000 < 0,04	H1 Diterima (H0 Ditolak)

From Table 6 it can be concluded that for Education, Sex, Age, and Occupation there is no influence or relationship to the Overall Impression dimension (HO Received).

**Table 7. Test results for One Sample t-Test for Research Instruments**

One-Sample Test						
Test Value = 0						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
U1	66.770	149	.000	3.74667	3.6358	3.8575
U2	63.422	149	.000	3.76667	3.6493	3.8840
U3	43.920	149	.000	2.82000	2.6931	2.9469
U4	66.186	149	.000	3.88667	3.7706	4.0027
U5	42.937	149	.000	2.79333	2.6648	2.9219
U6	47.786	149	.000	2.90667	2.7865	3.0269
U7	41.917	149	.000	3.00667	2.8649	3.1484
U8	69.051	149	.000	3.73333	3.6265	3.8402
IQ9	65.504	149	.000	3.74000	3.6272	3.8528
IQ10	65.285	149	.000	3.75333	3.6397	3.8669
IQ11	47.397	149	.000	2.80000	2.6833	2.9167
IQ12	65.841	149	.000	3.74667	3.6342	3.8591
IQ13	66.083	149	.000	3.73333	3.6217	3.8450
IQ14	45.741	149	.000	2.84000	2.7173	2.9627
IQ15	71.013	149	.000	3.91333	3.8044	4.0222
SI16	69.415	149	.000	3.70000	3.5947	3.8053
SI17	65.432	149	.000	3.72000	3.6077	3.8323
SI18	69.100	149	.000	3.62000	3.5165	3.7235
SI19	64.689	149	.000	3.80667	3.6904	3.9229
SI20	70.447	149	.000	3.86667	3.7582	3.9751
SI21	44.167	149	.000	2.87333	2.7448	3.0019
SI22	45.274	149	.000	2.85333	2.7288	2.9779
OI23	63.569	149	.000	3.49333	3.3847	3.6019

In this section an analysis of the One Sample t-Test Test consists of:

1. Analysis:

- Hypothesis

H0: There is no gap between the end user / end user page on Undhirabali.ac.id.

H1: There is a gap between the end user / end user of the Undhirabali.ac.id page.

- Decision-making

1. Based on comparison of t arithmetic with table: Conditions:

- H0 received: If tcount is in between-table and + ttable values

- H0 is rejected: If t arithmetic is not between the values of table and + table.

From the results of the table above, with a significant level of (a) 5% with df (degrees of freedom) = n-1, compared to the Tcount seen from the results of the t value.

2. Based on the probability value Provisions:
  - If the probability is  $> 0.05$  then  $H_0$  is accepted
  - If the probability is  $< 0.05$  then  $H_1$  is rejected

## CONCLUSION

The The results of the evaluation of the study of the quality measurement of the Dhyana Pura University website on user satisfaction that have been carried out from this study can be concluded that in general it is satisfactory with an average score of 3.49, but there are several instruments in the 4 dimensions of the Webqual method that are less satisfying namely:

1. U3 (3. The Dhyana Pura University website page has clear instructions)
2. U5 (Dhyana Pura University website has an attractive design / feature)
3. U6 (The website page of Dhyana Pura University has a design according to the type of page (academic website))
4. IQ11 (Dhyana Pura University website page provides timely and up-to-date information)
5. IQ14 (page of Dhyana Pura University website provides detailed and complete information)
6. SI21 (page of the Dhyana Pura University website makes it easy to communicate with the organization from that page)
7. SI22 (Website of Dhyana Pura University website gives confidence that the service will be as good as promised).

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