Research Article

Website UI/UX Analysis and Redesign using Usability Testing Methods

Muhammad Suryanata Fauzan[1*], Rusdiansyah[2]

[1, 2]Teknik Informatika, Universitas Bina Sarana Informatika, Jakarta

Abstract

Usability has 5 quality dependent variables, namely learnability, efficiency, memorability, error, and satisfaction. With usability testing, it will be assessed whether the user interface and user experience of the website are ready to be implemented or not. One application that can be used is Figma, which is a web-based application. In this study using qualitative research with validation tests, reliability tests, data reduction, data presentation, and drawing conclusions. This qualitative research is supported by the usability testing method as a system development model. This usability testing method is used to find out how easy it is to learn about the website to support the company profile, the ease of use of the website, user/customer satisfaction, and the efficiency of the Dwisetia Garuda Metalindo Sejahtera company website. Usability comes from English, namely usable which refers to the ability to use well. This study tested the validity by calculating the relationship between scores using the SPSS program. In this study, the number of respondents consisting of three categories of respondents namely employees, customers, and the general public was 51 respondents. The data was taken using a questionnaire/questionnaire which was distributed directly via the questionnaire/questionnaire link. Based on the research, it can be concluded from the redesigning of Dwisetia Garuda Metalindo Sejahtera's company website as a support for the company profile.

Keywords: User Interface, User Experience, Figma, Website Analysis, Website Redesign, Usability Testing, SPSS.

Abstrak

Usability terdapat 5 variabel terikat (dependent) yang berkualitas yaitu learnability, efficiency, memorability, error, dan satisfaction. Dengan usability testing, akan dapat dinilai apakah user interface dan user experience dari website sudah siap untuk diterapkan atau belum. Salah satu aplikasi yang dapat digunakan adalah Figma, yang merupakan aplikasi berbasis web. Dalam penelitian ini menggunakan penelitian kualitatif dengan uji validasi, uji reliabilitas, reduksi data, penyajian data, dan penarikan kesimpulan. Penelitian kualitatif ini di dukung oleh metode usability testing sebagai model pengembangan sistem. Metode usability testing ini digunakan untuk mengetahui sejauh mana kemudahan dalam mempelajari website guna menunjang company profile, kemudahan website untuk digunakan, kepuasan pengguna/pelanggan, dan efisiensi dari website PT Dwisetia Garuda Metalindo Sejahtera. Usability berasal dari Bahasa Inggris yaitu usable yang mengacu pada kemampuan penggunaan yang baik. Penelitian ini melakukan uji validitas dengan menghitung hubungan antar skor menggunakan program SPSS. Dalam penelitian ini, jumlah responden yang terdiri dari tiga (3) kategori responden yaitu karyawan, customer, dan masyarakat umum sebanyak 51 responden. Data tersebut diambil menggunakan angket/kuesioner yang disebar secara langsung melalui link angket/kuesioner tersebut. Berdasarkan dari penelitian, maka dapat disimpulkan dari pembuatan redesain website PT Dwisetia Garuda Metalindo Sejahtera sebagai penunjang company profile.

Kata Kunci: User Interface, User Experience, Figma, Analisa Website, Redesain Website, Usability Testing, SPSS.

*Corresponding author: Muhammad Suryanata Fauzan (fauzansrynta@gmail.com)

1. Introduction

The development of information technology, which started from advances in the field of computerization, has changed the role of computers from word processing, graphic design, and data storage to a versatile communication tool with a global reach, supported by flexible networks (Setyawan & Atapukan, 2018). This phenomenon is also reflected in PT Dwisetia Garuda Metalindo Sejahtera, where the use of websites with old displays and low-resolution images has reduced the attractiveness and trust in the company's products and services. This concern involves a wide range of parties, including employers, scholars, advertisers, media, corporations, and governments, given the importance of websites as promotional tools, organizational information providers, and sales tools. Therefore, the company seeks to redesign the website to modernize its appearance and improve user experience (Baihabi, 2017).

It is important for those learning about web or mobile application design to understand the difference between UI (User Interface) and UX (User Experience), which are often mistakenly considered the same. UI and UX have different roles, with UI relating to appearance and UX relating to user experience (Sukmasetya et al., 2020). Usability testing is used to assess whether the user interface and user experience of a manufacturing company's website is ready to be implemented. Before developing a website, the first step is to create a design draft, and there are many tools, such as Figma, that facilitate collaborative design in digital projects, saving time and minimizing the possibility of errors (Rully Pramudita et al., 2021).

PT Dwisetia Garuda Metalindo Sejahtera, A manufacturing company selling goods/services, faces challenges in making its website a professional company profile. Therefore, a redesign was carried out on the UI and UX with a focus on the placement of logos, icons, buttons, contact information, products, and services offered. This aims to ensure potential customers can easily find the information they need (Arifin et al., 2022). In an era of fierce business competition, companies need to ensure their quality by maintaining customer loyalty. Therefore, optimal web design is key, with a user experience that reflects the user's ability to utilize the website, as well as a visually appealing user interface. This study uses usability testing to measure the ease of use of the website, involving various individuals such as employees, customers, and potential customers, in the hope of optimizing website performance so that it is easy to use by all users through various media platforms (Angga Ibnu Barata, 2020).

2. Methods

In this study, the data collection method used a questionnaire with a Likert scale or questionnaire. Questionnaires are used as a tool to collect data by providing a number of questions or written statements to respondents, who are then expected to answer them (Soegiyono, 2011).
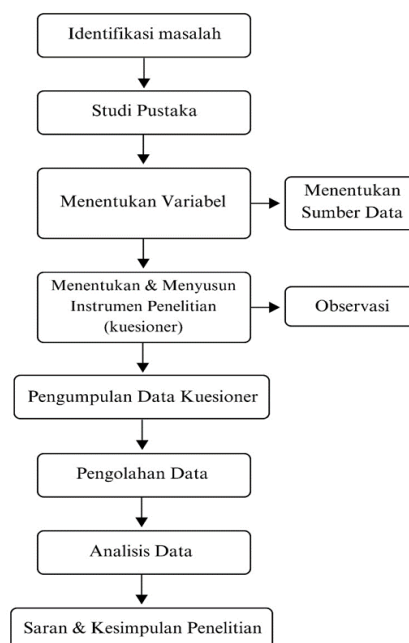

Figure 1. Stages of Research

The authors used the Likert Scale in this study to assess user satisfaction. The Likert scale is used in the form of a questionnaire containing a series of statements with a measurement scale. Respondents were given a choice of attitudes related to existing statements, with 5 types of assessments used in this study. The Likert scale is used to measure the extent to which users are satisfied with the aspects studied (Baihabi, 2021).

Table 1. Likert scale

Keterangan	Skor
SS: Sangat Setuju	5
S: Setuju	4
RR: Ragu-Ragu	3
TS: Tidak Setuju	2
STS: Sangat Tidak Setuju	1

Source: (Soegiyono, 2011)

This study utilizes purposive sampling as a sampling technique to determine the sample size. The Slovin formula is a formula used to determine the right sample size in purposive sampling:

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

Information:
n= Total Population
N= Number of Samples
e= Error or fault tolerance limit

Using the purposive sampling technique for a population of 105 and an error or tolerance limit for errors made of 10% resulted in a sample number of:

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

$$= \frac{105}{(1 + (105.(0.1)^2)}$$

$$= \frac{105}{(1 + (105.(0.01)}$$

$$= \frac{105}{(1 + (1,05)}$$

$$= \frac{105}{(2,05)}$$

$$n = 51,21$$

$$n = 51$$

3. Results
1. Data Analysis Results
a. Validity Test
Validity test refers to the extent to which a measuring instrument is able to accurately measure the construct in question. This study conducted a validity test by calculating the relationship between scores using the SPSS program. Table 2 is the result of testing the validity of research instrument items, showing the results that each question has high validity. because R count > R table (greater than 0.5) (Erida, 2021).

Table 2. Validity Test Results

Variable	r hitung	r tabel 5% (51)	Decision
X1	0,499	0,2759	Valid
X1	0,493	0,2759	Valid
X1	0,414	0,2759	Valid
X1	0,756	0,2759	Valid
X1	0,77	0,2759	Valid
X2	0,715	0,2759	Valid
X2	0,725	0,2759	Valid
X2	0,748	0,2759	Valid
X2	0,756	0,2759	Valid
X2	0,753	0,2759	Valid
X3	0,733	0,2759	Valid
X3	0,748	0,2759	Valid
X3	0,756	0,2759	Valid
X3	0,753	0,2759	Valid
X4	0,368	0,2759	Valid
X4	0,802	0,2759	Valid
X4	0,683	0,2759	Valid
X5	0,683	0,2759	Valid
X5	0,311	0,2759	Valid
X5	0,345	0,2759	Valid
X5	0,783	0,2759	Valid
X5	0,747	0,2759	Valid
X5	0,776	0,2759	Valid

Source: Reserach (2023)

b. Reliability Test

Reliability test is a parameter to measure the extent to which a measuring device is reliable or trustworthy. This is related to the accuracy of the measuring device. In this study, reliability tests were conducted using SPSS software to calculate the Cronbach Alpha coefficient. The Cronbach Alpha formula is used in particular in the context of questionnaires or surveys with the aim of obtaining the reliability value of an instrument that does not yield only a value of 1 or 0. Cronbach alpha values are used to evaluate the reliability of questionnaires, where values greater than 0.6 indicate that the evaluated instrument is reliable (Meliani & Rusli, 2021).

Table 3. Hasil Uji Reliabilitas

Variabel	Jumlah Item	Cronbach Alpha	Nilai Standar	Keputusan
Learnability (X1)	5	0,765	0,6	High Reliability
Efficiency (X2)	5	0,757	0,6	High Reliability
Memorability (X3)	4	0,814	0,6	High Reliability
Error (X4)	3	0,636	0,6	High Reliability
Satisfaction (X5)	6	0,706	0,6	High Reliability

4. Discussion

1. Usability Testing

Usability Testing is a method used in assessing the quality and ability of a service or product by involving website users directly to obtain information about problems that occur on the website being tested. The term usability began to be used since the early 1980s and usability has the meaning of friendly and easy to use (Putra et al., 2019). Usability testing has 5 dependent variables (Murti, 2020) (dependent), namely:

a. Learnability: measures the ease with which users understand and use the website when they first interact with a design.

b. Efficiency: assessing user performance in using the website after understanding the design by calculating the speed.

c. Memorability: when the user returns to use the website after some time, how smoothly the user can recover skills in using the website.

d. Errors: measure how many mistakes the user made, how severe the error was, and and measure how easily the user can recover from the error.

e. Satisfaction: measures how satisfied and happy users are in using the design on the website

2. User Interface

Sketches are made in determining the user interface of users who will access the website, therefore appropriate mind mapping sketches are made

Figure 2. Sketch

In the mind mapping image above is a sketch to build the initial framework on the website design and determine the layout consisting of: navbar, hero, service, about us, contact, footer or others.

3. User Experience

The user experience used is to use a prototype design designed to find out how much user experience in accessing the PT. Dwisetia Garuda Metalindo Sejahtera.
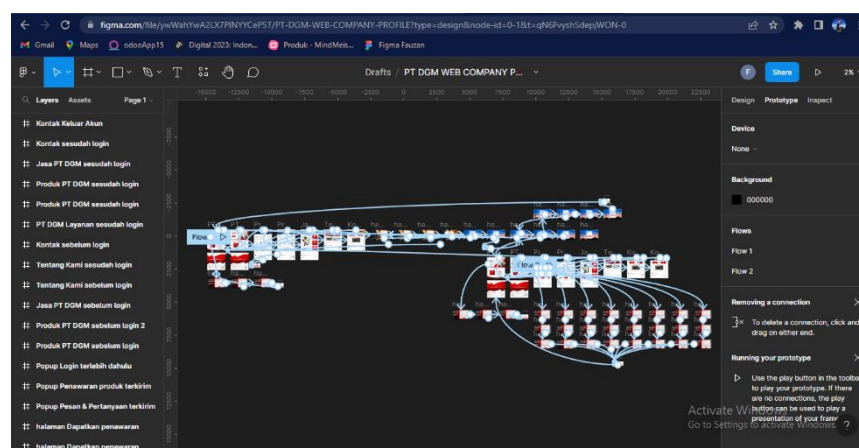

Figure 3. Prototype

Based on the display of the prototype in figure 3, this prototype feature helps designers to make presentations from the results of the design. So, this feature can provide good interaction or user experience to users and the developer team to clarify the process of the website that has been created and in accordance with what has been planned before.
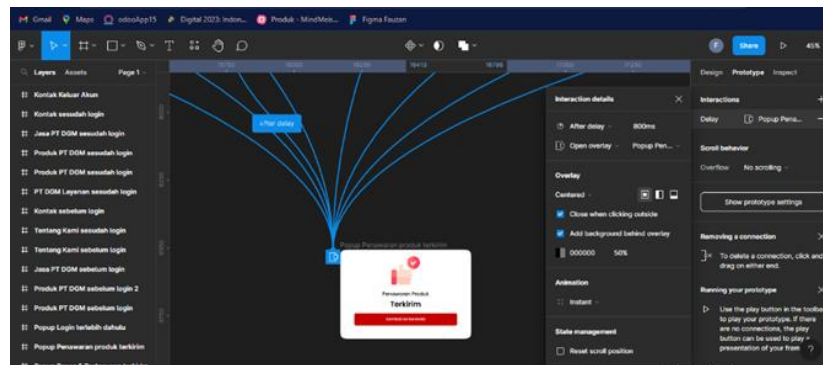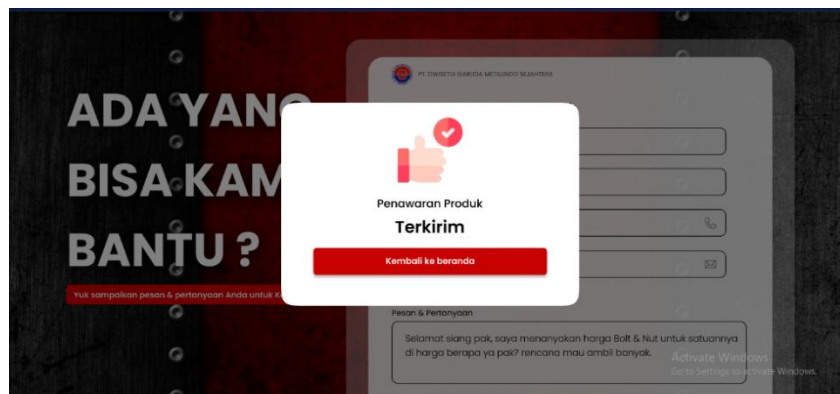
Figure 4. Pop up Prototype

Figure 5. Pop up in Website

Based on the pop-up display of the prototype in figure 5, the pop-up will appear on the display screen when given interaction on the prototype. The interaction provided is after delay and open overlay to give commands so that pop-ups can appear on the display that has been given the command.

4. Conclusion

From the results of this study, it can be concluded that the observations during research at PT Dwisetia Garuda Metalindo Sejahtera show that companies really need a website to support the company profile to inform about the company, products, and services offered. The company's website design has been analyzed and redesigned based on the principles of user interface and user experience, including elements such as lines, shapes, textures, colors, layouts, typography, and images that match the company's characteristics. The results of testing through questionnaires show that the test is valid and reliable in measuring user satisfaction with the new website design.

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