

User Experience Analysis of the Users Babacucu.Com

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Abstract— The Internet has made sharing information easier. By extension, it has also made sharing things easier. The problem is gauging the user experience of free E-commerce websites such as Babacucu.com to see whether people are interested to visit it or not. One of the elements of user experience is usability, and it will be measured in this research. The methods used to measure the usability are questionnaires and usability testing with the users of Babacucu.com website as subjects. The results of this study are the level of usability of Babacucu.com and recommendations on how to improve the site's usability.

Keywords— *Usability, Usability Testing, User Experience, Human-Computer Interaction, Usability Evaluation*

I. INTRODUCTION

In this day, the internet has allowed us to share information quickly and seamlessly. Emails, instant messaging, social media, blogs, all of them to share information with friends and the public. The internet has also revolutionized shopping, where we don't even have to leave our houses to buy things. What the internet has also helped is the sharing of things. That is the base on which Babacucu.com is founded. Babacucu.com is a free e-commerce website, where its users can share their used things that usually would otherwise end up as junk. This website aims to foster a mentality for people to reduce their waste and instead give away things that would otherwise be thrown away. To help push this mentality as well as get the word of the website out, it

is important to have great user experience to keep the visitors happy and draw in more visitors. In website development, good user experience is essential. User experience is essential to influence a user's perspective of a product [1], so a user-friendly and easy to use user experience design is important to give a good perception to website users. With those factors in mind, an analysis on the site of Babacucu.com, a free e-commerce website, is done to see whether the site has good user experience or not. This research will focus on one of the factors in user experience, which is usability. The first question that aims to be answered by this research is 'How well is the usability in the Babacucu.com site?' The usability of this website is of course very important in determining the user's experience while using the website. The second question to ask in this research is 'What recommendations can be given for the improvement in babacucu.com based on the usability?'. The data collected in the research will help find the website's problems and see what it lacks, in order to find what we could do to rectify the issues and make the user experience better for site visitors. The aim of this research is to measure how well the usability level in the Babacucu.com site is, based on defined usability factors. This research is also meant to find what recommendations can be given to improve the usability of Babacucu.com. Future development of this website, as well as other similar websites, will hopefully be able to benefit from this research as well.

II. RELATED WORK

User experience is what users feel before, during, and after they operate a service or a system. This feeling includes emotions, trust, preferences, cognitive impressions, and various other factors [2]. User experience places heavy emphasis on its users' emotions, contrasting with the belief of human-computer interaction that traditionally believes that users must set aside their emotions to work effectively and rationally using a computer [3]. Now, emotions in computer operations is understood as a critical factor in activities related to the computer, therefore it is important to know [4]. The aim of having good user experience is to give users a clear flow of interaction that does not waste their time, with the end result of an intuitive, valuable, and enjoyable website visit so the users are more likely to come back to the site [5]. One of the main factors of a website's success is user satisfaction [6]. Therefore, it is essential for websites to accommodate user needs to convince them to keep using the site and enjoy the services provided. A good user interface results in three things for its users [7]. Good user experience usually results in good businesses. Businesses such as Amazon and Air B n B became giants in their field because of their large investments to provide the easiest to use services for their clients [8]. These days, most frequent users of the internet are more attentive and tend to know which links are more potentially relevant to the task they aim to achieve [9]. That is why a website design that has complete information and content is essential. The four factors that play a part in user experience are branding, usability, functionality, and content [10]. Usability itself is a sub discipline of user experience design. Even though user experience and usability were interchangeable, usability is now an essential part of user experience, though it does not constitute all of user experience [7]. Usability has a narrower concept than user experience, focusing on the achievement of tasks when using the site, while user experience takes into account the whole experience of a site visit, usability being one of them [11]. Though it has strong ties to each other, user experience and usability are ultimately two different things. Usability can be measured accurately using parameters, while user experience is subjective and varies depending on the user [12]. User experience does not only include how easy a system is used like usability that puts emphasis on task achievement in a context, but also how well a system or website can entertain and be enjoyable aside from the conventional measures of satisfaction like effectiveness and efficiency [13]. Where usability answers the question of 'Can users do the task they wish to do?', user experience answers the question of 'Will users have a good experience using the website or product?' [14]. Usability is the capability of a software or site to provide a user-friendly interface. The usability of a site will have a direct influence to its visitor's user experience, therefore, usability is an important factor in website design [15]. Usability also means that the people who use the site can quickly

understand the interface given and able to finish their task properly [16]. In designing an interactive system, usability is one of the main focuses [17]. International standards define usability as how far a product or site can be used by the user to achieve their goals effectively, efficiently, and with satisfaction in a usage context [18]. To create a system or site with good usability, some things must be taken into consideration, namely [19]: In usability, the key is to design a site that's user-centered. A site with good usability is a site with intuitive design and easy to understand, easy and fast task completion, easy to remember, and has low error rates [20]. One of the problems in usability is the disparity between the mental model of the site's designer and the users. Things that the designer find easy might be difficult to users [21]. Here is where ease of use for the users to navigate the website become important. Good usability is proven to increase user satisfaction [22], while a site with bad usability will confuse users and have detrimental effects to the company [23]. With these considerations, good usability must be a priority to businesses with large online presence. In the QUEM (Quantitative Usability Evaluation Model), the factors of usability are understandability, learnability, and operability [24] that are defined as follows [25] such as Understandability and Learnability. The sub factors of the usability factors are explained in the table below [24]. Usability testing is a way to measure the usability of a website with tests done by users. Most usability tests involve scenarios in which a user is asked to perform tasks likely to be done by regular users in using the site [26]. Problems found in the usability testing must be prioritized, and one of the ways is to categorize them based on the four levels of severity: Unusable, severe, moderate, and irritant [27]. One of the ways to measure usability is to use questionnaires. Two examples of these questionnaires are the System Usability Scale (SUS) and the Computer System Usability Questionnaire (CSUQ). The SUS, developed by John Brooke, consists of ten questions with five options for participants ranging from 'strongly disagree' to 'strongly agree' [28]. SUS has some advantages, such as the ease of answering thanks to its small number of questions, able to be applied to a small sample with reliable results, and is valid and able to differ between a usable and unusable system [20]. The CSUQ, designed off of a journal article by James R. Lewis [29] consists of 19 questions regarding the satisfaction of system users with seven options ranging from 'strongly disagree' to 'strongly agree'. Participants are also asked to write down three most positive and three most negative aspects of the system being tested. Usability evaluation also refers to how satisfied a user is in the process of using a product. To gather this information, methods are used to gather feedback from users regarding a website, one of them is usability testing, where both quantitative and qualitative data can be gained [20].

III. RESEARCH METHOD

This research consists of several steps. From the problem statement, data is needed to answer the questions. The data will be gained from questionnaires and usability tests to measure the usability level of the Babacucu.com website. The design of the questionnaire and usability tests, as well as the execution of both testing methods will be covered in this section. This research uses several variables that play a part in the search of information and conclusion drawing. The variables of this research are as follows: (a). Independent variable: The user experience of Babacucu.com users, and (b). Dependent variable: The usability of the Babacucu.com site. Data for this research will be gathered using questionnaires. The questionnaire will include questions regarding the sub factors of usability mentioned earlier, measured using the Likert scale. The questionnaire will include multiple choice questions and one open-ended question. The questions given in the questionnaire will measure the following elements of usability and its sub factors, based on the frameworks of the SUS (System Usability Scale) [28] and the CSUQ (Computer System Usability Questionnaire) [29] (1). Understandability, such as the website’s visual appeal, the effectiveness of text and information, Consistency of visuals and contents, and the considerations for users’ boundaries and disabilities, (2) Learnability, such as the effectiveness of tutorials and guides provided, and the satisfaction of facilities provided to new users to learn how to use the site, (3). Operability such as the satisfaction of site navigation, whether the site is enjoyable to use, the completeness of the site’s contents, and User support for interaction. The quantitative data gathered from the questionnaire will be used to determine problems in every usability factor. The scores for each sub factor will be averaged to gain a score for each element. The limit of acceptability for the elements are 3.5, where a lower score means there are parts of the site that are unsatisfactory [30].The questionnaire will be distributed to registered Babacucu.com users in Google Forms, with links given to them in routine weekly emails as part of the Babacucu.com mailing list. In addition to the questionnaire, a usability test is also performed by testing site users to navigate and do tasks users are expected to do in the daily operations of the website. The usability testing is done with the hallway testing method, taking respondents from the members of Babacucu.com and performing the tests in the Babacucu.com office. For the respondents unable to come to the office, a remote usability testing is performed. The tasks evaluated in the usability testing is based on the pages available in Babacucu.com, which include: (a). Reactions of users when they open the Babacucu.com site, (b). Observing how the users navigate the site without a guide, (c).Searching items they want on the Babacucu.co, site, (d). Asking and receiving free products, (e). Measuring time taken for each task and noting difficulties test participants encounter. The usability testing execution is doing with the usability test of Babacucu.com will involve fifteen respondents. Fifteen were chosen to perform the

test because with fifteen users, 90% of usability issues can be found [31]. Usability test participants are Babacucu.com users contacted by the researcher to perform the usability test. Tests are done face-to-face in the Babacucu.com office or remotely using video call applications for participants who cannot make it to the office.

IV. RESULTS AND DISCUSSION

The results consists of several results that will explained below:

4.1 Questionnaire Result Analysis

First, indicators of the website’s usability are analyzed. The aim of this is to give a description of how the questionnaire participants perceive the indicators given. A descriptive analysis is performed by calculating the averages of each indicators based on the usability sub factors. All the questions given in the questionnaire use a Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The limit of acceptable aspect is 3.5, and if an indicator’s average falls under that, it means the indicator is deemed unsatisfactory by respondents. The variables of usability tested in the questionnaire consists of three elements, which are understandability, learnability, and operability. Results of the questionnaire are as follows:

Indicator	Likert Scale					Avg
	1	2	3	4	5	
Website is visually appealing	2	8	30	81	92	4.19
	0.9 %	3.8 %	14.1 %	38% %	43.2 %	
Website provides effective text and information	1	8	29	74	101	4.24
	0.5 %	3.8 %	13.6 %	34.7 %	47.4 %	
Visuals and content of website is consistent	1	5	25	80	102	4.3
	0.5 %	2.3 %	11.7 %	37.6 %	47.9 %	
Website considers user disabilities and limitations	2	5	31	75	100	4.24
	0.9 %	2.3 %	14.6 %	35.2 %	46.9 %	
Website considers user disabilities and limitations	3	3	33	79	95	4.22
	1.4 %	1.4 %	15.5 %	37.1 %	44.6 %	

Figure 1 : Questionnaire Results for Understandability

The results of the questionnaire shows that from the four indicators in the understandability factor, a majority of participants answered ‘Agree’ or ‘Strongly Agree’. The average of all indicators are 4.23, more than the acceptable limit of 3.5. The largest average is on the ‘Effectiveness of text and

information' indicator with 4.27, while the smallest is on 'Site design is visually appealing' with 4.1

Indicator	Likert Scale					Avg
	1	2	3	4	5	
Tutorials and guidelines are effective and easily accessible	2	8	26	69	108	4.28
	0.9%	3.8%	12.2%	32.4%	50.7%	
	4	5	23	75	106	4.28
	1.9%	2.3%	10.8%	35.2%	49.8%	
Facilities provided to learn the website for new users is satisfactory	3	8	20	74	108	4.30
	1.4%	3.8%	9.4%	34.7%	50.7%	

Figure 2: Questionnaire Results for Learnability

In the learnability factor, a majority of participants also answered 'Agree' or 'Strongly Agree'. The average of all indicators are 4.29, more than the acceptable limit of 3.5. The largest average is on the 'The facilities provided to learn the website for new users is satisfactory' indicator with 4.30, while the smallest is on 'Tutorials and guidelines are effective and easily accessible' with 4.28.

Indicator	Likert Scale					Avg
	1	2	3	4	5	
Website navigation is satisfactory	5	7	33	64	104	4.19
	2.3%	3.3%	15.5%	30%	48.8%	
	3	8	27	74	74	4.23
	1.4%	3.8%	12.7%	34.7%	47.4%	
Website is enjoyable to use	4	8	28	68	105	4.23
	1.9%	3.8%	13.1%	31.9%	49.3%	
	4	6	29	68	106	4.24
	1.9%	2.8%	13.6%	31.9%	49.8%	
Website content is complete	5	4	25	73	106	4.27
	2.3%	1.9%	11.7%	34.3%	49.8%	4.29
	5	4	27	65	112	
	2.3%	1.9%	12.7%	30.5%	52.6%	4.33
	3	7	17	74	112	
Good user interaction support	2	5	38	77	91	4.17
	0.9%	2.3%	17.8%	36.2%	42.7%	

Figure 3: Questionnaire Results for Operability

In the operability factor, a majority of participants answered 'Agree' or 'Strongly Agree'. The average of all indicators are

4.23, more than the acceptable limit of 3.5. The largest average is on the 'Site content is complete' with 4.30, while the smallest is on 'User interaction support is satisfactory' with 4.17. In the end of the questionnaire, respondents are asked to fill in an open-ended question regarding whether they'd like to come back to Babacucu.com and why, as well as their thoughts on the site.

Table 1: Questionnaire Open-Ended Question Results

Answer	Responses	Percentage
Yes	192	90.1%
No	3	1.4%
Maybe	18	8.5%
Total	213	100%

The ones who said they are interested to return are drawn in by the frequency of product giveaways, while the ones who said maybe cite the accessibility of these giveaways that are usually limited to west java and Java. Those who showed no interest in coming back cited the website being unfriendly to users, lack of giveaway information, and unresponsive customer support as issues.

4.2. Usability Testing Analysis

The following table describes the results of the usability testing done, based on the completion success of the tasks and the time taken to complete the test.

Table 2. Usability Testing Results

Respondent	Task							Time
	1	2	3	4	5	6	7	
1	Success	Success	Success	Success	Success	Success	Success	09:57
2	Success, with difficulties	Success	Success	Success	Success	Success	Success	13:27
3	Success, with difficulties	Success	Success	Success	Success	Success	Success	12:16
4	Success	Success	Success	Success	Success	Success	Success	13:53
5	Success	Success	Success	Success	Success	Success	Success	09:19
6	Success	Success	Success	Success	Success	Success	Success	16:16
7	Success	Success	Success	Success	Success	Success	Success	13:33
8	Success	Success	Success	Success	Success	Success	Success	10:19
9	Success	Success	Success	Success	Success	Success	Success	13:47
10	Success	Success	Success	Success	Success	Success	Success	09:17
11	Success	Success, with difficulties	Success	Success	Success	Success	Success	13:28
12	Success	Success	Success	Success	Success	Success	Success	16:20
13	Success	Success	Success	Success	Success	Success	Success	13:00
14	Success	Success	Success	Success	Success	Success	Success	15:37
15	Success	Success	Success	Success	Success	Success	Success	09:52

Legend: ■ Success
■ Success, with difficulties

The 15 participants of the usability testing managed to complete all tasks given, though some experienced difficulties along the way. Two participants found difficulties in task one, ‘Register Account’, running into difficulties filling out birthdate and receiving the confirmation email. One participant had complaints in task two, ‘Login’ because of the forget password feature, that returned their current password instead of giving the option of making a new password or generating a random one, running the risk of security threats. Three participants found difficulties in task three, ‘Search and Sort’ because of trouble locating the search bar. Four participants were hindered in task four, ‘Request Product’, running into difficulties finding the ‘Request’ button and the page loading that took too long. One participant had trouble in task five, ‘Filling out request prerequisites’ because of loading issues. Seven participants found difficulties in task six, ‘Give Product’ because they had difficulties finding the ‘Give’ button, not clicking the confirmation button on the upload page, and difficulties with uploading photos. Two participants had difficulties in task seven, ‘Give Products’ because of issues in opening the request notifications and long response times.

4.3. Problems and Comments from Participants

From the dimension of understandability, most participants think that the design of the website is already informative and functional. While the design is consistent, some complain that the design is outdated, there are several items in the interface that aren’t used, and the overall design is relatively boring. From the dimension of learnability, participants think that the site is easy to learn as-is, though some features are deemed confusing and some shortcuts are unclear. The filters used to arrange the order of items are also hard to understand. From the dimension of operability, many participants had issues with the website’s responsiveness, especially to those who has registered to the site and gave away items, receiving notifications. This is an issue because the notifications cannot be deleted and must be read one by one, and having too many notifications will severely impede the site’s responsiveness. Another complaint was about the site’s forget password policy where users are given their current passwords instead of either given the option to create a new password or given a randomly generated password.

4.4. Usability Issues Classification

From the results gathered in the usability testing and questionnaire, the usability problems in the Babacucu.com website found by test participants can be classified in four levels in the Rubin and Chisnell classification, ranging from irritants to severe issues. The classification is as follows, based on the severity and its related dimension:

Table 3. Usability Issue Classification

Dimension	Name	Description
Irritant	Understandability	Aesthetic issues in the website design
	Learnability	The search bar that is not easy to find
	Operability	Locations of buttons thought to be not intuitive
Moderate	Learnability	Sorting functions that are hard to understand
	Operability	Response time issues in the site
Severe	Learnability	Insecure forget password procedure
	Operability	Severe performance issues for accounts that has a large number of notifications

4.6 Recommendations for Website Usability Improvement

From the issues found by the usability test, the following recommendations can be given to improve the usability of the website. To solve the design issue, the Babacucu.com website should be redesigned so it would be more modern and more dynamic. The position of the search bar should also be adjusted and made bigger to make it more eye-catching, as well as rearranging the other buttons to stand out more. The sorting function should be done to make understanding it easier and simpler. Site optimizing should be done to reduce the long response times. The issues of the forget password procedure can be solved by giving users who ask for their password a randomly generated password or to make a new password. The issue of severe slowdowns when a user has too many notifications can be alleviated by implementing a feature to mass delete notifications.

V. CONCLUSION

The conclusions able to be drawn from the research performed are as follows:

1. From the three usability dimensions measured in this research, understandability, learnability, and operability, it is found that user satisfaction based on the findings of this research is good, despite the problems found in the usability testing.
2. The measurements of the three usability dimensions based on the questionnaire where understandability gained a score of 4.23, learnability gained a score of 4.29, and operability with a score of 4.23 showed that the respondents graded the website above the acceptable

limit of 3.5, which means that the usability of the website is good.

3. From the data gathered, the operability factor had the most issues and has several problems able to be categorized as severe, disrupting the site's usability.
4. Based on the evaluation from the scores of usability dimensions gathered, the recommendations that can be given for further development of the Babacucu.com website are as follows: (a). Consider redesigning the website to adjust to the complaints such as the confusing interface and ineffective filter options, especially to deal with the issue of requesting passwords and handling of large numbers of notifications, (b). Give better and more responsive user support to user complaints to keep users coming back.

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