Impact of Usability to User Experience on blanja.com Site

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ABSTRACT

E-commerce business continues to grow in the world, one of which is Blanja.com, a joint venture with the world's largest marketplace Ebay. However, problems arose in sales due to the 56.39% increase in the bounce rate resulting in a low conversion rate. The purpose of this research is to find out how the usability aspects such as learnability, efficient, error, memorability, and satisfaction affect user experience at Blanja.com. Data analysis was performed using statistical modelling techniques of Structural Equation Modelling, (confirmatory) with CFA and path analysis with LISREL statistics. Several results were obtained that the user did not easily understand the content aspect. It was difficult to get information, the hyperlinks were unclear, problems with navigation occurred. Although the users enjoyed it because of the responsive customer service, they were still not satisfied because of the background display, colours and graphics. Through this research, some general guidelines in ecommerce design can be generated to provide a better experience to users.

Keywords: Ecommerce, Site, Structural Equation Modelling, Usability, User Experience

INTRODUCTION

A report of “Digital Islands” from McKinsey mentioned several factors that drive the growth of the digital economy in Indonesia including restoring smart phone users, increasing people's purchasing power and adopting relatively fast community technology (Meilestari, 2019), while fast-growing sectors are available in online transportation, e-commerce, fintech, and travel agents. Among these various sectors, e-commerce and fintech are still promising prima donnas in the 2019 digital business perspective (Setyowati, 2018). This is the result of the fact that Asian Indonesian Special consumers are highly dependent on purchasing products through online (Anggraeni, 2018).

The rapid growth of ecommerce with a high population of Indonesia has become a soft market for ecommerce business people. It is undeniable that e-commerce business has many advantages for buyers, which are effective in terms of time, cost and energy. For local entrepreneurs, ecommerce can help market products with a wider range. There are many ecommerce players both locally and internationally. PT Telekomunikasi Indonesia participated in enlivening the ecommerce business in Indonesia with Blanja.com brand as the only SOE-owned ecommerce. Blanja.com is the result of a joint venture with the world's largest online marketplace company, Ebay. Thus, it is highly expected to be a successful e-commerce in Indonesia.
According to Iprice, Blanja.com's in 2019 ranked 12th. It is a long way to reach the target expected by the internal team, the e-commerce tribe in Telkom, to be the 3rd B2C e-commerce in Indonesia. The researchers found indications of problems that emerged based on analytic data from Blanja.com in 2017-2018. It is a significant decrease in the amount of income from Rp. 2.33 trillion to Rp. 113.26 billion, and an increase in bounce rate from 56.39%, starting from 31.14% to 71.42%.

A high bounce rate leads to a low conversion rate for the majority of people come and go on the website without completing their goals, in this context, by making a transaction. According to Nielsen, (2012), "The conversion rate is the percentage of users who take a desired action." The archetypical example of conversion rate is the percentage of website visitors who buy something on the site.

Therefore, further study is necessary to determine whether the user gets a good experience when using the Blanja.com website. User experience is influenced by usability. Based on literature studies, there are many usability attributes. They are Learnability, Efficiency, Memorability, Errors and Satisfaction (Nielsen, 2012). The researcher was eager to observe those variables are on Blanja.com, whether the usability attribute influences user experience when using Blanja.com website, and to determine the most influential attributes and how they influence simultaneously.

**Literature Review**

**Digital marketing**

In offering its products, companies may use many channels, one of which is digital media. Digital marketing is to apply digital technology in a company's marketing activities to achieve profit, acquisition and retain consumers by increasing customer knowledge related to profile behaviour, value and loyalty.

**Ecommerce**

One form of application of technology in a series of marketing processes is electronic commerce. Today ecommerce is a concept that fundamentally changes people's lifestyles. Ecommerce is the interaction between communication systems, data management systems and security where the elements exchange commercial information with respect to sales products and services in an organization. Electronic commerce (e-commerce) refers to both financial and informational electronically mediated transactions between an organization and any third party it deals with (Chaffey, et al., 2016: 22).

**Usability**

Based on the online customer experience pyramid – the success factor of Chaffey (Chaffey, et al., 2016: 358), presenting online experiences to users requires the delivery of rational values, emotional values and promised experiences (based on rational and emotional values). One aspect of rational values is ease of use with one of its elements being usability. Usability and user experience are separate but closely related concepts (Moczarny, et al., 2012). Usability is defined as the user's ability to use a product to perform a specific task, while user experience takes a broad view of interactions with the product, including thoughts, feelings and perceptions. User experience can be relied on by usability. According to Sipola (2017), "It is impossible to achieve great UX without high-quality usability, which is based on professional interaction design". Thus, users will get a good experience as long as the indicators on
usability are met. According to Nielsen (2012), usability consists of 5 components, including:

1. Learnability: How easy it is for a user to complete a task the first time a user sees a design.
2. Efficiency: Once the user has learned the design, how quickly they can complete the task.
3. Memorability: When users return to the website after a long time not using it, how easily they can reuse the website.
4. Errors: How many mistakes users make, how bad they are, and how easily they recover from the errors.
5. Satisfaction: How well a design provides an experience that is able to exceed user expectations.

**User Experience**

In marketing products, the use of owned media functions as a medium of communication between organizations and users, for example websites and mobile applications. Digital devices become popular because of the ease of users in accessing information related to services and products through devices. Thus, how to present information effectively online is one of the keys in digital marketing. In short, user experience is one important aspect in designing an interface, how companies need to understand the needs and desires of users. User Experience (UX) is an outcome of human product interaction with human emotions and experience approaches. As explained by Nielsen Norman Group (2012) "As the feelings of users have while interacting with a company, its services, and its products."

**RESEARCH METHOD**

Data analysis was performed using Structural Equation Modeling (SEM) statistical modeling because the author would confirm or path analysis. In this study, there are six latent variables, namely Learnability, Memorability, Error, Efficiency, Satisfaction and User Experience. Each latent variable is measured by several observable variables / indicators.

Then the equation model taken is covariance-based matrix structural equation modelling (CB- SEM) with LISREL statistical analysis, conducted in several stages of analysis. Firstly, confirmatory factor analysis (CFA) is to find out whether the observed variables are valid and reliable to be forwarded to the next stage. Secondly, Full Model Testing is to see the feasibility of the model with Chi-square results, RMSEA (Root Mean Square Error of Approximation), NFI (Normed Fit Index), CFI (Comparative Fit Index), IFI (Incremental Fit Index), RFI (Relative Fit Index), SRMR (Standardized Root Mean Square Residual), GFI (Goodness of Fit Index), AGFI (Adjusted Goodness of Fit Index). After the suitability test, hypothesis test is carried out through a structural model.

It is expected that the results of this research will be in the form of conclusions and suggestions able to be used as internal improvements to Blanja.com. The hypotheses are:
Table 1: Hypothesis

| Hypothesis | Statement                                      |
|------------|-----------------------------------------------|
| H1         | Learnability has a significant effect on user experience |
| H2         | Efficiency has a significant effect on user experience |
| H3         | Memorability has a significant effect on user experience |
| H4         | Errors has a significant effect on user experience |
| H5         | Satisfaction has a significant effect on user experience |
| H6         | Learnability, Memorability, Error, Efficiency dan Satisfaction has a significant effect on user experience |

1.1.4 Characteristics of Respondents

There were 564 respondents filling out the distributed questionnaire. 483 out of them met the requirements for further process. The rest 63 samples did not complete the questionnaire. The charts below explain their demography of gender and profession.

Suitability Evaluation of the measurement model was tested using confirmatory factor analysis. The analysis is performed to find out unidimensional indicators that explain latent factors or variables. The results imply that all indicators have a loading factor above 0.5 suggesting that each indicator is valid as a measurement tool for each variable. The following table explains in details.

Table 2: Summary of the CFA Model Reliability Validity Test

| Latent Variable | Indicator | Loading factor | CR   | VE    | Information |
|-----------------|-----------|----------------|------|-------|-------------|
| Learnability    | Learn1    | 0.808          | 0.798| 0.664 |             |
|                 | Learn2    | 0.822          |      |       |             |
| Memorability    | Memo1     | 0.886          | 0.857| 0.750 | Valid       |
|                 | Memo2     | 0.846          |      |       |             |
| Error           | Err1      | 0.800          | 0.882| 0.715 | Valid       |
|                 | Err2      | 0.840          |      |       |             |
|                 | Err3      | 0.894          |      |       |             |
| Efficiency      | Eff1      | 0.861          | 0.857| 0.749 | Valid       |
|                 | Eff2      | 0.870          |      |       |             |
Testing the complete SEM model is done with two types of tests, namely the suitability of the model and testing the hypothesis model. Testing the complete SEM model is used to see the feasibility of the model or suitability of the model. Evaluate the good suitability of the structural equation model by comparing the recommended suitability index values as presented in the following table:

**Table 3: Evaluation of the Structural Model Fit Indices**

| No | Goodness of Fit | Target Value | Result  | Model Evaluation |
|----|----------------|--------------|---------|------------------|
| 1  | Chi-square (P-value) | p-value ≥ 0.05 | 145,797 (0.004) | Good fit |
| 2  | RMSEA          | RMSEA ≤ 0.08 | 0.029   | Good fit         |
| 3  | NFI            | NFI ≥ 0.90   | 0.990   | Good fit         |
| 4  | CFI            | CFI ≥ 0.90   | 0.997   | Good fit         |
| 5  | IFI            | IFI ≥ 0.90   | 0.997   | Good fit         |
| 6  | RFI            | RFI ≥ 0.90   | 0.986   | Good fit         |
| 7  | SRMR           | SRMR ≤ 0.05 | 0.022   | Good fit         |
| 8  | GFI            | GFI ≥ 0.90   | 0.966   | Good fit         |
| 9  | AGFI           | AGFI ≥ 0.90  | 0.949   | Good fit         |

After testing the suitability of the model, then testing the research hypothesis is conducted through a structural model.
The following summarizes the results of the structural model estimation of the relationship between latent variables through the Path Coefficient Test:

| Relationship          | Path | T Value | R square Parsial | R Square Simultan |
|-----------------------|------|---------|------------------|-------------------|
| Learnability --> Experience | 0.258 | 2.838   | 0.180            |                   |
| Memorability --> Experience | 0.069 | 1.386   | 0.032            |                   |
| Error --> Experience  | 0.146 | 2.971   | 0.081            | 0.566             |
| Efficiency --> Experience | 0.132 | 2.878   | 0.065            |                   |
| Satisfaction --> Experience | 0.305 | 4.480   | 0.210            |                   |

**RESULTS AND DISCUSSION**

**Learnability**
In general, the content provided on the Blanja site is easy to understand but the user still needs time to get used to & be able to understand the features provided on the Blanja site. Learnability related to the user's cognitive load when accessing a website is in line with Tarafdar & Zhang (2005) in Calisir et al. (2009) research that good navigation is critical to reduce cognitive load where navigation and learnability are interrelated.

**Memorability**
Users are easy to remember aspects of the appearance and main functions but still find it difficult to search for information presented. Through hypothesis testing, the
results show that memorability is significantly less influential. This is in line with Hedegaard, et al. (2013) that memorability is not really needed in the software category and video games. For Ecommerce, this is because the e-commerce system can automatically store user data such as e-mail, card numbers for transactions so that users no longer need to remember anything. Then when searching the system, it can provide the most popular search suggestions so that users can quickly obtain the desired product, but to improve user experience, it needs to be explored to find out what information has not been easy for users when using Blanja.com. In Ecommerce guidelines vol 2 (Schade, & Nielsen, ) related to navigation and classification an ecommerce must show the user's last location on the site such as the use of breadcrumbs, or a list of text links that show the structural path to the user’s location, can be a good way to tell the user where they are on e-commerce sites.

**Error**

There are still problems with navigation as previously explained, which is difficult to find products because there is no navigation when entering the sub categories and this is related to the structure and layout which has the potential for errors. Not only relates to handling errors in operations, but also that the user must be clearly informed of what is causing the error and can easily correct it (Penedo (2012)).

**Efficiency**

Placement of content on the site is not exactly in accordance with user expectations even though on the one hand the user wants to explore. When visiting the Blanja site and searching for products then click the filter based on the best-selling products the content displayed is still mixed with products that have never been sold. This makes the user must sort out for themselves which content is really needed by the user among the many content displayed. According to Wei, (2015) Efficiency test results indicate that the efficiency of cellular applications is low.

**Satisfaction**

Satisfaction gives a significant influence on user experience. This is in line with Nielsen's research that the more tasks that are successfully done by the user, the more satisfied the user will be. Customer satisfaction also affects net benefits according to Pingke, et al. (2017). The assessment is the aspect of satisfaction when compared to enjoying (enjoying) and happy. So that needs to be improved at Blanja site to be able to increase user satisfaction.

**User Experience**

Need to redesign the BLANJA site related to the display background, color graphics and sound in order to provide a better experience that is redesigning the homepage display because there are slide images with colors that are less aligned there are images with pastel colors then the next image is bright red, content because it is still there is a picture that does not appear on one of the products, then the use of labels on the button next process that is not uniform in color there is orange to add an address and red to enter payment. Usability testing is needed to get deeper usability problems related to this so that input can be obtained in the form of visual design improvements because it is associated with the use of color graphics as stated by Sward (2006) in Moczarny's (2012) research that providing good experience to users involves various disciplines science, including marketing, ethnography, interaction design, information design, technical writing and visual design.
CONCLUSIONS

Learnability has a significant effect on user experience. Memorability has an effect on user experience, although that is not significant. Errors have a significant effect on user experience. Efficiency gives a significant effect on user experience. This leads to a conclusion that Learnability, Memorability, Error, Efficiency and Satisfaction simultaneously have a significant effect on User Experience.

Practical Advice
These study findings signify aspects that have not been able to provide a good experience to Blanja.com users, including design on content navigation, and redesign of the site’s appearance on the aspects of background, colour and graphics. The suggested improvement related to navigation is redesigning navigation by displaying breadcrumbs so that users can be guided when selecting sub categories and displaying these sub categories as filters in displaying products enabling users not to think that the available content is limited. A card sorting test is needed to see the classification of content in the categories enabling users to easily find the product they are looking for. Then, it is a necessary to check on the content to minimize products without photos to be inputted by the merchant’s photo on the website. Regarding the background and colour aspects of the website, it is necessary to redesign the use of photo slides by using harmonious colours, redesigning the colour of the buttons, customer service icon/help with a standard customer service icon such as avatars with a headset. It is recommended that Metraplasa to make improvements to these parts in order to improve user experience. In addition, approach the observation method, the usability testing, is to ascertain which parts of usability problems give the highest severity rating to the design elements that lead to unfavourable experiences.

Academic Advice
This research provides some general guidelines in ecommerce design for better experience to users, including navigation design to guide users to quickly get the information or content desired, design visualizations emphasizing key information on each page allowing users to easily understand main content and reduce less important information, improve system performance related to the process of loading content and correct errors, align the colours on the photo used as a slider on the main page as well as consistent colours on the next process button, in addition to common standard icons.

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