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USER INTERFACE MEASUREMENT ANALYSIS OF TRAVEL E-COMMERCE BASED ON USABILITY AND USER EXPERIENCE

Siti Hajar Komariah[1], Asep Mulyana[2], Rita Komala Dewi[3], Yunizar[4]
[1]Visual Communication Design, School of Creative Industries, Telkom University,
Jl. Telekomunikasi No. 1, Terusan Buahbatu Bandung Jawa Barat, 40257, Indonesia
[2,3,4]Management, Faculty of Economic and Business, Padjadjaran University,
Jl. Dipati Ukur no 35 lebak gede kecamatan Coblong, Bandung Jawa Barat, 40132, Indonesia
sitihajar@telkomuniversity.ac.id

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Abstract: Technological developments, especially in Information and Communication Technology (ICT), encourage the growth of new ICT-based businesses with online systems (e-commerce) consisting of Traveloka, Nusatrip, and tiket.com. The User Experience (UX) is influenced by how he feels when interacting with the device in front of him. The application users use to access online stores is the User Interface (UI). The research method used is a quantitative method and confirmation survey with the help of SPSS, and a comparison has been made of measuring UI parameters based on Usability and UI Measurement and analysis in this study used the Webuse tool and Mean Opinion Score method to determine the quality of the three e-commerce UIs in the eyes of their users and what kind of experience they felt when browsing these websites. The novelty is using the new hybrid method Webuse tool and Mean Opinion Score in comparing measurement and analysis of UI, Usability and UX parameters. The results of the Usability UI measurement with the Webuse Tool showed that Traveloka gets a score of 81, Nusatrip 72, and Tiket.com gets a score of 74. Meanwhile, in measuring UX against UI with MOS, Traveloka obtained MOS 4.13, Nusatrip 4.0, and Tiket.com obtained MOS 4.0.
Keywords: Travel E-Commerce, User Interface, User Experience, Usability.

Abstrak: *Perkembangan teknologi khususnya Teknologi Informasi dan Komunikasi (TIK) mendorong tumbuhnya bisnis-bisnis baru berbasis TIK dengan sistem online (e-commerce). Pengalaman Pengguna (UX) dipengaruhi oleh bagaimana perasaannya saat berinteraksi dengan perangkat di depannya. Aplikasi yang digunakan pengguna untuk mengakses toko online adalah User Interface (UI). Metode penelitian yang digunakan adalah metode kuantitatif dan survey konfirmasi dengan bantuan SPSS, dan telah dilakukan perbandingan pengukuran parameter UI berdasarkan Usability dan UI Pengukuran dan analisis dalam penelitian ini menggunakan alat Webuse dan metode Mean Opinion Score untuk menentukan kualitas ketiga UI e-commerce di mata penggunanya dan pengalaman seperti apa yang mereka rasakan saat menjelajahi situs web tersebut. Kebaruannya adalah menggunakan alat webuse*

metode hybrid baru dan Mean Opinion Score dalam membandingkan pengukuran dan analisis parameter UI, Kegunaan dan UX. Hasil pengukuran Usability UI dengan Webuse Tool menunjukkan bahwa Traveloka mendapatkan skor 81, Nusatrip 72, dan Tiket.com mendapatkan skor 74. Sedangkan pengukuran UX terhadap UI dengan MOS, Traveloka memperoleh MOS 4.13, Nusatrip 4.0, dan Tiket.com memperoleh MOS 4.0.
Kata Kunci: *Traveloka E-Commerce,* User Interface, User Experience, Usabiity

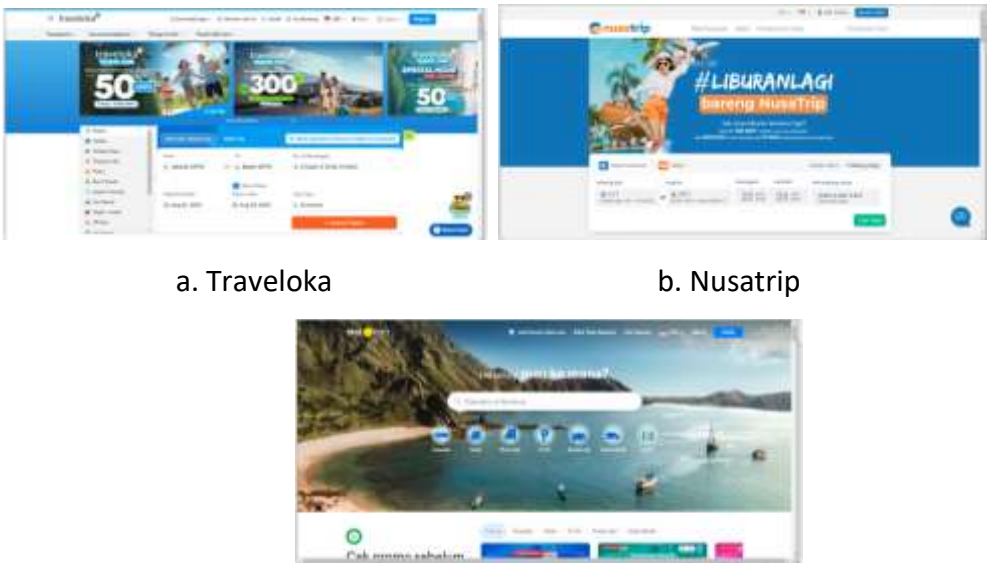
INTRODUCTION

Information Technology is the use, development and design of systems that will make it easier for people to store, modify and distribute information (Tebay et al., 2023). Technological developments have impacted various aspects of life, including the media for delivering information. Online media is one of the choices in great demand today because of its ease of access, for example, websites (Istiqomah et al., 2023). Apart from facilitating and accelerating communication and information processes, information technology is an important determinant of how ICT can bring benefits about online system development (Xiong et al., 2013). Engaging in business activities with an online system (e-Commerce) is a necessity in the business world, considering the increasingly complex issues, the proliferation of competitors, and the demand to constantly keep up with the developments in the global world, which requires always acting creatively (Alwendi, 2020).

These new online-based businesses are very aggressively showing off their products, arranged and placed in such a way as to attract consumers or potential online buyers. Almost all products exist in the world of online sales, including sales of travel tickets, hotels, and places of entertainment/ recreation. Users who want to vacation or travel or work out of town/ region often take advantage of the services of online sellers to order and buy tickets for air, sea and land transportation and hotels and accommodations simultaneously on e-commerce websites. Based on data and information from katadata.com, tempo.co, telkomsel.co, gulung.com, and carisignal.com, the websites with the most users out of the many e-commerce websites

selling tickets are Traveloka, Tiket.com and NusaTrip. There are nine online ticketing websites, and these three websites represent the websites with the largest sales and customers.

Based on previous research that the user interface (UI) is an important part of a software product (Jitnupong & Jirachiefpattana, 2018). The success of the UI can be seen from the extent to which users can run applications efficiently without any significant obstacles, so the UI must have well-conceptualized principles (Aliya Tasya & Dedi Irawan, 2023; Mario et al., 2023).The UI display of 3 e-commerce websites can be seen in Figure 1.



a. Traveloka b. Nusatrip

c. Tiket.com

Figure 1. User interface of the three e-commerce webs

The success of developing a website can be measured based on usability (Simatupang & Hadi, 2004). Good content is content that is easy to understand and attracts the attention of users. Placement of content that is well organised will lead to satisfaction (user experience) felt by users (Shidky Pertiwi dan Danang Dwijo Kangko, 2021). With a variety of display designs and website displays, some business people continue to develop their virtual store appearances to make them comfortable to see, attract attention, and easy to

use by potential buyers/ users so that buyers and users will return to access and want to shop at their stores (Kuo et al., 2022). On the other hand, many online businesses only design the appearance of their virtual stores as simple as possible with original layout settings, difficult to use and unattractive appearance, so that users are reluctant and do not want to access and shop again through their virtual stores.

From the two existing conditions, interesting points must be observed, namely, selling products via virtual stores, but the results and experiences buyers and users feel contradictory (Chen & Tan, 2004). Initial indications indicate that there are factors that affect the level of satisfaction and interest felt by users/ buyers in their experience of visiting, viewing and interacting in virtual stores, thus greatly affecting the level of acceptance, level of understanding, and level of desire of the user community to return to shopping or not at the store. a virtual shop/website.

The experience felt by the user when accessing the website/virtual store will of course, be influenced by what he feels while interacting with the machine/ device in front of him (Human-Computer Interaction (Gao & Tang, 2012). The tools and applications used by the user/user in accessing the virtual store are known as the User Interface (UI). The appearance and reliability of the User Interface, how the UI is designed and built, will affect its functionality/ usability and, of course, will affect user satisfaction during its use (User Experience/ UX). The novelty of this study is the use of the new hybrid method Webuse tool and Mean Opinion Score in the comparison of measurement and analysis of UI, Usability and UX parameters carried out on the three websites. It is interesting to study how Traveloka, NusaTrip, and Tiket.com are in users' eyes and what kind of service quality they feel when they surf these websites.

The Webuse method divides usability categories based on four usability evaluation criteria, namely: 1. Content, Organization, and Readability, 2. Navigation and Links, 3. User Interface Design, 4. Performance

and Effectiveness. To measure UX (User Experience) against the characteristics of the e-Commerce Web User Interface that he visited, the Mean Opinion Score (MOS) was used. The accuracy of the evaluation will be determined by the appropriateness of the usability evaluation methods used (Chiew & Salim, 2003). There are 10 user interface (UI) variables that are the visual part of a website, software application or hardware device that determines how a user interacts with the application or website and how information is displayed on the screen. The user interface itself combines the concepts of visual design, interaction design, and information infrastructure. The purpose of the user interface is to improve usability and user experience. The user interface is one factor determining the increase in website traffic. UI can determine whether someone is interested in visiting and re-exploring a website. If users are happy with the appearance of the interface of a website and the user experience of using a website, users will likely visit the website again.

When a user visits a website, the user experience must be a priority for the manager. If users have a good user experience on a website, then the website will get a higher conversion rate. In addition, users will also promote the website or application to other users. If they have a bad experience with a website or application, users will not want to use it again. If the website is an online business, this is certainly important. To have a good user experience, a website requires an interface that is easy to navigate and use.

The user interface determines the e-commerce customer base. As long as the user interface is easy to understand, the user experience of website visitors or application users will also remain good. That way, their chances of continuing to come to the website and use the existing website or application are also higher. Characteristics of a good User Interface are: Easy to use, Fill in the information in groups, Clear, Brief, Familiar, Responsive, Consistent, Interesting, Efficient, and Forgiving (Sidharta & Suzanto, 2015).

Usability is a condition where a person can easily use a tool or a certain man-made object to achieve a goal. The tools or objects referred to in this study are the websites and mobile app user interfaces. According to (Nielsen, 2012), usability has five very important criteria. The first criterion is Learnability with indicators: the text used is clear to the reader, the color of the text is comfortable to read, the menu is easy to understand, and sentences that are easy to understand. The second criterion is Efficiency with indicators: the menu structure is systematized, and menus can appear quickly when clicked. The third criterion is memorability with indicators: the name of the web page is easy to remember and has a calendar event widget. The fourth criterion is Error with indicators: there are no errors on each page link, and a clear message when an error occurs. The fifth criterion is satisfaction with indicators: able to make users come back, presenting the required information, and the information presented is up to date (latest).

Good web application design includes visual planning and pays attention to the user experience when accessing it, better known as the User Experience (UX). User experience is not only limited to product or service functions but also involves interactions between users and these services or products, namely how users feel and interact when using these services or products. User experience design is a link that integrates the user interface with the application system (Sumarlin et al., 2021). User experience (UX) is the key to increased productivity by enhancing the usability and interactivity of the product (Abbas et al., 2022).

The first is Project Management. This one area focuses on planning and organizing projects and existing resources. Project management also includes identifying and managing cycles that will be used later. In addition, applying it to the design process again fits the term UX, which is centered on user satisfaction and convenience. It continued, even though the management included formulating who was in the project team and guiding the team efficiently until the project was completed. The second is User

Research. This is research that focuses on understanding user behavior. What are the user's needs, and what are their motivations? User research is carried out using observation, analysis, and other methodologies to seek feedback.

The third is Usability Evaluation. This evaluation focuses on how well users can learn quickly and use existing website features to achieve their goals. It also actually refers to how satisfied the user is with the usage process. The fourth is Information Architecture. This one field focuses on how information can be organized into a structure and then presented to website users. The fifth is User Interface Design. This UI design focuses on anticipating what website users might need to do at the time of use. In addition, it also ensures that the interface has elements that are easy to access and understand so that it is easy to use, as previously mentioned.

The sixth is Interaction Design. This design means the process of creating an interactive system that is attractive to website users with an interaction concept that has been thought out carefully and logically. The seventh is Visual Design. This visual design means ensuring that the artistic interface/appearance of the website remains in line with the brand goals of your company. The eighth is Content Strategy. This content strategy focuses on writing and curating content useful for the website's users, both to understand what the product is, or its advantages and other useful tips related to the product. This strategy is carried out by planning what is produced, delivered and managed. The last is Web Analytics, which focuses on collecting, reporting, and analyzing data from a website.

RESEARCH METHOD

The research method used is a quantitative method and confirmation survey with the help of Statistical Package for the Social Sciences (SPSS), and a comparison has been made of measuring UI parameters based on Usability and user experience with case studies on three e-commerce ticket-selling

websites, namely Traveloka, Nusatrip, and Tiket.com, where these three websites have the largest sales and customers in ticket sales. The research was carried out in West Java province, Indonesia. The study used a quantitative method and confirmation survey and helped SPSS and the total unit analysis consisted of 250 respondents. Respondents are internet users who have used and shopped at Traveloka, Nusatrip, and Tiket.com. Of the 250 questionnaires that were distributed online, there were 203 who returned, and 184 were eligible (the data with complete information) to be processed. In this study, the researchers used the Webuse (Web Usability Evaluation) tool and MOS (Mean Opinion Score) methods. The Webuse tool is a usability evaluation method in the form of a website-based usability evaluation questionnaire that allows users to assess the usability of the evaluated website (Gilvy et al., 2020; Minarwati & Mavikasari, 2023).

The mean opinion score is the International Telecommunication Union (ITU)P.800 recommendation used to measure the performance of multimedia communication over a network based on the views of the end user. In multimedia communication networks (such as audio, video, or voice telephony) especially when codecs are used to compress the bandwidth required for the communication, MOS is needed to measure the extent to which the quality of the communication is based on the end user's perspective.

Table 1 Rating score

MOS	Quality	Impairment
5	Excellent	Imperceptible
4	Good	Perceptible but not annoying
3	Fair	Slightly annoying
2	Poor	Annoying
1	Bad	Very Annoying

Source: personal documentation

Table 1 provides the Rating Score, which is commonly used to assess the quality of a service or product, particularly in this case, to measure the performance of website display features. The scores range from 1 to 5 and are associated with specific qualitative descriptions for each level. MOS is Mean Opinion Score, quality means describes the perceived quality of the service, and the impairment means describes the level of annoyance or impairment experienced by the user.

This MOS can also be used to measure the performance of the website display features, where the assessment can be done based on the end user's perception after the user uses the website. End Users provided an assessment when using and exploring e-commerce websites, especially the Traveloka, NusaTrip, and Tiket.com websites. The results of the assessment the score can be converted into the form of a perception index. The respondent's perception index can be measured using a scoring technique by looking at and counting the respondents' answers to the items arranged in a questionnaire. The scoring technique used in this study is a minimum of 1 and a maximum of 10, so the calculation of the respondent's answer index is carried out using the following formula:

Index Value = ((%F1x1) + (%F2x2) + (%F3x3) + (%F4x4) + (%F5x5) + (%F6x6) + (%F7x7) + (%F8x8) + (%F9x9) + (%F10x10))/10 (1)

Where:

F1 = frequency of respondents who answered 1

F2 = frequency of respondents who answered 2

...,

F10 = frequency of respondents who answered 10

Therefore, the number of respondents' answers does not start from number 0, but starts from numbers 1 to 10, then the resulting index number will start from numbers 10 to 100 with a range of 90, without the number 0. By using the three-box method (three-box method) then the range of 90 is

divided by three to produce a range of 30 which will be used as the basis for interpreting the index value, which is as follows:

10.00 – 20.00 = UI Bad

20.01 – 40.00 = UI Poor

40.01 – 60.00 = UI Fair

60.01 – 80.00 = UI Good

80.01 – 100.00 = UI Excellent

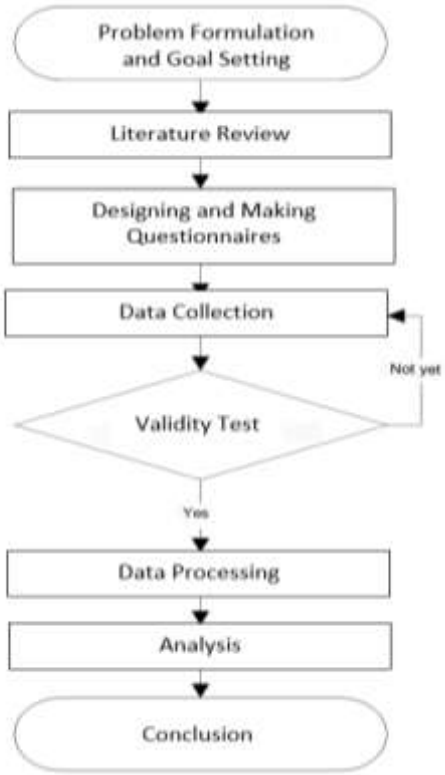


Figure 2. Research methodology

Source: personal documentation

This study uses a quantitative method by collecting perceptions from the target community of a display and experience of human-computer interaction through questionnaires. The results of respondents' answers were processed to measure the mean opinion score and converted into an index of

respondents' perceptions of the quality of the user interface of a website based on its usability and user experience. The research was carried out in stages such as the flow chart in Figure 2.

There are three research variables observed and measured related to the appearance of the website and the experience of users and visitors of a website, namely the user interface, usability, and user experience. Furthermore, in the measurement, these three variables were reduced into several measurement indicators made in the form of questions in the questionnaire. The questions are directed to measure how users evaluate based on the experience of using and seeing the appearance of a website. In this case, the Traveloka, NusaTrip, and Tiket.com websites.

Analysis of the results of data processing carried out with SPSS. This analysis aims to obtain an overview of the respondents' answers to the variables studied using the Index Analysis Technique which describes the respondent's perception of the questions asked. The results showed whether the respondent's perception of the UI quality of a website is based on the results of the Usability and User Experience that the user feels.

RESULT AND DISCUSSION

Determination of the minimum number of samples for SEM, according to Hair et al, 1995 (Ferdinand, 2006), is dependent on the number of indicators multiplied by five. Based on these limits, the minimum number of samples is 20 for Webuse tools and 50 for MOS. Furthermore, Hair also stated that the appropriate sample size was between 100-200, so the samples taken in this study were 184 valid samples from 250 questionnaires distributed and 203 data returned. The validity of the questionnaire questions is done by testing the questionnaire questions using SPSS 17. To find out whether the questionnaire is valid or not, judging from the Corrected Item-Total Correlation value has a value above 0.3 (with a threshold limit of 0.3), so it is

considered sufficient to state that each of these questions has been valid. The results of data processing are divided into two processing sections. Namely, Usability Interface with Webuse Tool and UX measurement of UI using Mean Opinion Score (MOS). There were 184 processed respondent data obtained and the results usability measurement of the data processing can be seen in Table 2.

Table 2 The result of usability measurement

No. Var	Variable	Traveloka Usability Value		Nusatrip Usability Value		Tiket.com Usability Value	
		Var Score	Criteria	Var Score	Criteria	Var Score	Criteria
1	Content, Organization, and Readability	73.5	Good	62.0	Good	73.9	Good
2	Navigation and Links	74.1	Good	61.1	Good	73.3	Good
3	Desain User Interface	77.4	Good	67.8	Good	79.4	Good
4	Performance and Effectiveness	68.0	Good	61.2	Good	70.7	Good
Mean Score of UI Usability		**73.2**	**Good**	**63.0**	**Good**	**74.3**	**Good**

Source: personal documentation

Table 2 shows that the Usability Value of Tiket.com showed the best results among the other two e-commerce websites, where the value is Good 74.3. Nusatrip is considered to have the lowest usability value even though its usability is still within the good range, 63.0. Traveloka obtained a usability value of according to the respondents who used the three e-commerce web applications 73.4 with the predicate still Good.

Table 3 The result of UX measurement with MOS

No. Var	User Interface Variable	Traveloka UX Value		Nusatrip UX Value		Tiket.com UX Value	
		Var Score	Criteria	Var Score	Criteria	Var Score	Criteria
1	Easy-to-use application	**4.11**	Good	**3.85**	Fair	**4.09**	Good
2	Grouping Information Content	**4.10**	Good	**4.09**	Good	**4.14**	Good
3	Information is conveyed clearly	**4.26**	Good	**4.10**	Good	**4.24**	Good
4	The information provided is brief and precise	**3.85**	Fair	**3.55**	Fair	**3.90**	Fair
5	Appearance and functions are quite familiar	**4.09**	Good	**3.56**	Fair	**4.33**	Good
6	The service is quite responsive/fast response	**4.10**	Good	**3.73**	Fair	**3.68**	Fair
7	Services and data are very consistent	**4.35**	Good	**3.33**	Fair	**3.76**	Fair
8	Display, layout is quite attractive	**3.89**	Fair	**3.24**	Fair	**3.94**	Fair
9	Efficient Display Space	**3.56**	Fair	**4.32**	Good	**4.13**	Good
10	Tolerant, and there is compensation to the customer if a system error occurs	**3.74**	Fair	**3.74**	Fair	**4.10**	Good
Mean Opinion Score		**4.01**	**Good**	**3.75**	**Fair**	**4.00**	**Good**

Source: personal documentation

In Table 3, the results of calculations from the Mean Opinion Score data processing of 184 respondents related to the assessment of what users feel (User Experience) after accessing and opening the three e-commerce webs, namely Traveloka, Nusatrip, and Tiket.com, are presented. The results show that Traveloka obtains the maximum MOS value from its users in the service variable, and the data is very consistent with a score of 4.35 (out of a maximum score of 5.00) and the smallest score on the display space efficiency variable with MOS of 3.56. Web Nusatrip obtained the maximum MOS value from its users in the variable Information conveyed clearly with a score of 4.32 (out of a maximum score of 5.00) and the smallest score on the display space

efficiency variable with a MOS of 3.33. Web Tiket.com obtained the maximum MOS value from its users in the display and functions variables, quite familiar with a score of 4.33 (out of a maximum score of 5.00) and the smallest score on the service variable, quite responsive with an MOS of 3.68.

The research results are consistent with previous studies stating that the quality of user interface (UI) and user experience (UX) plays a crucial role in determining user satisfaction and the success of e-commerce platforms. Both of these factors contribute to user efficiency and effectiveness in achieving their goals when interacting with e-commerce platforms.

Although all three e-commerce platforms in this study showed good usability levels, specific improvements may be needed, especially for Nusatrip, which exhibited slightly lower usability and user experience scores than its competitors. It is crucial for e-commerce providers to continuously enhance the user interface and user experience to maintain and improve their market share.

The findings of this study provide valuable insights for developing and improving e-commerce platforms in the future, focusing on delivering better user experiences and more user-friendly interfaces.

A. Comparative Analysis of User Interface Usability Measurement Results on Traveloka, Nusatrip, and Tiket.com.

In Usability UI, four variables are measured by distributing 250 questionnaires and 184 valid data are obtained. The results are processed using a rating range for each question item with a score of 1 to 10. The results show that for variable 1, Content, Organization, and Readability, Traveloka gets a score of 73.5 in the good category, Nusatrip while Tiket.com is 62.5 in the good category, and Tiket.com received a score of 73.9 in the good category too. Even though all three are in a good category, the UI usability from Traveloka is considered better than the Usability UI Tiket.com and Nusatrip by respondents. The 2nd variable, Navigation and Links, Traveloka,

Nusatrip, and Tiket.com obtained a Usability UI score of 74, 62, and 73, respectively, meaning that all three are in a good category. The results of the measurement of the 3rd variable, namely User Interface Design, showed that Traveloka had a Usability UI with a score of 77 which meant the criteria were Good, Nusatrip obtained a UI usability with a score of 68, which means the criteria went to Good, and Tiket.com obtained a UI usability with a score of 68. a score of 79, which means that the criteria for Good are close to excellent.

In the last variable category in this UI usability measurement, namely Performance and Effectiveness, Traveloka web UI usability scored a score of 68 with good criteria, Nusatrip Web received a score of 61 with criteria still Good, but close to the Fair threshold, while the Tiket web. com obtained a usability UI with a score of 71. Overall, both Traveloka, Nusatrip, and Tiket.com, from the results of the measurements carried out in this study, all three of their Usability User Interfaces received scores in the good category, even though from the average results obtained on average, the order of the highest scores is Web Tiket.com Web Traveloka, and Web Nusatrip. This is somewhat different from the results of random interviews and short and spontaneous questions and answers to random respondents, where the overall appearance of Traveloka is less good than Tiket.com and Nusatrip, this is mainly related to the display from Nusatrip and Tiket. com where the information is conveyed quite clearly.

B. Comparative Analysis of User Experience (UX) Measurement Results on Traveloka, Nusatrip, and Tiket.com Webs by Using Mean Opinion Score (MOS).

In measuring User Experience (UX) using the Mean Opinion Score (MOS) method, 10 variables are measured to describe the value of satisfaction and experience felt by users when accessing and using an e-commerce web application, namely: the application is easy to use, The content of the information is grouped, Information is conveyed clearly, The information is

short and precise, Display and the functions are familiar, responsive/responsive, the services and data delivered are consistent, the appearance and layout is quite attractive, the display space is efficient, there is compensation in the event of a system failure/forgiving .

The research was conducted by distributing 250 questionnaires and obtaining 184 valid data. The MOS value has a range from a score of 1 to 5. The measurement results are shown in Table 3. Based on the results of User Experience measurements by users using the MOS model at Traveloka there are 6 UI variables which, after being tried to access and perceived by users, score in the Good criteria with a score above 4.0, namely the variables: Applications are easy to use, Contents of information are grouped, Information delivered, the appearance and functions are familiar, responsive/responsive, the services and data delivered are consistent. The rest, namely four UI variables, are assessed and felt by users to be moderate or mediocre; namely, the information variable is short and precise, the display and layout are quite attractive, the display space is efficient, there is compensation in the event of a system failure/forgiving.

The results of the UX measurement with MOS on the user experience of access and what they feel from surfing on Nusatrip, of the 10 variables measured, 3 variables are considered good with a score above 4, namely the 2nd, 3rd, and 3rd variables. and 9th, while the rest are considered, rated and felt by users with a score below 4 (Good). The results of the UX measurement with MOS on the user's experience of access and what they feel from surfing Tiket.com, of the 10 variables measured, 4 variables are considered to be still mediocre with a score below 4.00 aka fair, namely the 4th variable, to the fourth variable. -6, 7th, and 8th, while the rest are considered, rated and felt by users to be good, with scores above 4 (Good).

Overall, the MOS Score from the three Traveloka, Nusatrip, and Tiket.com websites, namely Traveloka and Tiket.com, shows a value above 4, namely 4.01 which means Good for Traveloka and 4.0 for Tiket.com which also

means Good. Meanwhile, Web Nusatrip obtained a MOS score of 3.75, which is still fair. Tiket.com is still considered slightly better in appearance than Traveloka, especially in layout, display and clear, concise and accurate information."

CONCLUSION

This study aimed to assess the usability and user experience (UX) of three e-commerce platforms, namely Traveloka, Nusatrip, and Tiket.com, by using the Webuse (Web Usability Evaluation) tool and Mean Opinion Score (MOS) methods. The study results indicate that all three e-commerce platforms showed good usability levels, with Traveloka scoring the highest in the usability evaluation. Additionally, the study revealed that user experience was generally positive across the platforms, with Traveloka and Tiket.com receiving higher scores than Nusatrip.

The research findings are consistent with previous studies emphasizing the importance of user interface (UI) quality and user experience in determining user satisfaction and e-commerce platform success. Both factors enhance user efficiency and effectiveness in achieving their goals when interacting with e-commerce platforms.

The implications of this study for future research are significant. The insights gained from evaluating usability and user experience can serve as valuable guidance for developing and improving e-commerce platforms. To maintain and improve their market share, e-commerce providers should continuously enhance the user interface and user experience.

However, the study has some limitations. One limitation is the relatively small sample size, which may affect the generalizability of the results. Future research should consider expanding the sample size to ensure more comprehensive insights. Another area for improvement is the use of

only two methods for assessment, and the inclusion of additional methods may provide more comprehensive and nuanced results.

For future research, it is recommended to explore the development of a creative process model specifically tailored for e-commerce platforms. This model should consider the unique characteristics and requirements of e-commerce users to optimize their experience. Additionally, further studies can investigate the impact of various design elements on user satisfaction and engagement to guide platform development effectively.

In conclusion, this study contributes valuable knowledge to the field of user interface usability and user experience in the context of e-commerce platforms. The findings emphasize the importance of providing user-friendly interfaces and positive experiences to enhance user satisfaction and platform success. The limitations of this study highlight areas for improvement and offer opportunities for further research and exploration in the realm of e-commerce user experience and interface design.

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