



Evaluation of the Implementation of Online Ticketing System Via Ferizy Website At The Port Anchor Crossing Situbondo Regency

Bambang Setiawan^{1*}, Ferdinand Pusriansyah¹, Damaida Hatina¹, Septiana Widi Astuti², Saka Satrio Sawanta³, Naomi Valentine Butarbutar¹

¹Politeknik Transportasi Sungai, Danau dan Penyeberangan Palembang, Palembang, Indonesia

²Politeknik Perkeretaapian Indonesia Madiun, Madiun, Indonesia

³National Taipei University of Technology Taipei Tech, Taipei, Taiwan

email : jakabaring18@gmail.com

Abstract. Harbor Jangkar Ferry serves five routes, four pioneer routes to Madura Islands, and one commercial route, Jangkar to Lembar. The ticket booking process at this port takes place online through the Ferizy website. The current ticket booking system is considered ineffective because service users often experience errors in booking tickets. This study aims to determine the implementation of the Minister of Transportation Regulation Number 19 of 2020 concerning the Implementation of Electronic Ferry Tickets and to determine efforts that can be made related to the implementation of the online ticket system at Jangkar Ferry Port using observation, documentation and questionnaire methods. Based on analysis, the regulation in this port has not been fully implemented and efforts that can be made to improve the implementation of the online ticket system at Jangkar Ferry Port are carried out by PT. ASDP Indonesia Ferry (Persero) Ketapang at Jangkar Port as the ticket organizer and the Class II Land Transportation Management Center (BPTD) of East Java Province as the executor of the duties and functions of the safety and security supervisor of ferry transportation, as well as the community as the party using the service.

Keywords: Online Ticketing System, Boarding Pass Information Technology, Website Ferizy

1. INTRODUCTION

Situbondo Regency has a ferry port, namely Jangkar Ferry Port as its main port. Ferry transportation activities at Jangkar Port are crossing activities that connect activities that connect several crossing routes including Jangkar to the Madura Islands, namely Kalianget, Kangean, Sapudi, and Raas. In line with the Official Decree of the Minister of Transportation Number 85 of 2022 concerning the Determination of Inter-Provincial

© The Author(s) 2025

A. Yulianto et al. (eds.), *Proceedings of the International Conference of Inland Water and Ferries Transport Polytechnic of Palembang on Technology and Environment (IWPOSPA-TE 2024)*, Advances in Engineering Research 274,

https://doi.org/10.2991/978-94-6463-841-7_22

Crossings at Japakar Ferry Port, on December 15, 2023, a crossing route from Jangkar to Lembar was opened which accelerated the distribution of products from East Java to West Nusa Tenggara. The crossing service is provided specifically to facilitate tourism activities in waters such as small islands in coastal areas for residents in Jangkar, especially the Madurese community as the indigenous people there, according to their routes and other community needs such as shipping goods.

In a study conducted by I Putu Agus Purnama Adi Putra in 2016, he stated that online ticket purchases attract customers for several reasons. One of them is ease of access, where tickets can be purchased at any time. In addition, online ticket purchases also offer flexibility and efficiency, which benefits the public as service users in terms of time and energy when making reservations. Reported from Imagina, using an online ticket platform can also cause several disadvantages for users. First, the service fees associated with ticket purchases may be higher, making tickets more excessive than expected. In addition, purchasing tickets online requires an internet connection, which can be a problem for people who do not have easy access to the internet. There is also a risk of fraud when purchasing tickets online, as tickets can be counterfeited or sold by illegal resellers. In addition, online ticket platforms may offer a 'self-service' experience, making it difficult to get a refund or change seats if a problem occurs. This can be frustrating for users who have purchased tickets to expensive events and have to cancel their participation or change their seats at the last minute.

Initially, ticket sales for the Madura Islands were carried out by the East Java Provincial Transportation Agency. However, after the Jangkar to Lembar route was officially operated, ticket sales switched to the Ferizy website which is the responsibility of PT ASDP Indonesia Ferry (Persero) as the ticket organizer. On April 9, 2024, two people claiming to be service providers were arrested by the Situbondo Police Criminal Investigation Unit at the Jangkar Ferry Port. The final opinion was expressed by Assistant Commissioner of the Momon Suwito Police as Head of the Situbondo Police Criminal Investigation Unit that in this incident the person claiming to be the service provider did not provide a boarding pass on the grounds that they failed to register, so the passenger failed to cross. Based on observations in the field, this case refers to the implementation of the Minister of Transportation Regulation 19 of 2020 concerning the Implementation of Electronic Ferry Tickets at Jangkar Ferry Port where there are differences in the implementation of Article 8 paragraph (2), Article 8 paragraph (4) a, b, and c, as well as how to try to order an online ticket system because there are complaints from the public in the form of unstable internet connections, unfamiliarity with using the system, not having a mobile banking account, and concerns about sharing personal data.

2. RESEARCH METHODOLOGY

The author collected primary and secondary data for this study. Primary data was collected through observation methods, including visual inspection of the conditions of the implementation of the online ticket system at the Jangkar Ferry Port, as well as observations of facilities and infrastructure that were strengthened by evidence using documentation methods using the author's device. The author also used the Questionnaire Method which was used to provide statements to respondents. In this

study, the questionnaire used was given directly to respondents by distributing it to those who participated in the study. The distribution of questionnaires carried out by analysts used a form site in creating questionnaires considering that Google Form is the use of electronic media or the use of digitalization in questionnaires such as online tickets. This questionnaire was distributed at the Jangkar Ferry Port and asked service users to prepare tools or use the author's tools directly. A questionnaire meaning that the statement does not provide freedom to answer because the author has proven alternative answers. This method can collect more data in a shorter time and at a lower cost. In addition, the author used a list of statements from the System Usability Scale (SUS) developed by John Brooke in 1986 as a reference for the questionnaire.

Table 1 Negative category questions

no	STATEMENT	Category Negative	Strongly Disagree	Don't agree	Neutral	Agree	Strongly agree
2.	I find the Ferizy website system complicated to use.	Negative	5	4	3	2	1
6.	I feel that there are many things that are inconsistent (not harmonious) when purchasing ship tickets on the Ferizy website.	Negative	5	4	3	2	1
8.	I feel confused and less time-saving in searching and booking tickets on the Ferizy website.	Negative	5	4	3	2	1
9.	When I encountered an error in using the Ferizy website, I needed help from others in using this system.	Negative	5	4	3	2	1
10.	I need to get used to it first before using the Ferizy website.	Negative	5	4	3	2	1

Table 2 Questions in positive category

no	STATEMENT	Category Positive	Strongly Disagree	Don't agree	Neutral	Agree	Strongly agree
1.	I was satisfied with the overall experience of using	Positive	1	2	3	4	5

no	STATEMENT	Category Positive	Strongly Disagree	Don't agree	Neutral	Agree	Strongly agree
	the Ferizy website and would use this system again.						
3.	I find the Ferizy website easy to use to buy ship tickets online on the Ferizy website	Positive	1	2	3	4	5
4.	I felt there were no obstacles in purchasing ship tickets online on the Ferizy website.	Positive	1	2	3	4	5
5.	The features that I frequently use on the Ferizy website can be accessed easily and quickly and run as they should.	Positive	1	2	3	4	5
7.	I feel like other people will understand how to book boat tickets online through the Ferizy website quickly.	Positive	1	2	3	4	5

Secondary data were obtained from related agencies using literature and institutional methods. In other words, this study utilized sources from various sources, including the library of the Palembang River, Lake and Crossing Transportation Polytechnic, along with relevant books and existing studies.

The data analysis techniques that will be used in this study are validity techniques and reliability techniques. Quantitative research, where questionnaires are used for data collection, usually uses this test. The validity criteria for statement items in the questionnaire will be met if the calculated r value is greater than the r table.

$$r_{xy} = \frac{n \sum_{i=1}^n x_i y_i - \sum_{i=1}^n x_i \sum_{i=1}^n y_i}{\sqrt{[n \sum_{i=1}^n x_i^2 - (\sum_{i=1}^n x_i)^2]} [\sqrt{[n \sum_{i=1}^n y_i^2 - (\sum_{i=1}^n y_i)^2]}} \quad (1)$$

Calculated value r_{xy} or r will be compared with the r table at a two-way significance level of 5% (five percent). The question item is declared valid if its value is greater than the r table value. Then find the corrected item-total correlation coefficient with the following formula:

$$r_{X(Y-1)} = \frac{r_{XY} s_Y - s_X}{\sqrt{s_Y^2 + s_X^2 - 2r_{XY}(s_Y)(s_X)}} \quad (2)$$

The value will be compared with the correlation coefficient table. Whether the instrument is valid or not depends on the value produced, if so then the instrument is valid. In the SPSS output, the item-total correlation coefficient is corrected, so the instrument is valid. $r_{XY} r_{table} = r_{(a,n-2)} r_{X(Y-1)} \geq r_{X(Y-1)} t \geq r_{table}$

After conducting the validity test, it was continued with the reliability test. To find out the reliability of the questionnaire, the author entered all the questionnaire answer data and looked for the Cronbach's Alpha value. The questionnaire can be said to have a good level of reliability if the Cronbach's Alpha value is close to 1, and can be said to be accepted at least must reach 0.60.

The next questionnaire assesses the ease of the online ticket booking system through the Ferizy website from the perspective of the public as service users. On the first page, respondents fill in their identity in the form of their last education and current job and a question asking whether respondents have ever used the Ferizy application or website to book ship tickets online. If the respondent has never used the booking service, then the questionnaire will be completed. Meanwhile, if the respondent chooses the answer option 'yes, I have' the questionnaire will switch to the second page. On the second page, the questionnaire will dig up information about the intensity of online ship ticket purchase transactions through the Ferizy application or website. The second page also asks whether the Ferizy application or website makes it easy for respondents to book ship tickets online. This question only contains two answers 'yes' and 'no', both of which will lead respondents to the third page asking the respondent's reasons for giving their answer. In response to the answer 'yes', the questionnaire will present a number of reason options including:

- a. Can book ship tickets at any time
- b. More diverse choices of crossing routes
- c. *Mobile Phone* which is used to support making reservations
- d. Free from long queues at the counter
- e. Another reason

Meanwhile, in response to a 'no' answer, the questionnaire will present a number of reason options including:

- a. Unstable internet connection at the place I booked
- b. I am not familiar with using the app or website
- c. I don't have mobile banking
- d. Worried about sharing personal data
- e. Another reason.

3. RESULT AND DISCUSSION

3.1. Data Presentation

3.1.1 Existing Conditions

Ticket Booking is the initial process carried out before undertaking a trip or departure. Online ship ticket bookings were originally managed by the East Java Provincial

Transportation Agency which serves the Madura Islands route. It has been recorded that since November 27, 2023, online ship ticket purchases at the Port have been officially valid for the crossing route to the Madura Islands. Then, for the latest route Jangkar to Lembar, it has been registered on the Ferizy website on December 15, 2023, replacing the Ketapang to Lembar route. Currently, Jangkar Ferry Port has implemented online ticket bookings, all routes of which are available on the Ferizy website. So, the counter that was originally used to buy tickets has now been converted into a place to print boarding passes. Currently at Jangkar Ferry Port, check-in and ticket printing can be done a maximum of 2 (two) hours before departure.

3.2. Analysis

3.2.1 Implementation of Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 19 of 2020 concerning the Implementation of Electronic Ferry Tickets at Anchor Ferry Ports.

As mentioned in the previous chapter regarding the existing problems, the author tries to analyze the problems so that conclusions can be drawn which can later be used as solutions in solving the problems. For this reason, the author uses references according to the Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 19 of 2020 concerning the Implementation of Electronic Ferry Tickets. The author uses data according to what was obtained during an internship at the East Java Class II Land Transportation Management Center and Field Work Practice (PKL) at the Jangkar Ferry Port, Situbondo Regency, East Java Province. The following are the Existing conditions at the Jangkar Ferry Port.

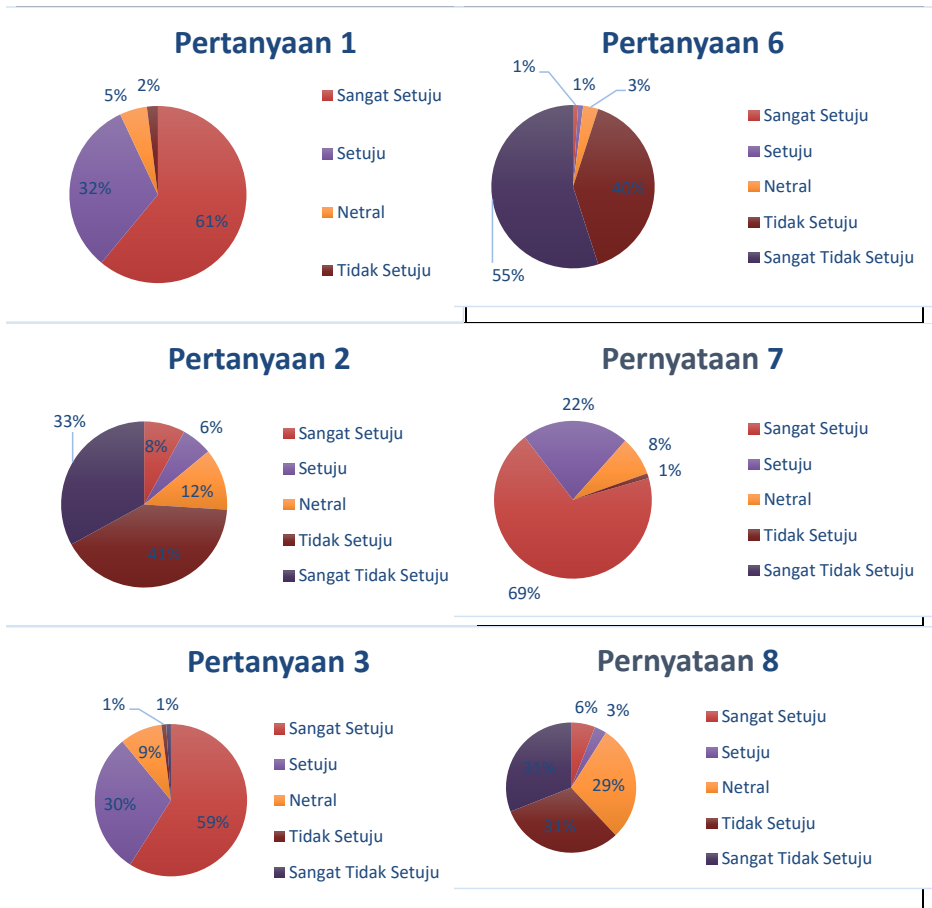
The online ticket booking system at the Jangkar Ferry Port has several differences with the applicable standards, namely the Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 19 of 2020 concerning the Implementation of Electronic Ferry Transportation Tickets. The difference can be seen in the digitalization at the Jangkar Ferry Port which has experienced a time gap of 3 (three) years 7 (seven) months and 5 (five) days from that stipulated in Article 10, namely 2 (two) years since the Ministerial Regulation came into effect, this happened because it took time for the Port to prepare the facilities, infrastructure, and facilities that support smooth service. Likewise, ticket officers and security officers are in the process of mastering service and security procedures, service and security guarantees. Then, the tickets issued by Ferizy do not yet contain information in accordance with Article 8 Paragraph (2), including not including the name of the transport ship and the gender of the passenger. Furthermore, Article 8 Paragraph (4) a, b, and c have not been implemented optimally, as indicated by findings in the form of differences between the passenger's identity on the boarding pass and the passenger's identity (KTP/SIM/STNK/Passport) which should have been rejected by the carrier.

3.2.2. Efforts that can be made to improve the implementation of the online ticketing system at the Anchor Ferry Port

The following are the results of the questionnaire survey regarding Implementation of online ticket reservations through the Ferizy website at the Jangkar Ferry Port which has been distributed by the author while at the Jangkar Ferry Port. The respondents were 100 (one hundred) passengers in the port area. In order to make the presentation

of this data more focused, the author will display the data based on the main points of discussion, namely as follows:

Most respondents (62.5%) were female and aged 15-24 years (43.4%). The largest number of respondents came from Asembagus (16%) and Banyuputih (15%). The majority (35%) were educated in high school/vocational school. To find out the frequency of respondents' answers, see the following:



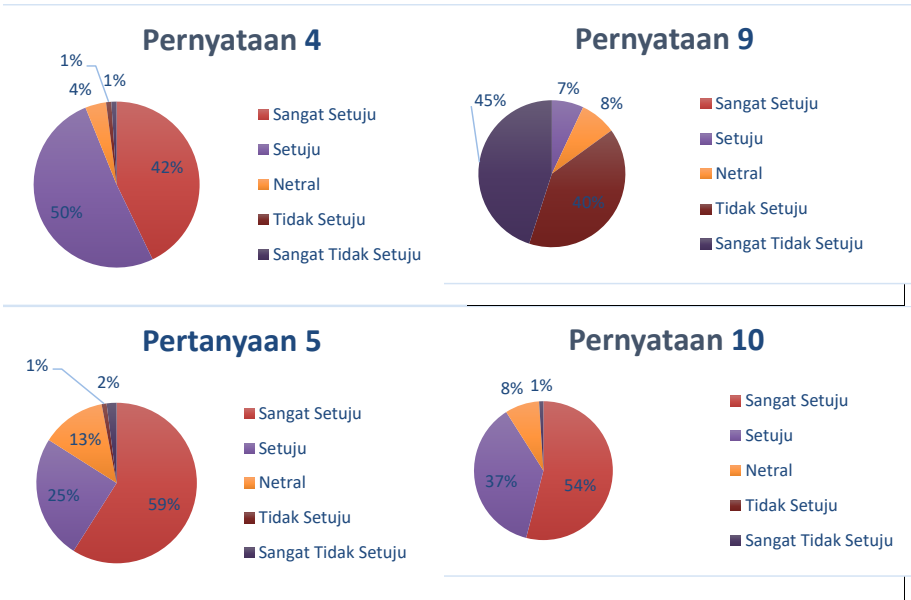


Figure 1 Respondents' Answer Diagram

To determine the validity or suitability of the questionnaire in the study to obtain data from service users as respondents. Testing the validity or suitability of the questionnaire in this study is using the Pearson Correlation Product Moment Validity Test. By comparing the calculated r value with the table r value, it will be easy to find the level of validity of each statement item in a questionnaire. In this study, if you look at the table $r = 0.1966$. So, the calculated r which has a value below 0.1966 can be said that the statement item is invalid.

Table 3 Results of Questionnaire Validity Test

Questionnaire Code	R Count	R Table	Decision
P1	0.712	0.1966	VALID
P2	0.355	0.1966	VALID
P3	0.609	0.1966	VALID
P4	0.409	0.1966	VALID
P5	0.709	0.1966	VALID

Questionnaire Code	R Count	R Table	Decision
P6	0.378	0.1966	VALID
P7	0.587	0.1966	VALID
P8	0.470	0.1966	VALID
P9	0.405	0.1966	VALID
P10	0.651	0.1966	VALID

By looking at the results of the r count on each item given a red border in the Product Moment Pearson Correlation table above, it can be concluded that the r count value of each item exceeds 0.1966 so that it can be said that all items in this study are valid. To determine the reliability of the questionnaire, the author entered all questionnaire answer data and looked for the Cronbach's Alpha value. The questionnaire can be said to have a good level of reliability if the Cronbach's Alpha value is close to 1, and can be said to be accepted at least to reach 0.60. For the questionnaire distributed by the author, the Cronbach's Alpha value was 0.683.

The next questionnaire was titled "Ferizy: How Easy is it to Order Your Ticket?" to gather information in the form of respondents' opinions who ordered ship tickets online through the Ferizy website at Jangkar Ferry Port. A survey of 100 service users at Jangkar Port showed a penetration rate of Ferizy services of 78%. However, the level of user satisfaction with the ease of use of the application is still relatively low, with only 57% of respondents stating that Ferizy makes the ticket ordering process easier. Further analysis showed that the frequency of Ferizy use tends to be low, with the majority of respondents claiming to use this service 5 to 10 times.

The majority of respondents (31 people) felt that the flexibility of online ticket booking time made it easier. In addition, 25 people were free from long queues. The choice of various routes was also preferred by 9 people. The main obstacles faced by respondents were unstable internet connections (13 people), followed by unfamiliarity with the application (9 people), not having mobile banking (7 people), and concerns about data security (4 people).

4. CLOSING

Conclusion

There are several differences between several articles in the Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 19 of 2020 concerning the Implementation of Electronic Ferry Tickets with its implementation at the Anchor Ferry Port. These differences include Article 8 Paragraph (2), where the ticket does not include the name of the carrier and the gender of the passenger, in Article 8 Paragraph (4) a, b, and c, where there are findings of differences between the passenger's identity on the boarding pass and the passenger's original identity such as an ID card which should be rejected by the carrier, and in Article 10, where digitalization at the Anchor Ferry Port has experienced a time lag of 3 (three) years 7 (seven) months and 5 (five) days from what has been determined.

Efforts that can be made to improve the implementation of the online ticketing system at the Jangkar Ferry Port are carried out by three parties, PT. ASDP Indonesia Ferry (Persero) must be active in informing the public about the ease of ordering ship tickets online, the ease of submitting complaints, and the insurance protection obtained, the East Java Class II Land Transportation Management Center must supervise individuals claiming to be service providers and enforce discipline on port operators to prevent problems with ordering ship tickets online, and for security and comfort, the public must buy ship tickets officially through Ferizy.

4.2 Suggestion

- 4.2.1 PT. ASDP Indonesia Ferry (Persero) as the ticket organizer must improve ticket booking services through the Ferizy website by using the Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 19 of 2020 concerning the Implementation of Electronic Ferry Tickets as a guideline.
- 4.2.2 Efforts that can be made to improve the implementation of the online ticketing system at the Jangkar Ferry Port should be carried out in the near future so that incidents that are detrimental to both the ticket organizers, those implementing the duties and functions of supervising the safety and security of ferry transportation, and service users do not happen again.
- 4.2.3 Improvement of the wording of the Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 19 of 2020 concerning the Implementation of Electronic Crossing Tickets, Article 8 paragraph (2) d, which states that tickets must contain an identity card number, driver's license, or passport. The Identity Card Number in this article includes the Population Identification Number (NIK). More than just a collection of numbers, the NIK stores crucial personal information of its owner. Behind the arrangement of numbers can be found the date of birth, month of birth, year of birth, area of residence, and other personal data of the service user which is confidential. In this Law, this data is specific personal data as referred to in Law of the Republic of Indonesia Number 27 of 2022 concerning Personal Data Protection, Article 4 paragraph (2). If the data falls into the hands of irresponsible parties, the service user as the owner of the identity card number will suffer losses both materially and non-materially and can be subject to criminal penalties as stated in Articles 67, 68, and 69.
- 4.2.4 In addition, in the online ticket booking system through the Ferizy website, it would be even better if there is a ship delay or a delay in the departure or arrival of the ship, the ticket organizer must provide information about the delay or delay of the ship through the Ferizy website, such as by providing SMS to service users, as well as a schedule change feature for service users who book ship tickets online through the Ferizy website with provisions similar to booking tickets through the application.

References

- [1]. Rachmawan, "Opening a New Jangkar-Lembar Route, ASDP is Ready to Support the Smooth Distribution of Logistics from Java to Lombok," Okezone.com, 2023. [Online]. Available:

- <https://news.okezone.com/read/2023/08/18/1/2866552/buka-lintasan-baru-jangkar-lembar-asdp-siap-dukung-kelancaran-simpan-logistik-jawa-lombok>. [Accessed March 6, 2024].
- [2]. IPA Purnama Adi Putra, "THE EFFECT OF PERCEPTION OF EASE OF USE, PERCEPTION OF RISK, ON TRUST AND PURCHASE INTENTION OF E-TICKET ON TRAVELOKA SITE," E-journal of Economics and Business, Udayana University, vol. vol 5 no 9, 2016.
- [3]. A. Josset, "Advantages and disadvantages of online ticketing platforms for events," Imagina, 2024. [Online]. Available: <https://imagina.com/en/blog/article/advantages-disadvantages-online-ticketing/>. [Accessed 03 July 2024].
- [4]. Kompas.com, "Ticket Scalpers at Jangkar Port Situbondo Arrested, Police: They Caused Many Homecoming Travelers to Be Stranded," 2024. [Online]. Available: <https://regional.kompas.com/read/2024/04/10/063802678/calotiket-di-pelabuhan-jangkar-situbondo-diamankan-polisi-menyen>. [Accessed July 22, 2024].
- [5]. Z. Sharfina and H. Santoso, An Indonesian Adaptation of the System Usability Scale, 2016.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

