



Usability Evaluation of MySAPK BKN using The System Usability Scale (SUS) Method : Case Study Human Resources Development and Personnel Agency Banggai Regency

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Abstract

The administration of state apparatus services requires an integrated and reliable information system to ensure the availability of accurate and up-to-date personnel data. MySAPK BKN is the mobile application prepared to support the availability of personnel data. Using MySAPK BKN is part of Digital Transformation and a Roadmap for Bureaucratic Reform towards Good Governance. The use of MySAPK BKN requires continuous evaluation to be able to meet user needs. Thus, it is necessary to continue to develop and evaluate its implementation, especially in the scope of usability. This evaluation can be applied by using the System Usability Scale (SUS) method. The use of the SUS method was carried out to determine the usability level of MySAPK BKN at the Personnel and Human Resources Development Agency in Banggai Regency. The research method is quantitative research. Data was obtained through the SUS questionnaire using Likert scale questions and collected from April 2023 to May 2023. This questionnaire is addressed to 47 employees who have used MySAPK BKN. The results show that the implementation of MySAPK BKN using the SUS method was the Good category with an average SUS score of 70. This score indicates that users are satisfied with the use of this application. This research recommends continuing to evaluate the use of the application and ongoing socialization and training the use of MySAPK BKN. Even though a score of 70 is included in the good category, it is just the Standard category in application use.

Keywords: Good Governance, MySAPK BKN, Usability, System Usability Scale (SUS).

1. Introduction

Digital-based public service transformation is inevitable. Utilizing information and communication technology (ICT) to provide high-quality public services is crucial to modernizing the government apparatus system. This is also included in Indonesia's plan for bureaucratic reform that will lead to good governance (GG). According to Tierney and G (2006), properness, transparency, involvement, efficacy, accountability, and respect for economic, social, and cultural rights are all important components of good governance.

One key component in the execution of the GG is public information disclosure in the public sector of government. This has to do with the democratic, citizen engagement, and accountability concepts. In addition, information disclosure is expected to build transparent, effective, and responsible governance. The Law of the Republic of Indonesia Number 14 of 2008 about Public Information Openness specifically recognizes and regulates the significance of public information disclosure. The government is required to give the public greater access to information about public policy, public resource management, and general

government operations under this rule. Quality public services are also a crucial component in attaining community welfare and sustainable development.

As it developed, a number of additional laws and rules that stressed the use of digital or electronic public services as well as transparency in public affairs were created. These rules include Presidential Regulation Number 95 of 2018 about Electronic-Based Government Systems (SPBE Law) and Law of the Republic of Indonesia Number 25 of 2009 concerning Public Services. Next, Presidential Regulation Number 132 of 2022 regulates the SPBE architecture. The Presidential Regulation provides a detailed explanation of the architecture for implementing state apparatus services using digital technology or SPBE. It is anticipated that these rules and regulations will improve public engagement in government operations as well as efficiency, accountability, and openness.

The State Civil Service Agency created the State Civil Apparatus Information System (SIASN) as part of the Electronic-Based Government System (SPBE) deployment. This system is an example of e-government in action, utilizing information and communication technology in government. This is also one of the requirements of the Republic of Indonesia's

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Presidential Regulation Number 39 of 2019 on One Indonesian Data. The requirement to gather data that is precise, current, integrated, accountable, easily accessible, and shared is emphasized in the rule. In this sense, One Data Indonesia must be implemented in order to enhance data governance produced by the government.

An independent data update is critically needed to facilitate the adoption of one Indonesian data. This is among the crucial facets of managing staff in a government organization. Government organizations can make the best personnel management decisions with the use of effective and efficient data update. On the other hand, updating personnel data by hand is more labor-intensive and subject to data entry errors. Because of this, a program was created to offer public services; in this instance, the employees are utilizing the MySAPK BKN application to receive services. This application needs to be continuously evaluated in order to suit user needs, just like other information technologies. One of the problems that must be overcome when using the program is the requirement for ongoing review of its usability.

The System Usability Scale (SUS) approach was used in this study to examine the MySAPK BKN application's usability evaluation. A way to assessing an information system's usability and performance is the System Usability Scale (SUS). As per certain specialists, utilizing the System Usability method is a crucial measure in guaranteeing the high degree of usability of an information system. As stated by Sauro and Lewis (2016), SUS is one of the most often used and successful metrics for assessing user experience since it can give a clear, numerical estimate of how usable the system is. SUS is one of the most widely utilized usability measuring techniques and is frequently applied in user experience assessment and research, claim Tullis and Stetson (2004).

The following will explain some related concepts, Personnel Information System, MySAPK BKN, Data Update, Usability Assessment, and System Usability Scale (SUS).

2. Theoretical Framework

2.1. Personnel Information System

The management of personnel data inside an agency or organization is made easier with the use of a personnel information system. The several modules that make up this system contain data regarding the employee's identity, past education and training, employment history, pay, benefits, and other characteristics. Personnel information systems help government organizations work better and more efficiently while also making decisions about human resource management easier.

Implementing a personnel information system can improve accountability and openness in the handling of personnel data, claim Hidayati and Harsono (2019). Implementing a personnel information system,

meantime, can enhance the quality and accuracy of personnel data and make decision-making easier, claim Riani, Listyawati, and Susanto (2018). Moreover, as per Sugiono (2016), enhancing the efficacy and efficiency of government agencies' operations necessitates the utilization of personnel information systems. This is so that data entry errors can be decreased, personnel data administration can be facilitated, and personnel data updates can be completed more quickly.

2.2. MySAPK BKN

The National Civil Service Agency (NCSA) has developed an application for its personnel information system called MySAPK BKN. All Indonesian government entities manage personnel data using this program. Information on the employee's identity, past education and training, employment history, income, benefits, and other details are all included in MySAPK BKN. (Kurniawan, 2019) claims that MySAPK BKN is a useful tool for managing personnel data in Indonesian government organizations. Using MySAPK BKN can help government organizations ensure the legitimacy and quality of personnel data while also increasing performance effectiveness and efficiency.

2.3. Self-Service Data Updating

Self-service data updating is process of updating personnel data carried out independently by employees. Independent data updating can be done through the available personnel information system application. Updating self-service data is crucial to guaranteeing the legitimacy and correctness of personnel data utilized by government organizations. One way to speed up the process of updating personnel data is, according to Khalid (2018), to update independent data.

Employees can use the accessible personnel information system application to independently update their employee data with the help of the independent data update. The efficacy and efficiency of personnel data management can be enhanced, according to Risdianto (2016), by updating independent data in personnel information systems. Therefore, it can be concluded that updating independent data in personnel information systems has a significant positive impact on the efficacy, efficiency, accuracy, and performance of personnel data management. Additionally, when it comes to its implementation, using features that allow for independent data updating can lower data input errors and speed up personnel management decision-making.

2.4. Usability Assessment

To attain the objective of a product's good level of effectiveness, efficiency, and satisfaction in a certain use context, the measure of usability should include three aspects (ISO, 1998) among others : (a) Effectiveness is a system or application's degree of perfection and accuracy felt by users when using it for

a specific task; (b) Efficiency is a system's degree of perfection and accuracy felt by users when employing the resources utilized to carry out activities; and (c) Satisfaction is a level that shows user comfort when using a product or system and will show good or positive behavior towards a product used, such as by introducing the product to other potential users.

Usability testing is done to determine these three aspects of a system or application. A "quick and dirty" usability measuring tool called the System Usability Scale (SUS), created by John Brooke, is one of several usability evaluation instruments that can be utilized. This SUS instrument is in the form of 10 questions where each question has 5 Likert points as the value of the answer to the question. The final result of SUS is in the form of a definite value that will be easier to understand, with a range of values ranging from zero to hundred, where in this case if the assessment is greater at the final value, it can be interpreted that the better the level of usability.

2.5. System Usability Scale (SUS)

The System Usability Scale (SUS) method is one of the instruments used in terms of assessing the usability of a product or system. This approach differs from other instruments in the following intriguing ways, which include: Because there are only ten questions to answer, the method is: a) comparatively faster and easier for participants; b) it uses agnostic technology, which allows it to be widely used and evaluate nearly all types of interfaces; and c) it is single-valued and has a clear range value between zero and one hundred, making it very easy to understand by a variety of users, both individual and group. Then, each of the ten questions on this approach includes a five-point rating system, with the options being "Strongly Disagree" to "Strongly Agree."

There are five affirmative and five negative assertions among the ten statements. Additionally, (Sauro, 2011) interprets the scores generated using this method, providing rankings that indicate which category of test results has the highest average score. There are five affirmative and five negative assertions among the ten statements. Furthermore, (Sauro, 2011) provides rankings indicating which category of test results has the highest average score by interpreting the scores produced using this method.

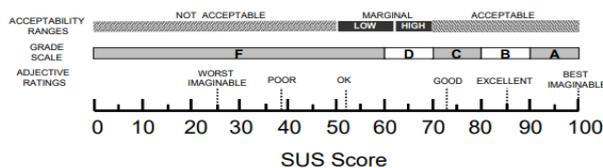


Figure 1. SUS Score (Sauro, 2011)

SUS is acknowledged as a valid and dependable measurement technique and has been utilized extensively in usability research. Empirical research was done by Bangor, Kortum, and Miller (2009) to

assess the efficacy of SUS methodologies. The findings indicated that SUS can yield reliable and valuable information regarding system usability. SUS is the most popular usability measuring technique, according to Sauro and Lewis (2016), and it has undergone rigorous testing for validity and reliability in a number of usability studies. This assessment technique is regarded as useful for determining how user-friendly a system or program is, and it is also simple to implement.

The System Usability Scale is also used for website usability testing in order to assess the website's usability. The website of Tegal City Government served as the main study focus. The goal of this research is to enhance reality and user experience while emphasizing dependability. Nevertheless, the lack of user-side usability assessment by the website administrator renders this study incomplete (H.N., Nugroho and Ferdiana, 2015).

In the study conducted by Huda (2019), titled "Implementation of the Usability Testing Method with a System Usability Scale in the Assessment of the Siloam Hospital Palembang website," both approaches were used to examine how users interacted with the applications. The goal of this analytical technique is to make the website more functional. A usability testing system was employed in the study to evaluate the effectiveness of user-application interaction. In the meanwhile, the SUS approach employed in this study intends to offer guidance for future website and application development.

In this context, the Banggai Regency Human Resources Development and Personnel Agency's degree of MySAPK BKN usability will be examined in detail in this study. This is carried out in light of the fact that Banggai Regency's Human Resources Development and Personnel Agency (PKPSDM) is a government organization agency that offers direct community services. In other words, the entire personnel administration process for all Civil Servants in Banggai Regency is carried out by BKSDM. However, there has never been a usability evaluation of the use of the BKN MySAPK Application. This study was carried out in the hopes that it would help raise the standard of personnel services and, in turn, raise the effectiveness of Indonesian government agencies—particularly the Banggai Regency Human Resources Development and Personnel Agency. It's also anticipated that this study will advance scientific understanding of Indonesia's electronic-based government systems (SPBE).

3. Methods

This study made use of a particular kind of quantitative research. In quantitative research, instruments in the form of pre-arranged questionnaires are frequently utilized. The research aim for this study is more broad-based, more diverse, and more complex. Furthermore, in this study, the measurement carried out

was using the System Usability Scale (SUS) method which is a method that has been tested for validity and reliability in measuring usability.

This study looks at the usability of the MySAPK system from BKN. The System Usability Scale (SUS) is a tool for measuring usability. In order for research results to be gathered methodically and properly analyzed, research variables make sure that the variables under study have a clear and quantifiable operationalization. The Usability Level of MySAPK BKN is measured using a 5-point Likert scale, with answer choices strongly disagree, to strongly agree. Measurement is carried out by distributing questionnaires to participants and calculating the average answer score based on the answers given by participants. Additionally, all civil servants (PNS) employed by the Banggai Regency Human Resources Development and Personnel Agency comprise the study's population. A total of 47 employees have used the application. Samples for the study were drawn from this group of workers.

In this study, the sample selection technique is based on the method described by Sugiyono (2013), which is the sample selection technique that involves sorting all of the population as a sample, or alternatively, using another term, such as sensus on small scales. Additionally, the sample selection technique can be described as a sample selection technique that involves sorting all of the population that has the characteristics that have been determined to be the subject of the study. A survey consisting of ten written statements is utilized as the data collecting tool in this study to get reports about the subjects that the researchers are interested in knowing from the participants. By responding to statements using the Likert scale in the answer column, survey respondents were requested to complete the presented questionnaire. Data was collected by distributing live surveys online to participants. Finally, the SUS (System Usability Scale) Method is the data analysis technique used to assess the usability of MySAPK BKN.

4. Results and Discussion

The use of the System Usability Scale (SUS) Method in this study consists of 10 lists of questions with a 5-point Likert scale (Brooke, 2020). The data obtained from the questionnaire will be analyzed using

the SUS formula that has been developed by (Brooke, 2020).

Here is a table of System Usability Scale Statements:

Tabel 1. System Usability Scale Statement

Item	Question	Scale
1.	I think that I would like to use this app more often	1-5
2.	I found that this app, doesn't have to be made this complicated	1-5
3.	I think the app is easy to use	1-5
4.	I think that I will need help from a technical person to be able to use this app	1-5
5.	I found the various functions in this app well integrated	1-5
6.	I think there are too many inconsistencies in this application	1-5
7.	I imagine that most people will find it easy to learn this app very quickly	1-5
8.	I find, this application is very complicated to use	1-5
9.	I feel very confident to use this app	1-5
10.	I need to learn a lot of things before I can start using the app	1-5

As explained earlier, that SUS has 5 answer choices along with their scores, are as follows:

Tabel 2. Answer to the statement in the caption index

Answer	Statement
Strongly Disagree	1
Disagree	2
Hesistantly	3
Agree	4
Strongly Agree	5

The following are the rules when calculating the score value in the survey, including: a) Each question is odd numbered, the score of each question obtained from the user score will be reduced by 1, b) Each question is even numbered, the final score is obtained from the value of 5 minus the question score obtained from the user, and c) The SUS score is obtained from the sum of the scores of each question which is then multiplied by 2.5.

4.1. Calculate survey data with SUS

The next step is to calculate the survey data with SUS:

Tabel 3. Original Score

Participant	ORIGINAL SCORE									
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1	4	4	4	1	5	1	4	1	5	3
2	4	4	4	1	3	3	3	2	3	4
3	4	4	3	3	4	1	3	4	3	3
4	2	3	4	3	4	2	4	1	5	4
5	3	4	2	3	3	2	4	3	3	3
6	5	4	5	5	5	2	3	2	5	4
7	5	2	5	2	3	2	5	1	3	1

Participant	ORIGINAL SCORE									
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
8	5	5	5	5	5	1	5	1	5	5
9	5	3	5	1	5	1	5	1	5	3
10	4	3	5	1	5	1	4	1	5	3
11	4	3	4	2	2	3	4	2	4	3
12	4	3	4	2	4	3	4	2	4	2
13	4	1	5	1	5	3	4	2	4	3
14	4	3	5	1	5	1	5	1	5	2
15	4	5	4	1	4	3	4	4	3	3
16	4	3	5	2	5	1	4	1	4	3
17	4	3	4	2	4	3	4	2	4	4
18	5	1	5	1	5	1	4	1	5	3
19	5	3	5	1	4	3	4	1	4	3
20	5	5	5	1	3	1	4	1	5	3
21	5	1	5	1	4	2	4	1	5	1
22	2	4	5	5	5	1	3	1	5	5
23	4	1	4	1	4	2	4	2	4	3
24	5	4	5	5	5	3	5	2	5	5
25	5	2	4	2	4	3	4	3	4	2
26	4	2	4	2	4	2	4	3	5	3
27	4	2	4	2	4	3	3	2	4	3
28	4	2	5	1	4	1	5	5	5	1
29	4	3	4	2	4	3	4	2	4	3
30	4	2	4	2	4	1	3	1	5	3
31	4	3	5	1	4	3	3	1	5	3
32	4	3	3	3	4	3	3	3	3	3
33	4	4	4	2	4	2	4	3	4	3
34	4	3	4	2	4	3	4	3	4	3
35	4	3	4	1	4	3	4	3	3	4
36	5	5	5	5	5	3	5	1	5	5
37	4	3	4	3	4	3	4	3	4	3
38	4	3	4	3	4	3	4	3	4	3
39	4	3	4	4	4	3	4	3	4	3
40	4	3	5	2	5	2	5	2	5	3
41	5	5	5	5	5	1	1	5	1	5
42	4	3	4	2	4	2	4	4	4	4

(Source : data processed by researchers from survey results)

Tabel 4. Survey Results Data Score

Parti cipant	SKOR Hasil SUS										Ammount	Ammount *2.5
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q 10		
1	3	1	3	4	4	4	3	4	4	2	32	80
2	3	1	3	4	2	2	2	3	2	1	23	57.5
3	3	1	2	2	3	4	2	1	2	2	22	55
4	1	2	3	2	3	3	3	4	4	1	26	65
5	2	1	1	2	2	3	3	2	2	2	20	50
6	4	1	4	0	4	3	2	3	4	1	26	65
7	4	3	4	3	2	3	4	4	2	4	33	82.5
8	4	0	4	0	4	4	4	4	4	0	28	70
9	4	2	4	4	4	4	4	4	4	2	36	90
10	3	2	4	4	4	4	3	4	4	2	34	85
11	3	2	3	3	1	2	3	3	3	2	25	62.5
12	3	2	3	3	3	2	3	3	3	3	28	70
13	3	4	4	4	4	2	3	3	3	2	32	80
14	3	2	4	4	4	4	4	4	4	3	36	90
15	3	0	3	4	3	2	3	1	2	2	23	57.5
16	3	2	4	3	4	4	3	4	3	2	32	80
17	3	2	3	3	3	2	3	3	3	1	26	65
18	4	4	4	4	4	4	3	4	4	2	37	92.5
19	4	2	4	4	3	2	3	4	3	2	31	77.5
20	4	0	4	4	2	4	3	4	4	2	31	77.5
21	4	4	4	4	3	3	3	4	4	4	37	92.5
22	1	1	4	0	4	4	2	4	4	0	24	60
23	3	4	3	4	3	3	3	3	3	2	31	77.5

Parti cipant	SKOR Hasil SUS										Ammount	Ammount *2.5
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q 10		
24	4	1	4	0	4	2	4	3	4	0	26	65
25	4	3	3	3	3	2	3	2	3	3	29	72.5
26	3	3	3	3	3	3	3	2	4	2	29	72.5
27	3	3	3	3	3	2	2	3	3	2	27	67.5
28	3	3	4	4	3	4	4	0	4	4	33	82.5
29	3	2	3	3	3	2	3	3	3	2	27	67.5
30	3	3	3	3	3	4	2	4	4	2	31	77.5
31	3	2	4	4	3	2	2	4	4	2	30	75
32	3	2	2	2	3	2	2	2	2	2	22	55
33	3	1	3	3	3	3	3	2	3	2	26	65
34	3	2	3	3	3	2	3	2	3	2	26	65
35	3	2	3	4	3	2	3	2	2	1	25	62.5
36	4	0	4	0	4	2	4	4	4	0	26	65
37	3	2	3	2	3	2	3	2	3	2	25	62.5
38	3	2	3	2	3	2	3	2	3	2	25	62.5
39	3	2	3	1	3	2	3	2	3	2	24	60
40	3	2	4	3	4	3	4	3	4	2	32	80
41	4	0	4	0	4	4	0	0	0	0	16	40
42	3	2	3	3	3	3	3	1	3	1	25	62.5

(source : data processed by researchers from survey results)

After completion at the stage enter the individual survey value to find the total number and then multiply by 2.5. Furthermore, to find the average value of SUS is by means of the sum of all the final scores of the participants divided by the number of participants who filled out the survey, which is 42 people, so that the results if entered in the formula, namely:

$$\bar{x} = \frac{\sum x}{n} \quad (1)$$

$$= \frac{2942}{42} = 70$$

Information:

\bar{x} = Average Score

$\sum x$ = Number of scores SUS

n = Number of Participants

Hence the System Usability Scale has an average value of 70. In the SUS evaluation, the average value is also displayed together with the category of findings from the completed SUS score testing, from which a conclusion is derived.

The Usability Implementation of the MySAPK BKN Application at BKPSDM Banggai Regency has been included in the GOOD category of use, according to the SUS Score image from Sauro (2019). The value of 70 on the average SUS score is included in the User Satisfaction Category (adjective Rating) Kateori, GOOD meaning Good to use, followed by Grade Scale C and Acceptability Range Accepted (Acceptable).

5. Conclusion

5.1. Conclusion

According to the study's findings, the usability of MySAPK BKN has been implemented quite effectively. As demonstrated by the SUS Score computation results, which have an average value of 70, it can be said that 1) The BKPSDM Banggai Regency's implementation of self service updating data

with MySAPK BKN is included in the accepted category, the grade scale is an aspect in determining the quality level of a system or application with a C predicate, and the acceptance range is included in the adjectival rating category, which is an aspect in determining ratings in a system with an OK predicate. 2) The Usability Implementation of the BKN MySAPK Application at the BKPSDM of Banggai Regency is included in the feasible and good category of use. Acceptability Ranges is an aspect in determining the level of acceptance of the system or application, or it can be said to be a feasibility category for a system or application. For a SUS score of 70, the BKN MySAPK application is included in the marginal High category, where the application is acceptable.

5.2. Recommendation

Several recommendations can be made in light of the research's findings and conclusions, including the following: 1) To enhance the application's usability and level of service, the State Civil Service Agency keeps reviewing and developing MySAPK BKN, 2) To ensure that users can comprehend and utilize the features that will be readily available in the future, it is imperative to carry out ongoing socializing and training regarding the use and advantages of the BKN MySAPK program, 3) Further research needs to be done to evaluate the usability of MySAPK BKN in a larger and more diverse sample, Furthermore, given that the more people there are, the faster technology is developing, it is imperative to create new features on MySAPK BKN that will facilitate users' ability to carry out administrative chores associated with personnel management.

Thus, it is expected that the usability and service quality of MySAPK BKN can be improved so that the performance of government agencies in terms of personnel management will also be better.

References

- Bangor, A., Kortum, P., & Miller, J. (2009). Determining what individual SUS scores mean; adding an adjective rating. *Journal of Usability Studies*, 4(3), 114–123.
- Brooke, J. (2020). SUS: A “Quick and Dirty” Usability Scale. Dalam P. Jordan, P. Thomas, & B. Weckbecker (Eds.), *Usability Evaluation In Industry* (pp. 207–212). CRC Press. <https://doi.org/10.1201/9781498710411-35>
- H. N., I. A., Nugroho, P. I., & Ferdiana, R. (2015). Pengujian Usability Website Menggunakan System Usability Scale. *JURNAL IPTEKKOM: Jurnal Ilmu Pengetahuan & Teknologi Informasi*, 17(1), 31. <https://doi.org/10.33164/iptekkom.17.1.2015.31-38>
- Hidayati, R. F., & Harsono, H. (2019). The Implementation of Human Resource Information System and Its Effect on Transparency and Accountability in Public Organizations. *KnE Social Sciences*, 3(11), 327–336.
- Huda, N. (2019). Implementasi Metode Usability Testing Dengan System Usability Scale Dalam Penilaian Website Rs Siloam Palembang. *Klik - Kumpulan Jurnal Ilmu Komputer*, 6(1), 36. <https://doi.org/10.20527/klik.v6i1.177>
- Khalifah, M. (2018). Rancang Bangun Sistem Informasi Kepegawaian Berbasis Web Pada Dinas Pendidikan Kota Jambi. *Jurnal Sistem Informasi*, 10(1), 126–134.
- Kurniawan, B. (2019). Pemanfaatan teknologi informasi dalam manajemen kepegawaian: Studi kasus sistem SAPK-BKN. *Jurnal Ilmu Sosial*, 17(2), 107–114.
- Riani, D., Listyawati, L., & Susanto, A. (2018). Analysis of Factors Affecting the Use of Human Resource Information System (HRIS) and its Effect on the Quality of HRIS Information. *Journal of Applied Information Science and Technology*, 1(1), 29–39.
- Risdianto. (2016). *Sistem Informasi Kepegawaian: Teori, Praktik dan Aplikasi*. Andi Offset.
- Sauro, J. (2011). *A practical guide to the System Usability Scale: Background, benchmarks & best practices*. Measuring Usability LLC.
- Sauro, J., & Lewis, J. R. (2016). *Quantifying the user experience*. Morgan Kaufmann.
- Sugiono. (2016). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.
- Sugiyono. (2013). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Alfabeta.
- Tierney, W. G. (Ed.). (2006). *Governance and the public good*. State University of New York Press.
- Tullis, T. S., & Stetson, J. N. (2004). A comparison of questionnaires for assessing website usability. Usability Professional Association Conference. <http://home.comcast.net/~tomtullis/publications/UA2004TullisStetson.pdf>