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Evaluation of Recording and Bookkeeping Applications in MSMEs Using the System Usability Scale Method

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Abstract

This study employs a descriptive qualitative approach to evaluate the usability of the Bizpos application, developed by the Business Management Department of Batam State Polytechnic to address the technological needs of Micro, Small, and Medium Enterprises (MSMEs). Conducted as part of the Project Based Learning (PBL) program from November 2022 to June 2023, the research targeted active Bizpos users from micro and small businesses in Batam City. Data collection involved a survey technique utilizing the System Usability Scale (SUS) instrument, supplemented with suggestion items, with 10 selected respondents. Analysis was carried out descriptively, aided by descriptive and narrative techniques. Findings indicate proficient application utilization among respondents, with average scores exceeding 3 for each statement. The Bizpos application attained an "acceptable" rating on the "B" grade scale, with a final rating of 82.25, denoting "excellent" usability. These results underscore the Bizpos application's effectiveness in addressing MSMEs' technological requirements and highlight avenues for refinement and broader deployment.

INTRODUCTION

The Covid-19 outbreak has serious consequences on both the Indonesian economy and the world economy. Movement restrictions, unstable economies, and lower purchasing power all contributed to a severe fall in family spending, which presented significant issues for many important enterprises, some of which were forced to close. On the other hand, Micro, Small, and Medium-Sized Enterprises (MSMEs) showed resilience throughout the pandemic even if they were affected by the events of 2021 (Harto et al., 2023). According to their research, MSMEs are remarkably flexible, with the potential to reallocate resources to take advantage of possibilities brought about by environmental changes (Prajanti et al., 2021).

One of Indonesia's industrial cities, Batam City, was founded in 1973 as a result of Presidential Decree No. 41 of 1973. There are about 1,499 MSME units in the Batam City, most of which are involved in the trade, service, and industrial sectors, according to data from the Batam City Micro Business Office (Khadijah & Purba, 2021). According to research published by the Indonesian Ministry of Cooperatives and SMEs, MSMEs account for almost 99.99% of all business actors in the country (Harto et al., 2023). Furthermore, MSMEs contribute 60% of the GDP, generate employment for 97% of the labor force, and raise 60% of all investments in Indonesia, all of which are significant economic drivers (Saputra et al., 2022).

MSMEs in Indonesia still confront several obstacles to their development and expansion, despite their enormous potential.

Based on Bank Indonesia (BI) records, only around 30% of all MSMEs have access to financial facilities (Pramono et al., 2020). One of the main reasons is that MSMEs do not meet the requirements for obtaining loans from banks (Putri et al., 2023). MSMEs need to include business financial reports as a requirement that must be met to apply for a loan. Lack of knowledge in this field makes MSMEs not yet record business financial reports. This lack of knowledge also affects the development of MSMEs.

We are currently in the New Era Digital Economy where the use of digital technology has become inseparable (Putri et al., 2023). The digital era makes it easier for MSMEs to develop better through expanding market share, ease of financial transactions, and ease of recording financial transactions digitally (Pramono et al., 2020). However, this convenience is still hampered by the high costs that MSMEs must incur to adopt financial recording technology (Lesmana et al., 2020). This shows the need for applications that are affordable in terms of cost to help MSME players record and book transactions digitally (Martondang & Yanti, 2023).

Bizpos, a desktop-based recording and bookkeeping application, was developed by the Business Management Department (MB) at Batam State Polytechnic through the Project Based Learning (PBL) program. Its creation aims to address the recording and bookkeeping needs of Micro, Small, and Medium Enterprises (MSMEs). With its straightforward user interface, Bizpos is designed to be easily navigable by individuals with basic computer skills. Operating on a desktop platform enables independent usage without reliance on an internet connection or web browser. Furthermore, utilizing a desktop platform enhances data security, as access to the application is restricted, minimizing the risk of data theft and virus infiltration. This heightened level of data security fosters user confidence in the application's ability to safeguard stored information, ensuring its confidentiality and integrity.

The Bizpos application underwent development utilizing the waterfall model, a systematic and sequential software development approach within the System Development Life Cycle (SDLC) framework, as outlined by Desmayani et al. (2021). Beginning with the planning phase, followed by desktop-based development, testing, evaluation, web-based development, integration of security systems, and commercialization, the Bizpos application progressed through various stages. Having reached the implementation phase, further evaluation is deemed necessary. In response to this requirement, researchers initiated an assessment of the application's usability among MSMEs who have utilized it. This evaluation employed the System Usability Scale (SUS) method to gauge usability levels. The anticipated outcomes of this evaluation are intended to serve as foundational data for informing future development endeavors.

SUS is a method or tool to measure the level of usability of a product developed by John Brooke in 1986 (Yusuf & Astuti, 2020). This method has several advantages including easy evaluation understood by testers or respondents, small sample size, clear results and clear instruments for calculating and evaluating applications (Ependi et al., 2019; Komalasari & Ulfa, 2020). Therefore, this method was chosen as a tool to test the level of usability of the Bizpos application.

Several researchers have tested the usability level of a product using SUS. These studies include evaluating the level of usability of the Population Administration application and the Dance Learning application with the results of the research included in the Excellent category (Ependi et al., 2019; Purnamasari et al., 2020). Other usability evaluations were carried out on the Polsri website, web GIS, Shopee website, Budi Luhur University E-Learning system, as well as the licensing and Online Single Submission (OSS) website which showed good results (Salamah, 2019; Pangestu et al., 2020; Sembodo et al., 2021; Jumaryadi & Mahdiana, 2022; Wallid & Oktaviani, 2022). Usability measurements are also carried out on the Learning Management System OpenLearning (LMS Open Learning), the Resource Center visitor attendance system, and the OVO application with the results included in the Ok category (Fatmawati, 2021; Rumini & Norhikmah, 2022; Rosyid et al., 2022).

THEORETICAL STUDY

SUS is a method that involves end-user participation in the application usability evaluation process (Purnamasari et al., 2020). The SUS method is also known as a "quick and dirty" user satisfaction measurement tool, which illustrates that using the SUS questionnaire is a fast way but produces reliable data (Pangestu et al., 2020). This method has several advantages including the evaluation process is easier for respondents to understand, able to involve a small sample but still provide optimal results, able to distinguish between applications that can and cannot be used, and provide clear calculation instruments for evaluating applications (Ependi et al., 2019).

The SUS evaluation process involves the use of a Likert scale with five options applied to a questionnaire to assess ten SUS statements (Yusuf & Astuti, 2020). The Likert scale maps the level of agreement, where option 1 indicates strong disagreement, 2 signifies disagreement, 3 indicates partial agreement, 4 indicates agreement, and 5 signifies strong agreement (Ependi et al., 2019). In assessing SUS statements, the subjective aspects of respondents play an important role (Sembodo et al., 2021).

The SUS method is used to assess the level of usability of a system developed by John Brooke in 1986 (Yusuf & Astuti, 2020). This method can be applied to various types of applications, including websites, mobile applications, and desktop applications (Jumaryadi & Mahdiana, 2022). Therefore, this method was chosen as a tool to test the usability of the Bizpos application.

RESEARCH METHOD

The descriptive qualitative research approach was employed in this study to characterize and analyze the significance of the data that was gathered (Kriyanto, 2006). Researchers utilize this method to learn more about how users perceive, feel about, and interact with the application's usability. This research was conducted from November 2022 to June 2023. This research time was chosen with the aim that researchers get enough answers from the respondents' point of view after using the Bizpos application. The researcher chooses Batam City as the research site because the respondents involved came from micro and small businesses in the city. The object of evaluation in this research is Bizpos application (Attachment 2).

The researcher employed purposive sampling to select micro and small enterprises in the Batam City as research participants based on specific criteria. The criteria specified in this study targeted active users of the Bizpos application within these businesses. Data collection involved a survey technique utilizing the System Usability Scale (SUS) instrument by John Brooke (1986), as utilized in the study by Ependi et al. (2019), administered to 10 selected respondents alongside additional suggestion items (Attachment 3). To ensure the validity and reliability of the instrument, a test was conducted by distributing it to 30 students from the Managerial Accounting study program involved in PBL Management Accounting II, yielding valid and reliable results (Attachment 4 and Attachment 5). The SUS instrument adopts a 1-5 scale for responses to each statement. Evaluation of SUS instrument results follow specific criteria outlined by Ependi et al. (2019), involving adjustments for odd and even-numbered statements, determination of the average instrument answer, and multiplication by 2.5. These parameters for evaluating SUS method results are depicted in Figure 1.

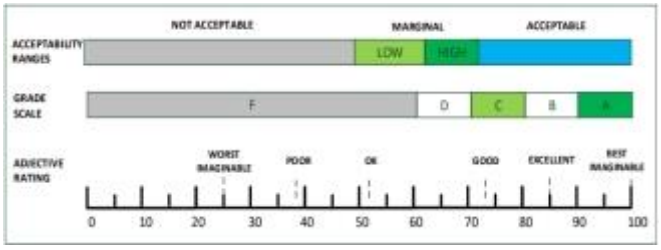

Figure 1. Results Parameters of SUS Method
Source: Ependi et al. (2019)

In this research, the data analysis comprises descriptive and narrative analyses. Descriptive analysis is employed to showcase data through tables and diagrams, facilitating comprehension. Narrative analysis, on the other hand, is utilized to elucidate the outcomes derived from questionnaire instruments, offering insights into the feedback concerning the utilization of the Bizpos application.

RESULTS AND DISCUSSION

This research is not the first, as research conducted by Ependi et al. (2019) with the object of population administration applications. The study describes the user's perspective on population administration applications based on the user's experience when using the application. In contrast to this research, the object used in this study is the Bizpos application.

Respondents are an important part of usability evaluation. Respondents in the previous study were village heads and village secretaries of Ogan Ilir Regency. Meanwhile, the respondents in this study are micro and small businesses in Batam City who are active users of the Bizpos application. Figure 2 illustrates the diversity of businesses among the respondents, categorized into trade, services, and food sectors. The data reveals that the majority of respondents (50%) are involved in food-related enterprises, followed by trading businesses (30%), and service-oriented ventures (20%).

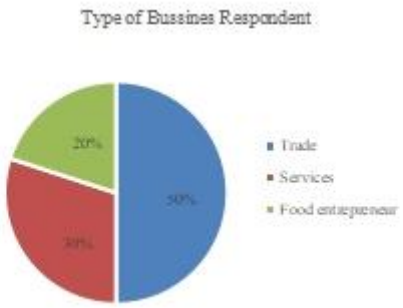

Figure 2. Type of Business Respondent
Source: Data Processed by Researchers (2023)

The instrument usability score is the respondent's assessment of each SUS instrument. In SUS there are 10 statements that are used for evaluation. Respondent's statements on the Bizpos application are described as follows:

Table 1. Respondent Answer Scale SUS

No	SUS Calculation					Respondent	Average
	1	2	3	4	5		
P1	0	1	5	4	0	10	3.3
P2	1	1	7	1	0	10	2.8
P3	0	1	5	4	0	10	3.3
P4	1	0	5	4	0	10	3.2
P5	0	0	6	4	0	10	3.4
P6	0	0	5	5	0	10	3.5
P7	0	1	4	5	0	10	3.4
P8	0	0	3	7	0	10	3.7
P9	0	1	5	4	0	10	3.3
P10	1	1	5	3	0	10	3

Source: Data Processed by Researchers (2023)

a. Statement 1

This statement aims to determine the degree to which respondents intend to utilize the Bizpos application regularly. One responder gave it a score of 2, five gave it a score of 3, and four gave it a score of 4, as shown in Table 1. Ten respondents provided an average score of 3.3 using the SUS technique. These results suggest that the majority of respondents indicate a desire to regularly utilize the Bizpos application.

b. Statement 2

In this context, lower respondent scores indicate more favorable outcomes. According to Table 1, one respondent rated the application as 1, another as 2, seven respondents as 3, and one respondent as 4. Most respondents expressed disagreement regarding the complexity of the Bizpos application based on their responses. This assertion is corroborated by SUS

method calculations, yielding an average score of 2.8 from a total of 10 respondents.

c. Statement 3

The ease of use of the Bizpos application is the focus of this statement. In Table 1, 1 respondent gave a score of 2, 5 respondents gave a score of 3, and 4 respondents gave a score of 4. Most respondents feel that the Bizpos application is easy to use. Support for this can also be seen from calculations using the SUS method with an average value of 3.3 from 10 respondents.

d. Statement 4

This statement asks respondents to state whether they need help from others when using the Bizpos application. The results are shown in Table 1. There was 1 respondent who gave a score of 1, 5 respondents gave a score of 3, and 4 respondents gave a score of 4. After calculating using the SUS method, this statement received an average value of 3.2. The data concludes that most respondents do not need help from others when using the Bizpos application.

e. Statement 5

This statement aims to ascertain how the different aspects of the Bizpos application relate to one another. Six respondents gave a score of three, while four respondents offered a score of four based on Table 1. The SUS method computation yields an average value of 3.4 for the ten respondents. This shows that most respondents agree that the various features in the Bizpos application are connected.

f. Statement 6

Concerning the suitability of the application, 5 respondents gave a score of 3 and 5 respondents gave a score of 4. The assessment can be seen in Table 1. Through calculations using the SUS method, the average value of 10 respondents is 3.5. This result shows that most respondents agree that the Bizpos application is suitable.

g. Statement 7

Regarding the ease of learning the application, 1 respondent gave a score of 2, 4 respondents gave a score of 3, and 5 respondents gave a score of 4. Respondent assessment data is presented in Table 1. Based on this assessment, it can be concluded that the Bizpos application is easy to learn. This is supported by the results of calculations using the SUS method with an average value of 3.4 from a total of 10 respondents.

h. Statement 8

This statement shows the level of complexity of using the Bizpos application. In Table 1, 3 respondents gave a score of 3 and 7 respondents gave a score of 4. Furthermore, the assessment of the respondents was calculated using the SUS method. Based on this calculation, an average value of 3.7 was obtained from a total of 10 respondents, indicating that most respondents agreed that the Bizpos application was not complicated to use.

i. Statement 9

The level of confidence or optimism of MSMEs when using the Bizpos application is shown in this statement. One respondent provided a score of 2, five provided a score of 3, and four provided a score of 4. The information is shown in Table 1. Ten responders in all provided an average value of 3.3 after

the SUS approach was applied. Through this calculation, it can be concluded that respondents are optimistic about using the Bizpos application.

j. Statement 10

In this statement, 1 respondent gave a score of 1, 1 respondent gave a score of 2, 5 respondents gave a score of 3, and 3 respondents gave a score of 4. Respondent assessment data is presented in Table 1. Based on this assessment, most respondents agree that there is no need to learn many things before starting to use the Bizpos application. This is supported through the results of calculations with the SUS method which shows an average value of 3 out of 10 total respondents.

The usability level is the stage of determining the final value in the usability evaluation process of the Bizpos application. To determine the usability level of the application, the first step is to know the value of each SUS instrument which is calculated based on the respondent's answer.

Table 2: Recapitulation of SUS x 2.5 Statement

No	Average x 2,5
P1	8.25
P2	7.00
P3	8.25
P4	8.00
P5	8.50
P6	8.75
P7	8.50
P8	9.25
P9	8.25
P10	7.50
Total SUS	**82.25**

Source: Data Processed by Researchers (2023)

Based on the findings presented in Table 2, the assessment of the Bizpos application yielded an overall SUS score of 82.25. Figure 1 further illustrates the usability of the application across three dimensions: (1) Acceptability, deemed acceptable, indicating favorable user reception; (2) Grade scale, rated at the B level, indicating commendable application quality; and (3) Adjective rating, marked as excellent, signifying a notably high usability level for the Bizpos application. Additionally, insights for enhancing the Bizpos application were gathered from respondents. Firstly, enhancements could involve integrating a feature to monitor remaining available units. Secondly, expanding the menu features to accommodate diverse business types could enhance usability. Lastly, to streamline data management, a delete button could be included in the report feature to facilitate user control.

CONCLUSION

In summary, the usability evaluation of the Bizpos application among micro and small businesses in the Batam City revealed valuable insights. The majority of respondents, predominantly from the food sector, expressed positive sentiments towards the application's regular usage, perceived simplicity, and suitability for their businesses. The assessment, based on the System Usability Scale (SUS) method, yielded an overall score of 82.25, reflecting a commendable level of usability. Notably, the application's acceptability, grade scale, and adjective rating were deemed acceptable, indicative of good user acceptance, high application quality, and excellent usability, respectively.

Furthermore, respondents provided constructive suggestions for enhancing the Bizpos application, including the addition of features to monitor remaining units, menu development for broader business compatibility, and the incorporation of a delete button to streamline data management within the reporting feature.

These findings underscore the Bizpos application's promising usability and highlight actionable areas for improvement, thereby facilitating its continued enhancement to better serve the needs of micro and small businesses in the Batam City and potentially beyond.

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