

Android-Based Accounting Application for MSME

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Abstract—The ease of recording financial transactions and providing financial reports digitally is also provided by various accounting applications or software. The accounting application facilitates the input process, offers faster and more accurate data processing, and complete output. Accounting applications using smartphones have advantages compared to accounting applications that require computers. This type of application makes it easy for users to access their financial statements at anytime and anywhere with a smartphone device. With the wide variety of accounting application choices in the market, it can be imagined that business actors who may not know the detail of the accounting process become overwhelmed in determining what accounting applications are right for their type of business. It is very important for accountants, especially in the academic field to oversee the process of development of this technology to be in accordance with the nature and purpose of accounting. Therefore, this qualitative research was conducted by the method of observation and presents descriptive data. A total of 6 applications that can be downloaded on Google Play Store were observed and conducted a comparative study using 8 criteria. The results showed the application "Akuntansi UKM" has the highest value based on predetermined.

Keywords: *accounting, application, android*

I. INTRODUCTION

The current digital era brings many changes in various fields. Industrial revolution 4.0. requires automation in various fields, including in finance and accounting. This transformation accelerates the process, demanding effectiveness and efficiency in various fields, including accounting. This transformation is a potential for the world of accounting and finance, however it can be a threat to those who do not keep up with the technology. The ease in the digital era offers a variety of potential for businesses to develop in the further. The potential is in the form of opportunities to expand market share with a variety of online media that are currently developing, ease of financial transactions both with e-banking, e-money, etc, as well as the ease of finding information related to the production process to the ease in the financial recording process.

The ease of recording financial transactions and providing financial reports digitally are now provided by various accounting applications or software. The accounting application facilitates the input process, offers faster and more accurate data processing, and complete output. There are many types of accounting applications that exist and are developing today. Some accounting applications require computers to be

used, such as MYOB, Zahir Accounting, MS Excel, Accurate, etc. But now, accounting applications are also reaching into smaller gadgets or electronic devices such as smart-phones.

Accounting applications using smartphones have advantages compared to accounting applications that require computers. This type of application makes it easy for users to access their financial statements at anytime and anywhere with smartphone devices. Moreover, more than 54% of Indonesia's population is connected and using the internet according to Indonesian internet service association [1]. There are smartphones that have iOS, Android devices etc. Android device system is a device system that is more commonly used in Indonesia than iOS in Indonesia. In the Android system devices, there are many kinds of applications available and can be downloaded freely on the Google Play Store. The various applications, available for various purposes such as social media, educational applications, entertainment, finance and even weather forecasts.

With the wide variety of accounting application choices in the market, it can be imagined that business actors who may not know the ins and outs of the accounting process become overwhelmed in determining what accounting applications are right for their type of business. Therefore, it becomes important for accountants, especially in the academic field to oversee the process of development of this technology to fit the nature and purpose of accounting. The research presented aims to carry out the escort process so that the accounting applications provided remain in accordance with existing standards. Specifically, this study presents data on what accounting applications are available in Indonesian in the Play Store, provides an overview of whether the accounting application complies with existing regulations and examines which accounting application provides the best accounting information.

Based on introduction above, this research aims to understand a) What kind of android-based accounting application that circulates in Indonesian market; b) What information is requested and provided by the accounting application; c) What accounting applications are best in terms of ease of use and completeness of the financial statements provided.

A. Theory

The development of technology in the field of accounting is something that cannot be avoided. The need for businesses to

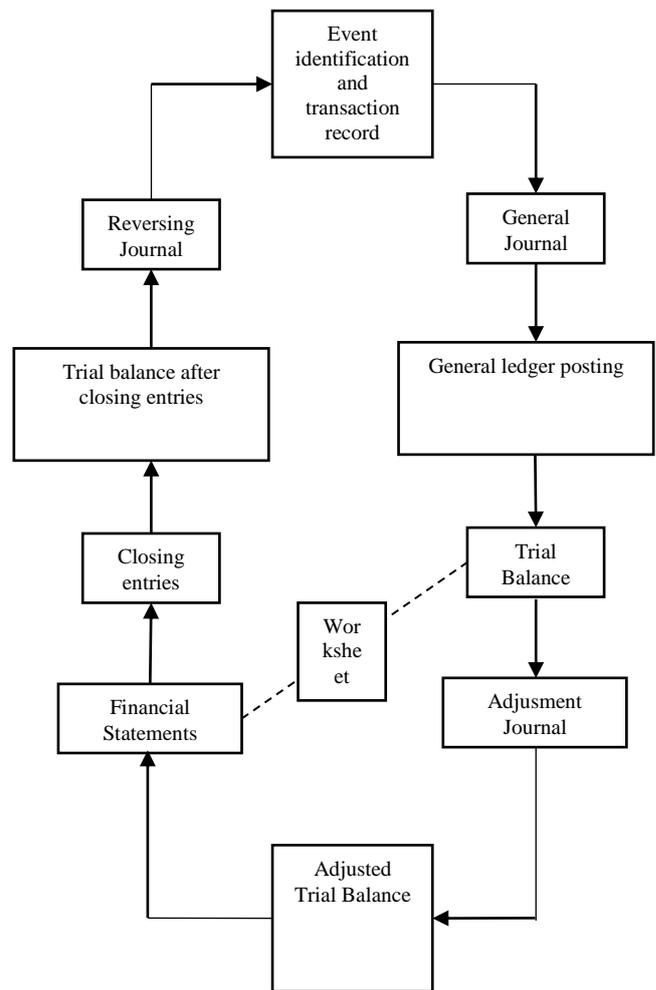
provide good financial reports that are also easy to use, encourages the growth of various accounting applications circulating in the community. Technological developments in the field of accounting should go hand in hand and in accordance with existing accounting standards. Therefore, this study provides a theoretical foundation regarding accounting to understand what should be considered for accounting application providers in providing accounting applications.

1) *Accounting information system*: Accounting is a business language for presenting financial information about an entity to stakeholders or interested parties. Furthermore Kieso et al in his book defines accounting as a system with input data transactions and output in the form of financial information that is useful for both external and internal users [2]. Based on this understanding, there are four important things that must be considered in accounting, namely: a) Input is a transaction or business event related to finance and there must be evidence that accompanies; b) The process is a series of activities that include the process of identifying, recording, classifying the range of financial transactions into financial statements; c) Output is financial information presented in the form of financial statements in accordance with existing standards, in this case PSAK (Statement of Financial Accounting Standards); d) The use of accounting information is the activity of using financial statements for decision making by external or internal parties which involves the analysis process according to user needs.

Based on the above understanding, the first step in accounting is to record and classify them into accounts. Accounts are a general classification used in accounting to refer to transactions that have the same nature. In accounting there are 5 accounts, namely: assets, liabilities or debt, equity or capital, income and expenses.

Assets are resources that a business owns, provide future benefits which include cash, inventory and equipment, etc. Liabilities are claims against assets which owned by creditors. Meanwhile equity is claim against assets which owned by owner, referred as residual equity. Revenues result from business activities entered into for the purpose of earning income, meanwhile Expenses are the cost of assets consumed or services used in the process of earning revenue [2].

Next, a description of the accounting cycle process is presented in figure 1 as below:



Source: [3]

Fig. 1. Accounting cycle.

From the chart above, we can conclude that accounting cycle start from event identification and transaction record. Continued with general journal, trial balance, and adjustment journal. And the output would be financial statements. According to PSAK 1 [4], an entity or company must issue a minimum of 5 types of reports, namely: a) Statement of financial position; b) Comprehensive income statement; c) Retained earning statement; d) Cash flow statement; and e) Notes of financial statements.

2) *Accounting standard for micro, small, medium enterprises (SAK EMKM)*: The main user for accounting application in this research is specifically Micro, Small, Medium Enterprises (MSME). Accounting regulation for MSME in Indonesia is Standar Akuntansi Keuangan EMKM (SAK EMKM) which issued in 1st January 2018. In this standard, UMKM only obliged to publish 3 financial statements which are statement of financial position, income statement and notes of financial statements [5]. SAK EMKM requires three basic assumptions that must be fulfilled by the entity in accordance to prepare financial statements namely

the basic assumptions for accruals, business continuity, and the concept of business entities.

The definition of accounts is not much different with SAK for regular entities whether its assets, liabilities, equities, revenue and expenses. Meanwhile the acknowledgment of these accounts should fulfill future economic benefit or predictive value and reality measurement. Predictive value is owned by financial information if the information has value as input for the prediction process used by investors to form their own expectations about the future [2]. Information has reliable quality if it is free from misleading notions, material errors, and can be relied upon by the user as a faithful representation [3]. And the basis for measuring the elements of financial statements in SAK EMKM is historical costs.

Furthermore, the fair presentation of financial statements requires the entity to present information to achieve its objectives, which are relevant, faithful representation, can be compared, understandable.

a) Relevant: The basic quality that makes accounting information useful for decision making is relevance. Information that is not related to a decision is irrelevant information [2]. Financial information, one of which must have predictive value.

- Predictive Benefits/ value, Predictive value is owned by financial information if the information has value as input for the prediction process used by investors to form their own expectations about the future [2].
- On time, Timely presentation of information makes financial statements more relevant. Timeliness means having information available to decision makers before the information loses its ability to influence decisions [2]. Relevant financial information that is available in a timely manner can improve its ability to influence decisions.
- Completeness, The information in the financial statements must be complete in order to be reliable but must be within the limits of materiality and consider the costs of making it deliberate not to disclose (omission) resulting in information being incorrect or misleading and therefore unreliable and imperfect in terms of relevance [3].

b) Periodicity: Periodicity is one of the basic assumptions underlying the structure of financial accounting. Periodicity (periodicity or time period assumption) shows that companies can divide economic activity into several artificial time period [2].

c) Understandable: Financial statements must be understood by users in order to be used for decision making. To be understood, users of financial statements are assumed to have adequate knowledge about economic, business, accounting activities, and the willingness to learn information [3]. Understanding (understandability) is the quality of information that allows users who are sufficiently informed to see its significance, can be understood can be improved when

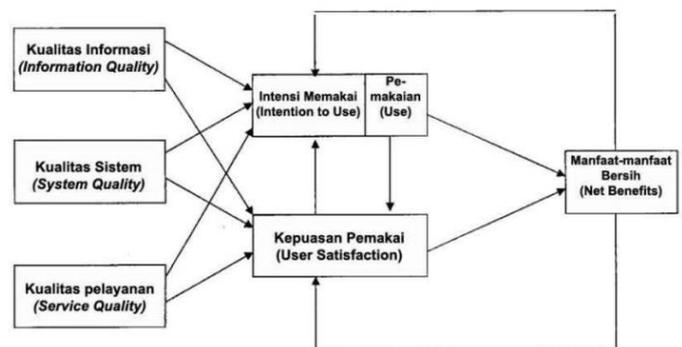
information is classified, characterized, and presented clearly and concisely [2].

- Can be compared, To be able to analyze the performance trends of the entity and see the position of the entity in the business environment, users need to compare the entity's financial statements between periods and compare them with other entities [3]. Comparability or comparability allows users to identify real similarities and differences in economic events between companies [2].

d) Reliability or faithful representation: Information has reliable quality if it is free from misleading notions, material errors, and can be relied upon by the user as a faithful representation [3].

- Verifiable, Verifiability occurs when several entities uses the same method and gets the same results [2].
- Honest presentation, Financial information must present honestly and fairly transactions and other events that must be presented representation [3]. Faithful representation means that the numbers and explanations are in accordance with what really exists or occurs [2].
- Neutrality, Neutrality means information is used for the general needs of users and does not depend on the needs and desires of certain parties representation [3]. Neutrality means that companies cannot choose information to support a group of parties having an interest in the other party [2].

3) Delone and McLean model: Evaluation on Accounting Information Systems is very important in the current technological era, one of which is often used is the DeLone & McLean model. Radityo stated in his research that he model provided strong support for the influence of intended use on the individual impact, and the individual impact influenced on the organizational impact [6]. Research by Hudin and Riana also used this model to measure the success of the use of Accurate accounting information systems in several companies in Sukabumi [7]. The updated model of DeLone & McLean model is presented in figure 2 below:



Source: [8]

Fig. 2. DeLone and McLean model.

From the chart above, we can conclude that intention of use is affected by information quality, system quality and service quality. The dimension of information quality involve usefulness, realibility, adaptability and response time. Information quality should cover accuracy, relevant, easy to understand and complete. Meanwhile, service quality should cover responsiveness and following service [8]. This “intention of use” describe the use effectiveness of android base accounting application by user. Therefore these description is nessecary to evaluate the accounting application in preliminary phase along with user statisfaction in calculate the net benefits.

Research by Tjakrawala indeed justify these theory. The model provided strong support for the relationship between perceived system quality user statisfaction, information quality and user statisfaction, user statisfaction and intention of use, intention of use and net benefit, user statisfaction and net benefit [9]. Research by Iivari showed that perceived system quality and perceived information quality are significant of user statisfaction in system use [10]. Its also explained that User statisfaction was found to be a strong predictor of individual impact, whereas the influence of system use on individual impact was insignificant.

Delone and McLean explained that system quality consist of several dimation which are usefulness, realibility, adaptability, and response time [8]. Information quality consist of accuracy, relevant, easy to understand, and complete. Meanwhile service quality consist of responsiveness and following-up services. Therefore in this research, assessment in its system quality will be presented with ease of use, ease of maintenance, security and error frequency.

II. RESEARCH METHODOLOGY

A. Research Object

The object in this study is an accounting application that can be downloaded from Google Play Store and can be accessed with a smartphone device. After the observation there were 12 applications were fit to be used by MSME, this conclusion were based on the description were given by each accounting application.

B. Research Methods

This study uses a comparative descriptive method. From the 12 applications, we focused our research on 6 applications which used bahasa Indonesia in its use. These 6 applications were rated with likert scale, for each measurement variables.

C. Data Collection Technique

1) *Observation*: This technique is used for data collection by direct observation and testing of research objects, namely accounting applications.

2) *Documentation*: This technique is used to carry out and record the results of observations and direct trials conducted on the object of research, namely accounting applications.

III. RESULTS AND DISCUSSION

There are several accounting applications that can widely used by Indonesia MSME. According to the research team observation there are 12 accounting applications that can be used by Indonesia’s MSME. These applications can be freely downloaded in google play store. These 12 application are explained in table 1. below:

TABLE I. ANDROID BASE ACCOUNTING APPLICATION

No	Applications	Rate	Release Date	Developer	Download amount	Language
1	Akuntansi UKM WiinFeel	Rating 3+	09/12/2014	WiinFeel, Swasta	100.000+Downloaded	Indonesia
2	Lamikro Akuntansi Usaha Mikro	Rating 3+	05/01/2018	Deputi Bidang Pengembangan SDM-Kementrian KUKM RI	10.000+Downloaded	Indonesia
3	Akuntansi Keuangan	Rating 3+	18/10/2018	AppIndoDev2	50.000+Donwload	Indonesia
4	SI APIK	Rating 3+	18/01/2016	Bank Indonesia	50.000+Download	Indonesia
5	Pembukuan & Akuntansi. Stock Barang. Arus Kas	Rating 3+	08-Feb-19	1C-Rarus Ltd	100.000+Downlo aded	Indonesia
6	Book Keeper Accounting, GST Invoicing, Inventory	Rating 3+	08-Mar-19	Just Apps Pvt.Ltd	500.000+Download	English
7	Xero Accounting Software	Rating 3+	01-Okt-12	Xero Accounting	500.000+Download	English
8	Akuntansi Dagang - Beta	Rating 3+	07-Agu-16	Gookkis Studio	1000+Download	Indonesia
9	Zahir Simply	Rating 3+	26-Jan-18	Zahir Internasional	10.000+Downloaded	Indonesia
10	Grow-Akuntansi and Keuangan UKM	Rating 3+	20-Agu-18	Mid Nusantara, PT	1.000+Download	Indonesia
11	Accounting Invoicing - OneUp	Rating 3+	22-Apr-15	ONE UP	50.000+Download	English
12	Free GST Invoice Billing Stock Inventory Accounts	Rating 3+	08-Feb-16	Vyapar Solutions	500.000+Download	English

From these 12 applications, this research focused on 6 accounting applications which are Akuntansi LaMikro, Akuntansi UKM, Akuntansi Keuangan, Akuntansi Dagang, Simple Akuntansi, Zahir Simply. The valuation were based on the compability of accounting applications with SAK EMKM standard and Delone and McLean model. SAK EMKM as explained in chapter 2, should be able to present relevant, understandable, reliable information and based on periodicity.

The results of observations on accounting applications, based on the criteria of relevance, which consist of 3 sub variables, predictive value, on time, and completeness, the “Akuntansi Dagang” application has the highest value. Meanwhile, “Simple Akuntansi” has the lowest value between the 6 applications observed, as presented in table 2 below:

TABLE II. ACCOUNTING APPLICATIONS ASSESSMENT ON RELEVANCE CRITERIA

Accounting Applications					
Akuntansi la mikro	Akuntansi UKM	Akuntansi keuangan	Akuntansi dagang	Simple akuntansi	Zahir simply
20	25	25	28	17	21

Based on periodicity criteria, “Akuntansi UKM” and “Zahir Simply” show best performance since both of the applications give the user choice to determine start and end of the accounting period. Meanwhile “Akuntansi LaMikro” show the least performance because the application does not provide periodicity information in the financial statements.

TABLE III. ACCOUNTING APPLICATIONS ASSESSMENT ON PERIODICITY CRITERIA

Accounting Applications					
Akuntansi la mikro	Akuntansi UKM	Akuntansi keuangan	Akuntansi dagang	Simple akuntansi	Zahir simply
1	5	3	4	3	5

From the third criteria which is understandable, “Akuntansi Keuangan” application has the highest valuation compared with other applications. This application provide graph, histogram and pie chart in its presentation.

TABLE IV. ACCOUNTING APPLICATIONS ASSESSMENT ON UNDERSTANDABLE CRITERIA

Accounting Applications					
Akuntansi la mikro	Akuntansi UKM	Akuntansi keuangan	Akuntansi dagang	Simple akuntansi	Zahir simply
2	2	4	2	2	2

Accounting applications assessment on reliability shows that “Zahir Simply” has the best performance compared with the others. “Zahir Simply” provides added, delete and edit transactions facilities in its application. And this application also provides setting facilities for tax needs, for 3 or more types of tax. While the others don’t provide setting facilities for taxes or only for 1 type of tax such as “Akuntansi Dagang”.

TABLE V. ACCOUNTING APPLICATIONS ASSESSMENT ON RELIABILITY CRITERIA

Accounting Applications					
Akuntansi la mikro	Akuntansi UKM	Akuntansi keuangan	Akuntansi dagang	Simple akuntansi	Zahir simply
6	10	10	12	6	14

From the table below, we can conclude that “Akuntansi UKM” application has better performance compared with the others. User manual for the user presented with illustration and pictures, meanwhile “Akuntansi LaMikro” does have user manual but not presented with illustration, pictures and examples. Meanwhile “Zahir Simply” doesn’t have user manual but prepare an online assistance for the user.

TABLE VI. ACCOUNTING APPLICATIONS ASSESSMENT ON EASE OF USE CRITERIA

Accounting Applications					
Akuntansi la mikro	Akuntansi UKM	Akuntansi keuangan	Akuntansi dagang	Simple akuntansi	Zahir simply
4	6	2	2	2	4

From the table below, we can see that from ease of maintenance area “Akuntansi UKM”, “Akuntansi Keuangan” and “Akuntansi Dagang” application have the same score. From the observation result, six of them (accounting application object) are updated regularly by admin, but from the storage criteria, the three applications are able to save the data online and offline.

TABLE VII. ACCOUNTING APPLICATIONS ASSESSMENT ON EASE OF MAINTENANCE CRITERIA

Accounting Applications					
Akuntansi la mikro	Akuntansi UKM	Akuntansi keuangan	Akuntansi dagang	Simple akuntansi	Zahir simply
7	9	9	9	7	7

Accounting application assessment from security criteria aspects, shows that “Akuntansi LaMikro” has the best performance compared with the other. “Akuntansi LaMikro” can be accessed by more than 2 IDs, as an admin who can input transactions and as a user who only sees the progress of the report. Most of the research objects provide a username and password feature by using a combination of numbers and letters meanwhile “Simple Akuntansi” is the only application does not provide a password feature to login. “Simple Akuntansi” application also does not have editing facilities, delete or add an account in its application.

TABLE VIII. ACCOUNTING APPLICATIONS ASSESSMENT ON SECURITY CRITERIA

Accounting Applications					
Akuntansi la mikro	Akuntansi UKM	Akuntansi keuangan	Akuntansi dagang	Simple akuntansi	Zahir simply
19	15	15	13	8	15

Accounting application assessment on error showed that most of the application does have maximum score which means fourth of them which are “Akuntansi UKM”, “Akuntansi Keuangan”, “Simple Akuntansi”, and “Simple Akuntansi” never have any lag or error in its filling process. Meanwhile for “Akuntansi LaMikro” and “Akuntansi Dagang”, they show least performance since they happened to have error more than 5 times at the filling process.

TABLE IX. ACCOUNTING APPLICATIONS ASSESSMENT ON ERROR

Accounting Applications					
Akuntansi la mikro	Akuntansi UKM	Akuntansi keuangan	Akuntansi dagang	Simple akuntansi	Zahir simply
1	5	5	1	5	5

From the criteria’s above, including SAK EMKM and system quality, the total score showed that “Akuntansi UKM” application has the best performance compared with the others. From the quality information criteria, “Akuntansi Dagang” performed better, meanwhile from the system quality, “Akuntansi UKM” outperform other accounting applications.

TABLE X. THE TOTAL OF ACCOUNTING APPLICATIONS ASSESSMENT

Accounting Applications					
Akuntansi la mikro	Akuntansi UKM	Akuntansi keuangan	Akuntansi dagang	Simple akuntansi	Zahir simply
60	77	73	71	50	73

IV. CONCLUSION

From this research, we can conclude that “Akuntansi UKM” application is the most compatible to used by EMKM based on its accumulated score based on Delone and McLean model and Akuntansi EMKM standard. It has advantages in its understability, maintenance criteria, and error were not often happened in its use.

ACKNOWLEDGMENT

This research was successfully carried out thanks to the assistance of LPPM Universitas Islam Bandung with young researcher funding scheme in 2019.

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