DESIGN AND IMPLEMENTATION OF ACCOUNTING INFORMATION SYSTEM IN OTAK-OTAK REGATA

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Abstract

This project aims to design a computerized accounting system as a solution for Micro, Small, and Medium Enterprises (MSMEs) that are still constrained by the process of transaction recording and accounting reporting. The object of this work practice using one of the MSMEs from Batam City named Otak-otak Regata. Otak-otak Regata's accounting recording and reporting system are still relatively less effective and efficient. The target of this activity itself is an accounting system adapted to the business characteristics of Otak-otak Regata that simplify the process of recording and reporting accounting but generate reliable and accurate output at the same time. Work practice conducted in Otak-otak Regata was carried out for 1 (one) semester from September 2021 to December 2021. The initial stage carried out in this activity is the collection of information about business flow and problems faced by MSMEs through interviews and observations. The collected information is then compiled into master data for the system to be designed using Microsoft Access. The result show that the designed system can generate an accurate reports through transactions that the owner of the Otak-otak Regata input into the system's form. Further researchers are recommended to be able to properly understand the characteristics of the community service practice object used from the early stages of the activity so that the output of the activity is in accordance with what is needed.

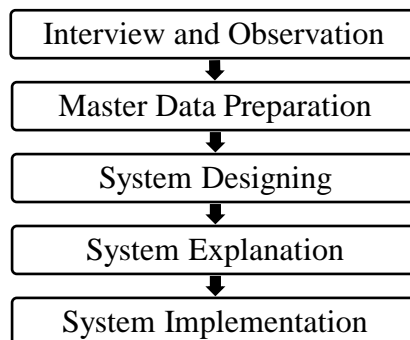**Keywords:** Accounting System, Financial Statements, MSME

Introduction

Based on the Law of the Republic of Indonesia Number 20 of 2008, Micro, Small, and Medium Enterprises (MSMEs) are small businesses run and established by a person or a small group of people. As a developing country, MSMEs greatly contribute to Indonesia's Gross Domestic Product (Putra, 2019). Combined, the contribution of MSMEs to Indonesia's Gross Domestic Product (GDP) in 2017 was about 60% which itself is much greater than that contributed by large businesses. About 97% of the national workforce itself is absorbed by MSMEs combined (Haryanti & Hidayah, 2018). The data shows MSMEs play an important role in the Indonesian economy. In today's era of globalization, all types of businesses are required to be able to quickly adapt and move dynamically. Increasingly fierce competition makes MSME owners have to design a reliable strategy (Savitri &

Saifudin, 2018). Strategies for managing existing businesses themselves require the implementation of a good accounting system (Sulistyowati, 2017). Research from Kahsay (2019) also states that accounting records play an important role in the success of small businesses. The accounting system itself includes the process of recording, analyzing, monitoring, and evaluating the financial condition of MSMEs. Accounting information like this can help MSMEs to manage short-term problems such as financing, cash flow, and others (Kahsay, 2019) The opposite thing happened on the field. Although MSMEs have a large contribution to the Indonesian economy, financial literacy to MSMEs is still low. Access to financial services that are still minimal itself slow down the development of MSMEs in Indonesia. MSME owners are less aware of the importance of recording and bookkeeping of the business carried out. Basically, MSMEs are considered too focused on creating a unique product and not so concerned with its finances. Therefore, MSME owners consider accounting records to be time and money-consuming (Putra, 2019). The recording carried out by MSMEs, in general, is only in the form of expenditure and cash income (Muljanto, 2020). A lot of financial information can be obtained from the transaction recording that can help the decision-making process. Meanwhile, according to Achadiyah (2019), accounting records using computer systems are still rarely found in Indonesian MSMEs. Whereas bookkeeping and presentation of financial statements using accounting information systems show more accountable and accurate results. Digital transformation is considered equally important to MSMEs. This transformation can help MSMEs develop their businesses more quickly to keep up with the era of globalization that is happening. Computer applications to help the accounting of MSMEs are considered to be able to help MSMEs manage existing transaction data (Putra, 2019). The COVID-19 pandemic increased MSME sales, especially in the culinary field through online media. Increased sales from online media can cause order recording errors that can be bad for consumer satisfaction. The same thing happened to Otak-otak Regata. The owner of this business itself has been only recapitulated through a spreadsheet application, Microsoft Excel. Recording transactions and preparing financial statements through the application is considered still less efficient because the risk of errors in entering transaction data is still relatively high. This can result in less accountable and accurate results that have an impact on the quality of MSME managerial decision-making.On the other hand, many accounting systems can be used directly. But in general, existing software tends to be designed for businesses that are already larger and less suitable to be applied to the MSME level because of its complexity. Therefore, the design of accounting information systems using Microsoft Access applications that are designed following the needs and business characteristics of MSMEs is considered can help MSME owners to record existing transactions and help monitoring of business developments through financial statements that have been arranged automatically according to SAK EMKM standard. The information system must be designed in such a way that it is easy for MSMEs to use to avoid accounting errors.

Methods

Primary data is used in this study considering the source of the information. Where those data are obtained from the source directly (Supranto, 2010). Primary data is data obtained through survey and observation methods. Primary data collection can be done by direct interview method to the source and by observation method (Supomo & Indriantoro, 2013). Information needed for this community service is obtained directly from the business owner of The Otak-otak Regata. The interview was conducted by asking questions verbally or in writing to the owner of MSMEs. The questions asked during this process itself aim to get basic information on the efforts run by the Otak-otak Regata, ranging from business identity, business flow, to problems experienced and other information data. Interviews are also conducted to find out how far accounting practices have been applied by MSME owners in running their businesses. The information gathered from this interview will also be used as a basis in the process of designing the accounting information system of the Otak-otak Regata.Observation is a method of data collection that is done by observing systematic patterns of behavior of subjects, objects, or events without any questions or communicating with individuals (Supomo & Indriantoro, 2013). Observation methods are needed to observe accounting practices that business owners have done. Through this method, the challenges in the process of recording and financial reporting can be known more clearly and in detail. (Supomo & Indriantoro, 2013).

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│   Master Data Preparation   │
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│    System Implementation    │
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Picture 1.
Diagram of Accounting Information System Design Process
Source: Author (2021).

Result and Discussion
Implementation Stage

The output of the process of designing and developing this accounting system is then submitted to the business owner and discussed. Systems designed using Microsoft Access are then further developed according to the advice of the business owner to suit their needs. Finalization of the accounting system designed is done if it has met the needs of MSME owners and has passed the trial stage to ensure there are no errors. Furthermore, business owners will be given training and consultation on how to record transactions and financial reporting using the designed system.

Evaluation will be carried out regularly during the initial implementation process to ensure that the designed system has operated properly and is under MSME expectations. Feedback from MSME owners is needed at this stage to ensure the designed system succeeds in being a solution to the obstacles experienced by business owners. The system will continue to be repaired if it turns out that there are still errors that have not been realized. The accounting information system designed is then submitted to MSMEs if it has been considered to operate perfectly. Activities and schedules of activities carried out during the implementation of community service in the Otak-otak Regata are as follows.

Project Implementation Schedule

No.	Implementation Time	Activities
1	September 01, 2021 – September 03, 2021	Review of MSMEs as project partners.
2	September 04, 2021	Submission of a letter of introduction to the work of practice to the business owner.
3	September 04, 2021 – September 11, 2021	Conduct interviews with business owners and observation of business flow.
4	September 11, 2021 - September 14, 2021	Draft a proposal and submit a client approval letter.
5	September 15, 2021 – September 21, 2021	Data collection & information about MSMEs.
6	October 1, 2021 - October 31, 2021	Designing accounting record keeping & reporting systems.
7	November 1, 2021 - November 7, 2021	Test the accounting system & discussions with MSME owners.
8	November 10, 2021 – November 30, 2021	Training in how to operate the system & system implementation.
9	December 12, 2021	Evaluate the results of the implementation of the accounting system.

Table 1.
Source: Author (2021)

Project Output

Accounting information systems are designed using the Microsoft Access program. Through Microsoft Access, the program is designed as simply as possible according to the business flow of The Otak-otak Regata so that it is easy to operate. Accounting recording and reporting systems are designed to produce reliable financial statements so that they can be used as a basis for decision-making.

The accounting system is designed to be applied to MSMEs engaged in trade with the inventory method just in time. Using the Microsoft Access program, various features maximized its use to produce a system that matches the characteristics of this MSME. This system consists of the main menu, form, and report with their corresponding functions. Where the main menu is used as system navigation, forms for recording transactions or master data, and reports as externals of data processed through the form. Here are the details about the function of each of these sections.

1.   Main Menu

The main menu is a feature that will first appear automatically when the accounting program is opened. This menu consists of 3 buttons, namely FORM, REPORT, and CLOSE. The function of these three buttons is as follows.
   a.   FORM is a button to go to the form navigation for recording transactions.
   b.   REPORT is the button used to go to the reporting period window.
   c.   CLOSE is a button to close the accounting system.

Picture 2.
Main Menu
Source: Author (2021).

2.   Form Menu

This menu is useful for easy navigation in recording transactions. Through this menu, all types of forms will be displayed at once including the master form. Here is the Form Menu view on the system.

Picture 3.
Form Menu
Source: Author (2021).

The master form located in the form navigation menu is a type of form that is useful for entering basic information data into the system. The information is used as master data in the development of system databases such as account lists, supplier lists, and inventory lists.

3.   Chart of Accounts

The list of accounts or Chart of Accounts is a collection of accounts arranged according to the business flow of the Otak-otak Regata. Accounts are created following the needs of MSMEs to record transactions appropriately and produce reliable reports. The account list itself is the main information data that will be used in almost all parts of the system.The list of accounts consists of five parts that need to be filled in, which are the account header number, the account header number, the account detail number, the account details, and the account type. The first

number on the account number indicates the type of account (assets, liabilities, equity, income, cost of goods sold, or expenses). After account type numbering, the second number is separated by a hyphen. The third number indicates the class of accounts such as current or fixed assets and others. Furthermore, the last two numbers show the order of the group of accounts.

Picture 4.
Chart of Account
Source: Author (2021).

4.   Supplier List

The list of suppliers is a master data that contains several sources where Otak-otak Regata buy raw materials. This form consists of a supplier code with the prefix "S" as the supplier code and continues with the last three numbers as a sequence number. Supplier name is filled with supplier name.

Picture 5.
Supplier List
Source: Author (2021).

5.   List of Raw Material Inventory (Inventory - RM)

The list of raw material inventory contains the raw materials that Otak-otak Regata use in the production process. This form consists of a material number (material no) with the prefix "RM" as the raw material code and continues with the last three numbers as sequence numbers. The material name and material price are each filled with the name and price of raw materials.

Picture 6.

Inventory - RM
Source: Author (2021).

6.   List of Finished Goods Inventory (Inventory - FG)

The list of finished goods inventory contains supplies of finished goods that Otak-otak Regata are finished producing and ready to be sold. This form consists of a product number (product no) with the prefix "FG" as the finished goods code and continues with the last three numbers as sequence numbers. The product name and product price are each filled with the name and price of the product.

Picture 7.
Inventory - FG
Source: Author (2021).

7.   Purchase Form

As the name implies, the purchase form is useful for recording purchase transactions made by The Otak-otak Regata. Purchases of raw materials are filled out in this form and immediately reduce cash on hand accounts because based on information from business owners, purchases are always made in the wet market using cash.

Picture 8.
Purchase Form
Source: Author (2021).

8.   Raw Material Allocation Form

The raw material allocation form is used when the production process has already begun. The function of this form is to transfer the number of raw material supplies to the finished goods supply.

Picture 9.
Raw Material Allocation
Source: Author (2021).

9. Sales Form

The sales form is used to record sales transactions made by Otak-otak Regata. Sales in Otak-otak Regata can be made with credit aliases recorded before customers pay.

Picture 10.
Sales Form
Source: Author (2021).

10. Sales Receipt Form

The sales receipt form is useful for recording the transaction of receipt of receivable payments on the customer's unpaid sales (credit). The receipt can be selected whether received by transfer or cash.

Picture 11.
Sales Receipt Form
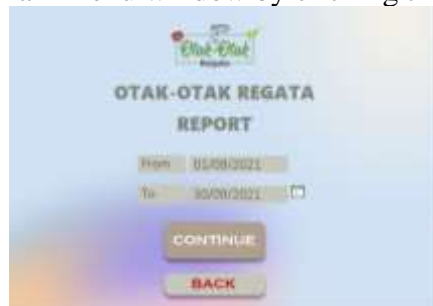Source: Author (2021).

11. General Journal Form

As the name implies, the General Journal Form is useful for recording miscellaneous transactions made by the Otak-otak Regata. Through this form, a general journal is created for transactions such as cash expenditures. Adjustment journals such as fixed asset depreciation also included in this form.

Picture 12.
General Journal Form
Source: Author (2021).

12. Report Period

This window will appear after the "REPORT" button in the main menu is clicked. From here, the reporting period is selected from a specific period to a specific period. In other words, the reporting period that wants to be accessed must be specified in this window. The "CONTINUE" button is clicked after the period is correct or return to the main menu window by clicking the "BACK" button.

Picture 13.
Report Period
Source: Author (2021).

13. Statement of Financial Position

The financial position statement is one of the financial statements that becomes an important element in the decision-making process in MSMEs. This financial statement contains information about their business position per certain period specified. This report can also be used by MSME owners to find out the value of cash they are currently owned compared with the actual amount.

Picture 14.
Statement of Financial Position
Source: Author (2021).

14. Statement of Profit or Loss

The next financial statement is an income statement that shows the profit or loss of a certain period to be accessed. Through this report, MSME owners can easily find out their revenue, costs, to profit or loss in the current month.

Picture 15.
Statement of Profit or Loss
Source: Author (2021).

15. Statement of Changes in Equity

Change of equity report is useful for providing information on the value of capital or equity of the Otak-otak Regata business. Through this report also details of changes in equity value can be known, either derived from withdrawals by the owner or profit or loss of business.

Picture 16.
Statement of Changes in Equity
Source: Author (2021).

16. Ledger

A ledger is a report that contains all transactions at a certain period for each existing account. This report shows information per account so that it can make it easier for MSMEs to access the transaction history of accounts that want to be further analyzed. Through the ledger, the business owner is also facilitated to see the mutation of his cash account. This can give more control to business owners.

Picture 17.
Ledger
Source: Author (2021).

17. Adjusted Trial Balance

The adjusted trial balance contains the nominal credit debit of each account in a certain period which is sourced from all existing transactions and then becomes

the final balance. This report itself is useful in the process of making other financial statements such as statements of financial position and income statements.

Picture 18.
Adjusted Trial Balance
Source: Author (2021).

18. Purchase Report (Purchase Report)

A purchase report is a supporting report that presents information about all purchase transactions that occur in each period. The information displayed itself is sorted by the supplier's name and date of the transaction. From this report, business owners can easily see the prices of raw materials in each purchase, as well as become a tool to compare prices between one supplier to another.

Picture 19.
Purchase Report
Source: Author (2021).

19. Sales Report

A sales report is also a useful support report to provide information about sales transactions in the specified period. This report is sorted by the month the transaction occurs and then sorted again by the transaction date.

Picture 20.
Sales Report
Source: Author (2021).

20. Raw Material Inventory Card

Raw material inventory cards can be used to determine the number of raw materials used in each period, which are sorted based on each type of raw material. The report also displays the supplier code of each purchase made so that business owners can also find out the details of the addition of raw material supplies.

Picture 21.
Raw Material Inventory Card
Source: Author (2021).

21.   Finished Goods Inventory Card

The last supporting report is a finished goods inventory card or products that are ready to be sold after going through the production process. This report aims to provide information about the details of sales on each product, ranging from sales no, quantity, to the total.

Picture 22.
Finished Goods Inventory Card
Source: Author (2021).

22.   User Interface and User Experience system (System UI/UX)

In addition to the above features that are useful for the accounting recording and reporting process, accounting systems are also designed with a good user interface (UI) and user experience (UX). UI is an aspect focused on visualizing a designed system. While UX is an aspect that represents the level of satisfaction in experiencing the accounting systems. To create a UI that is comfortable in the eyes and relevant to the brand of Otak-otak Regata, the system is designed using the following color palette.
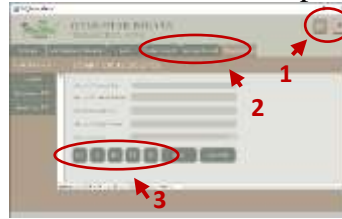

Picture 23.
The color palette used for accounting systems
Source: Author (2021).

Writing on the system also uses fonts that are easy to read and comfortable on the eyes. The colors used also adjust the color palette that has been determined

to be consistent throughout the system. On the other hand, some small things are also added to the transaction form as shown in the picture below.
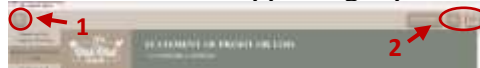

Picture 24.
Transaction Form User Interface
Source: Author (2021).

1. A navigation button is added in the upper right corner of the form to make it easier for system users to return to the main menu or close the form. The icon used in the form of a home represents the main menu and the cross symbol represents the close function.
2. The navigation pane uses consistent colors and will change when clicked.
3. The icons on the button below are adjusted to the look of the system and also the color. The symbol of each button represents its respective functions.

The same thing is also added to the report menu to facilitate navigation when accessing financial statements or other supporting reports.

Picture 25.
User Interface Report Menu
Source: Author (2021).

Where the first button serves to return to the report period menu to make it easier for users to change the reporting period they want to access and the Go-To Form button helps to open the transaction form directly. The last two buttons themselves have the same function as those on the transaction form.

After the visual design of the designed accounting system has been fulfilled, several other components are added to create a pleasant experience when the system is used by users with attention to the UX of the system. Through UX design or user experience, the system can feel easier and more comfortable to use. Some of the top details of some of the components added to improve system UX are as follows.

1. The menu window will close automatically after performing the selected function to create neat and convenient UX flows. For example, such as the main menu window will close automatically after the FORM or REPORT button is clicked.
2. The color on the button changes when there is no interaction, cursor hovering, and after clicking. This UX provides a more comfortable experience.
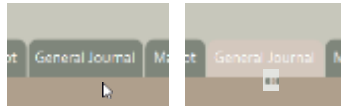

Picture 26.
Color Changes in Button Interactions
Source: Author (2021).

3. The cursor icon that will change its shape becomes a hyperlink hand when the cursor is directed to a specific button. An example of this feature can be seen in the image below.

Picture 27.
Cursor Changes to Button Interactions
Source: Author (2021).

4. The addition of calendar features to make it easier to enter dates, such as in determining reporting periods in the report period menu.
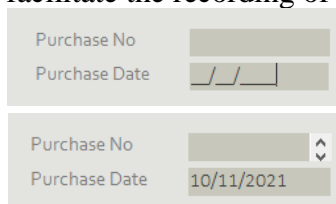

Picture 28.
Calendar Feature For Date Filling
Source: Author (2021).

5. The addition of an input mask facilitates the recording of dates on the transaction form so that the "/" symbol does not need to be re-typed. As well as the default value feature that will instantly display the current date by default. This feature can facilitate the recording of transaction dates faster.

Picture 29.
Input Mask and Default Value Features for Date Charging
Source: Author (2021).

Conclusions

Based on interviews conducted at the preparation stage of accounting information system design, Otak-otak Regata only record sales transactions using cash basis methods. This lack of control has a high risk of recording errors and can harm MSMEs. Access to financial statements and business operational statements also tends to be difficult because it must be rearranged every time it is needed. It takes a lot of time and is also not so reliable that it is worried to produce less accurate reports. Therefore, a computerized accounting recording and reporting system are designed. As an exterior of this community service, the accounting system is designed according to the characteristics and needs of the Otak-otak Regata business. Based on observations made during the implementation process, recording transactions carried out using the design of accounting systems proved to be more practical and reliable. This also proves that the transaction recording

system that was previously used is still less reliable. This computerized system itself makes it easy for MSME owners to access financial information through financial statements and other support reports that are automatically compiled by the system based on transactions that have been entered. The information can be accessed in real-time so that business owners can easily make decisions and know their business position at any time.Researchers are further recommended to be able to properly understand the characteristics of the community service objects used from the early stages of the activity so that the output of the activity is following what is needed. In closing, the author would like to thank Mrs. Verawati as the business owner of Otak-Otak Regata who has trusted the author to design an accounting system for his business and is also willing to provide all the information needed during the implementation of this community service. This project can also run smoothly thanks to guidance from the author's lecturer and also support from family and friends who have helped a lot during the process of designing accounting systems for Otak-otak Regata.

References

Achadiyah, B. N. (2019). Otomatisasi Pencatatan Akuntansi Pada Umkm. *Jurnal Akuntansi Multiparadigma*, *10*(1). https://doi.org/10.18202/jamal.2019.04.10011

Haryanti, D. M., & Hidayah, I. (2018, July 24). *Potret UMKM Indonesia: Si Kecil yang Berperan Besar | UKM Indonesia*. Retrieved from: https://www.ukmindonesia.id/baca-artikel/62

Kahsay, G. (2019). Factors Affecting Use of Accounting Records on Small & Micro Enterprises (the Case of Debre Birhan City, Ethiopia). *Journal of Investment and Management*, *8*(1), 1. https://doi.org/10.11648/j.jim.20190801.11

Muljanto, M. A. (2020). Pencatatan dan Pembukuan Via Aplikasi Akuntansi UMKM di Sidoarjo. *Jurnal Ilmiah Pangabdhi*, *6*(1), 40–43. https://doi.org/10.21107/pangabdhi.v6i1.6926

Putra, Y. M. (2019). Analysis of Factors Affecting the Interests of SMEs Using Accounting Applications. *Journal of Economics and Business*, *2*(3). https://doi.org/10.31014/aior.1992.02.03.129

Savitri, R. V., & Saifudin, . . (2018). Pencatatan Akuntansi Pada Usaha Mikro Kecil Dan Menengah (Studi Pada Umkm Mr. Pelangi Semarang). *JMBI UNSRAT (Jurnal Ilmiah Manajemen Bisnis Dan Inovasi Universitas Sam Ratulangi).*, *5*(2), 117–125. https://doi.org/10.35794/jmbi.v5i2.20808

Sulistyowati, Y. (2017). Pencatatan Pelaporan Keuangan Umkm (Study Kasus Di Kota Malang). *Referensi : Jurnal Ilmu Manajemen Dan Akuntansi*, *5*(2), 49. https://doi.org/10.33366/ref.v5i2.831

Supomo, B., & Indriantoro, N. (2013). *Metode Penelitian Bisnis untuk Akuntansi dan Manajemen*. BPFE-Yogyakarta.

Supranto, J. (2010). *Statistik teori dan aplikasi*. Edisi 7. Jilid 2. Erlangga.

Undang-Undang Republik Indonesia Nomor 20 Tahun 2008, Pub. L. No. 20 (2008).