
The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel

Nisa'ul Barkah¹, Ida Farida², Arifia Yasmin³

^{1,2,3}Program Studi D-III Akuntansi, Politeknik Harapan Bersama, Tegal, Jawa Tengah, Indonesia

ABSTRACT: Some MSMEs still use traditional accounting records. Apart from being inefficient, this can also increase the risk of errors in recording and reporting accounting made, and the impact can be detrimental to the MSMEs themselves, especially if the accounting system that is run has not fulfilled SAK EMKM. This study aims to design a sales accounting system application at Reglow by Bundami Distributor. This research uses the Research and Development (R&D) method. The data collection techniques used are observation, interviews, and questionnaires. This research uses the waterfall model, which is a software development process that is carried out sequentially. The Blackbox testing method is also used to test this system, in addition to the validation process from material experts and media experts as well as trials at Reglow by Bundami Distributors. The results of this study conclude that the accounting system created can generate sales reports, total net sales, the number of products sold, and all types of products available. The practical contribution of these findings can help overcome problems regarding sales that have occurred so far, by building a vba macro-based sales information system and can streamline work in the company's sales administration activities.

KEYWORDS: Accounting information system, Digitisation of accounting, Macro VBA, Waterfall model

INTRODUCTION

Indonesia is one of the countries in the world with a very large number of small and medium enterprises (SMEs). According to data from Central Bureau of Statistics (BPS), in 2020 there were 61.8 million small business units in Indonesia. So, currently there is very tight competition among business actors, especially companies with Micro, Small and Medium Enterprise capacity. Currently, MSMEs are an economic sector that many people rely on in the Indonesian economy (Biby et al., 2023). MSMEs are independent productive economic enterprises carried out by individuals or business entities that meet the criteria for small businesses (Halim, 2020).

The development and growth of MSMEs needs to continue to be improved, because of their role in providing jobs which will directly reduce unemployment which will lead to overcoming poverty. (Ismiwati et al., 2022). Apart from that, MSMEs are also seen as economic actors who are flexible enough to adapt to various changes in the business climate that occur, so that they are still able to make a positive contribution to the country's economy. There are so many types of MSMEs growing in Indonesia which have a positive impact on the country, and it would be very good if these MSMEs could survive and develop as pillars of the economy in Indonesia (Arianti, 2020). However, until now there are still MSMEs that still use traditional accounting records. Apart from being inefficient, this can also increase the risk of errors in the accounting records and reports that are made, and the impact can be detrimental to the MSMEs themselves, especially if the accounting system implemented does not meet the EMKM SAK (Amin et al., 2021; Divine & Jaya, 2020).

From the problems that have been found, the researcher will design an accounting information system. The role of an accounting information system in a company is very important and needed by management, because an accounting information system can provide information related to financial reports that can be used to measure various company activities, as well as assess and measure the work results of each unit that has been given authority and responsibility. answer (Dewi & Nur'aini Rokhmania, 2021). The accounting information system also acts as a source of information that is used as a basis for consideration in decision making for management (Puspitawati et al., 2021). The accounting information system that will be created is a sales accounting system as a medium for recording transactions and creating sales reports using tools to design and create application programs using Microsoft Excel software. Microsoft Excel is a worksheet application programs spreadsheets created and distributed by Microsoft Corporation for the operating system Microsoft Windows And Mac. Microsoft Excel is equipped with a programming language called Macros Visual Basic for Applications (VBA). This management system uses VBA and software Microsoft Excel This is because it has been widely used in various companies and businesses as well software This is quite cheap compared to the many alternative application choices.

The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel

Applications created using Macros Microsoft Excel This will help the administrative recording process automatically using language Visual Basic or better known as Visual Basic for Application (VBA) Macros. The automation referred to, especially in Microsoft Excel, can be done using Macros. Macros are lines of command or code with which you want Excel to do something automatically. In other words, macros are code or scripts certain, whereas Visual Basic for Applications is a programming language used to create macros.

The object of this research or partner, namely Distributor Reglow Tegal by Bundami, is a business that operates in the field of selling skin care products or what is commonly known among the public, namely skincare. Reglow by Bundami Distributor is one of the MSME players who in running their business still uses a manual accounting system, that is, there is no detailed recording of daily and monthly transaction information which should be done to achieve better business progress, recording of sales transactions is still being recorded. just with a piece of paper and a report that is only done in the WhatsApp group. And the calculations are still done using traditional methods, which often results in errors in the number of calculations.

Therefore, as an effort to improve the quality of business processes, especially the sales department, a good system is needed which will later be used to improve the performance of this business. By taking advantage of technological advances that are increasingly developing to date, almost all activities carried out by humans use technology. Because it can make it easier for people to carry out activities, especially in completing their work. The contribution of this research can certainly help digitize accounting records and financial reporting at the Reglow by Bundami Distributor, so that they know the business profits generated from their business activities. Another contribution is helping to overcome sales problems that have occurred so far by building a sales information system based on VBA macros and being able to streamline work in sales administration activities. This research is still rare and rarely found, so it has the potential to be developed further in the future, especially in manufacturing companies.

RESEARCH METHODS

In this research, the author used the Research and Development (R&D) research method. R&D is a research method that produces products in a certain area of expertise, followed by certain by-products, and produces effective products. This method is specifically for research that aims to produce a particular product (Zakariah et al., 2020). This is because the author intends to produce application software products that can be run on a Personal Computer (PC) hardware. This application software is based on VBA Macros in Microsoft Excel. The application in question is a cash sales information system which functions as a tool for processing sales data. As with the research that the author will carry out, the most relevant method to use in this research uses one of the classic process models, namely the waterfall model.

Picture1. Waterfall Model Illustration



Source: (Riski, 2022).

The type of data used in this research is primary data and secondary data. Primary data in this research was obtained through data from the author's interviews with the resource person in this research, namely the owner of Reglow by Bundami Distributor. As well as the results of the questionnaire that was given to respondents during application validation by filling out a questionnaire related to designing an application for recording cash sales at the Reglow by Bundami distributor. Meanwhile, secondary data used in this research is company documentation data, reference books and journals that are relevant to this research.

The method that researchers used to collect data in this research is Library research and Field research. Library research namely a method carried out by reading and studying literature in the library to provide a theoretical basis for the problem being discussed. Whereas, Field research namely a data collection technique that involves visiting relevant companies in person and collecting data and information about the problem under study (Sugiyono, 2018). To obtain this data, researchers used methods, including interviews, observations, and distributing questionnaires.

The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel

Researchers carried out this research activity from December 2022 to February 2023, approximately within 3 months of research. This research was conducted at the Reglow By Bundami Distributor located on Jalan Raya Kajen RT. 19/07 Badiran, District. Talang, Kab. Tegal.

This software development uses the waterfall model, which is a process model in software development that has a systematic and sequential nature. The systematic waterfall process model itself has several stages(Zakariah et al., 2020)among others :

1. Software Requirements Analysis

The goal of this process is to identify and understand what users need for the upcoming software. At this stage, it is hoped that all development process requirements can be built so that software development can run smoothly. This analysis covers all user and hardware needs, such as printers for sales reports, laptops, PCs, and Microsoft Excel software that allows you to enable VBA Macros.

2. Design

After the needs analysis has been carried out in the previous stage, the next step is the system design stage which involves creating a model of the system to be built.

3. Implementation

The implementation process is carried out in accordance with the design that has been created previously using the Macro VBA programming language into the Microsoft Office Excel application.

4. Testing

This testing or testing process is an important step that will determine the suitability of the software itself. The testing method used uses black box testing, which is a method used to test software without having to pay attention to software details(Kesuma Jaya et al., 2019). This test was carried out by validating media experts who were tested by Ida Afriliana, ST, M.Kom. and expert validation of the material tested by Aryanto, SE, M.Ak.

RESULTS AND DISCUSSION

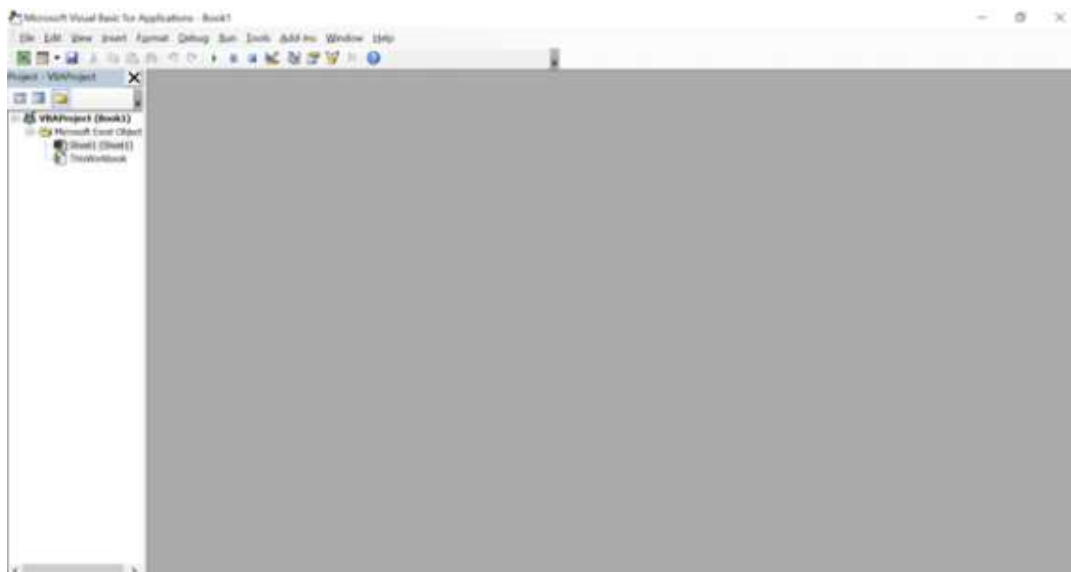
Requirements Analysis

This requirements analysis identifies the input specifications required by the system, the output produced by the system, and the processes required to process the input produce the desired output. From the results of this analysis, the needs can be formulated as follows:

1. Reglow by Bundami Distributor Needs.

The needs of this system identify categories of application users from Bundami who will operate this application, including:

- a. This system is designed to meet the needs of Reglow by bundami distributors in recording sales information that has occurred, with the aim of making work easier.
- b. The system must be able to receive input information on sales of goods, add goods, and add stock.
- c. The system was created with VBA Macros in Microsoft Office Excel 2016.



Picture 2. VBA macros in Microsoft Office Excel 2016

- d. The system must be able to provide information and print transaction results as outlined in sales reports.

The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel

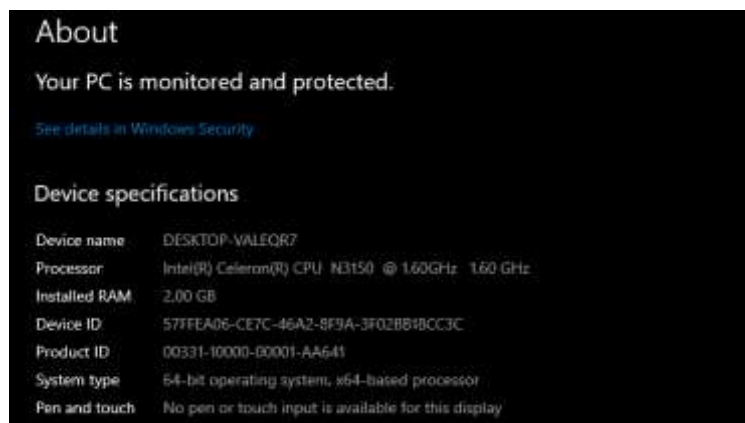
2. Hardware Requirements



Picture 3. Hardware Specifications

Hardware What is needed is a printer machine and a computer or laptop with the following specifications:

- a. RAM 2 GB (64 bit)
- b. Processor Intel(R) Celeron(R) CPU N3150 @ 1.60GHz 1.60 GHz
- c. HDD 500 GB
- d. Resolution 14", 16:9, 1,366 x 768 pixels HD



Picture 4. Operating System Specifications

3. Software Requirements

There are other operating systems that can support Windows 7, Windows 8, Windows 10 and Windows 11.



Picture 5. Operating system

There are also other versions of the operating system that can be used for the system being developed, including Microsoft Excel 2007, Microsoft Excel 2010, Microsoft Excel 2013, Microsoft Excel 2019 or Microsoft Excel, the latest version of Microsoft Office. The need for Microsoft Excel for the system developed by the author in this research is Microsoft Office Excel 2016.

The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel



Picture 6. Application Software

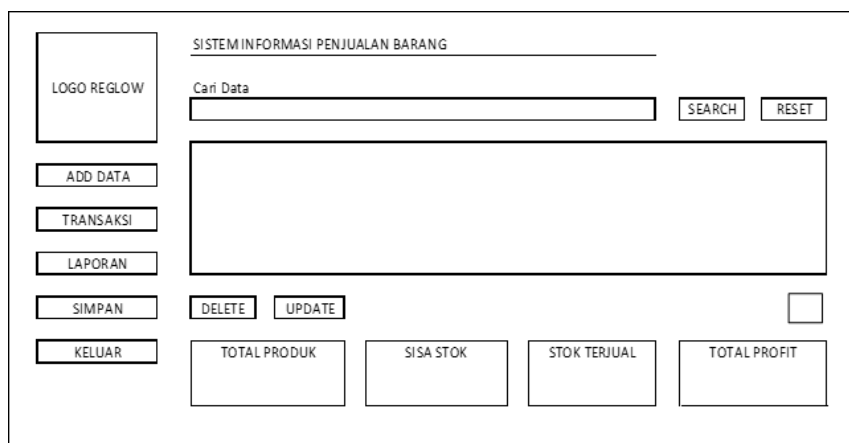
Design (design)

1. Flow chart

A flowchart is a diagram that describes the process flow of a program. This diagram is very important during the program creation process because it helps translate the program's running process so that it is easier to understand. Flowcharts can also make the process flow of a program clearer, more concise, and can reduce the possibility of misinterpretation.

2. Display Design

Appearance design is one of the important elements in user interface design, because to provide a general overview to the user or users about the new system. The following is the design of the sales information system display on Distributor Reglow by that suits your needs through the buttons and menus available in the main display of the system:



Picture 7. Main View Design

Implementation

This implementation is the process of realizing a previously designed design into a program or application unit by entering coding into the macro system in Microsoft Office Excel with the VBA programming language. Preparation to be able to produce the application in question, including the following:

1. The author uses Microsoft Office Excel 2016 application software as the basis for creating the system in this research.
2. Activate the Developer toolbar in Microsoft Office Excel 2016 which will be used.
3. Activating Macros Visual Basic for Applications.

The following is the implementation result of the previously designed design:

1. System Main Page Display

The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel



Picture 8. System Main Page Design

The image above is the main page display design for the application according to the previous design plan. Then, so that the application can be run, the following coding is included in this design:



Picture 9. Coding System Main Page

When the coding that has been entered is functioning properly, this main page can be used to find out the various products that are still available, the number of products, remaining stock, as well as the stock of products that have been sold and also display the total profit that has been collected. Apart from that, there is also an Add Data menu, Transaction and Report menu.



Picture 10. Main Page Display Results

The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel

2. Display the Add Goods Form and Update Stock

Picture 11. Design the Add Item Form

The image above is the display design for the Add Data menu according to the previous design. in the application in accordance with the previous design plan. Then, so that the application can be run, the following coding is included in this design:

```
Private Sub CHUDEKSTOK_Click()
    If Me.TXTKODEPRODUK.Value = "" Then
        Call MsgBox("Pilih data produk terlebih dahulu", vbInformation, "Data Produk")
    Else
        FORMTAMBAHSTOK.Show
    End If
End Sub

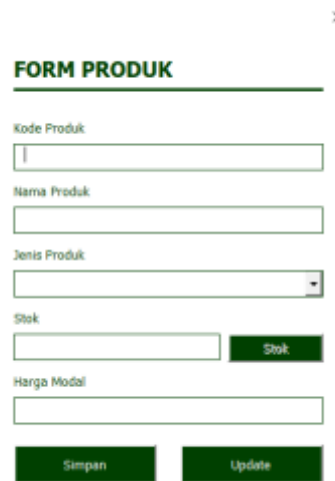
Private Sub CHUSIMPAN_Click()
    'Perintah membuat nama tempat simpan data
    Dim DSRPRODUF As Object
    'Perintah menunjukkan tempat simpan data
    Set DSRPRODUF = Sheet1.Range("A8000").End(xlDown)
    'Perintah memasukkan data yang sudah diisi
    If Me.TXTKODEPRODUK.Value = "" Then
        Or Me.TXTKODEPRODUK.Value = ""
        Or Me.CBSTATUS.Value = ""
        Or Me.TXTSTOK.Value = ""
        Or Me.TXTHARGAMODAL.Value = "" Then
        'Perintah membuat pesan jika data kosong
        Call MsgBox("Masuk lah data dengan lengkap", vbInformation, "Input Data")
        'Perintah menyimpan data jika data diisi lengkap
    Else
        DSRPRODUF.Offset(1, 0).Value = "=ROW()-ROW($A$3):"
        DSRPRODUF.Offset(1, 1).Value = Me.TXTKODEPRODUK.Value
        DSRPRODUF.Offset(1, 2).Value = Me.TXTNAMAPRODUK.Value
        DSRPRODUF.Offset(1, 3).Value = Me.CBSTATUS.Value
        DSRPRODUF.Offset(1, 4).Value = Me.TXTSTOK.Value
        DSRPRODUF.Offset(1, 5).Value = Me.TXTHARGAMODAL.Value
    End If
    Cell SembilBec

    FORMTABELPRODUK.LBTOTALBARANG.Caption = Format(Sheet3.Range("G4").Value, "#,###")
    FORMTABELPRODUK.LBTOTALSTOK.Caption = Format(Sheet3.Range("G5").Value, "#,###")
    FORMTABELPRODUK.LBSISASTOK.Caption = Format(Sheet3.Range("G6").Value, "#,###")
    FORMTABELPRODUK.LBPROFIT.Caption = Format(Sheet3.Range("G7").Value, "Rp #,###")
End Sub
```

Picture 12. Coding Form Add item

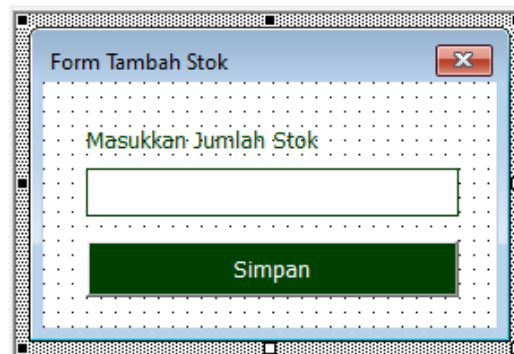
The add item form comes from the Add Data menu on the main page. This form is used to add products that will be input into the sales information system. The following is the appearance of the Add Data menu form after entering the coding and getting it executed according to the command:

The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel



Picture 13. Result of the Add Items Form Display

In this form, columns are available to enter product data, starting from product code, product name, product type, available product stock and capital price. If all the data has been filled in completely, click save so that the data is stored in the system.



Picture 14. Design the Add Stock Form

Meanwhile, the form displayed above is a form for updating the number of product stocks that are already in the system. The form design can be run by coding as follows:

```
UserForm Initialize
Option Explicit
Private Sub CMDSIMPAN_Click()
    'Perintah request sumber Gete ubah
    'Dim SumberUbah As Object
    'Set SumberUbah = Sheets.Range("A1:A1000").Find(What:=FORMTAMBAHSTOK.TXTJENIS.Value, LookIn:=xlValues)
    If Me.TXTSTOK.Value = "" Then
        Call MsgBox("Harap isi stok terlebih dahulu", vbInformation, "Stok Barang")
    Else
        'Perintah melarag update jika data belum dipilih
        FORMDATAPRODUK.TXTSTOK.Value = Val(FORMDATAPRODUK.TXTSTOK.Value) + Val(Me.TXTSTOK.Value)
        Me.TXTSTOK.Value = ""
    End If
    Unload Me
End Sub

Private Sub UserForm_Initialize()
    Me.BackColor = RGB(255, 255, 255)
End Sub
```

Picture 15. Coding Form Add Stock

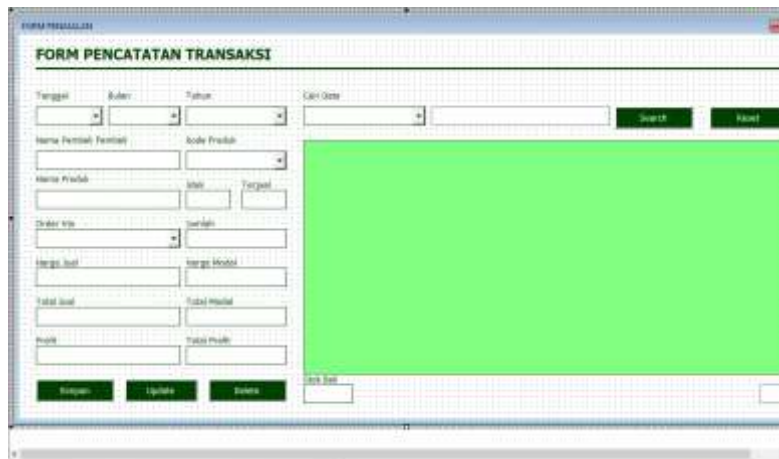
Before the add stock form can appear, the user must choose which type of product the stock amount will be updated in the table on the main page. Then click update, then the form will appear to update the product stock amount. The following is what the product form looks like after entering the coding, and can be executed according to the command:

The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel



Picture 16. Result of Add Stock Form Display

3. Transaction Form Display



Picture 17. Transaction Form Design

The image above is a transaction form design according to the previous design. This form is used to update the number of product stocks that are already in the system. The transaction form design can be carried out by coding as follows:

```
Private Sub CHBRODEPRODUK_Change()  
'Perintah memuat sumber data penjualan  
On Error GoTo EXCELVEA  
Dim SumberData As Object  
Set SumberData = Sheet1.Range("B5:B1000").Find(What:=Me.CHBRODEPRODUK.Value, LookIn:=xlValues)  
Me.IKTHARPRODUK.Value = SumberData.Offset(0, 1).Value  
Me.IKTHARHARGA Modal.Value = SumberData.Offset(0, 4).Value  
Me.IKTHARUNIT.Value = SumberData.Offset(0, 3).Value  
Me.IKTHARJURNAL.Value = SumberData.Offset(0, 5).Value  
  
'Perintah menghapus bagian data ditampung  
Me.CHBROSERVIA.Value = ""  
Me.IKTHARJURNAL.Value = ""  
Me.IKTHARHARGA Modal.Value = ""  
Me.IKTHARUNIT.Value = ""  
Me.IKTHARPRODUK.Value = ""  
Me.IKTHARHARGA Modal.Value = ""  
Me.IKTHARUNIT.Value = ""  
Me.IKTHARJURNAL.Value = ""  
  
Exit Sub  
EXCELVEA:  
Call MsgBox("Data Tidak Ditemukan", vbInformation, "Cari Data")  
End Sub  
  
Private Sub CHBDELETE_Click()  
If Me.IKTHARPRODUK.Value = "" Then  
Call MsgBox("Pilih data pada tabel data", vbInformation, "Bagus Data")  
Else  
'Menyuar pesan konfirmasi hapus data  
Select Case MsgBox("Anda akan menghapus data"  
& vbCrLf & "Apakah anda yakin?"  
, vbYesNo Or vbQuestion Or vbDefaultButton1, "Hapus data")  
Case vbYes  
Exit Sub  
Case vbNo  
End Select  
End Sub
```

Picture 18. Coding Transaction Forms

The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel

The transaction recording form above is obtained when the transaction menu on the main page is accessed. This form displays all transaction data that has been input into the system, and users can also search for transaction data according to the criteria and keywords that are available.

Picture 19. Transaction Form Display Results

4. Report Form Display

Picture 20. Report Form Design

The image above is a report form design according to the previous design. The transaction form design can be carried out by coding as follows:

```

Option Explicit
Private Sub CMDPENCAT_Click()
    'perintah pengumpul Error
    On Error GoTo Salah
    'Perintah menentukan tempat pengolahan
    Dim CariData As Object
    Set CariData = Sheet3
    'Perintah menentukan kriteria pengolahan
    CariData.Range("R3").Value = Me.CMDKRITERIA.Value
    CariData.Range("R4").Value = Me.CMDKICARI.Value
    'Perintah melakukan Pengisian Data
    CariData.Range("D4").CurrentRegion.AdvanceFilter Action:="ifiltereqv, CriteriaRange=" & _
    Sheet3.Range("R3:R4"), CopyRange:=Sheet3.Range("I1:A15"), Unique:=False
    'Perintah menampilkan hasil pencarian ke TabelData
    Call HasilPencarian
    'Perintah lanjutan pengumpul Error
    Exit Sub
Salah:
    Call MsgBox("Data tidak ditemukan", vbInformation, "Cari Data")
End Sub

Private Sub HasilPencarian()
    Dim DSRBROOK As Long
    Dim irow As Long
    irow = Sheet3.Range("T7" & Rows.Count).End(xlUp).Row
    DSRBROOK = Application.WorksheetFunction.CountA(Sheet3.Range("R4:R500"))
    If DSRBROOK = 0 Then
        Me.TABELDATA.RowsSource = ""
    Else
        Me.TABELDATA.RowsSource = "TABELSEHUNDIALS!T:AI" & irow
    End If
End Sub

Private Sub CMDKETAH_Click()
    If Me.TABELDATA.ListCount = 0 Then
        Call MsgBox("Masih tidak ada data yang diinput", vbInformation, "Data Data")
    Else

```

Picture 21. Coding Report Forms

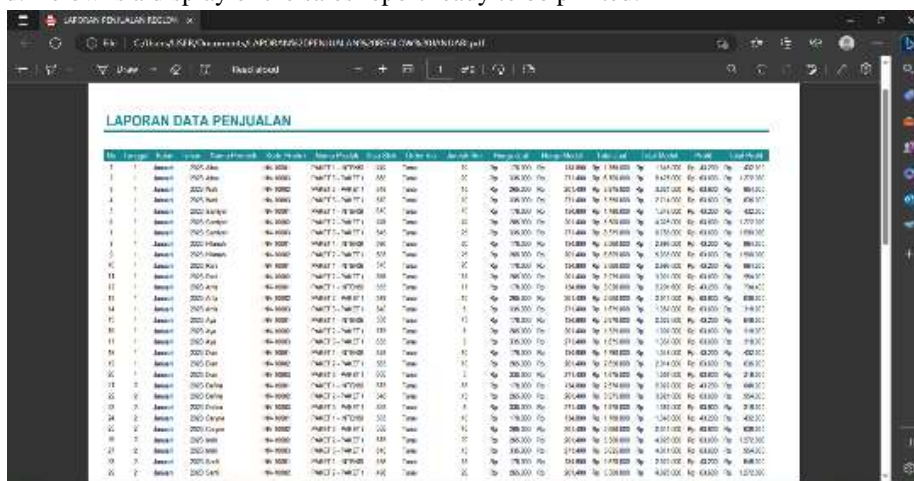
The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel

This sales report form comes from the report menu on the main page. This report form displays all sales transactions that occur according to the criteria and keywords that the user enters. In the sales report form, users can also see total net sales and the number of items sold.



Picture 22. Transaction Form Display Results

To be able to print the results of the sales report, in the report form there is a print report button. When the button is pressed, a message will appear to confirm whether to print the report or not. If you choose "no", the page will return to the previous report form, whereas if you choose "yes" the system will direct you to first save the sales report file in .pdf format. Then open the report file that has been saved. Below is a display of the sales report ready to be printed:



Picture 23. Report Data Format .pdf

Testing

The purpose of this testing is to ensure that the system designed meets expectations and can run smoothly in accordance with the needs and objectives of this research. The testing stage was carried out using the black box method. Testing of the application uses two testing processes, namely media experts and material experts as well as trial validation from the Reglow by Bundami Distributor.

1. Media Expert Testing Validation Results

Table 1. Media Expert Validation Results

Test Components	Expected results	Results obtained	Information
Product Table Data Menu	The system will display the application's main page, which contains a search column for product data and product data that is still available.	The system can display the application's main page.	In accordance
"Search" button	The system will display product names in a table according to keywords.	The system can display product names in tables according to keywords.	In accordance

The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel

Test Components	Expected results	Results obtained	Information
"Reset" button	The system will delete the search results, and return to the product list as the initial display.	The system can delete search results, and return to the product list as the initial display.	In accordance
"Delete" button	The system will delete the product name that was previously selected in the product data table.	The system can delete the product name.	In accordance
"Update" button	The system will update the item data that has been selected from the product data table.	The system can update item data.	In accordance
Add Data menu	The system will display an add item form which is used to input new items or increase stock.	The system can display the add item form.	In accordance
Combo box"Types of products"	The system will display a choice of product types to be input.	The system can display a choice of product types to be input.	In accordance
"Stock" button	The system will display an add stock form which is used to add existing product stock to the product data table. If the product to be added to the data is a new product, then to add stock only use the Stock Textbox.	The system can display an add stock form.	In accordance
"Save" button	The system will save and display the new product data entered into the product data table.	The system can store and display product data.	In accordance
"Update" button	The system will update the stock data for the items that have been selected from the product data table.	The system can update stock data on goods.	In accordance
Transaction Menu	The system will display a transaction form that is used to input product sales transactions.	The system can display a transaction form.	In accordance
Combo box"Date"	The system will display a choice of the date the transaction occurred.	The system can display a choice of transaction dates.	In accordance
Combo box"Month"	The system will display a choice of months for the transaction to occur.	The system can display a choice of months for transactions to occur.	In accordance
Combo box"Year"	The system will display a selection of the year the transaction occurred.	The system can display a choice of the year the transaction occurred.	In accordance
"Search" button	The system will display the product name, order via, month and year in a table according to keywords.	The system can display product name, order via, month and year in a table according to keywords.	In accordance
"Reset" button	The system will delete search results, and only display the sales data table.	The system can delete search results, and only display the sales data table.	In accordance
Combo box"Product Code"	The system will display a selection of product codes that will be input in product sales.	The system can display product code options.	In accordance
Combo box"Order Via"	The system will display options via social media which are used to purchase products by customers.	The system can display transaction options used in purchases.	In accordance
"Save" button	The system will save the data that has been input into the sales data table.	The system can save data that has been input into the sales data table.	In accordance
"Update" button	The system will update the new data that has been input in the product table.	The system can update new data.	In accordance
"Delete" button	The system will delete the product name that was previously selected in the product data table.	The system can delete product names that have been previously selected in the product data table.	In accordance
Report Menu	The system will display a Sales Report form which is used to display all transaction data that has occurred.	The system will display a Sales Report form which is used to display all transaction data that has occurred.	In accordance

The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel

Test Components	Expected results	Results obtained	Information
Combo box"Criteria"	The system will display a selection of criteria for buyer name, product name, and order via as keywords for searching sales report data.	The system can display the buyer's choice of criteria as keywords.	In accordance
"Search Data" button	The system will display sales report data according to the criteria or keywords that have been selected.	The system can display sales report data.	In accordance
"Print" button	The system will go through the data storage process first in .pdf data format, then the data that has been saved is ready to be printed as proof of sales reports.	The system can go through the data storage process first in .pdf data format, then the data that has been saved is ready to be printed as proof of sales reports.	In accordance
Save Menu	The system will save all processes that occur in the main menu.	The system can save all processes that occur in the main menu.	In accordance
Exit Menu	The system will display a message to convince the user whether they are really going to exit the application.	The system can display a message to reassure the user whether they are really going to exit the application.	In accordance

2. Material Expert Testing Validation Results

Table 2. Material Expert Validation Results

Question	Information
Conformity of content with the concept of a sales information system	In accordance
The clarity of the image illustrations presented is in accordance with the content of the material	In accordance
Completeness of materials in designing the system	In accordance
Clarity of objectives of the sales information system	In accordance
Clarity of the information produced	In accordance
The language used is easy to understand	In accordance

3. Trial Results at Distributor Reglow by Bundami

The results of the application trial at Reglow by Bundami Distributor were obtained based on the questions provided, which then had to be answered by respondents according to the available criteria, including:

- A : "Very good"
- B : "Good"
- C : "Enough"
- D : "Not good"

And here are the results of the questions answered by respondents in table form:

Table 3. Trial Results at Distributor Reglow by Bundami

No	Indicator	Criteria			
		A	B	C	D
1	This application really helps companies in recording sales information.		✓		
2	This application has the appropriate features required by companies.	✓			
3	The layout and colors of the application are not boring.		✓		
4	The application navigation facilities are quite adequate.	✓			
5	The application is quite interactive and easy to use.	✓			
6	The application can save data that has been carried out (history).	✓			
7	The application can be easily used.		✓		
8	The application has functions as expected.	✓			
9	The application generates reports that companies can use.	✓			
10	The language used in the application is easy to understand.	✓			

DISCUSSION

Based on the results of the research above, the design of the information system in the form of a cash sales recording application which was built for Reglow by bundami Distributors used Macros with the Visual Basic for Applications (VBA) programming language in Microsoft Excel 2016. In the research and development of this application the Waterfall model was used. with research methods Research and Development (R&D), namely a research method that aims to produce certain products and test product effectiveness. This research applies each design created using Microsoft Excel 2016 as well as the program flow with flowcharts

The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel

created using Draw.io, resulting in an application. After the application has been designed, the application is tested to ensure that all the features in the application function according to your wishes and needs. In testing this application, the Blackbox testing type is used. Based on the black box testing in the form of validation results from material experts, it shows that the application that has been previously created is in accordance with the material, and validation results from media experts also show that all the buttons on the application features that are created function as expected, but there are several suggestions for future will be material for consideration for future researchers and can be adapted to the needs of the company or place to be researched.

In this application there are several menus that can be accessed, such as the "Add Data" menu which is useful for adding product data to the application system, the "Transaction" menu for entering data on buyers who have made transactions, and the "Report" menu which is useful for viewing All sales reports that have been input can then be printed in hard file/hard copy form. This computerized sales recording system that uses the macro Excel application at the Reglow by Bundami Distributor is very suitable for use because it will provide fast and accurate information regarding the process of recording financial transaction data that occurs and checking the stock of goods that are still available, without having to count first and can print detailed sales reports, so that the function of printing these reports becomes clearer and makes archiving easier. In other words, it can save time, energy and costs. The system designed in this application is still categorized as simple because it is still based on a small scope, namely only covering transaction recording and sales report data.

With the sales recording application in this research, it can also reduce recording and calculation errors that are often made by humans (human error). And Reglow by Bundami Distributors will also experience improvements in handling the sales process compared to the previous manual system using paper media. Controlling the recording of sales data can be considered more effective, and data security is more guaranteed with this system. Then the difficulties in making reports manually can also be made easier and faster with this computerized system. The data processing in the proposed system is considered to be more guaranteed to be correct, because the incoming data has first been checked for correctness and has been better controlled. In the sales recording application in this research, there are still weaknesses, namely, there is no feature to print sales notes and a menu to find out permanent customer data and supplier data.

CONCLUSION

Based on after completing the process of designing the cash sales recording information system at the Reglow by Bundami Distributor, the conclusion from designing this cash sales information system is that with this information system, the Reglow by Bundami Distributor can record sales and monitor stock inventory more optimally. The system can also process transaction data and then present it on the dashboard into information that can assist in cash sales activities. Data originating from source documents can be identified, namely by entering sales data and creating the required sales reports into the application system, so that it can simplify the financial reporting process at the Reglow by Bundami Distributor which was previously done manually. The output of this research is an application that can display product sales data and remaining product stock as well as sales reports so that they can be reported to inventory staff for future stock planning.

Researchers also provide suggestions for future research to avoid errors or system errors when the application is being used. It is hoped that application makers must be able to carry out regular maintenance and checking of the operating system, as well as checking hardware, software and increasing human resources regularly. Apart from that, the sales information system does not yet provide a form for printing sales receipts. This gap can be researched further by adding a feature to print notes automatically and adapt them to the needs of the object being studied, so that in the future it can make it easier for companies to manage the cash sales accounting information system.

REFERENCES

- 1) Amin, M. Al, Sungkono, & Jaya, IMLM (2021). DETERMINANTS OF IMPLEMENTATION OF MSME ACCOUNTING IN YOGYAKARTA. *Axiom Accounting Research Journal*, 20(2), 91–107. <https://doi.org/10.29303/aksioma.v20i2.134>
- 2) Arianti, BF (2020). The Influence of Income and Financial Behavior on Financial Literacy Through Investment Decisions as an Intervening Variable. *Journal of Accounting*, 10(1), 13–36. <https://doi.org/10.33369/j.akuntansi.10.1.13-36>
- 3) Biby, S., Asbar, Y., & Jufridar. (2023). The Analysis of the Green Economy Implementation on Sustainability of Small and Medium Enterprises in Lhokseumawe City. *JOURNAL OF MANAGEMENT AND BUSINESS ECONOMICS*, 24(1), 31–37.
- 4) Dewi, NHU, & Nur'aini Rokhmania. (2021). Investment in Accounting Information Systems, Financial Performance and Productivity of Malmquist and IFR as Intervening in the Banking and Financial Industry. *JOURNAL OF ASSETS (ACCOUNTING RESEARCH)*, 13(1), 63–71.
- 5) Halim, A. (2020). The Influence of the Growth of Micro, Small and Medium Enterprises on the Economic Growth of Mamuju Regency. *Scientific Journal of Development Economics*, 1(2), 157–172. <https://stiemmamuju.e->

The Design of An Accounting Information System Based on VBA Macros in Microsoft Excel

journal.id/GJIEP/article/view/39

- 6) Divine, ME, & Jaya, IMLM (2020). THE REALITY OF OBSTACLES OF IAS 41 LISTING (BIOLOGICAL ASSETS) FOR FISHERY AND LIVESTOCK MSMEs IN EAST JAVA. *Gorontalo Accounting Journal (GAJ)*, 3(2), 94–104.
- 7) Ismiwati, B., Chaidir, T., & S, IAP (2022). EMPOWERING WOMEN TRADERS THROUGH INCREASING LITERACY AND FINANCIAL INCLUSION IN EAST MATARAM DISTRICT, MATARAM DISTRICT, MATARAM CITY. *INDEPENDENT ABDIMAS Journal*, 3(2), 38–46. <https://doi.org/https://doi.org/10.29303/independent.v3i2.234>
- 8) Kesuma Jaya, MSA, Gumilang, P., Wati, T., Andersen, YP, & Desyani, T. (2019). Black Box Testing on the Decision Support System Application for Selection of Candidates for Civil Servants Using the Equivalence Partitions Technique. *Pamulang University Journal of Informatics*, 4(4), 131. <https://doi.org/10.32493/informatika.v4i4.3834>
- 9) Puspitawati, L., Hilmi, & Novitasyari, A. (2021). Organizational Factors on the Quality of Financial Applications in Insurance Companies Lilis. *ASET Journal (Accounting Research)*, 13(2), 197–210.
- 10) Riski, AD (2022). Waterfall Model Analysis: Definition, Stages, Advantages and Disadvantages. <https://osc.medcom.id/community/analysis-model-waterfall-pengertian-phase-kebesaran-dan-kekurangan-4352>
- 11) Sugiyono. (2018). *Quantitative, Qualitative, and R&D Research Methods*. Alfabeta.
- 12) Zakariah, MA, Afriani, V., & Zakariah, KM (2020). *QUALITATIVE, QUANTITATIVE, ACTION RESEARCH, RESEARCH AND DEVELOPMENT (R n D) RESEARCH METHODOLOGY*. Al Mawaddah Warrahmah Kolaka Islamic Boarding School Foundation. https://books.google.co.id/books?id=k8j4DwAAQBAJ&hl=en&source=gbs_navlinks_s