

Analysis of Accounting Information Systems for Purchase and Sales in MSMEs

Azki Kurnia Ramadhanti¹, Aryanto², Misinem³, Tri Basuki Kurniawan⁴

^{1,2} Faculty of Economics, Sriwijaya University

³Vocational Faculty, Bina Darma University

⁴Faculty of Computer Science, Bina Darma University

Email: ¹azkiakrn@gmail.com, ²aryanto@unsri.ac.id, ³misinem@binadarma.ac.id,
⁴tribasukikurniawan@binadarma.ac.id

Abstract

The current state of demand analysis, information technology development, and industrial technology utilization in the industrial sector, particularly in small and medium-sized enterprises (MSMEs), is characterized by rapidity. The analysis reveals that most MSMEs still maintain their sales records by hand, making it difficult to determine stock levels, overall sales, and earnings rapidly and accurately. To handle better records utilizing a FoxPro 9.0 database that is based on a sales accounting system, an accounting system is therefore required. To demonstrate the requirement analysis and solution, this research uses Microsoft Visual FoxPro 9.0 to create an accounting information system for purchasing and selling. The System Development Life Cycles (SDLC) technique, in conjunction with the Waterfall method, was employed in this investigation. A MySQL database is the one that is being used. Each stage of the waterfall approach will be followed in the creation of the methodology. This study results in a sales and purchases accounting system that can help with supplier purchases and sales tracking, allowing the business owner to ascertain profit margins in a matter of weeks or months. Data entry on the inventory of commodities acquired from suppliers, access to the quantity of items sold, sales reports, and reports on purchases made make up the resulting accounting information system. An accounting system for product sales and purchases can assist the business owner in learning more and making better decisions for the future management of the company.

Keywords

MSMEs, System Development Life Cycles (SDLC), Waterfall, Sales, and Purchasing Accounting Information System

Introduction

The development of information technology currently has increased in the economic field, especially in accounting. Information technology in the economic field is widely used in accounting information systems. Accounting Information Systems (SIA) is used in the field of education (Rostiani et al., 2021), (Sulistiani & G S Umpu, 2021), Micro, Small and Medium

Submission: 26 November 2023; **Acceptance:** 1 December 2023



Copyright: © 2023. All the authors listed in this paper. The distribution, reproduction, and any other usage of the content of this paper is permitted, with credit given to all the author(s) and copyright owner(s) in accordance to common academic practice. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license, as stated in the website: <https://creativecommons.org/licenses/by/4.0/>

Enterprises (MSMEs) (Rifani & Aini, 2016), (Waluya Firdaus et al., 2018), (Susanti, 2021) as well as companies (Asari, 2018), (Dwi Kusumaratri, 2020.), (Puspita et al., 2021), (Darwis et al., 2020), (Rahmansyah & Darwis, 2020). SIA includes the process of financial records consisting of income, expenses, production, payroll, and financial records (Steinbart, 2016). SIA is the information used to collect, history, store, and process data to produce a report for decision-makers in a company. Types of MSMEs (Waluya Firdaus et al., 2018) are divided into three groups, namely Micro Enterprises, Small Enterprises, and Medium Enterprises.

The problems that often occur in UMKM Bintang Plush Store 2 Jambi include the owner not being able to know with certainty the amount of stock in the goods storage warehouse, and there is no administrative accounting of sales and purchases of goods every month. Purchases of goods received are not recorded in the inventory of goods. Furthermore, the shop owner does not record other expenses, such as payment for electricity and telephones, as well as costs for employee salaries. By not keeping good records of sales and purchases, shop owners are late in knowing the accurate profit information from their sales, what expenses have been incurred, and how much balance they have because they still use manual recording methods and only record incoming cash. Apart from the problem of recording, still in the manual form, which will cause the process to take quite a long time, and administrative bookkeeping is also not very complete, reporting at UMKM Bintang Plush Store 2 has also never been made at all by shop owners which will cause shop owners to be slow to make choices and ineffective and also inefficient in making decisions that need to be taken to advance the Bintang Plush Store 2 Jambi MSME business in the future.

From the various background problems that occur, this research produces a unique accounting information system design in the buying and selling section using the Visual FoxPro 9.0 application (Puspita et al., 2021) (Darwis et al., 2020; (Sulistiani & G S Umpu, 2021), (Firdaus & Widyasastrena, 2017), (Dwi Kusumaratri, 2020), with it is hoped that the information can be presented in a timely, quality and more detailed manner so that it can help Bintang Plush Store 2 Jambi UMKM in processing sales and purchasing data so that it is better in presenting structured information and reporting from daily, weekly, monthly and yearly reports. It will make it easier for MSME owners to make decisions that are more efficient and can increase revenue in selling clothing in the future. The use of Foxpro-based accounting information systems has been widely used in studies such as (Asari, 2018), (Hariawan & Noviyani, 2014), (Dwi Kusumaratri, 2020), (Darwis et al., 2020). The advantage of a sales and purchase accounting information system is that it can provide more comprehensive and informative accounting reports so that it can provide information to owners in making decisions.

Methodology

The research was conducted at Bintang Plush Store 2 Jambi, at Jalan Captain Dirham RT.55 No.51, Lebak Bandung, Jelutung District, Jambi City. The data sources used are primary data and secondary data. The preliminary data of this study is from the results of interviews with researchers with shop owners at Bintang Plush Store 2 Jambi and activities carried out at Bintang Plush Store 2 Jambi. Secondary data from this research is all sales, payment, and other data that can help in this research process.

The analysis technique in this study uses the System Development Life Cycles (SDLC) (Firdaus & Widayasastrena, 2017) (Hariawan & Noviyani, 2014). The SDLC model is a model that is used to build an information system in the form of an application, where, in practice, this model has stages in its manufacture. The model used uses the Waterfall model type, shown in Figure 1.

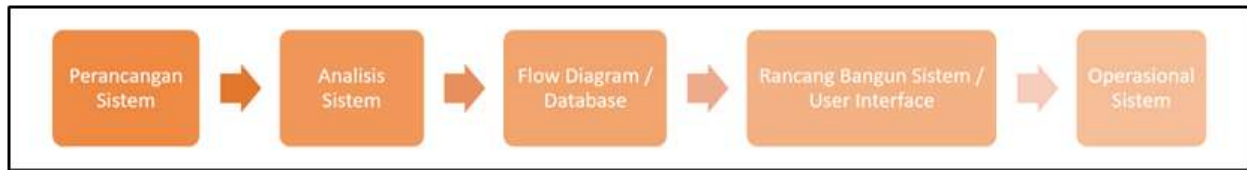


Figure 1. Stages In SDLC

The following are the stages in the SDLC Waterfall method as the explanation of figure 1:

1. System Design Stage

At the system design stage, designs are carried out as follows:

- a). Cash buying and selling system concept design.
- b). The physical design of the cash buying and selling system.

2. System Analysis Stage

The buying and selling system will be analyzed using the Data Flow Diagram (DFD) method— data Flow Diagram - Level 0 Cash Purchase, Data Flow Diagram - Level 0 Cash Sales.

3. Stage Flow Diagram or Database

In this step, a system logical process is carried out using data flow diagrams, Entity Relationship Diagrams (ERD), and creating a MySQL database in making the framework in this study so that it becomes a Logical Record Structure (LRS) using phpMyAdmin.

4. System Design or User Interface (UI) Stage

5. System Operational Stage

In the final step, if the system has been successfully tested and the results are positive, then companies and organizations can implement the system, and the system must be maintained first.

Table 1. Cash Purchasing Information System

Component	Cash Purchase Procedure	Cash Payment Procedure	Purchase Reporting Procedure
Inputs	1. Supplier Data 2. Purchased Goods Data	1. Purchase Number 2. Receive goods from suppliers	Data from cash purchase and cash payment procedures
Process	1. Inform suppliers regarding the purchase of their merchandise 2. Fill in no. purchase, purchase date, supplier data, and goods data	1. Receiving goods from suppliers 2. Put the goods into the warehouse 3. Updating the number of stock items in the item data	A purchase report is generated and then submitted to the owner

Output	Purchase number and purchase master file	Purchase master file and purchase list	Purchase Report
Related parties	Warehouse Section	Warehouse Section	Owner
Media	Computer	Computer	Computer

Table 2. Cash Sales Information System

Component	Cash Sales Procedure	Cash Acceptance Procedure	Sales Reporting Procedure
Inputs	1. Customer Data 2. Sales Item Data	1. Sales Number 2. Receive money from customers	Data from cash sales and cash receipts
Process	1. Inform the warehouse department whether the stock of goods sold is still there 2. Fill in no. sales, date of purchase, customer data, and sales item data	1. Receive payments from customers 2. Enter the amount of money received from the customer 3. Wrap the goods purchased by the customer and handed over to the customer.	Sales reports are generated and then submitted to the owner
Output	Sales number and sales master file	Sales master file and sales list	Sales report
Related parties	Warehouse Section	Cashier	Owner
Media	Computer	Computer	Computer

This application requires a form to enter essential data into a program (Himawan et al., 2020). The physical design of the state for cash purchases and sales is shown in Figure 2 as follows.

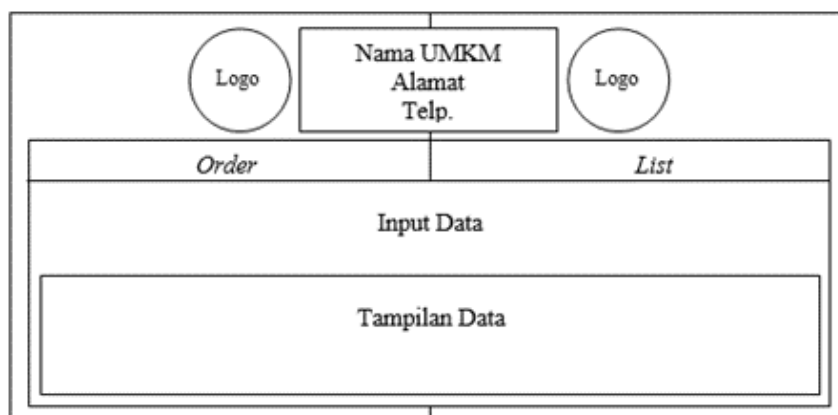


Figure 2. Physical Design of Purchase and Sales Forms

Figure 2 shows the physical design consisting of the MSME identity and the order menu and menu list, which help enter customer and supplier data that order goods. The list menu is used to enter data on the customer's orders.

A report is needed to see the information generated by an application program. The physical design of reports on cash purchases and sales can be observed in Figure 3.

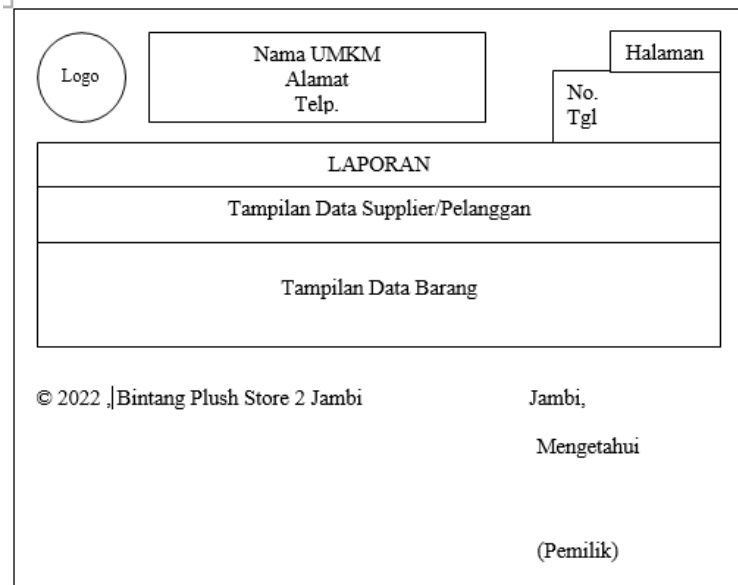


Figure 3. Physical Design of Purchase and Sales Reports

Figure 3 explains the design of purchase and sales reports and supplier and customer data reports.

The proposed system context diagram for UMKM Bintang Plush Store 2 Jambi is at the system analysis stage.

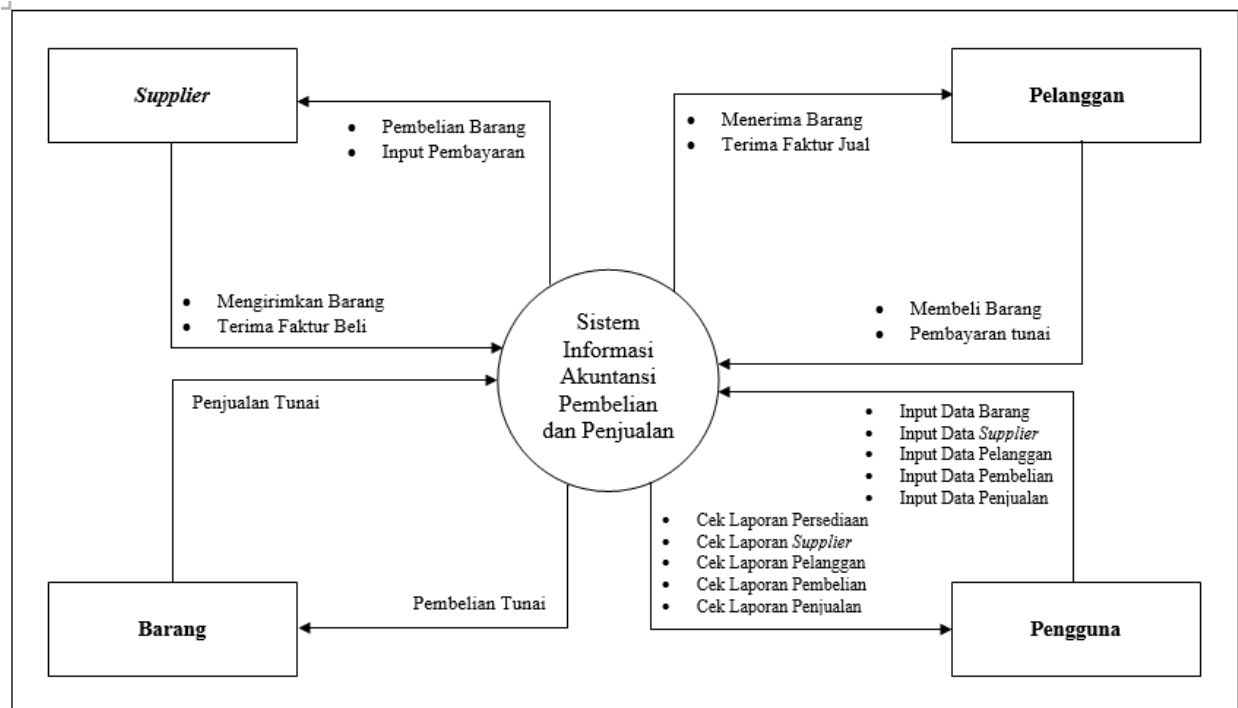


Figure 4. Context Diagram of the Proposed System

Figure 4 explains the supplier entity. The process that occurs is purchasing goods and inputting payments to suppliers. Suppliers send goods, and the owner receives purchase invoices from suppliers, which increases inventory.

Then, in the customer entity, the process that is carried out is that customers buy goods and make payments to employees, and of course, this will reduce inventory from the customer side anyway. They will receive the goods they purchased and sales invoices from the store.

In addition, the user entities, namely admins and employees, will enter data related to MSMEs, such as goods data, supplier personal data, customer personal data, purchasing data, and sales data during this business. After inputting all of these data, the user will receive and check reports related to MSMEs every month.

The reports that will be generated are inventory reports, supplier reports, customer reports, purchasing reports, and sales reports. Finally, the inventory of goods in the warehouse is influenced by buying from suppliers and selling to customers.

At the flow diagram or database stage, a Logical Record Structure (LRS) is designed and formed from an Entity Relationship Diagram (ERD), which can be seen in Figure 5.

LRS combines all eight MySQL database tables, which become a single unit and are related to one another through a cardinality process. Cardinality is a relationship between two entity sets, divided into four: one-to-one, one-to-many, many-to-one, and many-to-many.

Figure 5 explains, starting with the supplier table, with the [kdsupp] as the primary key related to the purchase orders table, with the [nobeli] as the primary key. So on, the purchase order table describes one-to-one to the purchase list table with the primary key being [nobel]. Finally, from the purchase list table, with the index [kdbrg], it will relate one-to-one to the item code table.

So on, the same as with the flow of the supplier table, the customer table flow, with the primary key [kdcustom] which relates one to one to the sales orders table, with the primary key [nojual]. So on, the sales orders table describes one to one also to the sales list table, with the primary key being [nosales]. Finally, from the sales list table, with the index [kdbrg], it will relate one-to-one to the item code table.

In the buying and selling process, in the purchase list table, with the [kdbrg] index connected to the [kdbrg] in the item code table, as well as in the sales list table with the [kdbrg] index, it is also connected to the [kdbrg] in the item code table. In conclusion, the purchase list table and sales list table relate many to one to the item code table.

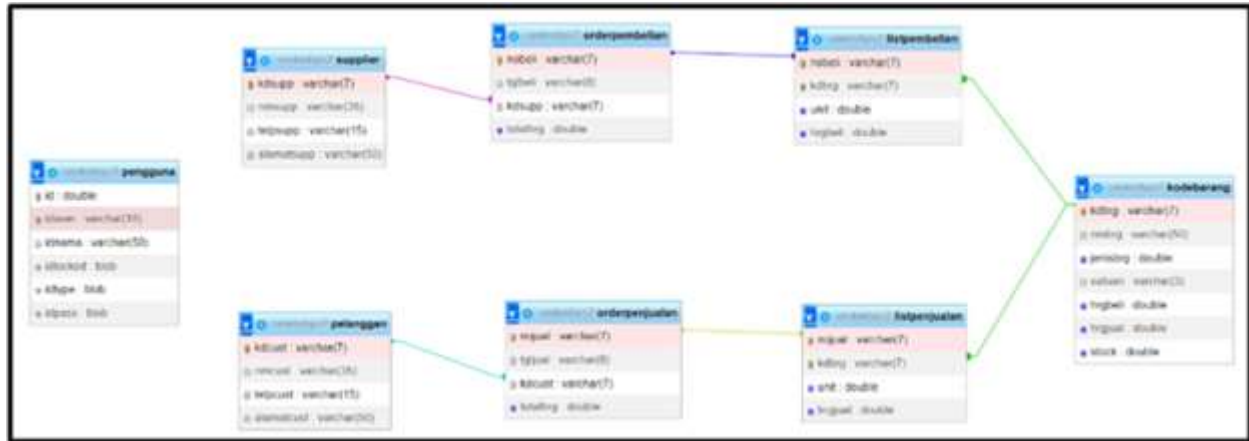


Figure 5. Logical Record Structure (LRS)

Results and Discussion

The resulting research is a buying and selling accounting information system consisting of purchase and sales order input. Users can access input data, such as purchase order and sales order data, which can be seen in Figure 6 and Figure 7.

i. Purchase Order Input Form

In the order form, the admin fills in the purchase number data and date of purchase of goods from the supplier and inputs the supplier data.



Figure 6. Purchase Order Input Form

ii. Sales Order Input Form

The sales order input form fills in the sales number, date of sale, and customer data.



Figure 7. Sales Order Input Form

Reports that have been generated, namely purchasing reports and sales reports.

iii. Purchase Report

A purchase report includes many database tables combined into a purchasing report from the supplier table, purchase order table and purchase list table.

vi. Sales report

The sales report includes three (3) tables: the customer table, the sales order table, and the sales list table. The sales report differs slightly from the purchase report because the sales table uses the selling price obtained from 10% multiplied by the purchase price and added to the purchase price, so sales can be made by increasing the cost or markup up to 10%.

Conclusion

Beginning with an investigation of purchases and sales, the research developed an accounting information system for buying and selling utilizing Microsoft Visual Foxpro 9.0 as the solution. Purchase, sales, inventory, supplier, and customer reports are generated by this system. For MSME owners, structured data and reporting facilitate better decision-making.



BINTANG PLUSH STORE 2

Jalan Kapten Dirham RT.55 No.51, Lebak Bandung,
 Kecamatan Jelebung, Jambi 36124, Indonesia
 Telp. +62 895-6207-8899

Halaman : 1 / 2

Nomor Beli : BL00001
 Tgl Beli : 20220401

LAPORAN PEMBELIAN UMKM BINTANG PLUSH STORE 2 JAMBI

Supplier						
Kode Supplier : SP00001			Nama Supplier : Supplier 1			
Nomor Telp./HP : 0123456789			Alamat : Alamat Supplier 1			
Kode Barang	Nama Barang	Jenis Barang	Harga per Unit	Ory	Satuan	Jumlah
AC00001	Tas Ransel	1.00	81000.00	100	pcs	8100000.00
AC00002	Selampang	1.00	90000.00	100	pcs	9000000.00
AC00003	Dompot Surviving	1.00	31500.00	100	pcs	3150000.00
AC00004	Tali Pinggang	1.00	31500.00	100	pcs	3150000.00
AC00005	Belt Webbing Stussy	1.00	54000.00	100	pcs	5400000.00
AC00006	Supreme Belt	1.00	54000.00	100	pcs	5400000.00
AC00007	Dompot Versace	1.00	81000.00	100	pcs	8100000.00
AC00008	Gasper	1.00	54000.00	100	pcs	5400000.00
AC00009	Sticker	1.00	4500.00	100	pcs	450000.00
AC00010	Pin	1.00	2250.00	100	pcs	225000.00
AC00011	Tote Bag	1.00	58500.00	100	pcs	5850000.00
AC00012	Mini Poth	1.00	9000.00	100	pcs	900000.00
AC00013	Big Poth	1.00	27000.00	100	pcs	2700000.00
AC00014	Gucci	1.00	31500.00	100	pcs	3150000.00
AC00015	Topi Panel	1.00	36000.00	100	pcs	3600000.00
Total Keseluruhan				72225000.00		
Terbilang : Tujuh Puluh Dua Juta Dua Ratus Dua Puluh Lima Ribu Rupiah						

(C) 2022, Bintang Plush Store 2

Jambi,
 Mengetahui

(AULIA RAMMAN)

Figure 8. Purchase Report

To see the information generated by an application program,

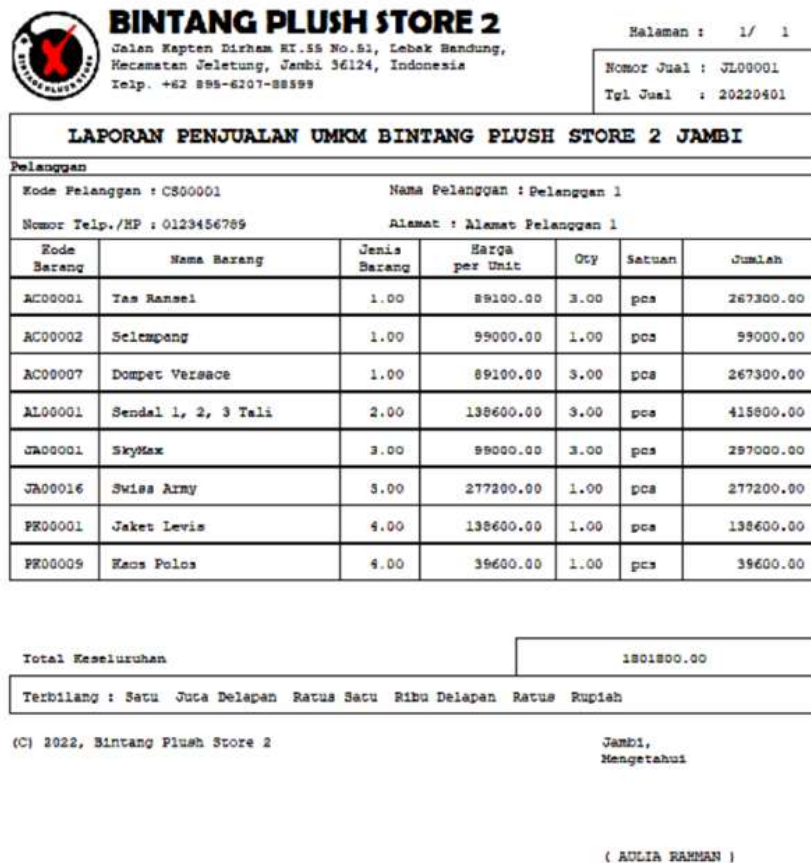


Figure 9. Sales Report

References

- Asari, A. R. (2018). *Perancangan Sistem Informasi Akuntansi Pembelian Pada PT Khomsah Khalifah Dengan Menggunakan Software PHP dan MySQL*.
- Darwis, D., Wahyuni, D., (2020). SISTEM INFORMASI AKUNTANSI PENGOLAHAN DANA KAS KECIL MENGGUNAKAN METODE IMPREST PADA PT SINAR SOSRO BANDARLAMPUNG. In *Jurnal Teknologi dan Sistem Informasi (JTISI)* (Vol. 1, Issue 1). <http://jim.teknokrat.ac.id/index.php/sisteminformasi>
- Dwi Kusumaratri, R. (2020). *PERANCANGAN SISTEM INFORMASI AKUNTANSI PIUTANG PADA CV MENANG SENTOSA*.
- Firdaus, J. R. A. D. K. ;, & Widyasastrena, D. W. (2017). Perancangan Sistem Informasi Akuntansi Koperasi dan UMKM Berbasis Technopreneur. *Jurnal Riset Akuntansi Dan Keuangan Program Studi Akuntansi Fakultas Pendidikan Ekonomi Dan Bisnis Universitas Pendidikan Indonesia. Jurnal Riset Akuntansi Dan Keuangan*, 5(2), 1423–1440. <https://doi.org/10.17509/jrak.v5i2.8124>

- Hariawan, A., & Noviyani, E. (2014). *SISTEM INFORMASI PENJUALAN DAN PEMBELIAN TOKO SETIA PURNAMA KERAMIK* (Vol. 7, Issue 1).
- Himawan, A., Wijanarko, T., Putra, A., Fitro, D., Hakim, N., Teknik, J., Stmik, I., & Semarang, P. (2020). *Rancang Bangun Sistem Informasi Penjualan Online Berbasis Webmobile*. 13(1), 44–59. <http://journal.stekom.ac.id/index.php/elkom>□page44
- Puspita, A., Yuningsih, Y., Fahmi, M., & Wahyuni, Y. (2021). Kwitang, Jakarta Pusat 10450, Telp.(021)23231170, Fax (021)21236158, email :ari.arp@bsi.ac.id 2 Program Studi Sistem Informasi, STMIK Nusa Mandiri. In *Jl. Jatiwaringin Raya* (Issue 2).
- Rahmansyah, A. I., & Darwis, D. (2020). SISTEM INFORMASI AKUNTANSI PENGENDALIAN INTERNAL TERHADAP PENJUALAN (STUDI KASUS: CV. ANUGRAH PS). *Jurnal Teknologi Dan Sistem Informasi (JTISI)*, 1(2), 42–49. <http://jim.teknokrat.ac.id/index.php/JTISI>
- Rifani, L., & Aini, N. (2016). *PENGEMBANGAN SISTEM INFORMASI AKUNTANSI UNTUK LAPORAN KEUANGAN UKM KAMPUNG KUE RUNGKUT SURABAYA*.
- Rostiani, Y., Gunawan, R., & Shantyasari, S. (2021). Perancangan Sistem Informasi Akuntansi Pendapatan dan Piutang Mahasiswa Baru Berbasis Web Pada STMIK Rosma. *Jurnal Interkom: Jurnal Publikasi Ilmiah Bidang Teknologi Informasi Dan Komunikasi*, 16(3), 24–31. <https://doi.org/10.35969/interkom.v16i3.175>
- Sulistiani, H., & G S Umpu, E. F. (2021). Analisis dan Perancangan Sistem Informasi Akuntansi Pengelolaan Tabungan Siswa pada SD Ar-Raudah Bandarlampung. *Jurnal Teknologi Dan Informasi (JATI) Z.A. Pagar Alam*, 9, 123. <https://doi.org/10.34010/jati.v11i1>
- Susanti, M. (2021). Perancangan Sistem Informasi Akuntansi Pada UMKM Toko 168. In *Mery Susanti* (Vol. 1, Issue 1). <https://journal.uib.ac.id/index.php/concept>
- Waluya Firdaus, D., Dwi Yulianto, H., & Nirlaba Dalam Penyajian Laporan Keuangan Berbasis Akuntabilitas Masjid Jurnal Riset Akuntansi Dan Keuangan Program Studi Akuntansi, E. (2018). Perancangan Sistem Informasi Akuntansi Entitas Nirlaba Dalam Penyajian Laporan Keuangan Berbasis Akuntabilitas Masjid. *Jurnal Riset Akuntansi Dan Keuangan*, 6(1), 1. <https://doi.org/10.17509/jrak.v6i1.8975>