International Conference on Business Economics, Social Sciences & Humanities

DESIGN OF A COMPUTER BASED ACCOUNTING INFORMATION SYSTEM AT THE BHONKSHORS GARUT STORE

Rika Amelia
Universitas Komputer Indonesia, Bandung, Indonesia

Geraldi Catur Pamuji
Universitas Komputer Indonesia, Bandung, Indonesia

ABSTRACT

This study addresses inefficiencies in manual transaction recording at Toko Bhonkshors Sukaregang Garut, such as human error and poor inventory control. To solve these issues, a computer-based accounting information system was developed using the Rapid Application Development (RAD) approach, known for its short, efficient development cycles. The research involved identifying problems, analyzing system requirements, and designing prototypes. The system aims to improve transaction accuracy, streamline inventory control, and provide real-time information. Results indicate that implementing this system significantly enhances operational efficiency, reduces errors, and supports better decision-making. This showcases how technology can transform traditional business processes, especially for SMEs.

Keywords: Trading Company, Accounting Information System, Prototype, RAD (rapid application development)..

INTRODUCTION

The development of a computer-based accounting information system and its implementation environment at the Bhonkshors Garut store are two of the main components of this study. A computer-based accounting information system (AIS) is a crucial instrument for enhancing the precision and effectiveness of corporate financial management. By supplying fast and reliable financial data, an automated accounting information system can help firms make better decisions. The significance of creating a system that is specific to the requirements of the Bhonkshors Garut shop can be understood based on these components.

Numerous studies have examined how technology functions in accounting and financial information systems, offering insightful information about both the advantages and difficulties of this approach. The current study builds upon or deviates from the following five significant contributions from earlier research:

1. User satisfaction with financial information systems in emerging markets was studied (Al-Okaily et al., 2023), who emphasized the significance of system dependability and usability. Their research concentrated on major corporations, whereas our study focuses on small and medium-sized firms, like the Bhonkshors Garut Store, to determine how computer-based accounting systems might be made more efficient for smaller operations.

2. looked into enterprise information systems in Jordan, focusing on training and managerial support as key success elements (Al-Okaily & Al-Okaily, 2022). (Wu et al., 2023)By suggesting a customized accounting information system for retail enterprises that includes automation elements that lower human entry errors—a gap found in their work—our study goes beyond this.
3. Algorithms for effective work scheduling in batch processing systems were created by (S. Li, 2022) and can be modified for processing accounting data. Although Li's work was theoretical, our research ensures speedier transaction recording and report creation by applying similar optimization methods to real-world accounting procedures.
4. The promise of machine learning in accounting was demonstrated (X. Li et al., 2024), who used AI-driven models for financial forecasting. In contrast to their emphasis on predictive analytics, our study places greater emphasis on inventory integration and real-time transaction processing, which makes the system more useful for regular retail operations.

Even while earlier research has established a solid basis in big data, AI applications, and accounting information systems, our study blends these components in a novel way to provide small merchants with an affordable, useful solution. In contrast to more general theoretical models, our emphasis is on affordable, user-friendly design and smooth integration with current retail operations, guaranteeing instant relevance for companies such as Bhonkshors Garut Store.

The primary goal of this study is to develop and suggest a computer-based accounting information system that will enhance the Bhonkshors Garut Store's financial record-keeping accuracy and efficiency. System design, requirements analysis, and prototype testing are among the techniques employed. This strategy was selected to guarantee that the system's architecture complies with the requirements and capabilities of the store. It is therefore anticipated that this study will offer the Bhonkshors Garut Store a workable option for handling its money.

Prototype testing to verify system functionality, system design using tools like Microsoft Excel or basic accounting software, and needs analysis through interviews and observations are some of the techniques used in this study. Problem identification, data gathering, system design, and evaluation are the steps. This approach was selected because it may yield workable and simple solutions for the Bhonkshors Garut Store. Additionally, the implementation of these solutions will be closely monitored to ensure they meet the store's evolving needs. By continuously assessing the effectiveness of the system, the Bhonkshors Garut Store can make informed adjustments that enhance its financial management practices. It should be possible to create an efficient accounting information system that meets the needs of the shop by using this approach.

LITERATURE REVIEW

Accounting information system research is evolving quickly. The growing interconnectedness of accounting procedures and the information-system-based organization of accounting operations is reflected in the rise in research publications. The interdisciplinary character of research on accounting information systems and the focus on technology advancements are highlighted by an examination of the most referenced works.

To find out what elements affect AIS efficacy, successful information system models are examined. The impact that AIS has on employee and organizational performance is how these models gauge its efficacy. The three elements that are thought to determine AIS efficacy—system quality, information quality, and user satisfaction—are said to have an impact on AIS effectiveness. Subsequently, the model was employed to examine the aspects of the AIS efficacy-impacting elements. All things considered, the model can offer a strong theoretical foundation for comprehending the unique connections in AIS efficacy across Vietnamese agricultural enterprises in Ben Tre Province (Nguyen et al., 2024).

Provides significant theoretical and empirical evidence on how information systems influence accounting practices and managerial decision-making. This research addresses critical aspects of digital transformation, the strategic use

of information systems, and frameworks that ensure financial transparency and performance measurement. Similarly, These studies emphasize practical integration in networked environments and accounting systems. The authors highlight that network applications facilitate efficient information exchange and are critical to organizing and maintaining accounting practices. Real-time data streams further enhance this importance (Vial, 2019).

Indeed, reveals a growing interest of accounting scholars and practitioners in artificial intelligence and machine learning. These advanced solutions are seen as drivers of evolution in information systems about predictive analytics, automation, and intelligent decision-support systems. Such development directly improves accounting and reporting processes (Adamopoulou & Moussiades, 2020).

Affirm the three-faced nature of research on accounting information systems, with concentrations on technological innovations, forecasting, and societal implications of information systems. Accordingly, research in accounting information systems crosses the technical and managerial dimensions to social, economic, and organizational contexts (Song et al., 2019).

METHODOLOGY

Type of Research

This research is experimental in nature. The purpose of experimental research is to consciously examine, under controlled circumstances, how some variables affect other variables. In this experimental study, a novel approach is taken, and the results are carefully observed. The purpose of this study is to evaluate how well a computer-based accounting information system can be used at Toko Bhonkshors Garut to increase transaction recording accuracy and efficiency.

Place and Object

This study is being conducted at the Bhonkshors Garut Store, a trading establishment in the city of Garut. Because all sales and purchases are still recorded manually, which might lead to inaccuracies, this store is utilized as a study site. To properly manage inventory and transactions, Toko Bhonkshors Garut, a store that deals in leather goods like jackets, purses, shoes, and sandals, requires a more integrated system.

Data Type

The study used two different types of data: primary and secondary. A primary source is one that is gathered straight from the original source, without the use of intermediary media. Through interviews with business owners and staff members participating in the transaction recording process, main data for this study was gathered. By way of intermediary media, such as transaction records, financial reports, and other papers that are already available at the store, researchers can obtain secondary data. Typically, secondary data takes the shape of records, historical reports, or evidence that has been organized in either public or unpublished archives (documentary data).

Data Collection Methods

Researchers employ interviewing and documenting techniques as data collection approaches. A researcher can use the interview approach to gather data if they want to perform a knowledge study to identify issues that need further investigation and if they want to get more detailed information from a limited number of respondents. A form of research data that contains information on products, invoices, journals, and transaction records is the documentation technique. The material, or foundation, for the complex data analysis in this study is documentary data, which is gathered using content analysis techniques and observation.

System Development Phase

This study's system development stage designs a computer-based accounting information system using the RAD (Rapid Application Development) methodology. Because it is intended to lessen current issues by producing answers in a timely, accurate, and precise manner, this approach was selected. With the RAD approach, prototype testing may be completed quickly, allowing for the instant acquisition of the required data. This prototype testing is carried

out during a single cycle of a brief accounting period to make sure the system works in accordance with the store's requirements.

In this study, parallel conversion is used, in which the old system and the new system are implemented concurrently. This is being done in order to guarantee that the new system can be deployed correctly and in line with the requirements of Toko Bhonkshors Garut's business owners and system users. The owner of the store can use this method to compare the outcomes of the two systems and make sure that no data is lost or mistakes are made during the transfer.

RESULT AND DISCUSSION

Stage of Problem Identification

The system for documenting all transactions, the accounting system, and the current financial reporting system are utilized to identify the issues within Toko Bhonkshors Garut during the problem identification stage. The recording method is still basic and done by hand. There are a number of issues with this manual recording system, such as:

1. A high proportion of human error, human mistake is a major danger when recording transactions that are still done by hand. For instance, mistakes in the recording, transactions that are not remembered to be recorded, or even the recording of several transactions. Because handwriting is used for recording and there isn't an integrated monitoring system, this frequently occurs.
2. Inventory tracking is challenging, Information regarding the quantity of inventory still in the warehouse is frequently difficult for owners to obtain. The reason for this is that warehouse workers don't take inventory very often. Inaccurate inventory data can lead to excess or shortage stock, which eventually impacts customer experience for a store that sells a range of leather goods, including jackets, purses, shoes, and sandals.
3. False Financial Statements, because the recording procedure is manual and prone to errors, the owner frequently receives financial reports that are not correct. This makes it hard for owners to get quick, reliable, and exact financial data to help them make decisions. This makes it more difficult for the business's owner to run it successfully and efficiently.

Phase of Problem Analysis

The issues that develop at Toko Bhonkshors Garut as a result of the current system are now thoroughly examined. Understanding the underlying cause of the issue and identifying the best way to get past the challenges are the goals of this investigation. A computer-based accounting information system that may enhance transaction management, inventory control, and store financial reporting in terms of efficiency, correctness, and dependability is intended to be created by examining these issues (see Table 1).

Table 1. Problem Analysis.

No.	Party Affected by the Issue	Issues Were Found
1.	Part for recording	Human mistake is a significant risk in recording that is still done by hand.
2.	Department of Warehouse	In addition to not conducting regular stock-taking activities, the warehouse department struggles to manage the quantity of inventory of all kinds.
3.	Owner of the shop	The owner finds it challenging to get information because financial reports that are provided to them are frequently erroneous.

Analysis of System Requirements Stage

Following the phases of problem identification and analysis, the Garut Bhonkshors Store's accounting information system requirements are examined. After identifying the current issues, attempts are made to enhance the system in order to address the difficulties (see Table 2).

Table 2: Analysis of System Requirements

No.	Issues Were Found	Initiatives to Improve the System
1.	Since all transactions are still recorded by hand, there is a significant chance of human error.	Substitute a computer-based accounting information system for the manual recording system. This method is anticipated to increase transaction recording accuracy and decrease human error.
2.	The volume of inventory of different kinds (wallets, shoes, purses, and coats) and irregular stock-taking activities is challenging for the warehouse department to manage.	Construct an integrated system that combines the purchasing, sales, and inventory systems. The warehouse division has control over and knowledge of the quantity of goods resulting from sales transactions. Additionally, take stock every three months to guarantee inventory correctness.
3.	The owner frequently receives erroneous financial information.	Computer-based accounting systems are used to process purchases, sales, inventory (stock-taking), cash revenue, cash expenditure, and financial reports. Owners can get clear and reliable information to help them make decisions.
4.	Monitoring sales returns and purchases might be challenging.	created a unique module for keeping track of sales and buy returns. Depending on the return transactions, the system will automatically update the inventory and make adjustments to the financial statements.
5.	Employee payroll is still completed by hand, which increases the possibility of mistakes.	Connect the payroll system to an accounting information system that is computer-based. Based on performance and attendance, the recording department can automatically enter employee wage data and provide accurate pay stubs.

Data Flow Diagram (DFD)

Who is directly involved in a system is determined using DFD. Furthermore, DFD can identify the system's input and output that needs to be designed.

1. Data Flow Diagram Level 0: This level of the diagram explains who is directly involved in the system, what data will be brought into the system, and what output consumers will receive. DFD level 0 is also known as a context diagram, which gives a general picture of the system.

Number of Breastfeeding Clothes Companies Per Year

There are still few breastfeeding clothing companies on Shopee e-commerce because there is not much desire to buy breastfeeding clothing from the public due to people's ignorance about online breastfeeding clothing companies. Therefore, online advertising and discounts need to be done so that people know and are interested in buying breastfeeding clothes online. Based on search results using the keyword breastfeeding clothes on Shopee e-

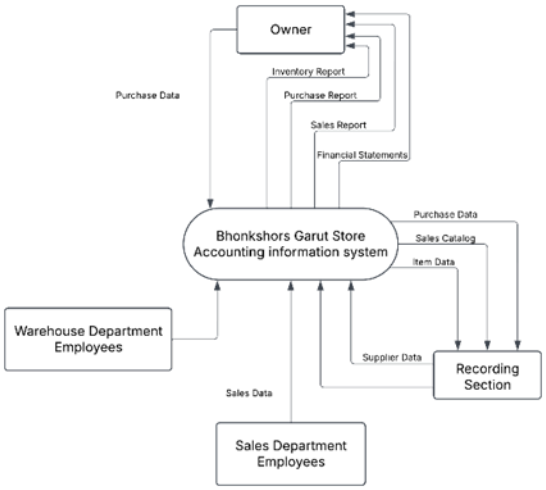

Figure 1. DFD Level 0.

Figure 1 show about the Bhonkshors Sukaregang Garut Store's accounting information system is detailed in its entirety at DFD level 0. It is evident who is directly involved in the system, which includes store owners and employees. Employees, the recording department, and the owner all play distinct responsibilities in the system. Purchase, sales, inventory, and financial data from the store's accounting information system are among the transaction reports that the store owner receives as a result of transactions. They also purchase items for the warehouse inventory. Workers in the warehouse enter information on the products, and the sales department enters information from suppliers and workers.

Additionally, data on sales, purchases, and commodities are obtained by the employee section from the store's accounting information system. After the data is gathered and processed, reports are created and given to the store owner.

Level 1 Data Flow Diagram: This level 1 data flow diagram is an extension of Toko Bhonkshors Sukaregang Garut's accounting information system's DFD level 0. DFD level 1 provides a detailed explanation of the store's accounting information system, including the inventory, sales, and purchasing systems.

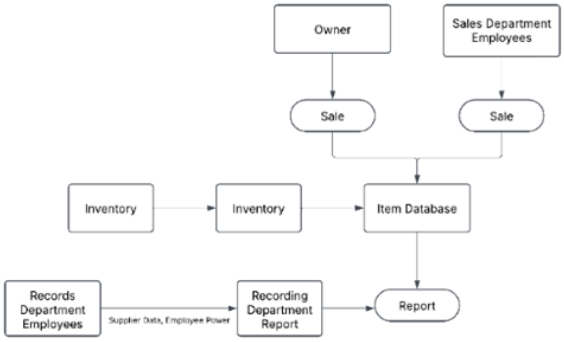

Figure 2. DFD Level 1.

Figure 2 show DFD level 1 the store owner makes the purchases and salespeople handle the closing for purchases. To determine how much inventory there is, the warehouse component enters item data. In order to determine the

quantity of goods available and provide a report, information regarding products, purchases, and sales transactions is then entered into the goods database. Employee and supplier data are included in the recording section report that is generated by the recording section. In a single accounting period, the owner will receive a report that has been processed using these data and the goods database.

Data Flow Diagram Level 2: DFD level 2 covers DFD level 1 in greater detail. of DFD level 2, each process associated with the accounting information system of Toko Bhonkshors Sukaregang garut is described in greater detail. DFD Level 2 Purchase Agreement, At Figure 3, Shop owners complete transactions and return purchases. Shop owners can view their own item data, master purchases, and particulars of purchased things in the new system. All system users can learn about the quantity of things in the warehouse thanks to item data. And the owner and the recording department can update the warehouse's inventory level after the products are purchased.

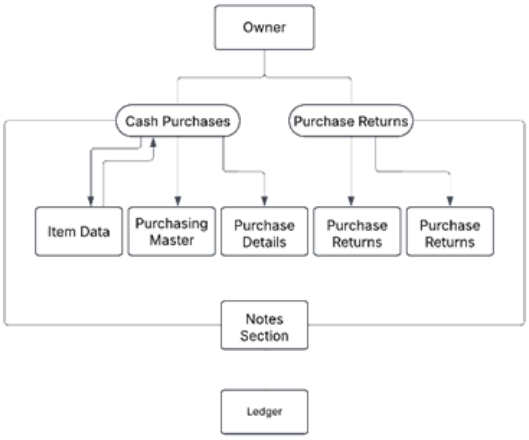

Figure 2. DFD Level 2 Purchase Agreement

DFD Level 2 Sales Transaction, At Figure 4, Employees complete sales transactions and report them to the department that records them. The recording department then retrieves the information and determines how many goods are left in the warehouse. Following a sale, the recording department will recompile the warehouse's inventory. Once the inventory has been totaled, it will be entered into the ledger form.

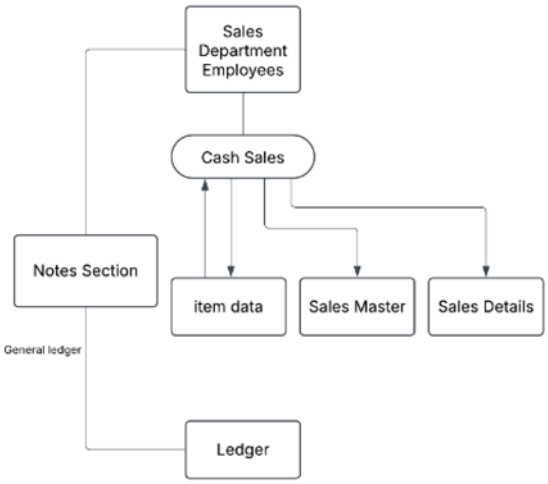

Figure 3. DFD Level 2 Sales Transaction

At Figure 5 visible Every period, the recording component creates reports that are given to the store owner, including financial, sales, purchase, and inventory reports. The proprietor of the store uses the reports to inform choices about the establishment.

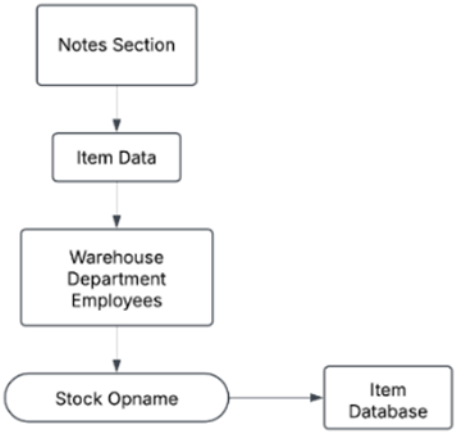

Figure 5. DFD Level 2 Inventory

DFD Level 2 Payroll System , At DFD level 2 in figure 6, it is explained that the recording section first views employee data before entering the wage amount that employees would get. The employee's wage will then be paid by the shop owner and entered into the ledger by the recording division.

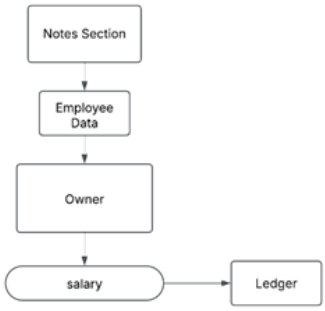

Figure 4. DFD Level 2 Payroll System

DFD Level 2 Recording Section Report, At Figure 7 visible Every accounting period, the recording section generates a report that is given to the store owner. It includes a stock report that shows the quantity of items in the warehouse, as well as reports on employees and suppliers based on the information found in the store system.

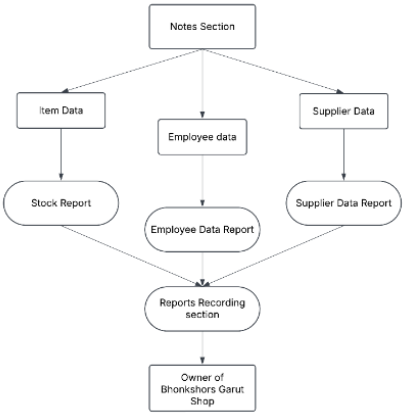

Figure 5. DFD Level 2 Recording Section Report

DFD Level 2 Management Report as shown in following figure 8-9:

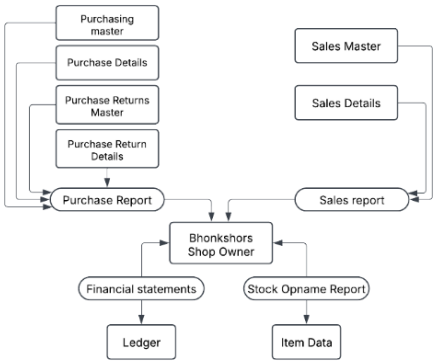

Figure 8. DFD Level 2 Management Report

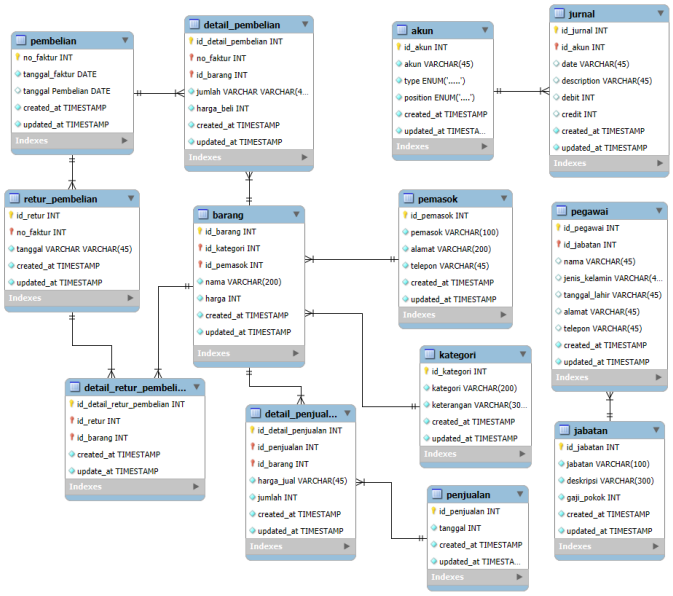

Figure 6. Database Design

The ERD design requires the following basic application form (see Table 3):

Table 3. Form Figma Design

No.	Form Name	Function
1	Login Form	Authority of the user to access the system.
3	Supplier Data Form	The Garut Bhonkshors Store's trade items supplier information.
4	Item Data Form	The warehouse of the Garut Bhonkshors Store contains data about trade products.
5	Item Stock Form	Used to keep track of the quantity of inventory items in the storage facility.
6	Item Type Form	Details of the different kinds of products available at the Garut Bhonkshors Store.
7	Cash In Form	Keeping track of currency transactions that arrive at Toko Bhonkshors Garut.
8	Cash Out Form	Except for purchases, keep track of cash-out transactions.
9	Purchase Form	Documenting every purchase at Toko Bhonkshors Garut.
10	Sales Form	Documenting every sale at Toko Bhonkshors Garut.
11	Purchase Return Form	Keep track of every return that takes place at Toko Bhonkshors Garut.

No.	Form Name	Function
12	Sales Report Form	At Toko Bhonkshors Garut, all sales reports are being recorded.
13	Purchase Report Form	keeping track of Toko Bhonkshors Garut's purchase reports for a single accounting period.
14	Ledger Form	Keep track of all balances and account codes.

Design of the Prototype

Figure 10 shown Login Form: This form is used to confirm the username and password in order to access the system. This form guarantees that the system is only accessible by authorized users.

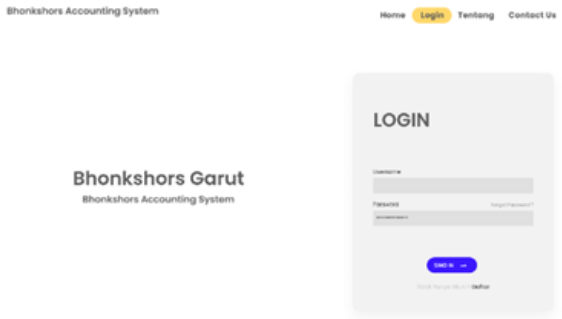

Figure 10. Login Form

Figure 11 Shown Supplier Data Form: Information on the suppliers of goods sold at Bhonkshors Garut Store is kept on file using this form. When making purchases, this data serves as guidance.

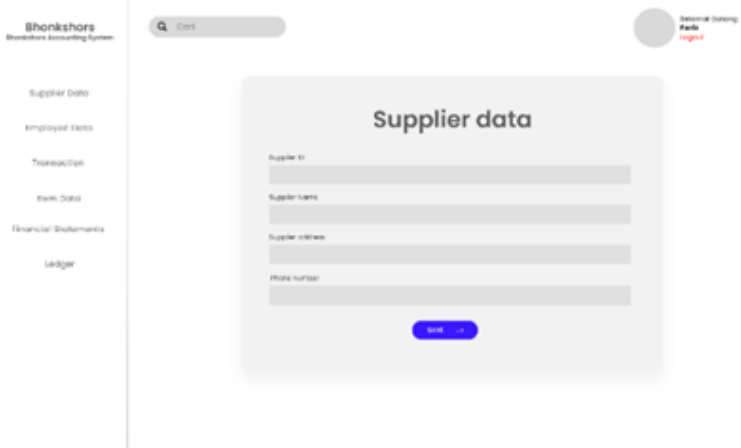

Figure 7. Supplier Data Form

Figure 12 Shown Data Form: The Bhonkshors Garut warehouse uses this form to keep track of trade goods information. Information like item name, price, and stock is included in this data.

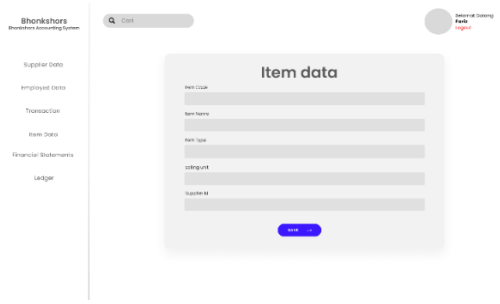

Figure 8. Item Data Form

Figure 13 Shown Item Stock Report Form: The inventory of stock items that are still available within a specific time frame is reported using this form. This form assists store owners in managing their inventory.

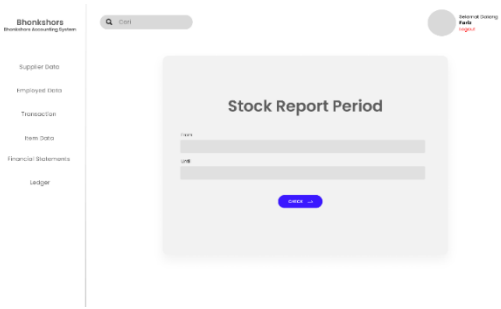

Figure 9. Item Stock Report Form

Figure 14 Shown Item Type Form: Items are stored according to their type using this form. This form facilitates the categorization of products.

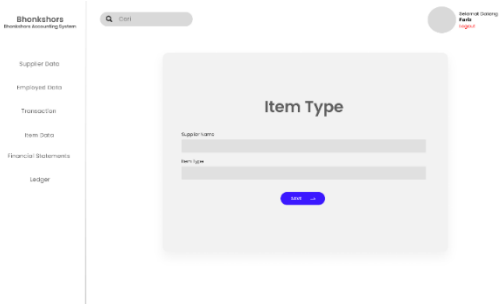

Figure 10. Item Type Form

Figure 15 Shown Cash In Form: At Bhonkshors Garut Store, cash received during transactions is recorded using the cash-in form. This form facilitates the tracking of monetary income.

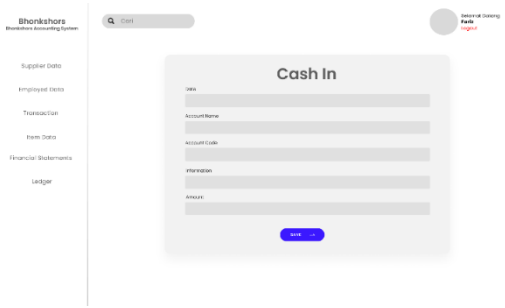

Figure 11. Cash in Form

Figure 16 Shown Cash Out Form: At Bhonkshors Garut Store, the cash-out form is utilized to track money that is taken out during transactions. This form facilitates keeping track of cash outlays.

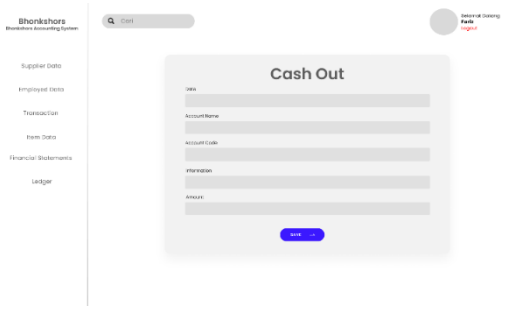

Figure 12. Cash Out Form

Figure 17 Shown Purchase Form: When dealing with vendors of trade items, the purchase form is utilized. All purchases made by Toko Bhonkshors Garut are documented on this form.

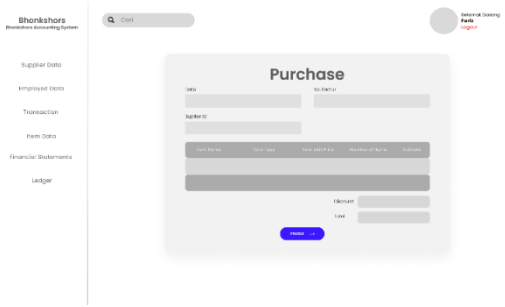

Figure 13. Purchase Form

Figure 18 Shown Sales Form: Toko Bhonkshors Garut uses this form to close deals with customers or buyers. Every sales transaction is documented on this form.

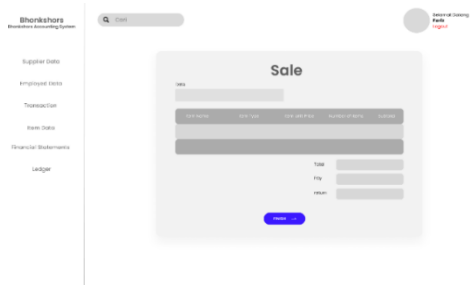

Figure 14. Sales Form

Figure 19 and Figure 20 Shown Cash-in and cash-out printouts

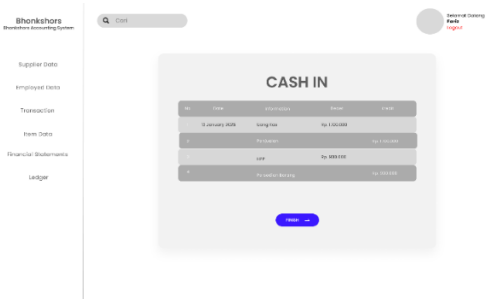

Figure 15. Cash in Printouts

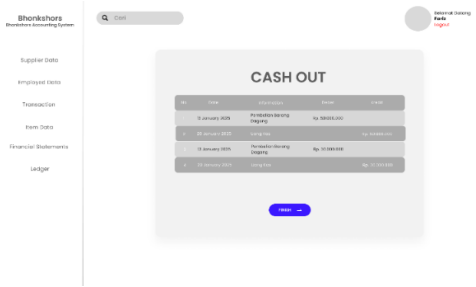

Figure 16. Cash out Printouts

Figure 21 Shown Statement of Profit and Loss Printout.

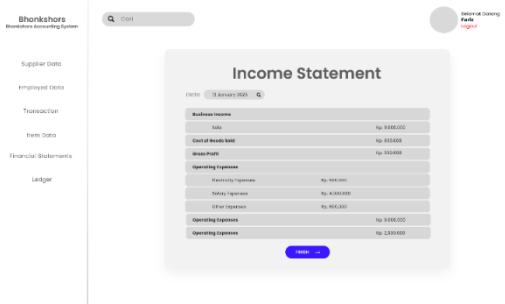

Figure 17. Income Statement Printout

Figure 22 Shown The Statement of Changes in Equity's print result

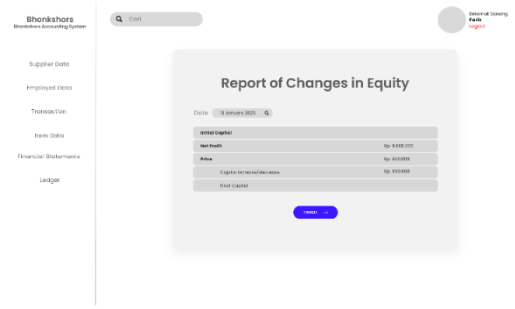

Figure 18. Report of Changes In Equity Prinout

Figure 23 Shown The Statement of Financial Position's print result

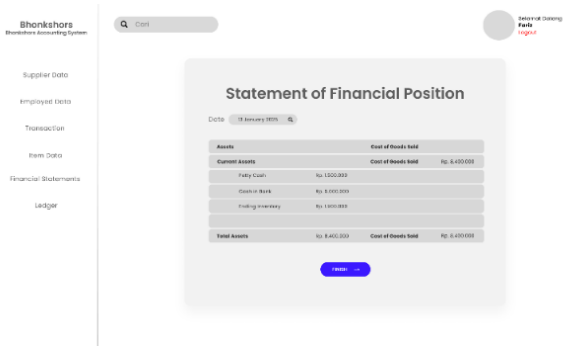

Figure 19. Statement of Financial Position

CONCLUSION AND RECOMMENDATION

Following analysis, design, and testing, it can be said that the new accounting information system can improve performance at Toko Bhonkshors Garut and solve the issue of human error in the manual recording system, allowing for precise, fast, and accurate data processing. Additionally, the new method speeds up the process of taking stock. Using this new technology facilitates the creation of financial reports that business owners and staff can view at any time. The system methods for capturing supplier, employee, and product data, as well as creating reports on sales, purchases, and returns, are designed by this research.

Software design isn't up to this research. To make it easier for the system that will be used in the object to access data, we advise further research to be done on software design. Only database visualization or prototypes are the ultimate outcomes of this study. In order to help the owner decide whether to switch from a manual recording system to a computer-based information system, we advise more research to create a computer-based system design.

advised to carry out additional software design research and create a comprehensive computer-based system design to guarantee a smooth transition away from the manual recording system. To resolve any concerns and maximize system performance, the deployment should be phased in and supported by staff training, ongoing monitoring, and evaluation. A cost-benefit analysis and the investigation of more sophisticated features like cloud storage, analytics, and mobile access will also assist in optimizing the system's worth. It is also recommended to work with IT specialists to guarantee technical stability and alignment with business requirements, which will ultimately enhance productivity, precision, and decision-making skills.

ACKNOWLEDGEMENT

The author would like to thank the Indonesian Computer University (Unikom) which has created an international journal, namely ICOBEST. The author also would like to thank the owner of the online shop Moubii.id who was willing to be a resource and share his data. The author also does not forget to thank the supervisor and second author of this international journal as well as the parents who have provided encouragement and support during the creation of this international journal.

REFERENCES

Adamopoulou, E., & Moussiades, L. (2020). Chatbots: History, technology, and applications. *Machine Learning with Applications*, *2*, 100006. https://doi.org/10.1016/j.mlwa.2020.100006

Al-Okaily, M., Al-Kofahi, M., Shiyyab, F. S., & Al-Okaily, A. (2023). Determinants of user satisfaction with financial information systems in the digital transformation era: insights from emerging markets. *Global Knowledge, Memory and Communication*. https://doi.org/10.1108/GKMC-12-2022-0285

Al-Okaily, M., & Al-Okaily, A. (2022). An empirical assessment of enterprise information systems success in a developing country: the Jordanian experience. *The TQM Journal*, *34*(6), 1958–1975. https://doi.org/10.1108/TQM-09-2021-0267

Li, S. (2022). Efficient algorithms for scheduling equal-length jobs with processing set restrictions on uniform parallel batch machines. *Mathematical Biosciences and Engineering*, *19*(11), 10731–10740. https://doi.org/10.3934/mbe.2022502

Li, X., Khishe, M., & Qian, L. (2024). Evolving deep gated recurrent unit using improved marine predator algorithm for profit prediction based on financial accounting information system. *Complex & Intelligent Systems*, *10*(1), 595–611. https://doi.org/10.1007/s40747-023-01183-4

Nguyen, H. T., T, R., Kweh, Q. L., Tran, P. T. K., & Tran Duong Minh, H. (2024). Determinants of accounting information system effectiveness and moderating role of external consultants: Empirical research in the Ben Tre Province of Vietnam. *Heliyon*, *10*(7), e28847. https://doi.org/10.1016/j.heliyon.2024.e28847

Song, M., Fisher, R., & Kwoh, Y. (2019). Technological challenges of green innovation and sustainable resource management with large scale data. *Technological Forecasting and Social Change*, *144*, 361–368. https://doi.org/10.1016/j.techfore.2018.07.055

Spilnyk, I., Brukhanskyi, R., Struk, N., Kolesnikova, O., & Sokolenko, L. (2022). Digital accounting: innovative technologies cause a new paradigm. *Independent Journal of Management & Production*, *13*(3), s215–s224. https://doi.org/10.14807/ijmp.v13i3.1991

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems*, *28*(2), 118–144. https://doi.org/10.1016/j.jsis.2019.01.003

Wu, B., Gu, Q., Liu, Z., & Liu, J. (2023). Clustered institutional investors, shared ESG preferences and low-carbon innovation in family firm. *Technological Forecasting and Social Change*, *194*, 122676. https://doi.org/10.1016/j.techfore.2023.122676

ABOUT THE AUTHORS

Rika Amelia, email: rika.75123019@mahasiswa.unikom.ac.id

Geraldi Catur Pamuji, email: geraldi@email.unikom.ac.id