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Developing Web-Based Accounting Information System on Sharia-Based Auction Company

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Abstract

This article explores the development of a web-based accounting information system (AIS) for a sharia-based auction company. The aim was to streamline operational workflows, enhance financial reporting transparency, and automate complex financial transactions, ensuring compliance with sharia principles. The research method involved multiple stages, including requirement analysis, system design, system development, and evaluation. The successful implementation of the system led to improved efficiency, accuracy in financial reporting, and real-time insights for decision-making. Additionally, compliance checks confirmed the system's adherence to sharia standards. The integration of modern technology with traditional ethical practices has enabled the company to uphold sharia principles while achieving operational excellence. This article provides insights into the benefits and challenges of developing and implementing a web-based accounting system in a sharia-based auction company, offering valuable lessons for similar initiatives in the industry.

Keywords: Accounting Information System; Agile Development; Sharia-Based Auction Company; Web-based

1. Introduction

The rapid advancement of information technology has significantly impacted various sectors, including finance and auction industries. One notable development is the integration of web-based systems in managing accounting information, which has proven to be a game-changer in terms of efficiency, accuracy, and accessibility. This article focuses on the development of a web-based accounting information system tailored specifically for a sharia-based auction company (Alshirah & Al-Hadid, 2021).

Sharia-based auction companies operate under Islamic law, which emphasizes ethical, and transparent financial transactions. These

companies face unique challenges in ensuring compliance with sharia principles while maintaining efficient operations. The traditional methods of handling accounting and auction processes are often cumbersome and prone to errors. As such, the need for a robust, web-based solution has become increasingly apparent (Smith & Jones, 2020).

A web-based accounting information system offers numerous advantages. It enables real-time data processing and reporting, enhances data accuracy, and provides easy access to information from any location. Additionally, it supports better decision-making by offering comprehensive financial insights. For sharia-based auction companies, such a system not only streamlines operations but also ensures adherence to Islamic financial principles (Rahman & Bakar, 2019).

The development of this system involves several critical stages, including requirement analysis, system design, implementation, and testing. It requires a thorough understanding of both accounting principles and sharia law to ensure the system meets all regulatory and ethical standards. Moreover, the system must be user-friendly to facilitate its adoption by employees and stakeholders who may not have extensive technical expertise.

In this context, this article aims to explore the process and benefits of developing a web-based accounting information system for a sharia-based auction company. It will discuss the key features of such a system, the challenges encountered during its development, and the solutions implemented to overcome these challenges. By doing so, it seeks to provide valuable insights for other organizations considering similar technological advancements in their accounting processes.

2. Research Method

This research develop a web-based accounting information system for a sharia-based auction company. The research methodology comprises several stages: requirement analysis, system design, system development, and system evaluation (Figure 1). Each stage involves specific techniques and tools to ensure the comprehensive and accurate development of the system.

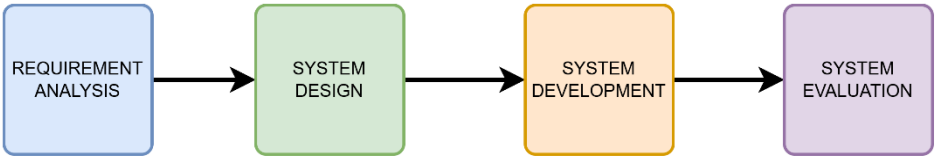

Figure 1. Research Stages
Source: Author (2024)

a. Requirement Analysis
The requirement analysis phase involves gathering detailed information on the needs and expectations of the sharia-based auction company. This is achieved through the data collection tehniques such as interviews (Creswell, 2014; Handayani, 2019) and documentation (Sugiyono, 2013). The interview technique used by the author was direct questioning to the cashier and manager of auction company regarding the company's brief history, operational activities, and transactions related to auctioned goods. The documentation technique used by the author involved directly quoting data from auction company.

b. System Design
The system design phase translates the gathered requirements into a detailed system architecture. This phases includes Use Case Diagrams and System Modeling. Use case diagrams are created to map out the interactions between users and the system. These diagrams help to identify the different functionalities that the system must support (Xu & Shi, 2021). System Modeling contains various modeling techniques, such as data flow diagrams (DFD) and entity-relationship diagrams (ERD), are used to visualize the data processes and relationships within the system. These models provide a clear blueprint for system development (Wahid & Rahman, 2018).

c. System Development
The development phase involves coding and implementing the system based on the approved design. This phase follows an agile development methodology, which includes Iterative Development and Testing. With Iterative Development, the system is developed in small, manageable increments, allowing for continuous feedback and adjustments. Each iteration includes coding, testing, and review stages (Lopes & Baia, 2021). Rigorous testing is conducted throughout the development process, including unit testing, integration testing, and user acceptance testing (UAT). This ensures that each component functions correctly and meets the specified requirements (Noble &

Kumar, 2020).

d. System Evaluation
   The final phase involves evaluating the developed system to ensure it meets the needs of the sharia-based auction company. This phase includes Performance Testing, User Feedback and Compliance Check. The system's performance is tested under various conditions to ensure it can handle the expected load and performs efficiently. Users are trained on the new system and their feedback is collected to identify any issues or areas for improvement. This feedback is used to make final adjustments to the system. The system is reviewed to ensure it adheres to sharia principles and complies with relevant regulations and standards (Rahman & Bakar, 2019).

By employing this comprehensive research methodology, the study aims to develop a robust and user-friendly web-based accounting information system that meets the specific needs of a sharia-based auction company.

3. Results and Discussion

Result

The development of a web-based accounting information system for a sharia-based auction company involved multiple stages, including requirement analysis, system design, system development, and evaluation. This section presents the findings and a discussion on the outcomes of these stages.

a. Requirement Analysis
   During the requirement analysis phase, it became evident that the key challenges faced by the sharia-based auction company included manual processing of financial transactions, a lack of transparency in auction procedures, and the need for real-time reporting to ensure adherence to sharia compliance. Interviews with stakeholders revealed that there was a significant demand for an integrated system capable of automating accounting processes and providing accurate, up-to-date financial information. Document analysis confirmed the inefficiencies in the current workflow, with time-consuming manual entries and reconciliation issues being the primary concerns.
b. System Design
   The system design phase focused on creating a user-friendly interface that integrates accounting functions with auction management. Use case diagrams highlighted the roles of various users, including accountants, managers, auctioneers, and customers, each having

specific access rights and functionalities. System modeling using data flow diagrams (DFD) and entity-relationship diagrams (ERD) provided a clear blueprint for the flow of data within the system and the relationship between various entities.

Prototyping allowed stakeholders to review the interface and key functionalities, ensuring that the design was intuitive and met their expectations. Feedback received during this phase was instrumental in refining the final design.

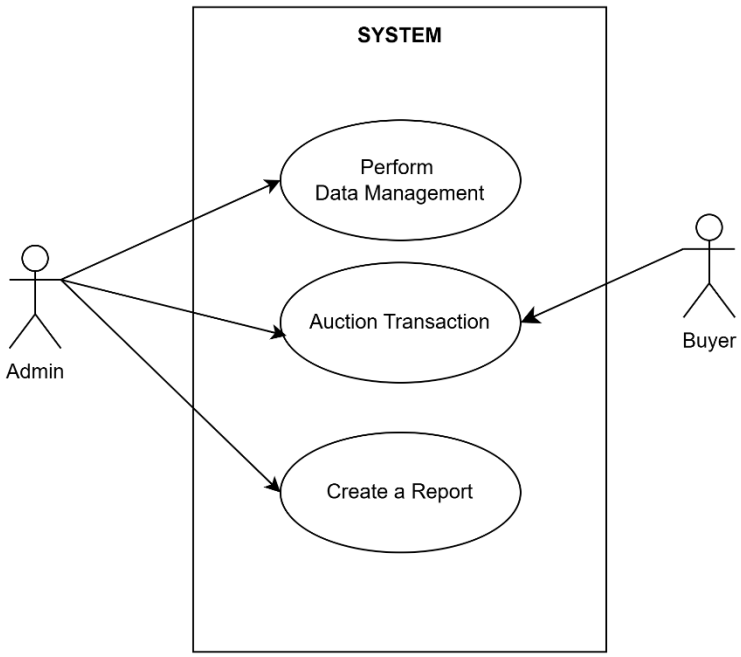

Figure 2. Use Case Diagram
Source: Author (2024)

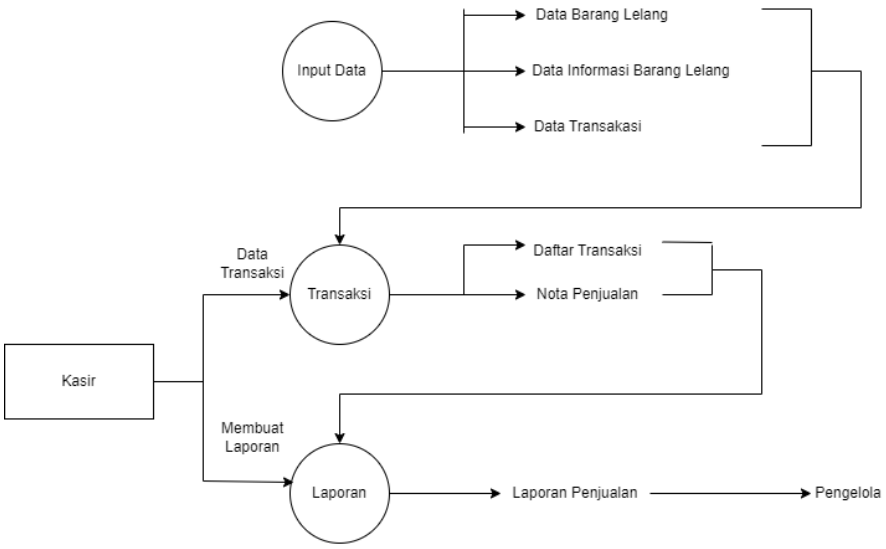

Figure 3. Data Flow Diagram (DFD)
Source: Author (2024)

c. System Development

The system development phase followed an agile methodology, enabling iterative development and frequent adjustments based on stakeholder feedback. Key features of the system included automated financial transaction processing, integration with auction management tools, and real-time reporting capabilities. The use of modern programming languages and frameworks ensured scalability and efficient performance.

Performance testing demonstrated that the system could handle peak loads without degradation in service quality, meeting the operational requirements of the company. Unit and integration testing confirmed the accuracy of financial data processing and the seamless flow of information between different modules.

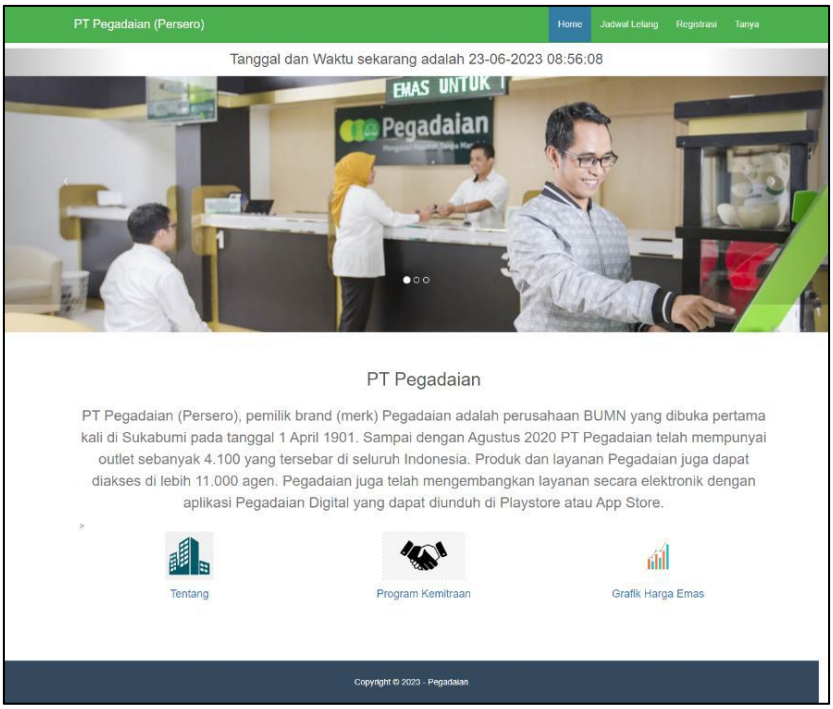

Figure 4. Dashboard Page
Source: Author (2024)

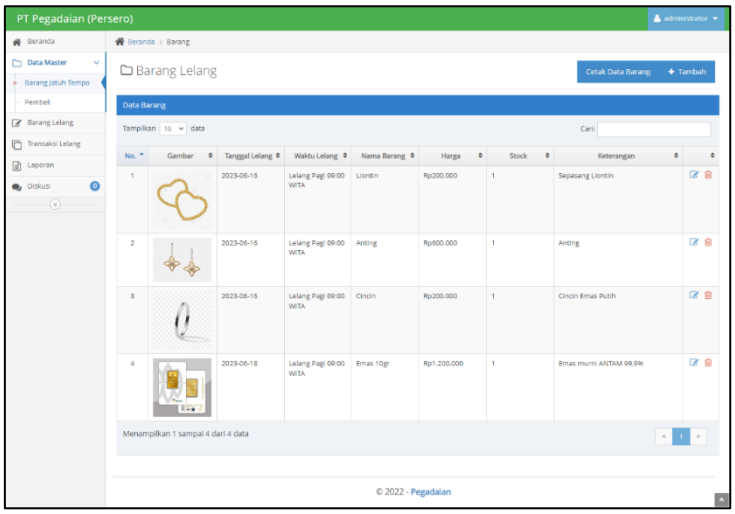

Figure 5. Overdue Auction Item Data
Source: Author (2024)

d. System Evaluation
   User feedback was collected from the accounting team, auctioneers, and managers after the system's implementation. The system's ability to streamline accounting workflows and enhance transparency in auction transactions was highly praised. Compliance checks with sharia principles confirmed that the system adhered to the ethical and regulatory standards required by Islamic finance. The integration of accounting functions with auction management tools provided real-time data analysis, enabling better decision-making and compliance assurance.

The successful implementation of the web-based accounting information system not only improved operational efficiency but also facilitated the company's adherence to sharia principles, ensuring a harmonious balance between modern technology and traditional values.

Discussion

The integration of a web-based accounting information system in a sharia-based auction company presents several advantages, including automated transaction processing, enhanced transparency, and real-time reporting. By addressing the inefficiencies of manual workflows, the system contributes to compliance with sharia financial principles and the overall growth of the company.

The agile development approach adopted during the system's creation allowed for continuous feedback and iterative improvements, resulting in a more robust and user-friendly product. The system's adaptability and scalability were essential in meeting the evolving needs of the company.

Challenges encountered during the development process, such as aligning system functionalities with sharia compliance and managing user adoption, were effectively addressed through close collaboration with stakeholders and rigorous testing. These efforts ensured that the final product not only met technical requirements but also aligned with the ethical framework required by sharia law. In conclusion, the successful development and implementation of a web-based accounting information system offer valuable insights for other sharia-based auction companies considering similar technological advancements. It underscores the importance of combining traditional values with modern solutions to achieve operational excellence and regulatory compliance.

4. Conclusions

The development of a web-based accounting information system for a sharia-based auction company has successfully streamlined operations, enhanced transparency, and improved financial reporting efficiency. By integrating accounting functionalities with auction management tools, the system has enabled automation of complex financial transactions and reduced the risk of human error. Additionally, the agile development approach allowed for ongoing feedback and refinement, ensuring alignment with both the company's operational needs and sharia compliance standards. Positive user reception and adherence to ethical and regulatory standards highlight the importance of integrating modern technology with traditional values. Overall, the system's introduction has enabled the company to achieve a harmonious blend of technological advancement and ethical business practices, supporting operational excellence and reinforcing the company's commitment to sharia principles.

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