

Optimizing Gold Jewelry Merchandising: An Advanced Accounting Information System Analysis

Corresponding Author
Dr. Ranu Sharma, Ph.D.
Department of Management,
IIS (Deemed to be University), Jaipur,
Rajasthan

Abstract- Many agree that gold is a reliable investment that can hedge against inflation, as its price generally increases with rising inflation rates, often outpacing the rate of inflation itself. In Indonesia, the selling price of gold jewelry depends on the gold exchange rate on the transaction day, the gold content in the jewelry, and production or marketing costs. Gold comes in various forms and sizes, adding to the uniqueness and complexity of the gold jewelry business. One notable complexity is the transaction system, which often resembles a barter system, requiring merchants to track their inventory when customers sell back their jewelry. Consequently, an integrated computer system is essential for gold merchandisers to manage these complexities effectively. This paper focuses on developing an integrated accounting information system for gold merchandisers, aiming to handle the business's intricacies and provide accurate and reliable accounting information.

Keywords- accounting information system, gold exchange rate, merchandise inventory, trustworthy information of accounting.

1. INTRODUCTION

Many people agree that gold is a reliable investment product capable of anticipating inflation. Statistically, gold prices tend to rise when inflation rates increase, sometimes even surpassing the rate of inflation. Women, in particular, are familiar with gold jewelry and often prefer tangible investments they can hold and see, such as savings, deposits, gold, or property. Many women choose gold jewelry not only for its beauty but also as an investment. Entrepreneurs in the gold jewelry business serve as retail merchants, delivering gold jewelry to

consumers based on orders. Their business activities include producing and selling gold jewelry, creating custom pieces, ordering from suppliers, buying back jewelry from customers, repairing and modifying jewelry, and accepting jewelry as collateral for loans. The gold jewelry business involves substantial money circulation, necessitating thoroughness, accuracy, and speed in processing business information from the outset. Reliable information is crucial for both operational and business decision-making. An adequate information system can significantly enhance the competitiveness of small and medium-sized entrepreneurs. This paper aims to develop and design an accounting information system for general gold jewelry merchandisers, focusing on inventory cycles, including purchasing from suppliers, selling to consumers, accepting pawns from customers, and managing the circulation of gold bullion as cash.

2. INFORMATION SYSTEM IN GLOBAL TRADE

E-business through the internet has transformed global activities, business communication, and trade, making intangible concepts tangible in the global economy. International Technology Systems (ITS) and International Communication Technology (ICT) have revolutionized marketing, purchasing, and selling, enabling transactions to occur in seconds across the globe, even in industries like jewelry. E-business has streamlined international business activities, including manufacturing, transportation, customs, port operations, shipping, purchasing, and sales. Traditional trading required extensive documentation, manpower, time, capital, and security, resulting in lost man-hours due to repetitive operations. Innovations in IT have revolutionized international business by enhancing productivity and service efficiency. The use of ICT in managing and processing information has simplified business operations, particularly in the jewelry sector, saving time, reducing costs, and minimizing the need for manual data input. Consequently, manual trading processes have become obsolete and irrational.

3. ACCOUNTING INFORMATION SYSTEM (AIS)

As part of an information system, an Accounting Information System (AIS) integrates accounting with the design, implementation, and monitoring of information systems. Establishing an effective AIS involves six key components. First, there are the people who use

and operate the system, ensuring its smooth functioning. Second, there are the procedures and instructions that outline how to collect, manage, and store data efficiently. Third, the data itself, which pertains to the company's business processes and operations, forms the core of the AIS. Fourth, software applications are necessary to process and analyze this data accurately. Fifth, the technological physical infrastructure, including hardware and network systems, supports the AIS and enables it to perform its functions effectively. Finally, internal controls and security measures are crucial for safeguarding the data, ensuring its integrity, and protecting it from unauthorized access or breaches. Together, these components create a comprehensive AIS that enhances the accuracy, efficiency, and security of accounting and financial operations.

4. GOLD CLASSIFICATIONS

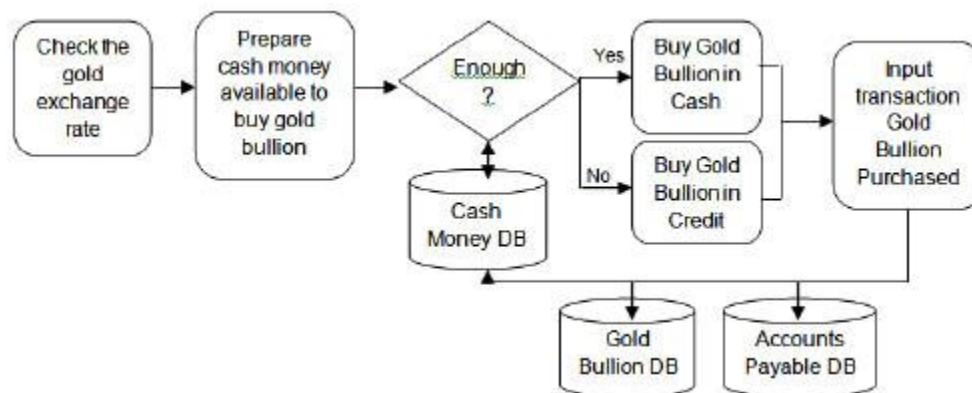
All gold jewelry shops use gold bullion as a medium of exchange to purchase gold jewelry for their inventory. The classification of these inventories generally includes three main categories: the type of gold, the group of gold jewelry, and the weight range of the gold jewelry. The types of gold are categorized into three distinct groups: old gold, half old gold, and young gold. Gold jewelry is further divided into six specific groups: piercings, necklaces, bracelets, rings, earrings, and pendants. Each group of gold jewelry is then organized by weight ranges, allowing for precise inventory management. This classification system helps jewelry shops maintain a well-structured inventory, ensuring they can efficiently track and manage their gold jewelry stock. By categorizing their inventory based on type, group, and weight, these shops can streamline their operations, make informed purchasing decisions, and provide a wide variety of options to their customers.

5. PURCHASING SYSTEMS

To acquire gold bullion, merchandisers purchase it from gold bullion suppliers using cash. Gold bullion contains 100% gold content, and its purchase value aligns with the prevailing market exchange rate, similar to currency exchange rates that fluctuate constantly. When recording this transaction in the accounting journal, the entry is "Gold Bullions (Debit)" and "Cash (Credit)." In financial statements, gold bullion used as an exchange medium is classified

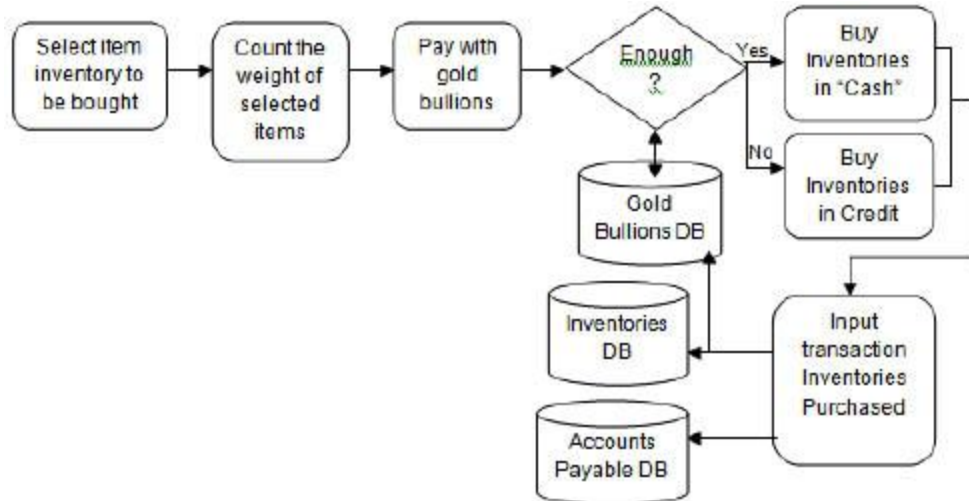
under the Cash Group within Current Assets on the Balance Sheet. This classification ensures accurate representation of the company's liquid assets, reflecting the value of gold bullion as readily available financial resources. This accounting practice helps maintain precise financial records, allowing for better management of assets and financial planning.

Figure 1:Gold Bullion Purchased



In gold jewelry businesses, merchandisers acquire their inventory from distributors not with cash, but using gold bullion as the medium of exchange. The inventories purchased come in various types, sizes, and models. For instance, if a merchandiser possesses 1 kg of gold bullion, they can only purchase items totaling 1 kg in weight. It's important to note that the total weight of each item includes accessories, which may not be gold, and the gold content in these items can be less than 100%, unlike the gold bullion, which is 100% gold. Additionally, there are numerous extra costs associated with each item, and the total purchasing price is valued in gold bars based on the gold exchange rate on the transaction day. The journal entry for this transaction is "Inventory (Debit)" and "Cash – Gold Bars (Credit)." Each inventory item is meticulously recorded in the system, including details such as the supplier, total weight, gold content, the value of accessories that might be more valuable than gold, and any additional costs. This detailed recording ensures precise inventory management and accurate financial tracking.

Figure 2: Inventory Purchased



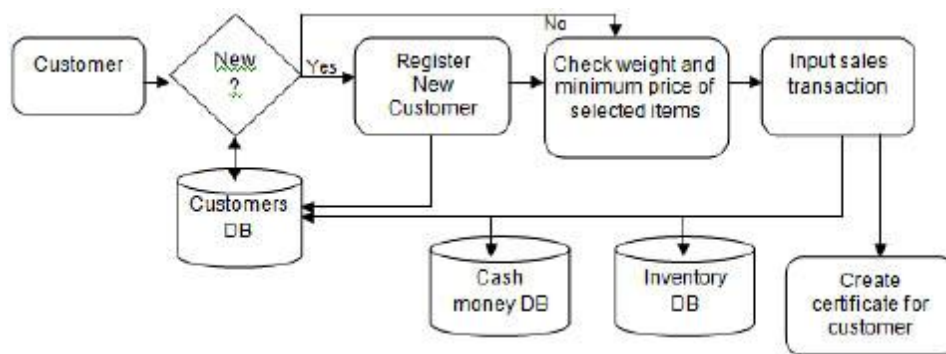
When inventories are purchased on credit in the gold jewelry business, the payment is also made using gold bullion. Consequently, the merchandiser must acquire additional gold bullion to settle the outstanding payables. This process involves purchasing gold bullion, which maintains 100% gold content, at the current market exchange rate. Upon acquiring the bullion, the merchandiser uses it to fulfill the credit obligations for the inventory purchased. The journal entry for recording this transaction includes "Inventory (Debit)" to acknowledge the addition of goods, "Accounts Payable (Credit)" to reflect the outstanding payment, and subsequently, "Accounts Payable (Debit)" and "Cash – Gold Bullion (Credit)" when the payment is made. This method ensures that the financial records accurately reflect the purchase and payment cycle, maintaining precise accounting of inventory and liabilities.

6. SELLING SYSTEMS

Merchandisers sell their inventory to end consumers, with the selling price calculated based on the market exchange rate for 1 gram of gold, the percentage of gold content in each item, and additional costs. For example, if a necklace contains 70% gold, weighs 3 grams, and the exchange rate for 1 gram of gold is IDR 400,000, with additional costs of IDR 30,000 per gram, the total price would be $(70\% \times \text{IDR } 400,000 \times 3 \text{ grams}) + (\text{IDR } 30,000 \times 3 \text{ grams}) = \text{IDR } 930,000$. The cost of goods sold (CGS) for this item is based on the total purchase cost, adjusted

for the pure gold content using the gold exchange rate on the selling date. The journal entries for this transaction include: "Cash (Debit)" to "Sales Revenue (Credit)" for the selling price, "Merchandise Inventory (Debit)" to "Gain for Different Exchange Rate (Credit)" or "Loss for Different Exchange Rate (Debit)" to "Inventory (Credit)" to account for exchange rate fluctuations, and "CGS (Debit)" to "Inventory (Credit)" for the cost. Customers receive certificates for their purchases, which can be used for pawning or selling the jewelry back to the merchandiser.

Figure 3: Selling Workflow



7. PAWN SYSTEMS

Customers experiencing financial difficulties may choose to pawn their gold jewelry by bringing it to the original shop or any other gold jewelry shop, presenting their purchase certificate. In a pawn system, customers, referred to as pawners, borrow money from the shop by using their gold jewelry as collateral. They are given a limited time to repay the loan or make installment payments. The journal entries for these transactions are as follows:

1. When the pawn transaction occurs:
 - "Pawn Receivable (Debit)" and "Cash (Credit)" to record the cash disbursement for the loan.
 - "Cash (Debit)" and "Pawn Receivable (Credit)" to record payments or installments received from the pawnier.

- "Pawn Inventory (Debit)" and "Pawn Receivable (Credit)" to account for the pawned jewelry if the pawner fails to repay the loan, resulting in the item being moved to pawn inventory.
2. When the pawned jewelry is serviced and returned to inventory:
- "Pawn Inventory (Debit)" and "Cash (Credit)" to record service costs incurred.
 - "Merchandise Inventory (Debit)" and "Pawn Inventory (Credit)" along with "Gain (Loss) of Exchange Adjustment (Credit)" to adjust for the difference between the pawn value plus service costs and the gold jewelry's value based on its weight and the current gold exchange rate.

This accounting process ensures accurate tracking of pawn transactions, proper adjustment for service costs, and correct valuation of the gold jewelry inventory.

Figure 4: Pawn Workflow

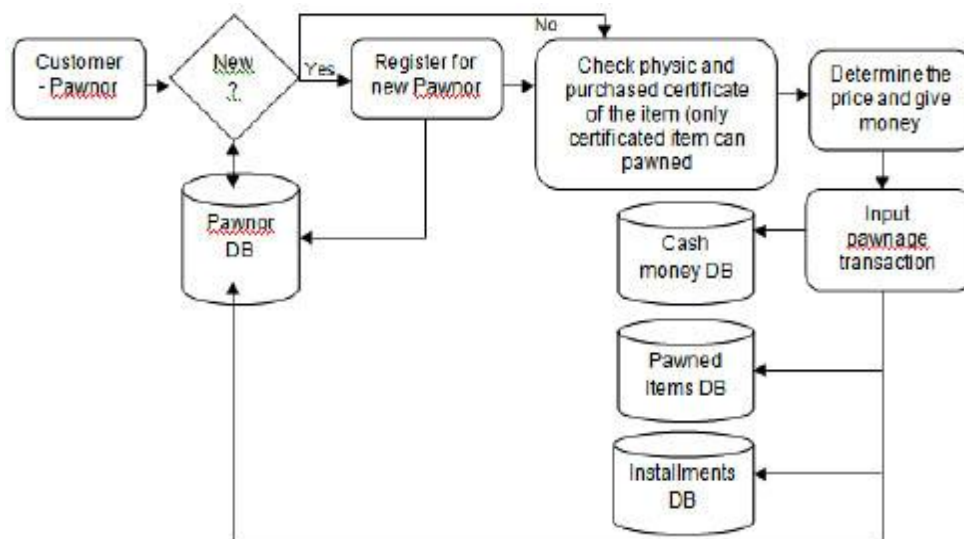
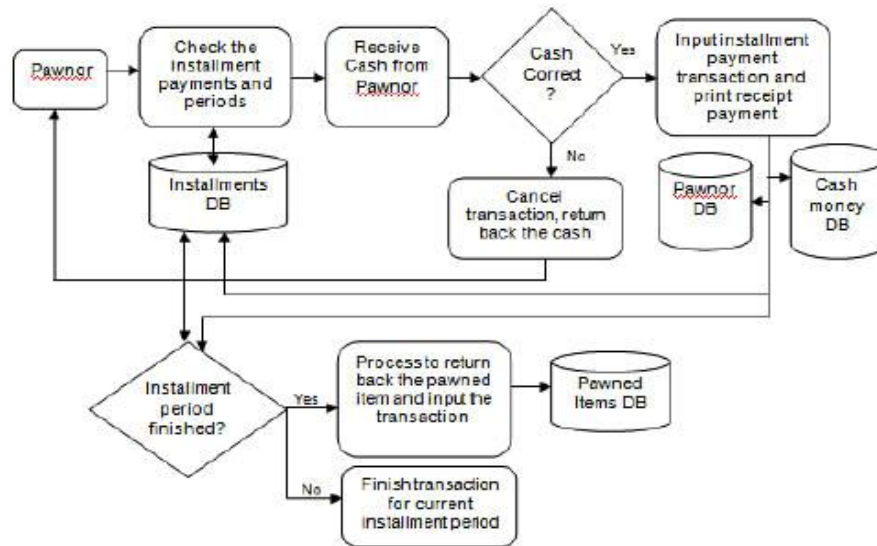


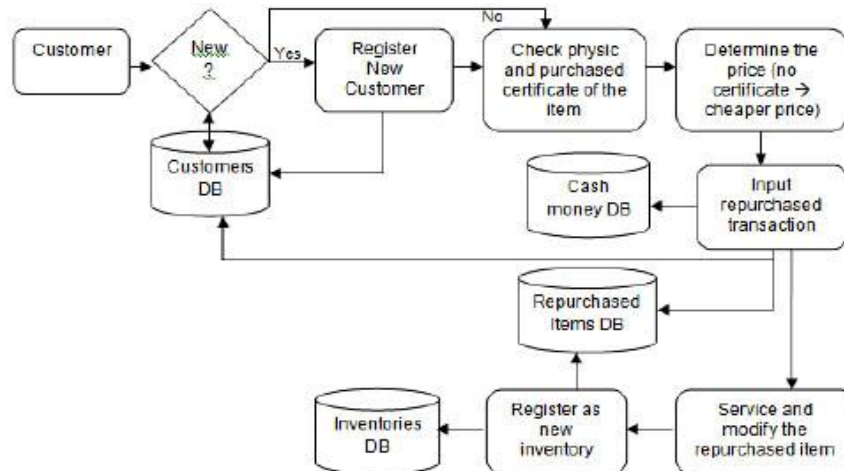
Figure 5: Pawn Installment Workflow



8. REPURCHASED SYSTEM

In addition to pawning, customers can sell back their gold jewelry, which is valued based on the weight of the gold and the current exchange rate on the transaction date. The weight is calculated excluding any accessories attached to the jewelry. After repurchase, the jewelry is serviced and modified before being added to merchandise inventory, with the additional servicing costs included in the inventory valuation. Any discrepancy between the repurchase cost and the adjusted inventory value is recorded as a gain or loss on the transaction. The journal entries for this process include: "Repurchased Item (Debit)" to "Cash (Credit)" to document the payment made to the customer; and "Merchandise Inventory (Debit)" to "Repurchased Item (Credit)" and "Gain (Credit)" or "Loss (Debit)" on transaction to reflect the adjustment based on gold value and service costs. This ensures accurate accounting for the repurchased jewelry and proper financial reporting.

Figure 6:Repurchased Workflow



9. WEB-BASED APPLICATION

The web-based application will be developed to implement this information system, offering several advantages including lightweight operation, hardware independence, real-time data updating, and real-time monitoring. The application is designed to be resource-efficient, relying on the server for most of its processing tasks, which minimizes the hardware requirements on the user's computer. Users can access the system from any computer with varying specifications via a web browser, as the application runs on the server rather than the client machine. Real-time data updating ensures that gold prices and other critical information are current, enhancing the reliability of the accounting data. Additionally, the owner can monitor and generate reports from the server at any time, facilitating immediate auditing of transactions across multiple shops and enabling the detection of errors in real-time. This setup eliminates the need for delays and provides efficient oversight, regardless of the number of locations.

10. CONCLUSION

In the modern competitive jewelry market, enterprises strive to maintain a global standard of excellence, focusing on customer satisfaction and market competitiveness. Information technology (IT) plays a crucial role in providing a competitive edge by offering various tools and solutions. Adopting IT tools in the jewelry business yields significant advantages, such as enhanced global reach, accelerated operations, efficient idea sharing,

reduced manpower, and minimized capital wastage. E-business capabilities allow for seamless buying and selling transactions across international borders. For instance, internet banking facilitates swift and secure payment processing, while a well-designed website serves as a virtual showroom, enabling global access to jewelry products, demonstrations, and sales. This online platform can also offer after-sales support, discussion forums, customer feedback opportunities, and educational resources on e-based trading. Additionally, applications like Electronic Data Interchange (EDI) streamline logistics operations by eliminating paperwork and reducing costs, contributing to more efficient and cost-effective business practices.

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