

ANALYSIS OF THE EFFECT OF THE CASHIER CLOSING SYSTEM ON THE ACCURACY OF CASH BILLING CROSCHECK AT JIH HOSPITAL, YOGYAKARTA



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Abstract

This research investigates the influence of the cashier system closing process on the accuracy of cash billing cross-checks at PT Unisia Medika Farma (RS JIH) in Yogyakarta. Employing a mixed-methods approach, the study combines quantitative analysis of cash billing records from July, August, and December 2024 with qualitative insights from in-depth interviews with accounting staff. The findings reveal persistent inaccuracies in recording journal dates, with error rates ranging from 7.70% to 8.40% across the three months, indicating a systemic issue within the closing procedures. Qualitative analysis identified four main themes: human error as the primary constraining factor, established policies and procedures that face implementation gaps, significant impacts on financial stability including receivables backlogs and disrupted cash flow, and potential strategies for improvement. These strategies include implementing continuous training programs, stricter monitoring of outstanding receivables, enhancing inter-unit communication, and exploring automation technologies. The research contributes practically by providing data-driven recommendations for strengthening financial controls at RS JIH, and theoretically by extending the study of cashier system accuracy into the complex healthcare environment. The study concludes that improving the cashier system closing process is essential for enhancing financial reporting accuracy, strengthening internal controls, and ultimately supporting the hospital's capacity to deliver quality patient care through sound financial management.

Keywords: Cashier System Closure, Accuracy, Cash Billing Cross-Checking, Financial Management

INTRODUCTION

The financial management systems within a healthcare institution are a critical determinant of its operational effectiveness and service quality. Beyond simple record-keeping, the accuracy of financial transactions directly impacts a hospital's ability to manage resources, plan strategically, and maintain regulatory compliance. At the heart of this financial ecosystem lies the cashier system, a primary tool that records the daily influx of revenue from a multitude of services, including consultations, pharmacy sales, inpatient care, and diagnostic procedures. The integrity of this data, however, hinges on a crucial procedural step: the closing process. This process, which involves the verification, reconciliation, and finalization of daily transactions, ensures that financial records are accurate, complete, and ready for integration into broader accounting systems. A flawed or delayed closing can lead to data discrepancies, cash mismanagement, and a compromised audit trail, ultimately undermining the financial health and credibility of the hospital.

PT Unisia Medika Farma, operating as Rumah Sakit JIH (JIH Hospital) in Yogyakarta, stands as a prominent private healthcare provider committed to excellence and innovation. With a vision to become a leading premium hospital, JIH has invested significantly in modern medical technology and professional human capital. This commitment extends to its financial operations. However, like many high-volume healthcare providers, JIH faces the ongoing challenge of ensuring absolute accuracy in its financial records. While the hospital has implemented an advanced accounting system, a structured analysis of how its cashier closing procedures influence data accuracy has not been systematically conducted. As Rini Utari and Junita Putri Rajana Harahap (2024) emphasize, ensuring a system's compatibility with existing infrastructure is vital. Currently, JIH lacks a structured procedure for such analysis, meaning many errors risk going unidentified. Preliminary observations indicate that inconsistencies, often stemming from the cashier system closing process, pose a risk to the accuracy of subsequent cash billing crosschecks.

The absence of this analysis means valuable feedback from accounting and cashier staff those on the front lines is not effectively harnessed for improvement. This oversight ignores a key resource; as Hendrawan et al. (2025) note, digitalization and staff training significantly boost administrative speed and productivity, highlighting the importance of integrated systems and human resource development. Without a mechanism to capture this feedback, the hospital misses opportunities to refine its closing process. This gap can lead to operational inefficiencies, complicate internal audits, and potentially impact budgetary planning. In an increasingly competitive healthcare landscape, refining financial management systems is a strategic imperative. According to K et al. (2025), the proper implementation of management systems can integrate data analysis and feedback, which in turn enhances the efficiency of financial recording and supports strategic decisions.

This research, therefore, seeks to address this critical gap by investigating the influence of the cashier system closing process on the accuracy of cash billing crosschecks at PT Unisia Medika Farma (RS JIH). The study aims to identify the key factors that hinder an effective closing procedure and to formulate actionable strategies for improvement. By integrating on-the-ground observation with relevant academic literature, this research will provide a data-driven analysis to enhance the hospital's financial controls. The findings are expected to offer practical recommendations for management to strengthen internal controls

and improve reporting accuracy, while also contributing to the broader academic discourse on financial process optimization within the healthcare sector. Ultimately, this study aspires to support RS JIH in its pursuit of operational excellence, reinforcing its ability to deliver high-quality care through a foundation of financial integrity.

REVIEW OF LITERATURE

A review of recent studies highlights the critical role of cashier systems in enhancing financial accuracy. Research by Ariningtyas and Purnamawati (2025) on SMEs in Denpasar Timur found that using cashier applications like POS and Qasir produces information accurate enough for financial reporting and significantly reduces human error in recording transactions. Similarly, Orlando and Riastuti (2025) demonstrated that a web-based cashier system effectively improves the accuracy and efficiency of financial management in SMEs. Complementing these findings, Miswati et al. (2025) concluded that the iPOS 15 cashier application has a positive impact on recording efficiency, data accuracy, and the speed of financial report preparation.

While these studies consistently affirm the positive impact of digital cashier systems on financial data accuracy, they are predominantly focused on the Small and Medium-sized Enterprise (SME) sector. This creates a distinct research gap, as the scale, complexity, and regulatory environment of a large healthcare institution like a hospital differ significantly from those of an SME. The high transaction volume, integration with complex billing systems (such as BPJS in Indonesia), and stringent audit requirements in a hospital setting present unique challenges for cashier system closing processes that are not addressed in the existing SME-focused literature.

Accounting Theory

Accounting serves as the fundamental language of business, providing a structured system for recording, reporting, and analyzing financial transactions. According to Nasution et al. (2025), an Accounting Information System (AIS) is vital for enhancing the quality of financial reports by accelerating data processing and improving accuracy. Modern technologies like cloud computing and AI support AIS effectiveness, but its success is also contingent on competent human resources and strong internal controls. Nariman et al. (2024) elaborate on the key functions of accounting, which include: (1) Financial Reporting through structured statements like balance sheets; (2) Decision Making by providing managers with data for analysis and strategy; (3) Planning and Control through budgeting and performance monitoring; (4) Performance Assessment via trend and ratio analysis; and (5) Tax Compliance by ensuring accurate calculation and reporting of tax obligations.

Management Information Systems

A Management Information System (MIS) is a network of data processing procedures designed to provide internal and external information for decision-making to achieve organizational goals (Amijoyo et al., 2022). In the context of a cashier, an MIS is a system designed to facilitate business owners in managing product data, monitoring inventory, and processing transaction data (Yessayabella & Adys, 2021). An effective application or system is crucial because it can record and summarize business information accurately and quickly, simplifying processes like transaction recap, data input, and data verification (Syukri et al., 2023).

Control Theory

Management control is the process by which managers influence other members of the organization to implement strategies effectively and efficiently (Sari & Herawati, 2023). It is a system involving planning, measurement, and evaluation to help managers achieve organizational objectives (Fauzan, 2024). A formal management control system is the specific method used by management to control a company's activities (Chandra, 2017). This involves influencing members to align with the organizational strategy.

Risk Management

Risk is an inherent aspect of business that must be anticipated (Sidik et al., 2022). Risk management is a systematic process involving the application of policies and procedures to identify, assess, treat, monitor, and review risks. Its purpose is to protect the company from potential losses (Saputra et al., 2022). A critical step in this process is risk control, which aims to reduce risk to the lowest possible or tolerable level (Kesehatan et al., 2025). For a hospital's cashier system, this means controlling risks like data entry errors or cash discrepancies.

Internal Control

Internal control is a process designed to provide reasonable assurance regarding the achievement of objectives related to operations, reporting, and compliance (Sih Kusumawardhany & Kurnia Shanti, 2023). It is an integral part of an entity's infrastructure. Internal audit, a key component of internal control, is an independent and objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes (Opan Arifudin et al., 2020).

Conceptual Framework

Based on the literature and the observed problems at JIH Hospital, the conceptual framework for this research is illustrated in Figure 2.1. The central premise is that the Cashier System Closing Process is a critical control point influencing two key divisions: Billing and Accounting. An ineffective closing process can lead to transactional imbalances, causing inaccuracies in billing records and potential revenue loss. For the accounting division, this can manifest as disrupted cash flow and reconciliation issues. This situation necessitates a thorough Cross-Check to detect and correct discrepancies. By analyzing the factors hindering the closing process, this study will evaluate the current system and formulate recommendations aimed at improving the closing procedure. The desired outcome is enhanced accuracy in cross-checking cash billing, leading to more reliable financial reports and greater overall financial stability for the organization.

RESEARCH METHOD

This study employs a mixed-methods approach, combining qualitative and quantitative methodologies to analyze the influence of the cashier system closing process on the accuracy of cash billing cross-checks at PT Unisia Medika Farma (RS JIH). A case study design is utilized to explore the specific issues within the hospital's Accounting Division, enabling an in-depth analysis of the cross-check process and its impact on financial reports. The unit of analysis is the cashier officers and accounting staff, selected for their direct

involvement in transaction recording and cash management. Primary data is sourced through multiple techniques. Quantitative data is collected by analyzing cash billing records obtained during the internship period and through direct observation of the cross-checking and transaction recording activities. Qualitative data is gathered via in-depth interviews with accounting staff to explore their experiences, challenges, and perspectives regarding the closing procedure and its effect on cross-check accuracy. For data analysis, this research combines descriptive and narrative techniques. Descriptive analysis is used to present quantitative data from cash billing records, such as the frequency of closing errors, to provide an empirical representation of accuracy levels and identify patterns of common discrepancies. Narrative analysis is employed to examine the in-depth interviews, allowing for the systematic reconstruction of staff experiences and revealing the underlying factors affecting cash management effectiveness. By integrating these data sources and analytical techniques, the research aims to provide a comprehensive understanding of how the cashier system closing process influences billing accuracy, thereby forming a strong empirical basis for formulating realistic and effective recommendations to improve the hospital's financial control systems.

RESULTS AND DISCUSSION

Result:

This study's primary data was gathered through a mixed-method approach, combining in-depth interviews with a key respondent and quantitative analysis of cash billing records. The main respondent was Ms. Zahra, S.Ak., a staff member of the Accounting Division at PT Unisia Medika Farma (RS JIH Yogyakarta). Informal interviews were conducted throughout a four-month internship, complemented by a formal 120-minute interview to explore dimensions of the cash billing cross-check process, with a particular focus on the cashier system closing.

Quantitative data from cash billing records for July, August, and December 2024 was analyzed to support the qualitative findings. The qualitative analysis, using thematic techniques, revealed four main themes regarding the closing process and its impact on cross-check accuracy. First, several constraining factors hinder the closing process. The most prominent is human error, such as incorrect data input where a recorded payment differs from the actual amount received. Other issues include patients with outstanding balances, cashiers reducing the petty cash fund, and technical delays caused by other hospital units accessing the system's data, which slows down the daily closing procedure.

Second, the hospital has established specific policies and handling procedures to address inaccuracies. A Standard Operating Procedure (SOP) mandates strict verification before closing. When errors are detected, the accounting team confirms with the billing unit, which then creates an official report detailing the discrepancy. This report must be approved by the Director of Operations and Finance before the financial records are corrected.

Third, the analysis identified significant impacts stemming from the closing process. Inaccuracies directly affect financial stability, creating backlogs in receivables and disrupting cash flow forecasts. These issues complicate financial management and can affect the hospital's operational liquidity.

Finally, based on these challenges, several strategies were identified to improve cross-check accuracy. These include implementing continuous and updated training for cashier staff to minimize human error, stricter monitoring of outstanding receivables, and enhancing inter-unit communication to ensure smoother data verification and correction processes.

Discussion:

The findings of this research reveal a complex interplay between operational procedures, human factors, and technological systems in determining the accuracy of financial records at Rumah Sakit JIH. The quantitative data on cash billing inaccuracies, combined with qualitative insights from staff interviews, provide a comprehensive picture of the challenges and potential pathways for improvement. The following sub-sections discuss these findings in relation to the established theoretical frameworks and previous research.

Analysis of Cash Billing Data Inaccuracies

The quantitative analysis of cash billing records from July, August, and December 2024 revealed persistent inaccuracies in recording journal dates, as illustrated in Figure 1. The data shows error rates of 7.70% in July, 7.80% in August, and a peak of 8.40% in December. While these percentages may appear modest, their cumulative effect on financial integrity is substantial. Each inaccuracy represents a discrepancy between the recorded transaction date and the actual deposit date, creating misalignments that complicate the cross-checking process between the billing and accounting divisions.

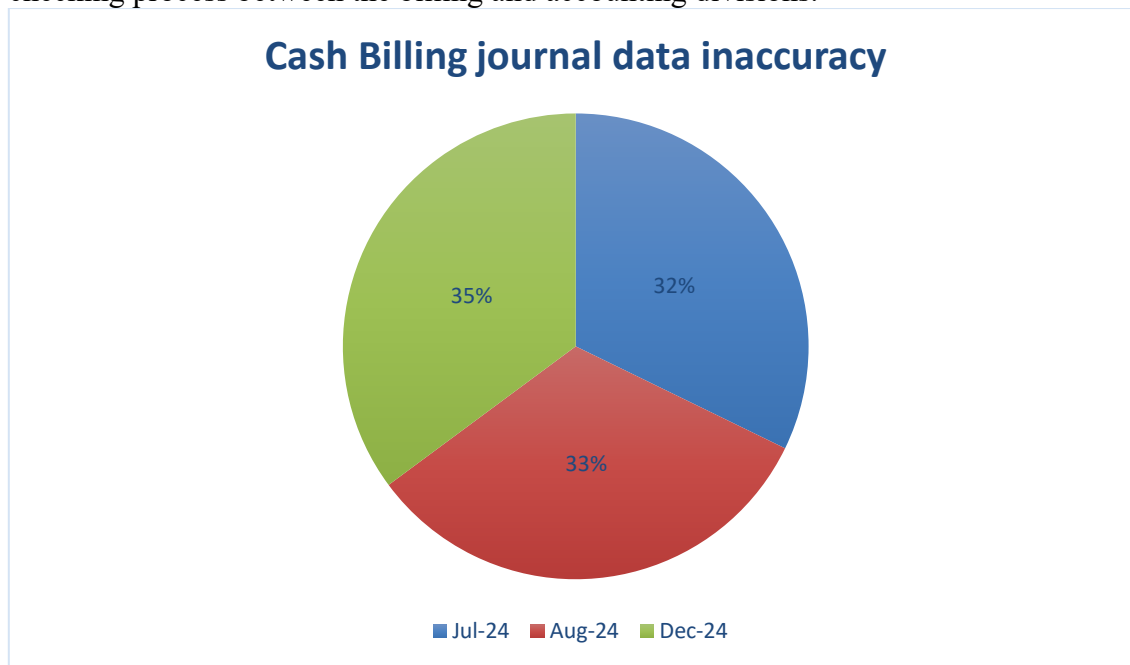


Figure 1

Percentage of Cash Billing Data Inaccuracies (July, August, December 2024)

The distribution of these errors 35% in July, 32% in August, and 33% in December, demonstrating that this is not an isolated problem but a systemic issue within the closing process. These inaccuracies directly undermine the reliability of financial reports, as they create inconsistencies that require additional time and resources to reconcile. More critically, they delay the availability of accurate financial data, which hampers management's ability to

make timely decisions regarding cash flow and operational planning. This finding underscores the theoretical assertion by Nasution et al. (2025) that while technology can accelerate data processing, its effectiveness is contingent upon accurate data entry and robust internal controls.

Constraining Factors in the Closing Process

The qualitative findings confirm that human error remains the most significant constraint in the cashier system closing process. The interview excerpt describing a cashier recording Rp965,000 instead of the actual Rp956,000 payment exemplifies the type of seemingly minor mistake that can have cascading effects on financial reporting. This finding aligns with Aimbu et al. (2021), who identified human error in data input as a primary cause of uncollectible receivables. The persistence of such errors, despite initial training, suggests that the current training programs may be insufficient in duration or depth.

Beyond human error, the research identified systemic constraints including technical delays when other hospital units access the cashier system, inconsistencies in petty cash management, and communication breakdowns between the cashier, billing, and accounting units. These findings support Syukri et al.'s (2023) assertion that an effective information system must facilitate seamless data processing across all organizational units. The technical delays observed at JIH indicate that while individual hardware components may be advanced, the integration between systems remains suboptimal.

Policy Implementation and Handling Procedures

Rumah Sakit JIH has established formal policies and Standard Operating Procedures (SOPs) to address inaccuracies in the closing process. The requirement for billing units to create official reports documenting errors, followed by approval from the Director of Operations and Finance before correction, demonstrates a commitment to internal control. This procedure aligns with the principles outlined by Sih Kusumawardhany and Kurnia Shanti (2023), who emphasize that internal control should be an integral part of organizational infrastructure, not merely an additional layer of oversight.

However, the research reveals a gap between policy and practice. While the SOP provides clear guidance, its effectiveness is compromised by inconsistent communication and collaboration between units. This finding resonates with Agustin (2019), who demonstrated that a humanistic approach to communication, combined with flexible payment mechanisms, enhances the effectiveness of collection processes. At JIH, strengthening inter-unit communication through regular briefings and cross-functional meetings could bridge the gap between formal procedures and daily practice, ensuring that all staff members understand not only their individual responsibilities but also how their roles interconnect.

Strategic Implications for Improving Accuracy

The accumulated impact of closing process inaccuracies extends beyond immediate operational disruptions to affect the hospital's long-term financial stability. The backlog of receivables from patients with outstanding balances creates liquidity pressures that are particularly acute for private hospitals without BPJS partnerships. This finding supports Apriliani et al. (2022), who demonstrated that effectively managed receivables positively impact future operational cash flow, while poorly managed receivables create significant risks.

To address these challenges, the research suggests a multi-faceted strategy. First, continuous training programs should be implemented to reinforce proper procedures and

reduce human error. Second, more stringent monitoring of outstanding receivables would enable earlier identification of payment risks. Third, enhanced inter-unit communication through regular meetings and shared performance metrics would facilitate smoother verification processes. Finally, exploring automation technologies that integrate seamlessly with existing systems could reduce manual errors and accelerate the closing process. As Rugian et al. (2021) emphasize, clear organizational structures combined with monitoring-based control systems create more responsive and adaptive financial management. By implementing these strategies, Rumah Sakit JIH can strengthen its financial controls, improve cash flow management, and ultimately enhance its capacity to deliver quality patient care.

CONCLUSION

This research investigated the influence of the cashier system closing process on the accuracy of cash billing cross-checks at PT Unisia Medika Farma (RS JIH) in Yogyakarta. Through a mixed-methods approach combining quantitative analysis of cash billing records with in-depth qualitative interviews, the study successfully identified key constraining factors, assessed their impacts, and formulated actionable strategies for improvement. The quantitative findings revealed persistent inaccuracies in recording journal dates, with error rates ranging from 7.70% to 8.40% across July, August, and December 2024. These discrepancies, while seemingly minor individually, accumulate to create significant challenges for financial reconciliation and reporting. The distribution of errors confirms this is a systemic issue within the current closing procedures, undermining the reliability of financial reports and complicating cross-checking between billing and accounting divisions. Qualitative analysis revealed four main themes. First, human error remains the most significant constraint, with incorrect data input creating cascading effects on financial records. Second, while the hospital has established formal Standard Operating Procedures (SOPs) to address inaccuracies, a gap exists between policy and practice due to inconsistent communication between units. Third, the impacts extend beyond operational disruptions to affect long-term financial stability, creating receivables backlogs and disrupting cash flow forecasts. Fourth, strategies for improvement include continuous training, stricter monitoring of outstanding receivables, enhanced inter-unit communication, and exploring automation technologies. The research makes both practical and theoretical contributions. Practically, it provides RS JIH with data-driven recommendations for strengthening financial controls. Theoretically, it extends the study of cashier system accuracy beyond the SME sector into the complex healthcare environment, confirming Nasution et al.'s (2025) assertion that technology effectiveness depends on accurate data entry and robust internal controls, while also validating Hendrawan et al.'s (2025) emphasis on continuous staff training. Study limitations include the three-month data sample, which may not capture longer-term trends, and qualitative insights primarily from a single respondent. Future research could expand to include multiple staff perspectives across units and longer time series analysis.

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