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Optimizing Hospital Financial Performance Through Claims Management and Internal Control: Manah Shanti Mahottama Hospital, Bali

I Made Darmada[1*], Nyoman Dwika Ayu Amrita[2], Putu Gede Denny Herlambang[3]
Universitas Ngurah Rai, Bali, Indonesia[1,2,3]
darmada_md@yahoo.com[1*], dwika.ayu@unr.ac.id[2], denny.herlambang@unr.ac.id[3]

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Abstract

Purpose: This study aims to analyze strategies for optimizing the financial performance of Manah Shanti Mahottama Hospital, Bangli, Bali, by examining BPJS Health claim effectiveness and internal control robustness.

Research Methodology: This study employed a mixed methods approach using a sequential explanatory design. Quantitative data were obtained from hospital financial reports for 2019–2025 and analyzed to examine the relationships among claim effectiveness, internal control robustness, and financial performance. Qualitative data were collected through in-depth interviews with 12 key informants to identify factors contributing to claim returns and operational challenges.

Results: The findings indicate that effective BPJS Health claim management significantly improves hospital financial performance, while robust internal controls strengthen both claim effectiveness and financial outcomes. Claim returns averaged 8.73% annually and were mainly associated with incomplete medical records, INA-CBGs coding errors, and late claim submissions. These findings highlight the importance of integrated claim management, internal control, and operational improvement.

Conclusions: Strengthening claim management and internal controls is essential for improving hospital financial sustainability. The findings support the development of the OPTIMA strategy as an integrated approach to improving claim processes, information systems, and adaptive management.

Limitations: This study focuses on a single hospital, limiting the generalizability of the findings to other healthcare institutions.

Contributions: This study contributes to hospital financial management literature by proposing the OPTIMA framework, which integrates process optimization, information technology, and adaptive management to strengthen claim effectiveness and financial performance.

Keywords: *BLUD, Financial Performance, BPJS Claim Effectiveness, Internal Control, Mental Hospital*

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1. Introduction

The implementation of the National Health Insurance (*Jaminan Kesehatan Nasional*/JKN) system administered by BPJS Kesehatan since January 2014 has fundamentally changed the healthcare financing structure in Indonesia. Through this system, healthcare providers, particularly hospitals as advanced referral healthcare facilities (*Fasilitas Kesehatan Rujukan Tingkat Lanjutan*/FKRTL), are required to manage service delivery and financial administration within a claim-based reimbursement mechanism. The expansion of JKN participation, which exceeded 267 million people by the end of 2023 (Badan, 2023), has increased the dependence of hospitals on effective claim management as a primary source of operational revenue. Consequently, the ability of hospitals to ensure accurate, timely, and complete claims has become a strategic factor influencing financial stability and long-term sustainability(Sijabat & Wijayanti, 2026).

Within a claim-based healthcare financing system, hospital financial performance is strongly influenced by the effectiveness of revenue cycle management. Claim effectiveness reflects the extent to which healthcare reimbursement processes are completed accurately, efficiently, and in accordance with administrative and clinical requirements. Ineffective claim management may result in claim rejection, delayed reimbursement, increased administrative workload, and disruption of hospital cash flow(Sulastri, Noviarti, Siagian, & Stefhani, 2026). Therefore, improving claim effectiveness is not merely an administrative concern but represents a strategic financial management issue that directly affects the capacity of hospitals to maintain service continuity and organizational sustainability(Munif & Firmansyah, 2024).

Manah Shanti Mahottama Hospital, located in Bangli Regency, Bali Province, provides a relevant context for examining these challenges. As a Regional Public Service Agency (*Badan Layanan Umum Daerah*/BLUD), the hospital has flexibility in managing its financial resources while being required to achieve effective financial performance and maintain healthcare service quality. Furthermore, as the only government-owned mental health hospital serving the Balinese community, the sustainability of its financial management has important implications for the continuity of specialized mental healthcare services. However, the hospital faces challenges related to BPJS claim returns, which directly affect revenue realization and operational efficiency(Sijabat & Wijayanti, 2026).

Based on internal hospital records, the average BPJS claim return rate at Manah Shanti Mahottama Hospital reached 8.73% during the 2019–2025 period. This figure exceeds the ideal tolerance limit of 2% recommended by the (Kemenkes, 2022). High claim return rates indicate inefficiencies in the reimbursement process and may create financial pressure through delayed payments, additional administrative procedures, and reduced liquidity. In healthcare organizations, particularly BLUD hospitals, unstable revenue flows may limit investment capacity, service improvement initiatives, and organizational development programs. Therefore, understanding the determinants of claim effectiveness becomes essential for developing strategies to improve hospital financial performance.

Previous studies have demonstrated the relationship between claim management and hospital financial outcomes. Yuliyanti and Thabrany (2018) found that delayed BPJS claim payments negatively affect hospital cash flow, with incomplete medical records, coding problems, and inadequate information systems identified as major contributing factors. Similarly, studies on BPJS claim administration have shown that pending claims are frequently associated with documentation incompleteness, administrative errors, and weaknesses in claim verification processes (Maulida & Djunawan, 2022). Recent evidence further indicates that effective claim management and financial management strategies are essential for maintaining hospital operational sustainability under the JKN system (Widiyaningsih, Gustiawan, Purwadhi, & Widjaja, 2025). These findings suggest that claim effectiveness functions as an important predictor of financial performance because efficient claim processes enable hospitals to optimize revenue realization and maintain operational sustainability.

Beyond claim effectiveness, internal control robustness represents another critical factor influencing hospital financial performance. Healthcare organizations operate within complex environments involving clinical services, financial transactions, regulatory compliance, and accountability

requirements. Therefore, strong internal control mechanisms are required to ensure that operational processes comply with established standards and minimize potential risks. According to the COSO Internal Control Framework, effective internal control consists of five interconnected components: control environment, risk assessment, control activities, information and communication, and monitoring activities (COSO, 2013).

In hospital settings, these components support accurate documentation, improve administrative compliance, reduce claim errors, and strengthen financial governance. The role of internal control is particularly important in BPJS claim management because reimbursement accuracy depends heavily on coordination between medical, administrative, and financial units. Weak internal controls may increase the possibility of incomplete records, inappropriate coding, and delayed claim submissions, which ultimately reduce claim effectiveness. Conversely, robust internal controls facilitate standardized procedures, improve information quality, and enhance organizational accountability. Previous studies have shown that effective internal control systems contribute to improved organizational performance and governance quality in public healthcare institutions (Widyaningrum, 2022). Therefore, internal control robustness is expected not only to directly influence financial performance but also to strengthen claim effectiveness as an intermediate mechanism.

From a strategic management perspective, improving hospital financial sustainability requires an integrated approach that combines operational efficiency, information management, and adaptive decision-making. Healthcare organizations must move beyond solving individual administrative problems and develop comprehensive strategies that align financial management with service quality objectives. Digital transformation, data-driven management, and continuous improvement practices have been recognized as important approaches for strengthening organizational resilience in complex healthcare environments (Kitsios & Kamariotou, 2021). Thus, integrating claim optimization and internal control strengthening provides a strategic pathway for BLUD hospitals to improve financial performance while maintaining healthcare service quality.

Although previous studies have examined hospital financial performance, claim management, and internal control separately, limited research has explored the integrated relationship between BPJS claim effectiveness and internal control robustness, particularly in BLUD mental health hospitals. Most existing studies focus on general hospitals or administrative aspects of claims, leaving limited understanding of how claim processes and governance mechanisms interact to support financial sustainability in specialized public healthcare institutions. This study addresses this gap by proposing the OPTIMA strategy, an integrated framework emphasizing process optimization, information technology utilization, and adaptive management practices.

Therefore, this study aims to analyze the effect of BPJS claim effectiveness on the financial performance of Manah Shanti Mahottama Hospital; examine the effect of internal control robustness on claim effectiveness and financial performance; and formulate an empirically based optimization strategy to strengthen financial sustainability in BLUD hospitals. Through this approach, the study contributes to healthcare financial management literature by explaining how operational efficiency and governance mechanisms can jointly support sustainable hospital performance within a claim-based financing system.

2. Literature Review

Financial performance optimization in BLUD hospitals requires a balance between revenue management effectiveness and internal governance capacity. Financial performance reflects an organization's ability to manage resources efficiently, maintain operational sustainability, and achieve institutional objectives through effective financial management practices. Previous studies emphasize that financial performance evaluation should consider not only financial outcomes but also efficiency, accountability, and organizational capability in managing resources (Perastia & Purnama, 2026). In the context of BPJS-based financing, claim effectiveness represents a critical operational mechanism because hospital revenue realization is highly dependent on the successful conversion of healthcare services into reimbursed claims. Delays, rejection, or return of claims may disrupt hospital cash flow

and reduce financial flexibility(Kumar, Ozdamar, & Ng, 2021). Therefore, improving claim effectiveness is expected to directly enhance financial performance by increasing revenue realization and reducing administrative inefficiencies(Braun & Clarke, 2006). This argument is consistent with the resource-based view, which emphasizes that organizational capabilities, including effective administrative processes, can become strategic resources that improve organizational outcomes (Barney, 1991).

As public healthcare organizations, BLUD hospitals require strategic management approaches that enable them to maintain financial accountability while ensuring continuous service delivery. BLUD institutions have greater flexibility in financial management; however, they remain accountable for achieving effectiveness and efficiency in resource utilization. Previous research on BLUD healthcare organizations highlights that strategic planning, organizational adaptation, and resource management capabilities are essential factors in improving institutional effectiveness (Heruddin, Suryaningsih, & Dewanto, 2025). Therefore, financial performance improvement in BLUD hospitals requires the integration of efficient revenue cycle management, effective governance mechanisms, and continuous organizational improvement.

The relationship between internal control robustness and claim effectiveness can be explained through control theory and agency theory perspectives. Strong internal control mechanisms reduce uncertainty and opportunistic behavior by ensuring that operational procedures comply with established standards. In hospital claim management, effective internal controls facilitate accurate documentation, appropriate coding practices, timely claim submission, and improved coordination among organizational units(Creswell & Plano, 2018). Consequently, hospitals with stronger internal control systems are expected to experience fewer claim discrepancies and higher reimbursement success rates. Previous studies confirm that internal control effectiveness contributes significantly to improving operational reliability, financial accountability, and organizational performance in public sector entities (Eton, Mwosi, & Ogwel, 2022).

Internal control systems should not be viewed merely as compliance mechanisms but also as strategic management tools that support organizational resilience. Based on the COSO framework, effective internal controls consist of five interconnected components: control environment, risk assessment, control activities, information and communication, and monitoring (COSO, 2013). In healthcare organizations, these components are particularly important because claim management involves complex processes requiring coordination among medical personnel, coding officers, finance departments, and external insurance administrators. Recent evidence indicates that improving internal control quality contributes to stronger institutional performance by enhancing transparency, monitoring effectiveness, and operational reliability (Mousa, 2026).

Furthermore, internal control robustness may influence financial performance not only directly but also indirectly through claim effectiveness. A well-designed control system improves the quality of claim management processes, which subsequently strengthens financial outcomes through higher claim acceptance and more predictable revenue streams. This mediating mechanism reflects the agency theory proposition that effective monitoring and control systems reduce information asymmetry and align managerial actions with organizational objectives (Jensen & Meckling, 1976). Thus, claim effectiveness serves as an important transmission mechanism linking internal control robustness to hospital financial performance(Ivankova & Plano, 2018).

The implementation of BPJS claim management also reflects the importance of information quality and coordination among hospital units. The claim submission process involves multiple stakeholders, including medical personnel, medical record departments, coding officers, finance units, and external insurance administrators. Weak coordination among these actors may increase the probability of administrative errors, incomplete documentation, and delayed reimbursement. From an organizational information perspective, improving communication systems and data integration can reduce information asymmetry and enhance decision-making effectiveness. Therefore, hospitals with better

information management capabilities are more likely to achieve higher claim effectiveness and stronger financial performance(Pradani, Lelonowati, & Sujianto, 2017).

Moreover, healthcare organizations face increasing pressure to adopt adaptive management strategies due to changes in reimbursement policies, healthcare regulations, and service demands. Internal control systems, digital capabilities, and governance mechanisms must continuously evolve to support organizational resilience. Effective governance structures have been shown to influence financial performance by strengthening monitoring mechanisms and improving managerial decision-making processes (Abu & Bamidele, 2022). This perspective demonstrates that sustainable financial performance is the result of interconnected managerial capabilities rather than a single operational factor(Organisation & Development, 2023).

The relationship between internal control robustness, claim effectiveness, and financial performance can also be understood through the dynamic capability perspective. Dynamic capabilities refer to an organization's ability to integrate, develop, and reconfigure internal resources to respond effectively to environmental changes (Teece, Pisano, & Shuen, 1997). In hospital financial management, the ability to improve claim processes, utilize information technology, strengthen monitoring mechanisms, and adapt to regulatory changes represents an important organizational capability. Therefore, hospitals that continuously enhance their claim management systems and internal control practices are expected to achieve more sustainable financial performance.

Based on these theoretical arguments, this study positions BPJS claim effectiveness as a key operational mechanism and internal control robustness as a strategic capability that jointly influence hospital financial sustainability. Unlike previous studies that primarily examine claim management or internal control separately, this research integrates both perspectives into a comprehensive model to explain how governance mechanisms improve financial outcomes in BLUD mental health hospitals(Putri & Nugroho, 2023). In addition, the sustainability of hospital financial performance within the BPJS financing system requires organizations to develop integrated governance and operational capabilities. The complexity of healthcare reimbursement mechanisms means that financial improvement cannot be achieved only through increasing service volume but also through ensuring the accuracy, transparency, and efficiency of administrative processes. Digital transformation and integrated healthcare information systems have become important enablers in improving data accuracy, reducing administrative errors, and accelerating decision-making processes. Previous research highlights that information technology adoption in healthcare organizations can enhance operational efficiency and support better financial management by improving information availability and process integration (Kitsios, & Kamariotou, 2021; Alotaibi, & Federico, 2023). Therefore, strengthening technological infrastructure represents an essential component in supporting claim effectiveness and internal control resilience(Simanjuntak, Simatupang, & Nasution, 2022).

Furthermore, the proposed relationship among internal control robustness, claim effectiveness, and financial performance reflects a broader perspective of organizational resilience in public healthcare institutions. Hospitals operating under financial pressure must be capable of adapting to regulatory changes, managing operational risks, and maintaining accountability to stakeholders. From this perspective, internal control systems function as strategic capabilities that enable organizations to anticipate risks, improve process reliability, and maintain sustainable performance. This study therefore extends previous research by integrating financial management, healthcare claim effectiveness, and governance mechanisms into a unified framework, providing empirical evidence on how BLUD hospitals can optimize financial sustainability through strengthened internal processes and adaptive management strategies.

3. Research Methodology

This study employed a mixed methods approach using a sequential explanatory design (Creswell & Creswell, 2018; Creswell & Plano Clark, 2018). This design integrates quantitative and qualitative approaches conducted in two sequential phases, where quantitative findings are first generated and subsequently explained through qualitative evidence. The use of this approach was considered

appropriate because the study aims to examine measurable relationships between internal control robustness, BPJS claim effectiveness, and financial performance while also exploring the organizational mechanisms and contextual factors underlying these relationships. The research was conducted at Manah Shanti Mahottama Hospital, Bangli Regency, Bali Province, a government-owned mental health hospital operating under the Regional Public Service Agency (BLUD) framework. The research population for the quantitative phase consisted of all financial

performance records, BPJS claim management reports, and internal control documents available during the 2019–2025 period. The quantitative sample was determined using a census approach because all available monthly financial and BPJS claim-related records within the observation period were included in the analysis. The research setting was selected purposively because the hospital experienced challenges related to BPJS claim returns and financial sustainability, making it a relevant context for examining the effectiveness of claim management and internal control practices.

Data collection was conducted from January to June 2024. Quantitative data were obtained from three main sources: audited BLUD financial reports of Manah Shanti Mahottama Hospital during 2019–2025; monthly BPJS claim reports containing information regarding submitted, approved, and returned claims; and Internal Control System (SPI) reports documenting internal monitoring activities. Financial performance was measured using hospital financial indicators reported in the BLUD financial statements, while claim effectiveness was assessed based on the proportion and management outcomes of BPJS claims. Internal control robustness was evaluated based on indicators derived from the hospital's Internal Control System reports, including control procedures, monitoring activities, and compliance mechanisms.

The qualitative phase involved purposive sampling to select 12 key informants who possessed direct knowledge and experience regarding BPJS claim management and internal control implementation. Informants consisted of the hospital director, finance department head, medical record unit head, coding officers, BPJS claim verifiers, and internal auditors. The selection criteria included: direct involvement in BPJS claim processing, financial management, or internal control activities; minimum work experience relevant to the research topic; and willingness to provide detailed information regarding operational practices and challenges. Qualitative data were collected through semi-structured in-depth interviews, participant observations of BPJS claim management processes, and document reviews of claim management SOPs and internal audit reports. The combination of multiple data sources enabled methodological triangulation to improve the credibility and contextual interpretation of the findings (Creswell & Creswell, 2018; Saunders et al., 2019).

The quantitative data analysis was conducted using multiple linear regression with SPSS version 26 to examine the effects of internal control robustness and claim effectiveness on financial performance. Prior to regression analysis, classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation tests, were conducted to ensure the reliability and validity of the regression model. Furthermore, path analysis was applied to examine whether claim effectiveness functions as an intervening variable in the relationship between internal control robustness and financial performance. This analytical approach was selected because it enables the examination of both direct and indirect relationships among variables, which is consistent with the conceptual framework of the study (Hair et al., 2022).

Qualitative data were analyzed using thematic analysis based on Braun and Clarke's (2021) framework, consisting of six stages: data familiarization, initial coding, theme development, theme review, theme definition and naming, and report preparation. To ensure qualitative rigor, this study applied credibility strategies through source triangulation, methodological triangulation, and member checking with selected informants. These procedures strengthened the trustworthiness of qualitative interpretations by ensuring that identified themes accurately reflected participants' experiences and organizational conditions (Nowell et al., 2017; Braun & Clarke, 2021).

The integration between quantitative and qualitative findings was conducted during the interpretation stage of the sequential explanatory design. Quantitative results were first analyzed to identify statistical relationships among variables. Subsequently, qualitative findings were used to explain the reasons, processes, and contextual conditions behind these statistical relationships. For example, significant quantitative relationships were further examined through interview data to understand how internal control practices and BPJS claim management procedures influenced hospital financial performance. This integration process enabled the study to provide not only statistical evidence but also practical explanations regarding the mechanisms underlying financial sustainability improvement in BLUD

hospitals. The operational definitions, indicators, and data sources of the variables examined in this study are presented in Table 1.

Table 1. Operationalization of research variables

Variables	Definition	Indicator	Data Source
BLUD Financial Performance (Y)	Evaluation results of BLUD financial conditions based on revenue realization, expenditure efficiency, and financial independence.	- Revenue effectiveness ratio - Expenditure efficiency ratio - BLUD independence level	BLUD Financial Reports 2019–2025
BPJS Claim Effectiveness (X_1)	The level of success of claim submissions measured by the proportion of approved claims compared to the total submitted claims.	- Claim return rate - Coding accuracy - Completeness of claim documents - Timeliness of claim submission	Monthly BPJS Claim Reports 2019–2025
Internal Control Robustness (X_2)	The strength of the internal control system based on the five COSO (2013) components in the context of claim management.	- Control environment - Risk assessment - Control activities - Information and communication - Monitoring	SPI Reports and Interviews

4. Results and Discussions

Manah Shanti Mahottama Hospital was established as a Class B government mental health hospital located in Bangli Regency, Bali Province. With a capacity of 200 beds and services including psychiatric inpatient care, outpatient services, psychosocial rehabilitation, and psychiatric emergency units, the hospital serves an average of 18,400 patient visits annually during the study period. More than 78% of patients are BPJS Kesehatan participants, making BPJS claims the dominant source of revenue that significantly determines the financial performance of the BLUD.

An analysis of the BLUD financial reports of Manah Shanti Mahottama Hospital during the 2019–2025 period shows fluctuating financial performance trends, with a decline in 2020 due to the COVID-19 pandemic, followed by gradual recovery during 2021–2023. The data are presented in Table 2.

Table 2. BLUD financial performance of Manah Shanti Mahottama Hospital 2019–2025

Year	BPJS Revenue (Million IDR)	Returned Claims (Million IDR)	Claim Return Rate (%)	Revenue Effectiveness Ratio (%)	Expenditure Efficiency Ratio (%)
2019	17,816	14.09	0.08	99.92	0.08
2020	14,937	9.91	0.07	99.93	0.07
2021	14,318	2.85	0.02	99.98	0.02
2022	15,130	0.00	0.00	100.00	0.00

Year	BPJS Revenue (Million IDR)	Returned Claims (Million IDR)	Claim Return Rate (%)	Revenue Effectiveness Ratio (%)	Expenditure Efficiency Ratio (%)
2023	17,960	12.05	0.07	99.93	0.07
2024	18,145	691.52	3.81	96.19	3.81
2025	12,832	2,198.84	17.14	82.86	17.14
Average	15,877	418.46	3.03	96.97	3.03

The results of the multiple regression analysis and path analysis are presented in Table 3. The first model examines the effect of internal control robustness (X_2) and claim effectiveness (X_1) on financial performance (Y). The second model examines the effect of internal control robustness on claim effectiveness for the purpose of mediation analysis.

Table 3. Results of regression analysis and path analysis

Path	β Coefficient	t-statistic	Sig.	Remark
Claim Effectiveness → Financial Performance	0.612	6.847	0.000	Significant**
Internal Control Robustness → Financial Performance	0.489	5.213	0.003	Significant**
Internal Control Robustness → Claim Effectiveness	0.547	5.934	0.001	Significant**
Indirect Effect (Mediation)	0.336	4.217	0.008	Partial Mediation

The regression analysis results indicate that BPJS claim effectiveness has a positive and significant effect on financial performance ($\beta = 0.612$; $p < 0.01$), indicating that a one-unit increase in claim effectiveness will improve financial performance by 0.612 units. Internal control robustness was also found to have a significant effect on both financial performance ($\beta = 0.489$; $p < 0.01$) and claim effectiveness ($\beta = 0.547$; $p < 0.01$). The partial mediation effect (indirect effect $\beta = 0.336$; $p < 0.01$) indicates that internal control robustness influences financial performance both directly and indirectly through improved claim effectiveness.

Thematic analysis of 12 in-depth interviews identified three main themes explaining the mechanisms underlying BPJS claim returns at Manah Shanti Mahottama Hospital:

Theme 1: Incomplete Medical Records (41.2% of returned claims). Informants from the medical record department revealed that high workload pressure and the limited integration of the medical record information system were the main factors contributing to incomplete claim documentation. As stated by the Head of the Medical Record Department: “We still face challenges in ensuring that every claim document is completely prepared before being submitted to the finance department, particularly during periods of high patient visits.”

Theme 2: INA-CBG Coding Errors (33.7% of returned claims). Limited availability of certified coding officers and insufficient continuous training programs were identified as the main causes of coding errors. Among the eight existing coding officers, only three currently hold active international coding certifications.

Theme 3: Delayed Claim Submission (25.1% of returned claims). Suboptimal coordination among service units, medical records, and finance departments contributes to delays in completing claim documents, particularly for inpatient cases involving longer treatment periods.

Based on the integration of quantitative and qualitative findings, this study formulates the OPTIMA Strategy (Process Optimization, Information Technology, and Adaptive Management) as a comprehensive framework to improve the financial performance of Manah Shanti Mahottama Hospital:

O - Claim Process Optimization: Standardizing and simplifying claim procedures through the development of an integrated SOP that connects medical service processes with BPJS claim submission stages, accompanied by mandatory checkpoints at each critical stage.

P - Human Resource Competency Strengthening: Implementing continuous INA-CBG coding training programs for all coding officers, targeting 100% certification within two years, along with quarterly refresher training programs.

T - Integrated Information Technology: Implementing an integrated Hospital Management Information System (SIMRS) connecting medical records, coding, finance, and claim submission modules, equipped with auto-alert features for incomplete claim documents.

I - Internal Control Enhancement: Strengthening the five COSO-based internal control components through the establishment of an Internal Claim Verification Team responsible for pre-submission claim reviews, weekly data reconciliation, and monthly claim audits.

M - Periodic Monitoring and Evaluation: Establishing claim management Key Performance Indicators (KPIs) monitored in real time by management, including claim return rates, claim cycle time, and delayed claim values.

A - Regulatory Adaptation: Establishing a regulatory monitoring team that proactively tracks BPJS Kesehatan policy changes and disseminates updates to relevant units within seven days after new regulations are issued.

The findings of this study reinforce the argument that effective healthcare financial management requires the integration of operational efficiency and governance mechanisms. The significant relationship between claim effectiveness and financial performance indicates that reimbursement management is not merely an administrative activity but a strategic financial capability that determines hospital sustainability. In a claim-based healthcare financing system, delays and inaccuracies in claim processing can reduce revenue certainty, increase administrative costs, and weaken financial flexibility. Previous studies emphasize that healthcare organizations must strengthen revenue cycle management through process standardization, information integration, and continuous monitoring to improve financial outcomes (Alotaibi & Federico, 2023). Therefore, improving BPJS claim effectiveness represents a strategic intervention to enhance financial resilience, particularly for public hospitals operating under resource constraints.

Furthermore, the role of internal control robustness identified in this study highlights the importance of governance-based approaches in improving healthcare organization performance. Internal control systems function not only as compliance mechanisms but also as strategic instruments for risk prevention, operational improvement, and accountability enhancement. The findings support the COSO framework, which emphasizes that effective control environments, risk assessment, control activities, information systems, and monitoring processes collectively contribute to organizational effectiveness (COSO, 2013). Similar evidence from public healthcare organizations demonstrates that strong internal control practices reduce operational errors, improve reporting reliability, and enhance managerial decision-making quality (Muda et al., 2020; Nguyen et al., 2022). Thus, the OPTIMA strategy proposed in this study provides a practical governance framework that integrates process improvement, digital capability, and adaptive management to strengthen hospital financial sustainability.

5. Conclusions

5.1 Conclusion

This study successfully analyzed strategies for optimizing the financial performance of Manah Shanti Mahottama Hospital through a mixed methods approach integrating financial data analysis (2019–2025) and in-depth interviews with key stakeholders. The findings generate three main conclusions.

First, BPJS claim effectiveness was found to be a significant determinant of BLUD financial performance ($\beta = 0.612$; $p < 0.01$). The average claim return rate of 8.73% during the study period indicates that claim management remains an important financial challenge. The main contributing factors were incomplete medical records (41.2%), coding errors (33.7%), and delayed claim submissions (25.1%), highlighting the need for improved administrative accuracy and reimbursement processes.

Second, internal control robustness plays an important role in strengthening hospital financial management. The findings show that internal control robustness positively influences financial performance ($\beta = 0.489$; $p < 0.01$) and claim effectiveness ($\beta = 0.547$; $p < 0.01$). This confirms that effective internal control mechanisms support better claim processes, improve accountability, and contribute to sustainable financial performance in BLUD hospitals.

Third, this study develops the OPTIMA Strategy as an integrated framework for improving hospital financial performance by strengthening claim management, internal control systems, information management, and adaptive organizational practices. The strategy provides practical guidance for BLUD hospitals in addressing claim-related challenges and enhancing financial sustainability within a claim-based healthcare financing system.

5.2 Research Limitations

This study has several limitations. First, the findings are derived from a single BLUD mental health hospital, which may limit the generalizability of the results to other hospitals with different organizational characteristics, service models, or financial structures. Second, the quantitative analysis relies on financial and claim data from the 2019–2025 period, which may not fully capture long-term changes in BPJS policies and healthcare financing dynamics. Third, although qualitative interviews provided deeper insights into claim management challenges, the number of informants was limited to key internal stakeholders, potentially restricting the representation of external perspectives, such as BPJS Kesehatan officers and patients.

5.3 Suggestions and Directions for Future Research

Future research is encouraged to expand the scope of investigation through comparative studies involving multiple BLUD hospitals, particularly those with different service characteristics and regional contexts. Further studies may also incorporate longitudinal research designs to evaluate the long-term effectiveness of claim optimization strategies and internal control improvements. In addition, future research could integrate other organizational factors, such as digital transformation capability, employee competency, organizational culture, and regulatory adaptation, to develop a more comprehensive model of hospital financial sustainability. Collaboration between hospitals, government agencies, and BPJS Kesehatan is also recommended to develop integrated strategies for improving claim management efficiency and strengthening healthcare financial resilience.

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Author Contributions

IMD contributed to conceptualization, methodology development, data collection, formal analysis, interpretation of findings, and writing the original draft. NDAA contributed to literature review, validation, research supervision, critical revision, and editing of the manuscript. PGDH contributed to methodological support, data analysis, validation, interpretation of results, and manuscript review. All authors have read and approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

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