Research Article

Managerial Competence as the Key Driver of INA-CBGs Claim Optimization under National Health Insurance Program (Jaminan Kesehatan Nasional) Policy

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Abstract: This study investigates the optimization of claims under the Indonesian Case-Based Groups (INA-CBGs) payment mechanism within the National Health Insurance Program (Jaminan Kesehatan Nasional) at Hospital X in Serang. The research aims to analyze the influence of managerial competence, digital adoption, and organizational behavior on claim effectiveness, with policy implementation serving as a moderating variable. Employing a quantitative explanatory approach, data were collected from 144 respondents comprising management staff, casemix teams, and medical record officers through questionnaires and structured interviews. Structural Equation Modeling–Partial Least Square (SEM-PLS) was applied to examine the relationships among variables. Findings reveal that managerial competence, digital adoption, and organizational behavior significantly and positively affect the optimization of INA-CBGs claims. Furthermore, the implementation of the National Health Insurance Program policy strengthens these relationships, enhancing claim efficiency and equity. The results align with the Resource-Based View theory, highlighting the strategic role of internal resources in achieving organizational performance. Managerial implications include capacity building for managers, integration of hospital information systems (SIMRS) with e-Claim platforms, and fostering collaborative organizational culture. Overall, the study underscores the importance of managerial, technological, and behavioral factors, moderated by policy implementation, in improving hospital claim optimization under the INA-CBGs system.

Keywords: Claim Optimization; Digital Adoption; Managerial Competence; Organizational Behavior; Policy Implementation

1. Introduction

The health financing system through the National Health Insurance Program (National Health Insurance Program (Jaminan Kesehatan Nasional) with the Indonesia Case-Based Groups (INA-CBGs) payment mechanism is the government's main instrument in realizing efficiency, effectiveness, and equitable health services. Although it has been implemented nationally since 2014, various hospitals still face challenges in optimizing claims, such as delays, incomplete files, diagnosis code discrepancies, and negative differences between hospital rates and BPJS claim rates. These conditions have a direct impact on the financial stability and quality of hospital services.

The INA-CBGs claims system requires accurate medical documentation, valid coding, and solid coordination between units. Internal factors such as managerial competence, readiness for digital adoption, and organizational behavior determine the success of the claims process. Hospital managers play a strategic role in planning, supervising, and controlling resources so that the claims process runs efficiently. On the other hand, digital transformation through SIMRS, e-Claim, and electronic medical records accelerates the verification process,

although it is still hampered by system integration and staff capacity limitations. Collaborative organizational behavior and good interprofessional communication are also important factors in preventing delayed claims.

Hospital X Serang, as a private class C general hospital with 98% of patients participating in the BPJS health insurance program, faces significant problems related to claim optimization. Data from the 2020–2024 period shows a negative difference between hospital rates and BPJS rates of up to 55%, a delayed claim rate of 6%, and medical record completeness of only 30% of the target. In addition, around 40% of staff have not fully mastered the digital system, and 35% experience difficulties in using the integrated SIMRS. This indicates the need to improve managerial competence and technological readiness, accompanied by strengthening adaptive organizational behavior.

Based on these phenomena, this study aims to analyze the influence of managerial competence, digital adoption, and organizational behavior on the optimization of INA-CBGs claims, with the implementation of the National Health Insurance Program (Jaminan Kesehatan Nasional) policy as a moderating variable. This study seeks to provide empirical contributions to strengthening claim governance in hospitals through an integrated managerial and digital approach.

Theoretically, this study enriches the study of hospital management in the context of a casemix-based financing system and supports the Resource-Based View theory, which emphasizes the importance of internal resource management to achieve organizational efficiency. Practically, the results of this study are expected to form the basis for strategic recommendations for hospital management in improving claim performance, strengthening digital integration, and building a collaborative organizational culture to support the optimal implementation of the National Health Insurance Program (Jaminan Kesehatan Nasional) policy.

2. Literature Review

This study is based on the Resource-Based View (RBV) proposed by Barney (1991), which asserts that an organization's competitive advantage stems from its ability to manage internal resources that are valuable, rare, difficult to imitate, and irreplaceable.
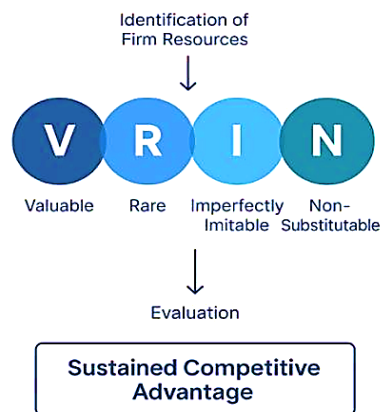
Figure 1. Resource-Based View (Barney, 1991).

In the context of hospitals, these resources include managerial competence, digital technology readiness, and organizational behavior that is adaptive to changes in the healthcare financing system. These three factors are key assets in achieving operational efficiency, including the optimization of INA-CBGs claims.

RBV places human resources and technology as strategic assets that can improve hospital claim performance. When these resources are well managed through effective leadership and the implementation of harmonious policies, claim efficiency can be achieved and support the financial sustainability of hospitals.

Optimization of INA-CBGs Claims

Claim optimization is a systematic effort to ensure that all administrative, verification, and payment processes for BPJS claims are accurate, timely, and in accordance with regulations. The main factors determining the success of a claim are the completeness of medical records, the accuracy of diagnosis and procedure coding (ICD-10 and ICD-9-CM),

and coordination between units. Hospitals need to have an integrated digital claim management system (SIRS and e-Claim) to reduce the potential for pending claims and improve liquidity. This optimization contributes to financial efficiency and quality of health services.

Managerial Competence

Managerial competence is defined as a manager's ability to plan, organize, lead, and control organizational resources to achieve goals effectively. Spencer & Spencer (1993) explain that competence consists of the knowledge, skills, and attitudes used to produce superior performance. In the context of INA-CBGs claim management, managerial competency includes the ability to analyze policies, control document quality, and coordinate across professions. Competent managers can identify administrative barriers, motivate teams, and ensure compliance with National Health Insurance Program (Jaminan Kesehatan Nasional) policies.

Digital Adoption

Digital adoption describes the extent to which hospitals integrate information technology into their operational processes. Based on the Technology Acceptance Model (Davis, 1989) and the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003), technology acceptance is influenced by perceptions of ease of use, usefulness, and organizational support.
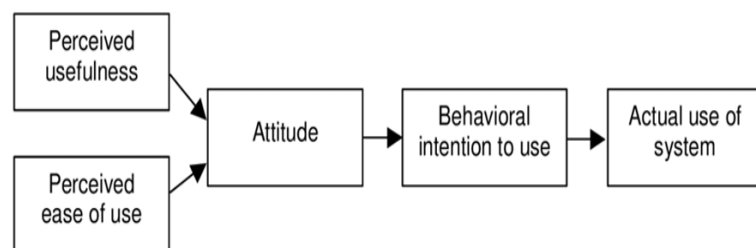
Figure 2. TAM Model (Davis, 1986).

In claims management, the use of SIRS, electronic medical records (EMR), and e-Claim applications can improve data accuracy and speed up the verification process. Digital adoption also supports transparency and efficiency in hospital financial reporting.

Organizational Behavior

Organizational behavior reflects the patterns of individual and group actions within an organization that influence work effectiveness. According to Robbins & Judge (2015), organizational behavior focuses on attitudes, motivation, leadership, and communication. In the context of hospitals, collaborative behavior between professions (doctors, nurses, medical records, and casemix) is key to the success of the claims process. An open work culture, administrative discipline, and effective communication can minimize file errors and speed up claim resolution.

Implementation of the National Health Insurance Program (Jaminan Kesehatan Nasional) Policy

The implementation of the National Health Insurance Program (Jaminan Kesehatan Nasional) policy is the process of applying national regulations in the health service and financing system. Grindle (1980) asserts that the success of policy implementation is influenced by the content of the policy, the implementing actors, and the institutional context. In the National Health Insurance Program (Jaminan Kesehatan Nasional) system, implementation includes policy socialization, SOP compliance, and consistency in the application of claim verification. Well-implemented policies will strengthen the relationship between managerial competence, digital adoption, and organizational behavior towards the effectiveness of INA-CBGs claims.

Based on a review of previous theories and research results, the relationship between variables in this study is constructed on the basis that managerial competence, digital adoption, and organizational behavior are internal factors that influence claim optimization. The implementation of the National Health Insurance Program (Jaminan Kesehatan

Nasional) policy acts as a moderating variable that strengthens this relationship. Conceptually, the synergy between managerial capacity, technological readiness, and productive organizational behavior, if supported by good policy implementation, will result in a more efficient, accurate, and competitive claims process.

3. Research Method

This study uses a quantitative approach with explanatory research. The main objective is to explain the causal relationship between the independent variables, managerial competence, digital adoption, and organizational behavior on the dependent variable, namely INA-CBGs claim optimization, with the implementation of the National Health Insurance Program (Jaminan Kesehatan Nasional) policy as a moderating variable.

This approach was chosen because it allows for empirical testing of the relationship model between variables through statistical analysis based on Structural Equation Modeling–Partial Least Square (SEM-PLS).

The research was conducted at Hospital X in Serang, Banten Province, Indonesia. The location was chosen based on the high rate of pending claims and the negative difference between BPJS rates and hospital rates during the 2020–2024 period. Data collection was conducted from September to October 2025.

The research population included all employees involved in the INA-CBGs claim management process at Hospital X Serang, comprising the management team, casemix officers, and medical record officers, totaling 144 people.

The population was considered to have a direct connection to the claim process and was relevant for analysis.

The sampling technique used non-probability sampling, and the respondents used as samples in this study were those who met the inclusion and exclusion criteria.

Data were collected using a structured questionnaire that had been tested for validity and reliability. The validity test was conducted using Pearson Product Moment, while reliability was tested using Cronbach's Alpha ≥ 0.70.

The instrument also underwent content validity testing by hospital administration experts to ensure that the content was appropriate for the research context.

Research Constellation

Conceptually, this research model describes direct and indirect effects as follows:

The hypotheses in this study are as follows:

H1 : The effect of National Health Insurance Program (Jaminan Kesehatan Nasional) policy implementation in moderating the simultaneous effect of managerial competence, digital adoption, and organizational behavior on the optimization of INA-CBGs claims at Hospital X in Serang

H2 : Managerial competence affects the optimization of INA-CBGs claims at Hospital X in Serang

H3 : Digital adoption affects the optimization of INA-CBGs claims at Hospital X Serang.

H4 : Organizational behavior affects the optimization of INA-CBGs claims at Hospital X Serang.

H5 : Managerial competence affects the implementation of the National Health Insurance Program (Jaminan Kesehatan Nasional) policy at Hospital X Serang.

H6 : Digital adoption affects the implementation of National Health Insurance Program (Jaminan Kesehatan Nasional) policies at Hospital X in Serang

H7 : Organizational behavior affects the implementation of National Health Insurance Program (Jaminan Kesehatan Nasional) policies at Hospital X in Serang

H8 : The implementation of National Health Insurance Program (Jaminan Kesehatan Nasional) policies moderates the effect of managerial competence on the optimization of INA-CBGs claims at Hospital X in Serang

H9 : National Health Insurance Program (Jaminan Kesehatan Nasional) policy implementation in moderating the influence of digital adoption on INA-CBGs claim optimization at Hospital X in Serang

H10 :   National Health Insurance Program (Jaminan Kesehatan Nasional) policy implementation in moderating the influence of organizational behavior on INA-CBGs claim optimization at Hospital X in Serang.
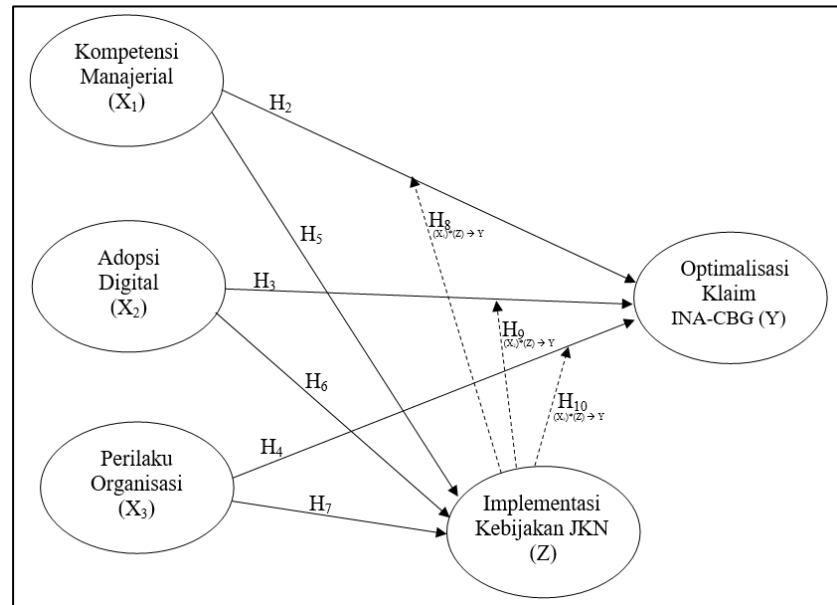

Figure 3. Research Constellation.

4. Results

The study was conducted at Hospital X in Serang with 144 respondents directly involved in INA-CBGs claim management, consisting of nurses, midwives, doctors, casemix officers, and administrative staff. The majority of respondents were female (83.5%), aged 26–35 years (52.7%), and had 2–8 years of work experience (56.9%). This composition reflects a productive workforce with moderate experience in the BPJS claims system.

Instrument Test Results and Variable Descriptions

All questionnaire items were declared valid and reliable with a calculated r value > 0.361 and Cronbach's Alpha > 0.8, indicating high internal consistency. The Three Box Method analysis showed that all variables were in the high category, which means that the claim system at Hospital X Serang has been running optimally.

a.   Managerial Competence (X_1) showed an average index value of 110.63 (high). The highest indicator was the ability to make decisions when facing BPJS claim constraints (112.25), while the lowest was mastery of the e-Claim system (108.5). This means that digital technical skills still need to be strengthened through continuous training.

b.   Digital Adoption (X_2) has an average index of 110.08 (high). Users find the e-Claim application easy to use and improve work efficiency. However, a small portion still tends to use manual methods. This indicates the importance of digital literacy and mandatory policies for a fully electronic system.

c.   Organizational Behavior (X_3) obtained an index of 111.25 (high), indicating a collaborative work culture and strong leadership support (index of 112.75). However, heavy workloads reduce the ability to maintain the accuracy of claim documents (106.75).

d.   National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation (Z) scored 110.06 (high). Communication and resources played the most significant roles, but the efficiency of claim processing time remained an obstacle.

e.   INA-CBGs Claim Optimization (Y) scored 111.32 (high). The claims process is considered efficient, mainly due to the optimal use of medical records (index 113.5). However, consistency in the implementation of SOPs still needs to be strengthened.

Overall, these results describe professional, adaptive, collaborative, consistent, and efficient organizational behavior in supporting the optimization of BPJS claims.

SEM–PLS Analysis Results
Model Validity

The model is deemed fit with SRMR = 0.072 (<0.10) and NFI = 0.645, indicating good model fit. The R-square value = 0.883, meaning that 88.3% of the variation in claim optimization can be explained by managerial competence, digital adoption, organizational behavior, and National Health Insurance Program (Jaminan Kesehatan Nasional) policy implementation. The remaining 11.7% is influenced by other factors outside the model.
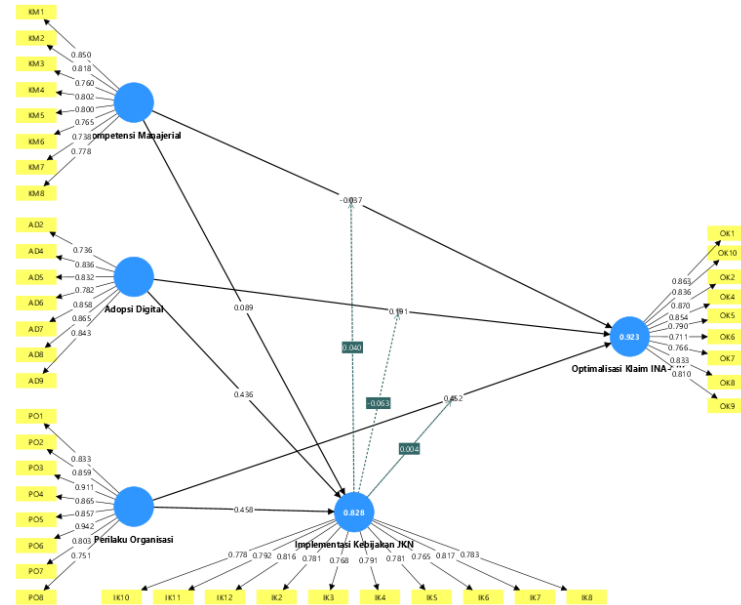

Figure 4. Outer Model Result

This study has five main variables, namely Managerial Competence (X_1), Digital Adoption (X_2), Organizational Behavior (X_3), National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation (Z), and INA-CBGs Claim Optimization (Y). Each variable is measured through a number of indicators that have outer loading values above the minimum threshold of 0.6, indicating that all indicators have a strong and consistent contribution to the construct being measured. In general, this measurement model shows that the instruments used in the study have met the criteria for convergent validity and good construct reliability.

Simultaneous Effect Analysis

The Fcount value of 352.1 is compared with the Ftable (df = 3;140) at a significance level of 5% of 2.67. Because Fcount > Ftable, the regression model is declared to be simultaneously significant. This indicates that Managerial Competence, Digital Adoption, Organizational Behavior, and National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation collectively have a significant effect on INA-CBGs Claim Optimization. Thus, the hypothesis stating that National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation moderates the simultaneous influence of managerial competence, digital adoption, and organizational behavior on INA-CBGs claim optimization at Hospital X Serang is accepted.

Direct Effects

The path coefficient test results show that all relationships between variables are significant ($p < 0.05$):

Table 1. Direct Effect.

Relationship Path	Coefficient	t-statistic	Description
Managerial Competence → Claim Optimization	0,476	4,84	**Significant**
Digital Adoption → Claim Optimization	0,239	2,41	**Significant**
Organizational Behavior → Claim Optimization	0,406	4,14	**Significant**
Managerial Competence → National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation	0,345	8,08	**Significant**
Digital Adoption → National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation	0,433	3,12	**Significant**
Organizational Behavior → National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation	0,385	4,92	**Significant**

Source: Results of data processing with Smart PLS 3.0 (2025).

These findings prove that managerial competence plays the strongest role in optimizing claims, followed by organizational behavior and digital adoption.
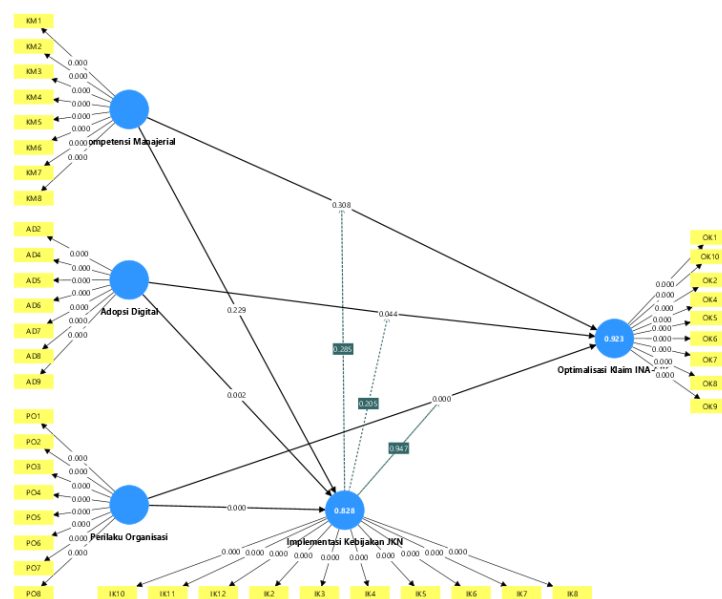
Figure 5. Inner Model Result.

Figure 5 above shows the structural model (inner model) in Partial Least Squares – Structural Equation Modeling (PLS-SEM) analysis used to test the causal relationships between latent variables in the study. This model describes the direction and strength of the influence between exogenous variables, namely Managerial Competence (X_1), Digital Adoption (X_2), and Organizational Behavior (X_3), on endogenous variables, namely INA-CBGs Claim Optimization (Y), both directly and through the moderating variable of National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation (Z). This model shows a moderating variable that describes the interaction between National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation and exogenous variables in influencing endogenous variables.

The results in the diagram show that all relationships between variables have a positive direction of influence, which means that improvements in Managerial Competence, Digital

Adoption, and Organizational Behavior, as well as the effectiveness of National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation, will contribute to increased INA-CBGs Claim Optimization in Hospitals. In general, this structural model shows that the relationships between variables in the study are mutually supportive and contribute significantly to the achievement of organizational goals.

Moderating Effect (Implementation of National Health Insurance Program (Jaminan Kesehatan Nasional) Policy)

A moderation analysis was conducted to determine the extent to which the National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation variable (Z) could strengthen or weaken the relationship between the independent variables, namely Managerial Competence (X_1), Digital Adoption (X_2), and Organizational Behavior (X_3) on the dependent variable of INA-CBGs Claim Optimization (Y). In this model, the moderation effect was tested through the interaction between each independent variable and the moderator variable, which was estimated using the product indicator approach in PLS-SEM.

Table 2. The Influence of Moderation.

	T Statistics (|O/STDEV|)	P Values	Description
Managerial Competence (X_1) * National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation (Z)→ INA-CBGs Claim Optimization (Y)	2,686	**0,007**	H_8 accepted
Digital Adoption (X_2) * National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation (Z) → INA-CBGs Claim Optimization (Y)	4,890	**0,000**	H_9 accepted
Organizational Behavior (X_3) * National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation (Z)→ INA-CBGs Claim Optimization (Y)	2,807	**0,005**	H_{10} accepted

Source: Results of data processing with Smart PLS 3.0 (2025).

Overall, the positive signs in all three relationships indicate that the implementation of the National Health Insurance Program (Jaminan Kesehatan Nasional) policy acts as a moderating variable that strengthens the influence of all main variables in optimizing INA-CBGs claims at Hospital X in Serang.

5. Discussion

The results of this study confirm that internal organizational factors are key to the success of INA-CBGs claim optimization. High managerial competence reflects the ability of leaders and staff to make quick decisions, monitor files, and coordinate across units. This is in line with the Resource-Based View theory (Barney, 1991), in which competent human resources are strategic assets in creating administrative excellence.

The implementation of digital systems plays an important role as an enabler of efficiency. In line with the Technology Acceptance Model (Davis, 1989), perceptions of the ease and usefulness of technology increase the intention to use the e-Claim system. Effective implementation of information technology can reduce errors, speed up verification, and increase user satisfaction.

Organizational behavior has a significant effect on the success of claims through aspects of discipline, responsibility, and social support from coworkers. According to the Theory of Planned Behavior (Ajzen, 1991), work behavior is influenced by positive attitudes, social norms, and good behavioral control. The collaborative work culture at Hospital X is an important foundation for the efficiency of claim administration.

The National Health Insurance Program (Jaminan Kesehatan Nasional) policy acts as a governance mechanism that ensures alignment between hospital procedures and national regulations. Clear policy implementation, accompanied by regular communication and supervision, strengthens the influence of internal factors on claim performance.

This research model proves that managerial competence, digital adoption, and organizational behavior together improve INA-CBGs claim optimization, with the implementation of National Health Insurance Program (Jaminan Kesehatan Nasional) policy as a reinforcer of this relationship. The effectiveness of the claim process at Hospital X in

Serang reflects the synergy between the quality of human resources, health information systems, and adaptive policy governance.

Discussion of Research Results

The Effect of Managerial Competence on the Optimization of INA-CBGs Claims

The results of the analysis show that managerial competence has a positive and significant effect on claim optimization (coefficient value of 0.476; t-statistic of 4.84). This means that the higher the ability of managers and staff to manage, plan, and supervise the claim process, the more efficient the hospital claim system will be.

The most dominant indicators are the ability to make quick decisions and supervise claim procedures. These findings support the Resource-Based View theory (Barney, 1991) that competent human resources are a strategic factor in achieving organizational efficiency. The implication is that hospitals need to strengthen training and cross-departmental coordination so that claim supervision is more standardized.

The Effect of Digital Adoption on INA-CBGs Claim Optimization

Digital adoption also has a significant positive effect on claim optimization (coefficient 0.239; t-statistic 2.41). The use of SIRS, Electronic Medical Records (EMR), and e-Claim applications has been proven to increase the accuracy and speed of the claim process. These results support the Technology Acceptance Model (TAM) (Davis, 1989), in which the perceived usefulness and ease of use of digital systems determine their effectiveness.

However, some staff members are still unfamiliar with using the system optimally. This means that the success of digitization depends not only on technology but also on digital literacy and user commitment. Hospitals need to strengthen their integration systems and provide ongoing technical training.

The Influence of Organizational Behavior on INA-CBGs Claim Optimization

Organizational behavior has a significant effect on claim optimization (coefficient 0.406; t-statistic 4.14). The results show that teamwork, communication, and staff discipline play an important role in the timeliness of claim file preparation. This finding is in line with the Theory of Planned Behavior (Ajzen, 1991), which explains that positive work behavior arises from attitudes, social norms, and strong behavioral control. A collaborative organizational culture promotes administrative efficiency and reduces claim document errors.

However, some units still face challenges in interprofessional coordination, especially in filling out incomplete medical records. Management needs to foster an open and participatory cross-unit work culture.

The Influence of Managerial Competence on the Implementation of the National Health Insurance Program (Jaminan Kesehatan Nasional) Policy

The analysis shows a significant positive relationship between managerial competence and the implementation of the National Health Insurance Program (Jaminan Kesehatan Nasional) policy (coefficient 0.345; t-statistic 8.08). This means that the higher the managerial competence, the more effective the implementation of the National Health Insurance Program (Jaminan Kesehatan Nasional) policy in hospitals. Managers who understand regulations, are able to formulate operational strategies, and coordinate teams efficiently will facilitate the implementation of National Health Insurance Program (Jaminan Kesehatan Nasional).

These results reinforce Grindle's (1980) opinion that the success of policy implementation is highly dependent on the capacity of implementers at the organizational level.

The Effect of Digital Adoption on the Implementation of National Health Insurance Program (Jaminan Kesehatan Nasional) Policy

There is a significant influence between digital adoption and National Health Insurance Program (Jaminan Kesehatan Nasional) policy implementation (coefficient 0.433; t-statistic 3.12). The application of an integrated digital system supports hospital compliance with BPJS policies, especially in terms of reporting and claim verification.

The SIMRS and e-Claim systems serve as a medium for control and transparency in policy implementation. These findings indicate that digital transformation plays a role in strengthening hospital governance and minimizing administrative errors..

The Effect of Organizational Behavior on the Implementation of National Health Insurance Program (Jaminan Kesehatan Nasional) Policies

Organizational behavior has also been shown to have a positive effect on the implementation of National Health Insurance Program (Jaminan Kesehatan Nasional) policies (coefficient 0.385; t-statistic 4.92). Effective communication, compliance with procedures, and teamwork spirit are important elements for successful policy implementation. A proactive and participatory organizational culture helps ensure that the National Health Insurance Program (Jaminan Kesehatan Nasional) policy is implemented consistently across all units. These results are consistent with public organization theory, which emphasizes the importance of organizational behavior in supporting policy effectiveness.

The Role of National Health Insurance Program (Jaminan Kesehatan Nasional) Policy Implementation as a Moderating Variable

National Health Insurance Program (Jaminan Kesehatan Nasional) policy implementation has been shown to act as a quasi-moderator. This variable not only moderates but also has a direct influence on claim optimization. The strongest moderating effect occurs between managerial competence and claim optimization ($\beta = 0.477$). This means that good implementation of the National Health Insurance Program (Jaminan Kesehatan Nasional) policy strengthens the influence of competence, organizational behavior, and digitization on claim efficiency.

Consistent and well-communicated policies create a claim system that is fast, accurate, and in accordance with national regulations.

Synthesis of Research Results

The results of the study prove that the combination of managerial competence, digital adoption, and organizational behavior simultaneously contribute greatly to the optimization of INA-CBGs claims, with the implementation of the National Health Insurance Program (Jaminan Kesehatan Nasional) policy as a reinforcing factor.

Empirically, this model explains 88.3% of the variation in claim effectiveness at Hospital X Serang. These findings confirm that the success of claim optimization is the result of synergy between competent human resources, adaptive information systems, and targeted policy management.

6. Conclusion

This study demonstrates that managerial competence, digital adoption, and organizational behavior significantly influence the optimization of INA-CBGs claims at Hospital X, both directly and through the moderating role of the National Health Insurance Program (Jaminan Kesehatan Nasional) policy implementation. The implementation of the National Health Insurance Program (Jaminan Kesehatan Nasional) policy functions not merely as an administrative framework but as a strategic mechanism that strengthens the effectiveness of internal organizational factors in managing claims efficiently, accurately, and in compliance with national regulations.

Managerial competence emerges as the most influential factor in optimizing INA-CBGs claims, highlighting the critical role of planning, coordination, decision-making, and supervisory capabilities in ensuring structured and compliant claim management. Digital adoption further enhances claim optimization by improving data accuracy, processing speed, and administrative efficiency through integrated systems such as e-claim and Hospital Information Systems. In parallel, positive organizational behavior—characterized by discipline, collaboration, and adherence to standard operating procedures—supports consistent and timely claim processing.

Importantly, the National Health Insurance Program (Jaminan Kesehatan Nasional) policy implementation significantly moderates and amplifies the effects of managerial competence, digital adoption, and organizational behavior on claim optimization. A well-implemented policy environment enables these internal factors to operate synergistically, thereby minimizing administrative errors, accelerating verification processes, and strengthening accountability. These findings underscore that successful INA-CBGs claim optimization depends on the integration of competent management, digital transformation, and supportive organizational behavior within a robust policy implementation framework.

Research Implications

Managerial Implications

The results of this study provide a basis for hospitals to strengthen their managerial functions and cross-unit coordination. Several strategic points need to be considered: Managerial competencies need to be improved through technical training related to claims systems, the use of information technology, and understanding of National Health Insurance Program (Jaminan Kesehatan Nasional) regulations. Digital adoption needs to be strengthened by increasing the perceived usefulness of technology through intensive mentoring and socialization so that all staff can make optimal use of digital systems. Organizational behavior needs to be built by strengthening employee confidence and behavioral control through coaching and managerial support. The implementation of National Health Insurance Program (Jaminan Kesehatan Nasional) policies must be strengthened through participatory leadership, improved internal communication, and a reward system for outstanding staff. Resource management needs to be optimized by ensuring the availability of personnel, facilities, and an organized claims support system.

Theoretical Implications

Academically, this study reinforces and expands several important theories: The Theory of Public Policy Implementation (Edward III, Van Meter & Van Horn) asserts that policy success depends not only on regulations, but also on internal organizational readiness, managerial competence, and technological support. The Theory of Planned Behavior (Ajzen, 1991) proves that positive organizational behavior contributes to the effectiveness of the National Health Insurance Program (Jaminan Kesehatan Nasional) policy. The Technology Acceptance Model (Davis, 1989) reinforces the evidence that perceptions of the usefulness and ease of digital systems have a significant effect on the effectiveness of claims administration. This study also offers a new conceptual contribution by placing public policy as a moderating variable that strengthens the relationship between internal organizational factors and hospital administrative efficiency.

Research Recommendations

Based on the above results and implications, several practical recommendations that can be immediately implemented are: Claims information system training needs to be conducted regularly for managers and staff so that they are able to operate SIRS and e-Claim effectively. Digital systems must be implemented in every stage of claim administration to reduce dependence on manual processes. Workload management needs to be regulated so that staff can maintain the quality of claim documents even under heavy workloads, for example, by adding administrative staff or rotating tasks. BPJS claim workflows must be evaluated to adjust deadlines and reduce the risk of claim delays. The preparation and re-socialization of INA-CBGs claim SOPs need to be carried out comprehensively so that the process runs uniformly, is documented, and complies with National Health Insurance Program (Jaminan Kesehatan Nasional) policy guidelines.

Overall, this study confirms that the integration of managerial competence, digital adoption, organizational behavior, and National Health Insurance Program (Jaminan Kesehatan Nasional) policy implementation are key prerequisites for optimizing INA-CBGs claims.

The implications of these findings provide strategic direction for hospitals in building an efficient, transparent, and sustainable administrative system to support the success of the National Health Insurance Program (Jaminan Kesehatan Nasional) program at the institutional level.

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