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RESEARCH ARTICLE

Strategy of Performance Improvement Through Value Chain Approach (Support Activity) at Beriman Hospital Balikpapan

Sri Nur Azizah[1]*, Syahrir A Pasinringi[2], Noer Bahry Noor[3], Fridwaty Rivai[4], Irwandy[5], Herlina A. Hamzah[6]

[1,2,3,4,5,6] Master of Hospital Management Study Program, Public Health Faculty, Hasanuddin University, Indonesia

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***Corresponding Author**

sri.nurazizah80@gmail.com

ABSTRACT

To improve competitiveness and competitive advantage, organizations need to optimize a series of activities that create value for customers. This study aims to analyze the support activity Value Chain and formulate a strategy to improve performance at RSUD Beriman Balikpapan. This study uses a mixed method with a sequential explanatory design. Quantitative analysis was conducted to evaluate the supporting activities of the Value Chain at RSUD Beriman, while qualitative analysis was used to formulate a strategy to improve performance. The results of the study indicate that the organizational culture of RSUD Beriman tends to be clan culture (score 33), which could be better for the service sector, where a market culture is more appropriate. In technology, Beriman Hospital has achieved 38% (category D/less), influenced by the lack of HTA, utilization of sophisticated medical devices of 73.3%, patient referral rate due to lack of equipment of 34.8%, and calibration of medical devices of 100%. Based on the analysis and FGD, strategic recommendations include internalizing market culture and increasing the role of leadership, compiling a study of changes in organizational structure, developing city regulations for financial management, adding IT HR, formulating SIMRS architecture based on Big Data, and investing in technology for priority community services. Based on the Support Activity Value Chain analysis, Beriman Hospital has strong capital in several aspects. However, improving hospital performance requires significant changes that demand readiness from the aspects of human resources, finance, and regulation.

INTRODUCTION

Optimal hospital performance includes several important aspects, including operational efficiency, service quality, patient safety, and patient and medical staff satisfaction. The optimal use of resources, such as budget management, inventory management, and human resource utilization, correlates with hospital operational efficiency (Ali Thorakkattil et al., 2024). Hospitals with efficient performance are able to provide quality health services at affordable costs, thereby increasing public access to healthcare (Oktaviana & Clark, 4693). One important indicator of hospital performance is the bed utilization rate, or bed occupancy rate (BOR). According to data from the Indonesian Ministry of Health, hospitals in Indonesia only achieved an average BOR of 55.8% in 2020, falling short of the World Health Organization's (WHO) ideal standard of 65-85%. This low BOR figure indicates problems such as lack of public trust in hospital services, uneven distribution of hospitals, or disease patterns shifting towards chronic diseases that do not require hospitalization.

RSUD Beriman Balikpapan, as one of the referral hospitals in the Balikpapan area, also faces similar challenges. Despite the ongoing improvement in its performance, several obstacles persist, including the underutilization of internal resources. Given these conditions, the value chain approach, which analyzes supporting activities, can be an effective strategy for improving hospital performance. Through this approach, RSUD Beriman Balikpapan can review and improve supporting activities,

such as HR management, information technology, logistics management, and financial management, all of which are impacted by overall performance.

Michael Porter introduced the value chain approach in 1985, and it has gained widespread acceptance as an effective method for analyzing and improving organizational performance, particularly in the health sector. Various countries, particularly developed ones like the United States and the United Kingdom, apply the value chain concept to ensure that every activity in the organization's value chain contributes maximally to creating value for patients (Nuti et al., 2024). In the context of a hospital, primary activities include direct medical services such as diagnosis and treatment, while support activities involve important elements such as human resource management, infrastructure, and information technology (Kukulka et al., 2024). These supporting activities are an important foundation that allows primary activities to function optimally. In recent years, RSUD Beriman Balikpapan has faced challenges in terms of operational efficiency, service quality, and patient satisfaction, which require continuous evaluation and improvement. The outpatient waiting time at RSUD continues to surpass the 60-minute standard set by the Ministry of Health in the Minimum Service Standards (SPM). In 2020, the outpatient waiting time reached 94.58 minutes and increased in 2021 to 115 minutes. In 2022, outpatient waiting time decreased to 73.1 minutes.

Bed occupancy ratio (BOR) from 2018 to 2022 is still below standard. In 2018, BOR was 56.48%; in 2019, it dropped to 51.19%. In 2020, it experienced a further increase to 54.98. BOR from 2018 to 2022 is still below standard. In 2018, BOR was 56.48%; in 2019, it dropped to 51.19%. In 2020, the BOR experienced another increase, reaching 54.98%. According to the patient satisfaction survey results, RSUD Beriman Balikpapan's achievements still fall short of the Ministry of Health's Minimum Service Standards (SPM) of 90%. The inpatient installation's satisfaction survey achieved 82.42% in 2019, decreased to 77.79% in 2020, increased to 86.29% in 2021, and then slightly decreased to 82.17% in 2022. Similar to the inpatient installation's satisfaction survey results, the outpatient installation's results also fluctuated, starting at 86.65% in 2019, decreasing to 79.28% in 2020, increasing to 87.48% in 2021, and then decreasing again to 82.17% in 2022. o 82.17%. An external party conducted this satisfaction survey using a modified survey tool from the Ministry of Empowerment of State Apparatus and Bureaucratic Reform for hospitals. We hope to increase operational efficiency, improve service quality, and increase patient and medical staff satisfaction by optimizing supporting activities through the right strategy. The value chain approach to support activities also allows for the identification of areas requiring improvement and the development of an integrated strategy to achieve a competitive advantage for hospitals in providing superior health services.

1. RESERCH METHOD

2.1 Research location and design

This type of research is a mixed method that combines quantitative and qualitative methods to provide a comprehensive understanding of the influence of supporting activities from the value chain on the performance of Beriman Hospital and to develop effective performance improvement strategies. Beriman Hospital Balikpapan will host this research from July to October 2024.

2.2 Population and sample

The population of this study is comprised of various elements from Beriman Hospital Balikpapan, including medical personnel, health workers, non-health workers, and management, totaling 409 individuals. This study includes two types of samples: those for qualitative data and those for quantitative data. The sample for qualitative data consists of the director, all heads of divisions and heads of sections, all heads of sections, and heads of subsections at Beriman Hospital Balikpapan. The director, all heads of divisions and sections, and all heads of sections and subsections at Beriman Hospital Balikpapan will serve as informants for the qualitative approach.

2.3 Data collection method

Quantitative primary data collection was conducted to determine the type of organizational culture applied at Beriman Hospital using a questionnaire distributed to staff and management. The director, all heads of divisions or departments, and all heads of sections or subdivisions participated in Focus

Group Discussions (FGDs) to obtain qualitative data. This FGD will allow for interactive and in-depth discussions related to hospital performance improvement strategies.

2.4 Data Analysis

We will process and analyze qualitative data collected through Focus Group Discussions (FGDs) using a thematic analysis approach. We will process and analyze quantitative data collected through surveys without using statistical techniques.

2. RESULTS

Employees of RSUD Beriman Balikpapan completed the Organizational Culture Assessment Instrument (OCAI) questionnaire as part of this study to learn about the culture there.

The results of filling out the questionnaire are as follows:

1. Dominant characteristics of the organization

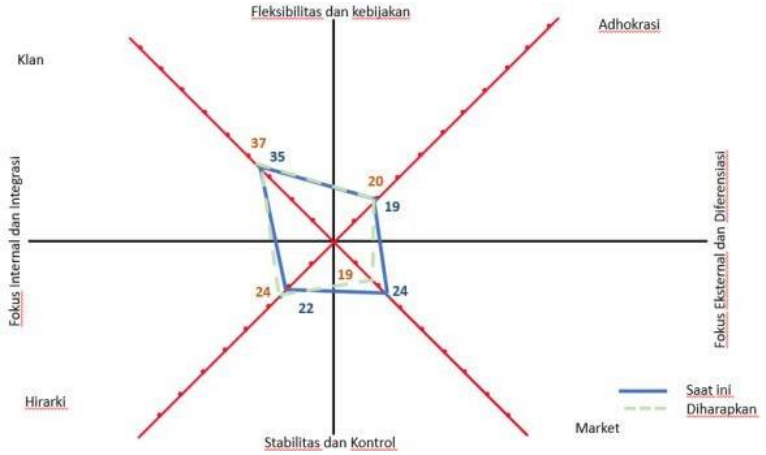

Fig. 1. Dominant characteristics of the organization.

Based on Fig. 1. it is known that the score for clan culture in the current condition is 35, while the expected score is 37. For Adhocracy culture, the current condition gets 19 and the expected condition score gets 20. While in market culture, the current condition score is 24 and the expected condition score is 19. For Hierarchy culture, the current condition score is 22 and the expected condition score is 24.

2. Leadership in organizations

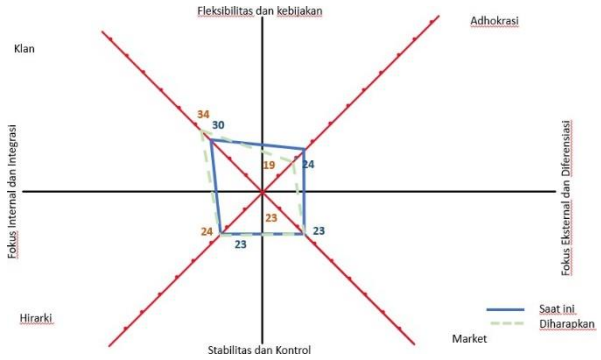

Fig. 2. Leadership in organizations.

The leadership component of the organization displays a score of 30 for the clan culture in its current state, while the expected score is 34. The adhocracy culture, on the other hand, has a current condition score of 24 and an expected condition score of 19. The market culture gets a score of 23 for both the current condition and the expected condition. For the hierarchy culture, the current condition gets a score of 23, while the expected condition is 24.

3. Human resource management

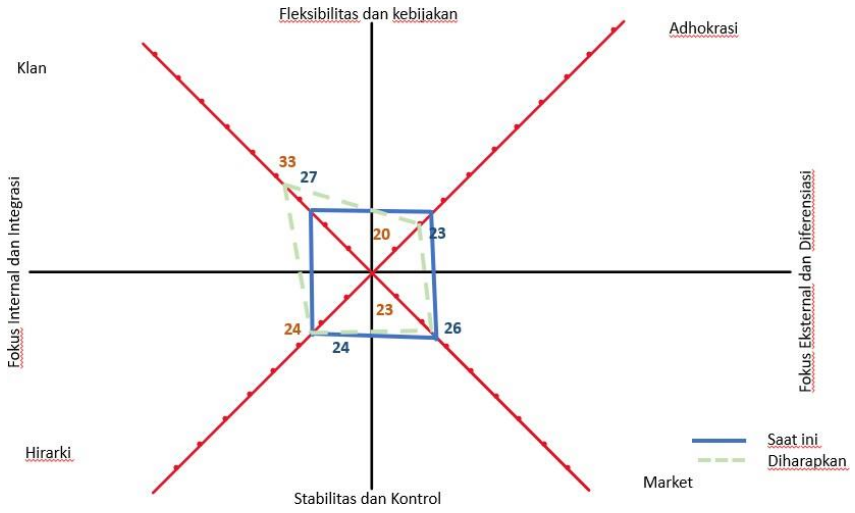

Fig. 3. Human resource management.

The results of the human resource component, clan culture, scored 27 for the current condition and 33 for the expected condition. As for the Adhocracy culture, it scored 23 for the current condition and 20 for the expected condition. For the market culture, the current condition score is at 26, and the expected condition is 23. As for the hierarchy culture, it has the same score for the current condition and the expected condition, which is 24.

4. Glue in the organization

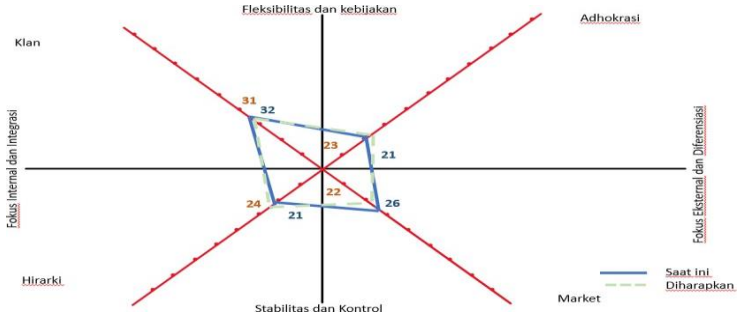

Fig. 4. Glue in the organization.

For the adhesive component in the organization, clan culture scored 32 for the current condition and 31 for the expected condition. Adhocracy culture scored 21 for the current condition and 23 for the expected condition. Meanwhile, Market Culture scored 26 for the current condition and 22 for the expected condition. As for hierarchy culture, the score for the current condition was 21 and 24 for the expected condition

5. Strategic and long-term view

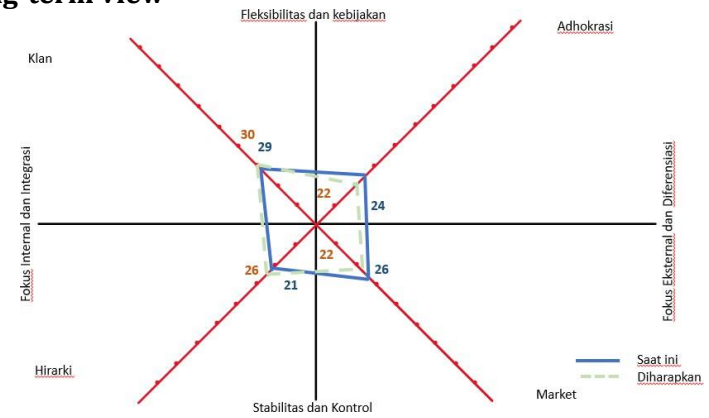

Fig. 5. Strategic and long-term views.

Clan culture receives a score of 29 for current conditions and a score of 30 for expected conditions in the Strategic and Long-Term View CoAdhocracy culture receives a score of 24 for current conditions and a score of 22 for expected conditions. of 22. Market culture exhibits the same phenomenon, with the current conditions scoring higher than the expected conditions. The score for current conditions is 26; the score for expected conditions is 22. The hierarchy culture, on the other hand, receives a lower score for the current conditions than the expected ones, with the current conditions scoring 21 and the expected conditions scoring 26.

6. Success criteria

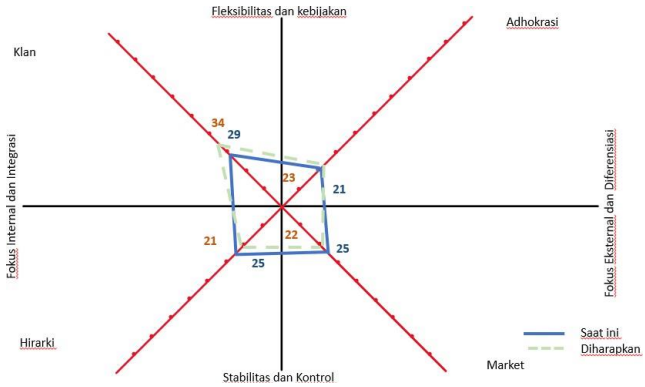

Fig. 6. Success criteria.

Clan culture dominates the Success Criteria component, with a score of 29 for the current condition and 34 for the expected condition. For Adhocracy culture, the score for the current condition is 21, while for the expected condition it is 23. The market culture gets a score of 25 for the current condition and 22 for the expected condition. The current condition of hierarchy culture receives a score of 25, while the expected condition receives a score of 21.

Overall, the results of the OCAI questionnaire input at RSUD Beriman Balikpapan show clan culture has a score of 33 for the current condition and a score of 35 for the expected condition. In adhIn the adhocracy culture, both the current condition and the expected condition receive the same score, 21. The market culture receives a score of 24 for the current condition and a score of 21 for the expected condition. erarchy culture gets a score of 22 for the current condition and a score of 23 for the expected condition.

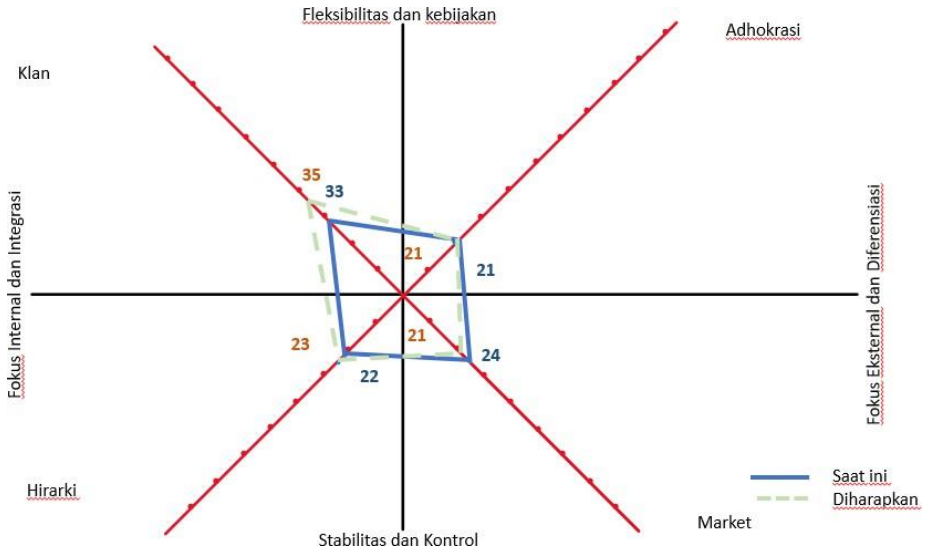

Fig. 7. Organizational culture of beriman regional hospital.

7. Organizational structure

Mayor Regulation Number 22 of 2022 specifies the establishment, organizational structure, job descriptions, and functions of special organizational units at Beriman Balikpapan Regional General Hospital. The director of Beriman Balikpapan Regional General Hospital oversees three distinct

fields, namely the service field, support field, and control and development field, within a single general section. In the general section, there are 3 subsections: the Planning and Program Subsection, the General Subsection, and the Finance Subsection. Meanwhile, the service field has two sections: the medical service section and the nursing and midwifery service section. In the supporting field, there are two sections: the medical support section and the non-medical support section. In the Control and Development field, there are two sections: the quality and facility control and development section and the health promotion and marketing section.

Law No. 17 of 2023 concerning Health mandates the presence of six elements within the hospital organizational structure: leadership elements, medical service elements, nursing elements, medical and non-medical support elements, administrative implementing elements, and operational elements. Based on these elements, RSUD Beriman has achieved 100% compliance. Government Regulation No. 72 of 2019, which amends Government Regulation No. 18 of 2016 concerning Regional Government, stipulates that Class C Regency/City Hospitals must have one section, a maximum of three fields and/or functional position groups, a maximum of three subsections within each section, and a maximum of three subfields within each field. Based on this, the fulfillment of RSUD Beriman Balikpapan is 100%.

8. Strategic resources

a. Finance

In finance, the BLUD Maturity tool is used in the finance section, so that 4 components will be assessed, namely liquidity, efficiency, effectiveness and level of independence. In liquidity, what is assessed is the current ratio and cash optimization ratio. For the current ratio at RSUD Beriman starting in 2021, 2022 and 2023, it has always been far above the optimal value of 120 - 140. The achievement of RSUD Beriman Balikpapan in 2021 was 1359.03, in 2022 it was 1709.8 and in 2023 it was 2309.94. all of these achievements deviate from the target> 0.6 so that each year gets a maturity score of 1. Meanwhile, for the cash optimization ratio, the optimal target for a BLUD hospital is 4%. In 2021, the achievement of the cash optimization ratio of Beriman Balikpapan Hospital was 2%, which received a maturity score of 2. The same thing happened in 2022, the achievement of Beriman Balikpapan Hospital was 2% so that the maturity score was also the same at 2. While in 2023 there was a decrease in achievement to 1% so that the maturity score also decreased to 1. Based on the achievements of the two indicators for three consecutive years, the maturity score for the liquidity of Beriman Balikpapan Hospital is 1. The second component of BLUD financial maturity is efficiency. In efficiency, the POBO achievement of BLUD is measured, which has an optimal value of 90%. RSUD Beriman Balikpapan's POBO achievement in 2021 was 89% with a maturity score of 4. In 2022, it decreased to 70% with a maturity score of 3. In 2023, RSUD Beriman Balikpapan's POBO increased to 115% and got a maturity score of 5. From these achievements, the financial efficiency maturity level of RSUD Beriman Balikpapan in 2023 was 4.

The third component in financial maturity is effectiveness. In financial effectiveness there are 2 (two) indicators used, namely Return on Assets and Return on Equity. RSUD Beriman's achievement related to asset returns in 2021 was 2% with a maturity score of 1, while in 2022 the achievement was 5% with a maturity score of 2 and there was a significant increase in 2023 with an achievement of 21% with a maturity score of 5. For the second indicator, RSUD Beriman's equity returns in 2021 reached 2% with a score of 1. In 2022, RSUD Beriman Balikpapan experienced an increase in achievement, namely to 5% with a maturity score of 2. While in 2023, there was a very significant increase, namely to 22% with a maturity score of 5. However, this increase has not yet increased the achievement of effectiveness maturity which reached a maturity score of 2. The fourth component of financial maturity is independence. At the level of independence, RSUD Beriman Balikpapan has obtained the highest maturity score, namely a score of 5, and has been stable for three consecutive years. The level of independence of Beriman Balikpapan Hospital in 2021 was 102%, in 2022 it was 102% and increased in 2023 to 140%. With the stable achievement of maturity scores for three consecutive years, the maturity score of the independence of Beriman Balikpapan Hospital is 5.

The maturity scores for the four components vary widely. Liquidity has a maturity score of 1, while the efficiency component gets a maturity score of 4. Beriman Balikpapan Hospital achieves a maturity score of 2 in the effectiveness component and a level of independence of 5. Beriman Balikpapan Hospital has achieved all the components of financial maturity, resulting in an average score of 3.

b. Human resources

The organization uses the BLU Maturity System to assess the state of Human Resources at Beriman Hospital, achieving HR maturity level 4. This achievement allows the organization to measure the output and trend of HR performance, identify new opportunities for competency development, and adopt shared experiences within the organization. The HR maturity assessment revealed that Beriman Hospital Balikpapan has implemented an employee recruitment process that aligns with the organization's requirements, as evidenced by the existence of job qualification documents for each available position. Each position not only has job qualifications, but also a job description. The TNA (Training Need Analysis) outlines a routine education and training plan for HR competency development at Beriman Hospital Balikpapan. The HR Management Guidelines regulate HR management, including workload measurement, competency assessment, and career development for nurses and midwives. Beriman Hospital has provided facilities for cross-unit collaboration, such as accreditation activities, integrity zones, and other cross-unit activities. In the meantime, Beriman Hospital has implemented HR mentoring activities, albeit without a regular schedule. Employee performance assessments currently do not incorporate components related to innovation activities. In HR management, there has been no identification or evaluation of innovation opportunities to foster organizational growth. At RSUD Beriman, the establishment of a special unit tasked with conducting research on sustainable HR needs over the long term remains absent.

c. Information System

The digital maturity level of Beriman Hospital in 2024 is 2.71. This level has increased compared to 2023, when the digital maturity level of Beriman Hospital was 1.46. Seven components determine this digital maturity level: hospital information systems and infrastructure; standards and interoperability; management and governance of hospital information systems; analytical data; HR competencies, skills, and use of hospital information systems; monitoring, privacy, and confidentiality of data; and electronic medical records. Beriman Hospital has achieved an average score of 2.71 across the seven components. The achievement of component I (hospital information systems and infrastructure) is 2.17, while for component II (standards and interoperability) it is 3.67. Component III (management and governance of hospital information systems) is 2.89, Component IV (analytic data) is 1.5, Component V (HR competency, skills, and use of hospital information systems) is 2.92, Component VI (monitoring, privacy, and confidentiality of data) is 1.86, and Component VII (electronic medical records) is 3.5. The self-assessment of component I revealed that the back office, with a score of 5, achieved the highest score in the hospital information system and infrastructure, while the basic information system architecture received a score of 4. The internet network experienced an iThe internet network saw an increase from its initial score of 2 to 3 in 2023. nance of the information system, which increased from a score of 1 to 3. This stands in contrast to the information system's innovation, which saw a decrease from a score of 2 to 1 in 2024. Likewise, the technical support of the information system decreased from a score of 3 in 2023 to 2 in 2024. In the electronic data communication infrastructure, the integration and interoperability services of the Information System, Bridging SIMRS, and Bridging of the Patient Service Management Information System did not change from 2023 with a score of 1. Similarly, the information and communication technology services, as well as the planning and procurement of the information system infrastructure, remained unchanged from 2023, receiving a score of 2.

In contrast to component I, the results of the self-assessment in component II have increased overall compared to 2023. In the internal hospital data exchange, there was an increase from a score of 2 to a score of 4. The external data exchange standard also experienced an increase from a score of 2 to 4 in 2023. Meanwhile, the exchange of individual data also increased from 2023, namely from a score of 1 to 3. In component III, there was a very significant increase in four self-assessment items. The strategic plan of the hospital information system saw an increase from a score of 0 to 5, while the monitoring and evaluation of the IT strategic plan also saw an increase from a score of 0 to 4. The same thing also haThe formulation of IT governance also experienced an increase from 0 to 3. ng and evaluation of IT unit governance increased from 0 to 1. The number of HR recruits in the IT unit increased from 1 to 2, while the SIMRS unit also experienced a rise in the number of HR recruits from 4 to 5. In the development of SIMRS HR capacity, there was an increase in the score from 1 to 2. The

SIMRS/RKE Implementation Guidelines element experienced a decrease from a score of 3 to 1, while the investment in information systems remained at a score of 3.

The Data Analytics component comprises six elements: the hospital's data collection system, the technical approach to producing information, the hospital's use of data, the quality of data, the hospital's big data approach, and the resources to manage big hospital data. In both the technical approach to generating information and the hospital big data approach, RSUD Beriman received no score in 2023 and 2024. In terms of managing hospital big data resources, RSUD Beriman received a score of 1 in both 2023 and 2024. The hospital's data collection system saw an increase from a score of 1 to 2, its data usage increased from 1 to 4, and its data quality improved from 1 to 2.

In the components of HR Competence, Skills, and Use of Hospital Information Systems, the element of digital technology use increased from a score of 3 to 4. The element of hospital staff using the hospital information system increased from a score of 3 to 4, while the use of the hospital information system increased from a score of 2 to 4. In terms of user involvement, the system received a score of 4, while for user experience, it received a score of 2. Over a two-year period, the IT Champion and knowledge management received a score of 1. The score increased significantly from 2 to 3 in the ease of getting element, and from 1 to 4 in the usefulness element. The score increased from 2 to 4 in the incentive element, from 1 to 2 in the monitoring of use, and from 0 to 4 in the service unit's involvement.

In the context of the security, privacy, and confidentiality components of data, several elements have seen a decrease in score, indicating a need for more attention. These elements include the information system security policy, which saw a decrease from a score of 2 to 1, the investment in SIMRS security, which saw a decrease from 1 to 0, and personal data protection, which saw a decrease from 2 to 1. Meanwhile, there was an increase in achievement for other elements, such as the information system security test, which went from a score of 1 to 2. The evaluation of the hospital's information system security policy and the implementation of information system security procedures also increased from a score of 2 to 3, and the anticipation of information system security breaches also increased from a score of 1 to 3.

In the electronic medical record component, there is a significant increase, including the design of electronic medical records increased significantly from 0 to 5, data in electronic medical records increased from a score of 1 to 2, the impact of EMR on patient services increased from a score of 1 to 4, access to electronic medical records increased from 0 to 1, integration of clinical service flows increased from 1 to 2, interoperability of medical records increased from 2 to 5, patient satisfaction increased from 1 to 2, clinical documentation increased from 0 to 5, pharmacy and drug use increased from 0 to 4, medical support services increased from 0 to 5, interoperability standards increased from 4 to 5, and patient personality services increased from 0 to 5.

d. Technology

To assess the condition of the technology used by RSUD Beriman Balikpapan, we used four components: HTA (Health Technology Assessment), Tool Utility, Adequacy of Medical Devices, and Calibration of Medical Devices. The total achievement of technology of 38% is included in category D (less). RSUD Beriman Balikpapan has not yet prepared the Health Technology Assessment (HTA) for the procurement of health equipment. RSUD Beriman Balikpapan has prepared a health technology procurement plan that involves choosing the brands of equipment to purchase. Related to the utilization of medical devices in Beriman Hospital, CT scan still has a low utility of 37.4%, while X-ray has a fairly high utility of 87.1%, and the utility for USG is 95.3%. The number of patients referred due to the need for medical devices demonstrates the adequacy of the hospital's medical devices. As shown in the table above, the number of patients referred is 34.8% due to the need for medical devices that Beriman Balikpapan Hospital does not yet have. The number of referred patients who need hemodialysis is 48.1%, while those who need PCI are 39%. We refer 1.3% of patients for endoscopy, and another 1.3% for colonoscopy. The number of patients who need cardiosynthesis and temporary pacemakers is 2.6%. 6.5% of patients receive referrals due to chemotherapy, while 1.3% require ventilators. Based on the research findings and focus group discussion results, we identified several problems in each value chain variable (support activity) under study, and obtained suggestions for improvement.

The organizational culture variable revealed that RSUD Beriman Balikpapan's culture did not align with the successful organizational culture in the service business sector. The results of the FGD suggest an alternative solution that involves socializing all HR personnel to the market culture, building a joint commitment by actively involving hospital HR in the preparation of new policies leading to cultural change, developing a clear and measurable action plan for implementing change, and strengthening leadership to enable them to lead the change process and facilitate change effectively. Organizational Structure Variable: RSUD Beriman's current organizational structure is functional, yet certain units have not performed their functions to their full potential. We have formulated alternative solutions, including conducting a study on the proposed changes to the organizational structure and proposing the addition of HR professionals with marketing competencies to the marketing unit. The strategic resource variable in the financial subvariable revealed high liquidity and a low cash optimization ratio. The FGD results yielded alternative solutions, such as drafting the Mayor's Regulation on BLUD Short-Term Investment and conducting an analysis of service needs that BLUD SiLPA can realize, all while taking financial liquidity into account. Furthermore, the study revealed that the incentives for assets and equity remained suboptimal. The alternative solutions identified included enhancing the utility of underutilized medical devices, promoting service innovation and patient engagement, and optimizing operational costs associated with asset maintenance. The study's Human Resources Sub-variable yielded three key findings: a deficiency in the types of HR required for community services, the absence of a job satisfaction survey, and a shortage of HR competency development hours. The first finding suggests a different approach based on the FGD results, which involves recalculating the workload analysis for previously unaccommodated HR types and creating a service development plan. This is necessary because the inclusion of new HR types necessitates the support of work facilities and infrastructure. Regarding the findings regarding the lack of a job satisfaction survey, the suggested solution involves creating a job satisfaction survey and assessing the outcomes of its implementation. FGD formulates a solution to the lack of HR competency development hours, which includes compiling a TNA, preparing a budget for adequate HR competency improvement, and conducting periodic evaluations related to HR competency development.

We obtained four findings in the Information System sub-variable: hospitals have not yet prepared for big data implementation, there are no IT human resources available 24 hours a day or a help desk ready to solve IT-related problems, there are no SIMRS and/or RME guidelines, and the investment in security, privacy, and data confidentiality remains suboptimal. The unavailability of IT human resources on standby 24 hours or a help desk ready to solve IT problems led to the formulation of solutions, such as designing a fast-response help desk system to quickly resolve arising problems and planning the procurement of IT personnel to accelerate hospital digitalization. We have devised a solution to address the lack of SIMRS and/or RME guidelines, which involves preparing these guidelines and distributing them to all pertinent stakeholders. To address the observation that hospitals have not yet prepared for big data implementation, we have devised a solution that involves clarifying the information system architecture, thereby establishing a clear timeline for big data implementation in hospitals. Regarding investment We have formulated a solution to address the under-optimal investment in security, privacy, and data confidentiality. This involves preparing investments related to the security and confidentiality of hospital data, including financial budgets, facilities, infrastructure, The Technology Sub-Variable uncovered three key findings: the lack of HTA implementation prior to the medical device procurement process, the low CT-scan utility, and the continued referral of numerous patients due to the unavailability of necessary medical devices. We have formulated a solution to address the absence of HTA, which involves preparing both human and other resources for the process. Meanwhile,In response to the limited effectiveness of CT-Scan, it's crucial to create a well-defined PPK (Clinical Practice Guidelines). This will enable the hospital to enhance the utility of CT-Scan through quality control, cost management, and enhanced marketing strategies for its facilities. still many patients who are referred because the necessary medical devices are not available. A solution is formulated by planning the fulfillment of facilities and infrastructure for the development of services that are in accordance with the needs of the community. Overall, the findings obtained are urgent conditions to be addressed in order to improve hospital performance from all value chain variables (support activities).

3. DISCUSSION

Organizational culture plays a crucial role in enhancing performance in the health sector, particularly in the hospital environment, where constant adaptation to high dynamics and work complexity is necessary (Cohen et al., 2025). Organizational culture consists of values, beliefs, and norms that serve as guidelines for the behavior of organizational members. The existence of a positive organizational culture can create a conducive work environment, which is able to motivate employees so that the end result is to improve individual and group performance (Agachi et al., 2024). To be able to understand and measure organizational culture more specifically, this study uses the Organizational Culture Assessment Instrument (OCAI) developed by Cameron and Quinn. This instrument will aid in analyzing the various types of cultures present within the organization. The results of this study showed that Beriman Hospital has a slightly stronger clan culture compared to other cultures. This clan culture is characterized by shared values and goals, cohesion, participatory, individuality, and a relatively strong sense of togetherness. Organizations with a clan culture are often characterized as friendly workplaces, where people share many things, much like a large family. In this organization, leaders are viewed as mentors. Loyalty, tradition, and high commitment are what unify this organization. With a clan culture, RSUD Beriman Balikpapan emphasizes the long-term benefits of human resource development and prioritizes cohesion and morale, as well as teamwork, participation, and consensus (Cameron & Quinn, 2011). In this study, the clan culture survey results were only slightly higher than those of other cultures, indicating that RSUD Beriman Balikpapan shares similar characteristics with other organizational cultures. In this case, it can be seen that there is almost a balance in each existing organizational culture. In a cultural profile like this, sometimes it only shows that the organization still does not understand the culture, strengths, and unique abilities it possesses. The focus of this survey is not on creating a balanced cultural profile for each type of culture, but rather on describing it effectively. Each organization must determine its own level of organizational culture strength in order to be more successful. Research on organizations has illustrated the success of organizational culture across various business types, including the service sector where hospitals play a significant role (Ye et al., 2024). Organizations operating in the service sector typically exhibit a slightly more dominant organizational culture. Market culture, followed by a hierarchy culture, clan culture, and the lowest iMarket culture is the most prevalent organizational culture, followed by hierarchy and clan cultures, with adhocracy culture coming in last. mic market demands, enabling it to deliver the services the community expects.

Mayor Regulation Number 22 of 2022 has determined the organizational structure of RSUD Beriman, a government hospital. When viewed from the perspective of statutory regulations, the organizational structure of RSUD Beriman Balikpapan fully complies with Law Number 17 of 2023 concerning Health and Government Regulation Number 72 of 2019 concerning Amendments to Government Regulation Number 18 of 2016 concerning Regional Government. RSUD Beriman Balikpapan employs a functional organizational structure. Organizations most commonly use a functional organizational structure. A functional organizational structure groups employees based on a series of similar roles and specific tasks. In a stable environment, where the implemented business strategy tends to remain unchanged, this structure will function effectively (Matthew, 2021). This type of structure groups HR professionals with similar expertise into a single work unit. Thus, it will be easier to work together to achieve the same goal. This organizational structure offers several advantages, including its ability to function effectively and efficiently, the clarity of employee career paths, the development and hone of competencies, and its suitability for a stable work environment. The weakness of this organizational structure is that it fosters less developed communication between teams with different specializations, which can lead to conflicts of interest as each team prioritizes its own interests over those of the organization. Given the dynamic conditions and the need for cross-functional collaboration, as well as adaptation to increasingly complex patient demands, switching to a matrix organization structure can be considered. Matrix A matrix organization is a type of organizational structure where individuals are assigned multiple reporting lines. In hospital implementation, its application can help improve collaboration between various sections such as medical, administrative, financial, and nursing; this will further support more holistic patient care with cross-disciplinary coordination (Ali et al., 2024). The advantage of a matrix organization is better collaboration. Unlike functional organizational structures that prioritize their own teams, a matrix organization fosters collaboration among health workers with diverse expertise, enabling them to provide more comprehensive care. In addition, the matrix organization

is also responsive to changes in patient needs. The matrix provides more flexibility in allocating resources according to patients' specific needs. With a matrix organization, it provides an environment that supports innovation and allows employees from various backgrounds to contribute ideas. With cross-functional participation, it will have an effect on increasing employee engagement, reducing turnover, and can increase job satisfaction. However, what needs to be considered when implementing a matrix organization is the complexity of setting roles and responsibilities. Multiple reporting lines can lead to employee confusion and role ambiguity, potentially reducing job satisfaction and causing conflict. In managing a matrix organization, strong communication is needed to avoid overlapping responsibilities (Al Salmi et al., 2024). If communication is not effective, in service it is very likely that there will be difficulties in decision-making, especially in critical situations that require a quick response, which will ultimately hinder team performance.

The financial analysis using the BLUD maturity system reveals RSUD Beriman Balikpapan's current level 3 financial maturity, indicating the organization's overall ability to document activities in a standard manner through standard procedures. Meanwhile, the interpretation for this level 3 process-bas. According to the Regulation of the Director General of Treasury Number 11 of 2021, which outlines the Guidelines for Assessing Governance and Performance (Maturity Level) of Public Service Agencies, the interpretation of this level 3 process-based assessment indicates that the organization's performance, when measured, either fails to meet the relevant targets or exhibits an increasing trend. The assessment of financial maturity involves four components: liquidity, efficiency, effectiveness, and level of independence. The RSUD Beriman Balikpapan has achieved level 1 liquidity. The achievement of level 1 liquidity can be attributed to two main factors: the current ratio of RSUD Beriman Balikpapan is significantly high, surpassing 0.6 of the target, and the cash optimization ratio, which is currently at 2%, falls short of the target of 4%. The high current ratio condition at RSUD Beriman Balikpapan stems from the substantial funds deposited in the account and the absence of a cash management strategy. With a very liquid cash condition, it is feared that service development innovation will decrease due to a sense of security related to short-term obligations. Meanwhile, cash optimization, which is still below the target, is because until now Balikpapan City still does not have a policy for short-term investment for BLUD, so RSUD Beriman Balikpapan has not been able to optimize cash in forms other than current accounts. To enhance efficiency, we continuously evaluate the financial maturity of BLUD by comparing its Operating Income to Operating Expenses (POBO) and ensuring it meets the target. By evaluating POBO, we can gauge BLUD's capacity to manage costs effectively and produce service output, as evidenced by the operational income it receives. Over the past three years, POBO from RSUD Beriman Balikpapan has not been stable; in 2021 it reached 89%, in 2022 it reached 70%, and in 2023 it increased significantly to 115%. In terms of financial efficiency, Beriman Regional Hospital has met most relevant targets and/or demonstrated a significant upward trend. In the effectiveness component, BLUD measures its financial maturity using the return on assets and return on equity indicators. At RSUD Beriman Balikpapan, there has been an increase in both the return on assets and return on equity over the past three years. In 2021, both the return on assets and return on equity were only 2%. However, in 2022, these figures increased to 5%, and in 2023, they reached 21% for the return on assets and 22% for the return on equity. This shows that asset and equity management is increasingly effective. The assessment of BLUD's financial maturity aims to increase its independence, as evidenced by its reliance on pure rupiah spending from the ABPD/APBN. Over the past three years, RSUD Beriman Balikpapan has shown independence with a maturity score of 5, and the percentage has increased from 102% in 2021 and 2022 to 140% in 2023. The internal capability aspect of BLU maturity includes human resources as one of its sub-variables. The purpose of this measurement is to assess the workforce's capacity to perform BLUD management and provide optimal public services. We expect this BLU maturity to provide the community with optimal public services. This necessitates the need for competent human resources, possessing both technical skills and critical thinking abilities. We need to measure the maturity of the organization's human resources to make sure the workforce possesses the necessary skills to meet the BLU's goals. In addition, the maturity of the organization's human resources is needed to improve the technical and/or analytical skills of the workforce, develop effective and efficient work teams, improve BLU performance, and ensure alignment between the workforce and the BLU's vision and mission. RSUD Beriman Balikpapan, in the assessment of human resource maturity, received level 4, which means that the organization is

able to measure the output and trends of human resource performance, identify new opportunities for developing competencies, and adopt shared experiences within the organization.

RSUD Beriman Balikpapan has developed job qualifications and job descriptions, serving as selection tools during the recruitment process to secure human resources aligned with the organization's needs. Job descriptions are complete descriptions of the duties, responsibilities, authorities, and scope of work attached to a position. Job descriptions are important to create a clear structure and function within an organization. Having a job description will help ensure that employees understand what their duties and roles are in the organization. Job qualifications as the minimum requirements or competencies individuals must meet to occupy a specific position. Prospective employees must possess education, experience, skills, and special abilities as part of their job qualifications (Kolen et al., 2025). This is what makes job qualifications a benchmark for HR acceptance during the recruitment process. In the context of R development, employees' rights and obligations encompass training. To be able to carry out competency development, a TNA (training need analysis) is required. TNA is a systematic process to identify training needs in an organization so that employees have the skills, knowledge, and abilities that are in accordance with the organization's goals (Watson, 2022). RSUD Beriman has developed a Training Needs Analysis (TNA), ensuring that its training implementation aligns with the pre-planned objectives. RSUD Beriman has established policies and procedures for HR management, including guidelines for HR career development, calculations of HR needs, performance evaluations, and competency assessments.

The Ministry of Health is implementing digital transformation in the health sector. The Ministry of Health emphasizes the use of digital technology for health services, particularly the use of electronic health records, as part of the implementation of digital transformation. At present, the utilization of digital technology is on the rise, with interoperability playing a crucial role in integrating information systems, integrating data, and bolstering the digital ecosystem in Indonesia. In order to assess the success of the implementation of effective digital technology, the Ministry of Health has developed a digital maturity assessment instrument called the Digital Maturity Index (DMI). Based on the assessment results, RSUD Beriman Balikpapan achieved an increase in results from 1.46 to 2.71. This score illustrates that the organization has an information system roadmap, but it is still not systematic; there is no ongoing system performance monitoring and measurement protocol. The DMI comprises seven components: hospital information systems and infrastructure; standards and interoperability; management and governance of hospital information systems; analytical data; HR competencies, skills, and use of hospital information systems; monitoring, privacy, and confidentiality of data; and electronic medical records (Sotiropoulou et al., 2024). The overall value of the hospital information system and infrastructure components increased, but the technical support element of the information system saw a decrease in achievement, dropping from a score of 3 in 2022 to 2 in 2023. This is due to the IT unit's lack of responsiveness in assisting with the implementation and problems in SIMRS and/or RME. Previously, the IT unit provided remote assistance or on-call support 24 hours a day; however, in 2024, this service is now scheduled. This occurred as a result of RSUD Beriman Balikpapan switching to a new SIMRS provider in 2024, which did not offer 24-hour service but instead offered scheduled assistance. In the management and governance components of the hospital information system, there was a decrease in elements in the SIMRS and/or RME guidelines for the management and utilization of information systems in 2024; RSUD Beriman Balikpapan still did not have SIMRS implementation guidelines. We should have provided this guideline first, as it serves as a basic guide for using the application.

The analytical data component has two zeros, namely in the use and quality of data and big data analysis. In the area of data use and quality, the hospital's data processing mechanism, which supports the quality of patient services and hospital management, continues to rely on a manual system that has not undergone analysis. In the context of big data analysis, the existing SIMRS and/or RME systems are not equipped to handle the substantial volume and diversity of data. Hospital big data management refers to the management of the information systems available within the hospital (Abdulwehab et al., 2024). Big data is the collection and use of information from various sources to make better We hope that the hospital's SIMRS will effectively collect, process, and present big data to inform real-time policy decisions. real time. The security, privacy, and confidentiality components of data have experienced a decline in results compared to the previous year. This decline was observed in the hospital's provision of resources to control and anticipate security problems of the

hospital's information system. Based on the input results in the DMI application, it appears that the hospital has not yet prioritized investments in information system security. This poses a significant risk to hospitals, particularly in the digital era where all activities rely heavily on information systems. Related to the implementation of RME, based on the results of the DMI application input, currently RSUD Beriman Balikpapan has adopted RME level 3, which means that the RME implemented at RSUD Beriman Balikpapan already includes a patient registration and admission system, some medical support such as patient assessments, electronic prescriptions, discharge patient summaries, and medical support examination results. For the RME pharmacy system, it already has a drug administration system for patients, using standard terminology (diagnosis, procedures, supporting examinations).

The technology analysis at RSUD Beriman Balikpapan yielded a 40% success rate in one category. This lack of achievement is because RSUD Beriman Balikpapan has not yet conducted a Health Technology Assessment (HTA) for the procurement of medical devices. The implementation of HTA is crucial before the procurement of medical devices in hospitals. Hospitals can conduct a comprehensive assessment of the effectiveness, safety, and economic value of the health technology they will use through HTA (Puja et al., 2024). Through the preparation Hospital management will be able to understand the clinical and financial impacts of medical devices through the preparation of HTA, ensuring that the selected device will maximize patient benefits and align with service needs, hospitals will be able to evaluate medical devices objectively based on scientific evidence that includes efficacy (clinical effectiveness), effectiveness, efficiency, and the availability of other alternatives that may be more economical or easier to access. This is crucial as it can help hospitals avoid purchasing technology that doesn't align with their needs or is inefficient. Based on this, Health Technology Assessment (HTA) plays a crucial role in promoting sustainable decisions, ensuring that the chosen health devices deliver suitable outcomes over an extended period without wasting resources. The technology analysis at RSUD Beriman Balikpapan revealed a significant variation in the utility of high-tech tools, with CT-Scan showing the highest utility realization at 37.4%, followed by X-Ray at 87.1%, and USG at 95.3%. The low utility of CT-Scan stems from its recent introduction to RSUD Beriman Balikpapan, resulting in limited awareness among other hospitals or clinics. Therefore, there is a need for further enhancements in its marketing. Additionally, the existence of CT-Scan needs to be bolstered by complementary services, such as the addition of ICU rooms and neurosurgery-related equipment. This will ensure that patients receive comprehensive care, rather than just being checked and then referred due to limited facilities.(Malhi et al., 2024)

Ensuring the adequacy of medical devices in hospitals is crucial for ensuring the completeness of the medical services provided to patients and minimizing the number of patients referred to other hospitals (Ketema et al., 2024). Existing data indicates that 34.8% of patients receive referrals due to the unavailability of necessary medical devices. Of that number, 48.1% of patients require devices for critical services such as haemodialysis, 39% for percutaneous coronary intervention (PCI), 6.5% for chemotherapy, 2.6% for cardio synthesis, and 2.6% for temporary pacemakers. This shows that the lack of medical devices at RSUD Beriman Balikpapan has the potential to limit patient access to vital and urgent services. Fulfilment of the adequacy of medical devices also impacts operational efficiency and hospital cost management. Referrals that occur due to the unavailability of medical devices can increase the financial burden on patients and reduce public trust in the hospital's ability to provide complete services. Conversely, hospitals can enhance their service quality and optimize their budget allocation by investing in medical devices that meet their needs and undergo HTA. The last component in technology assessment is calibration. Calibration of medical devices is The calibration of medical devices is a crucial aspect of their maintenance, ensuring accuracy, safety, and effectiveness in health services, low for more precise diagnosis and therapy results, thus assisting in making appropriate decisions for patients (Mosadeghrad, 2013). Routine calibration ensures that the device continues to work according to the right specifications and prevents medical errors caused by its inaccuracy. Recent studies have shown that timely calibration can increase device accuracy by up to 30%, which will have a direct impact on improving patient safety.

In addition to safety and accuracy aspects, regular calibration of medical devices can also contribute to increased operational efficiency and cost savings (Ketema et al., 2024). Not routinely calibrating devices can lead to more frequent damage or malfunctions, resulting in high downtime and reduced patient access to crucial services. A recent study noted that hospitals that perform preventive

calibration regularly have maintenance cost savings of 15-20%, in addition to increasing the readiness of the device for operation. This is in line with what has been done by RSUD Beriman Balikpapan, which has routinely calibrated 100% of its medical devices.

4. CONCLUSION

The results of the study indicate that the organizational culture of Beriman Hospital tends toward clan culture (score 33), which, according to Cameron & Quinn, is less than ideal for the service sector, where market culture is more appropriate. The organizational structure of Beriman Hospital fully complies with regulations, currently implementing a functional organizational structure. In terms of finance, Beriman Hospital has achieved a maturity level of 3 out of 5, with a liquidity score of 1, efficiency 4, effectiveness 2, and independence level 5. HR maturity is at level 4, while digitalization is at level 2.71 out of 5, with adoption of electronic medical records (EMR) at level 3 out of 7. In terms of technology, Beriman Hospital has achieved a score of 38% (category D/less), which is influenced by factors such as the absence of HTA, the utilization of sophisticated medical devices at 73.3%, the 34.8% patient referral rate due to equipment shortages, and the 100% calibration of medical devices. Based on the analysis and FGD, strategic recommendations include internalizing market culture and increasing leadership roles, compiling a study of organizational structure changes, developing city regulations for financial management, adding IT human resources, formulating Big Data-based SIMRS architecture, and investing in technology for priority community services. Based on the support activity value chain analysis, RSUD Beriman has strong capital in several aspects. However, to improve hospital performance, significant changes are necessary, requiring readiness in terms of human resources, finance, and regulations.

Conflict of interest

There exists no conflict of interest in the development and finalization of the work.

Author contributions

Sri Nur Azizah: Conceptualization, Methodology, Investigation, Formal analysis, Writing – Original Draft. **Syharir A. Pasinringi:** Writing – Review & Editing. **Noer Bahry Noor:** Writing – Review & Editing. **Fridwaty Rivai:** Writing – Review & Editing. **Irwandy:** Writing – Review & Editing. **Herlina A. Hamzah:** Writing – Review & Editing.

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