

# Supplier Relationship Management, Risk Management, and Sustainable Procurement: Their Influence on Organizational Efficiency in the Selected Hospital

Ronel Valdez Bañola

La Consolacion College – Bacolod, Bacolod City, Philippines

DOI: <https://doi.org/10.47772/IJRISS.2026.100600727>

Received: 13 June 2026; Accepted: 18 June 2026; Published: 04 June 2026

## Abstract

This study examined Supplier Relationship Management, Risk Management, and Sustainable Procurement Practices as important procurement factors that influenced Organizational Efficiency in selected private hospitals in Bacolod City. It aimed to determine the extent to which these procurement practices influenced organizational efficiency in terms of cost-effectiveness, process responsiveness, and quality of procurement outputs. The study used a descriptive-comparative-correlational research design, with 338 respondents from four private hospitals identified as Hospital A, Hospital B, Hospital C, and Hospital D; data were gathered through a validated and reliable questionnaire, data were analyzed using mean, standard deviation, Mann-Whitney U Test, and Spearman's Rank-Order Correlation. The findings revealed that the selected private hospitals showed a very high extent of Supplier Relationship Management, Risk Management, Sustainable Procurement Practices, and Organizational Efficiency. However, areas such as ethical procurement, procurement effectiveness, contingency planning, green procurement practices, and quality procurement outputs among probationary employees still needed strengthening. The study concluded that the three procurement practices were significantly connected with organizational efficiency and contributed to better coordination, reduced procurement risks, improved sustainability, and higher-quality procurement outputs. It further concluded that Supplier Relationship Management had the strongest contribution, while Risk Management had the weakest but significant relationship and therefore required greater attention. It was recommended that hospitals implement the SMART Procurement Program: Sustainable Management and Risk-Responsive Transactions to improve ethical procurement, contingency planning, employee mentoring, quality monitoring, and supplier partnership. Hospitals were also encouraged to sustain strong supplier collaboration, social responsibility, risk identification, and quality-oriented procurement practices.

**Keywords:** supplier relationship management, risk management, sustainable procurement, organizational efficiency, Negros Occidental, Philippines

## INTRODUCTION

Private hospitals play a vital role in delivering healthcare services but face increasing challenges in providing high-quality care while maintaining operational efficiency due to rising costs, complex supply chains, and technological demands (Apeh et al., 2024). Globally and in Asia, hospitals must manage resources effectively, strengthen supplier relationships, and mitigate risks to ensure continuity and responsiveness in service delivery (Wafa et al., 2022). Locally, private hospitals operate under limited resources and competitive markets, making efficient procurement, risk management, and sustainable practices essential for organizational performance and quality patient care (Hodkinson et al., 2023). These challenges highlight the importance of Supplier Relationship Management, Risk Management, and Sustainable Procurement, as they directly influence cost-effectiveness, process responsiveness, and the quality of care in hospitals.

Moreover, Effective supplier relationships are essential in healthcare procurement, as they ensure the timely delivery of quality medical supplies and services critical to hospital operations (Kirema et al., 2025). Communication between hospitals and suppliers fosters transparency, reduces errors, and enables faster decision-making, yet studies show that miscommunication and lack of standardized reporting remain persistent challenges

globally (Olatundun Fasasi, 2023). Collaboration strengthens joint problem-solving and process integration, but limited research highlights how collaborative frameworks in healthcare procurement influence operational efficiency, particularly in Asian and local hospital contexts (Singh et al., 2024). Supplier performance, measured through reliability, quality, and responsiveness, directly affects hospital efficiency, yet gaps remain in systematically evaluating supplier outcomes and linking them to organizational performance (Purwanto, 2022).

Furthermore, Risk management in healthcare procurement is critical for anticipating and addressing uncertainties that can disrupt supply continuity and compromise patient care quality (Uchechukwu et al., 2024). Effective risk identification enables hospitals to recognize potential internal and external threats early, yet research indicates that many institutions still lack systematic tools and frameworks to comprehensively map procurement risks (Sermhattakit & Sae-Lim, 2025). While risk mitigation strategies aim to reduce the impact of identified risks through proactive measures, existing studies reveal a gap in empirical evidence on the effectiveness of specific mitigation models in hospital settings, particularly in developing regions (Ma'rifat & Suraharta, 2024). Contingency planning involves preparing alternative courses of action to maintain operational stability during unforeseen disruptions, but limited research has examined how hospitals implement and evaluate contingency plans within their procurement systems (Klingenberg, 2024).

In addition, Sustainable procurement in healthcare emphasizes the integration of ethical standards, social responsibility, and environmental considerations into purchasing decisions to enhance long-term organizational performance and stakeholder wellbeing (Samuels, 2025). Ethical procurement promotes fairness, transparency, and accountability in supplier selection and contracting, yet research shows that many hospitals still lack formalized ethical procurement policies and struggle to measure their impact on outcomes (Cooper, 2024). Social responsibility extends procurement beyond economic value to include community welfare and stakeholder interests, but empirical evidence is limited on how socially responsible practices influence operational efficiency and patient care in healthcare settings (Rahma & Tir, 2024). Green procurement practices aim to reduce environmental impact through eco-friendly purchasing, yet gaps remain in assessing the level of adoption and effectiveness of green criteria in hospital procurement systems, especially in developing country contexts (Kwasafu et al., 2026).

On the other hand, Organizational efficiency in hospitals reflects the institution's ability to maximize outcomes while minimizing costs, delays, and errors in procurement and service delivery, making it a critical indicator of operational performance (Kajamaa & Laukkanen, 2022). Cost-effectiveness is enhanced when Supplier Relationship Management, Risk Management, and Sustainable Procurement are strategically applied, yet studies indicate a lack of empirical evidence linking these procurement practices directly to measurable cost savings in healthcare institutions (Olaleye, 2024). Process responsiveness, or the hospital's ability to quickly adapt procurement operations to changing needs, is influenced by timely communication with suppliers, risk mitigation strategies, and sustainable procurement policies; however, research remains limited on how these combined practices improve responsiveness across different hospital contexts, particularly in Asia and developing countries (Leppänen, 2024; Khanpoor et al., 2025). Quality of procurement output, including the reliability, suitability, and sustainability of medical supplies and services, is a crucial determinant of overall efficiency, but gaps persist in systematically evaluating how integrated procurement practices across supplier management, risk, and sustainability dimensions affect the quality of outputs in hospitals (Paul et al., 2024).

Despite the recognized importance of Supplier Relationship Management, Risk Management, and Sustainable Procurement, many hospitals globally and locally lacked standardized frameworks to systematically implement and evaluate these practices. Empirical evidence was limited on how these integrated procurement strategies directly influenced cost-effectiveness, process responsiveness, and the quality of procurement outputs, particularly in Asian and developing country contexts. Additionally, gaps existed in assessing the adoption of ethical, socially responsible, and green procurement practices, as well as in linking supplier performance, risk mitigation, and sustainability initiatives to measurable improvements in organizational efficiency. Furthermore, no prior study specifically focused on these variables within private hospitals in Bacolod City.

The study aimed to determine the extent to which Supplier Relationship Management, Risk Management, and Sustainable Procurement practices influenced the organizational efficiency of private hospitals in Bacolod City.

Its purpose was to provide evidence-based insights that could serve as a basis for enhancing existing procurement programs and improving operational performance within these institutions.

### Statement of the Problem

This study aimed to determine the extent to which Supplier Relationship Management, Risk Management, and Sustainable Procurement Practices can influence the Organizational Efficiency of a private hospital in Bacolod City.

Specifically, it sought to answer the following questions:

1. What is the extent of supplier relationship management in terms of Communication, Collaboration, Supplier performance monitoring of selected private hospitals when they are taken and grouped according to Employment Status, Years of Experience in Current Role, Designation, and affiliates?
2. What is the extent of risk management in terms of Risk identification, Risk mitigation strategies, Contingency planning of selected private hospitals when they are taken and grouped according to Employment Status, Years of Experience in Current Role, Designation, and affiliates?
3. What is the extent of sustainable procurement in terms of Ethical procurement, social responsibility, green procurement practices of selected private hospitals when they are taken and grouped according to Employment Status, Years of Experience in Current Role, Designation, and affiliates?
4. What is the level of operational efficiency in terms of effectiveness, process responsiveness and quality of procurement outputs of selected private hospitals when they are taken and grouped according to Employment Status, Years of Experience in Current Role, Designation, and affiliates?
5. Is there a significant difference in the extent of supplier relationship management in terms of Communication, Collaboration, Supplier performance monitoring of a private hospital when they are grouped according to Employment Status?
6. Is there a significant difference in the extent of risk management in terms of Risk identification, Risk mitigation strategies, Contingency planning of private a hospital when grouped according to Employment Status?
7. Is there a significant difference in the extent of sustainable procurement in terms of Ethical procurement, social responsibility, green procurement practices of a private hospital when grouped according to Employment?
8. Is there a significant difference in the level of operational efficiency in terms of effectiveness, process responsiveness and quality of procurement outputs of selected private hospitals when grouped according to Employment Status?
9. Does the extent of supplier relationship management significantly relate to risk management?
10. Does the extent of risk management significantly relate to sustainable procurement?
11. Does the extent of supplier relationship management significantly relate to sustainable procurement?
12. Does the extent of supplier relationship management significantly relate to operational efficiency?

### Hypotheses

The researcher hypothesized the following:

1. There is no significant difference in the extent of supplier relationship management in terms of Communication, Collaboration, Supplier performance monitoring of a private hospital when they are grouped according to Employment Status.
2. There is no significant difference in the extent of risk management in terms of Risk identification, Risk mitigation strategies, Contingency planning of private a hospital when grouped according to Employment Status.
3. There is no significant difference in the extent of sustainable procurement in terms of Ethical procurement, social responsibility, green procurement practices of a private hospital when grouped according to Employment.

4. There is no significant difference in the level of operational efficiency in terms of effectiveness, process responsiveness and quality of procurement outputs of selected private hospitals when grouped according to Employment Status.
5. The extent of supplier relationship management no significantly relates to risk management.
6. The extent of risk management no significantly relates to sustainable procurement.
7. Does the extent of supplier relationship management no significantly relate to sustainable procurement?

## Framework

The theoretical foundation of this study is anchored in four key management theories that strengthen the understanding of Supplier Relationship Management, which is supported by Transaction Cost Economics Theory (Williamson, 1981). Risk Management is grounded in Enterprise Risk Management Theory (Frigo & Anderson, 2011). Sustainable Procurement is framed by Stakeholder Theory (Freeman, 1984). Finally, Resource-Based View (RBV) Theory (Barney, 1991) supports Organizational Efficiency.

Transaction Cost Economics (TCE) Theory explains how organization's structure and govern economic activities to minimize the costs associated with transactions, such as negotiating, monitoring, and enforcing agreements, especially under conditions of uncertainty and bounded rationality (Aric, 2020). TCE suggests that when transaction costs are high, firms develop governance mechanisms—like closer supplier relationships or internal coordination—to reduce inefficiencies and improve performance (Cuypers et al., 2021). In supply chain and procurement research, TCE has been used to understand how firms choose the most efficient mode of exchange and organizational structure to manage contracting and governance challenges (Ketokivi & Mahoney, 2020). Contemporary studies highlight that TCE remains a valuable lens for analyzing organizational decisions that balance market and internal coordination costs to achieve efficient governance in complex environments (Hannelin, 2025).

Transaction Cost Economics (TCE) Theory explains how organization's structure and govern economic activities to minimize costs associated with transactions, such as negotiating, monitoring, and enforcing agreements, particularly under uncertainty and bounded rationality (Aric, 2020). In the context of hospital procurement, TCE suggests that maintaining strong supplier relationships and internal coordination can reduce transaction costs, improve supply chain efficiency, and ensure timely delivery of medical resources (Jiménez & Afonso, 2023). When transaction costs are high, hospitals may implement governance mechanisms, such as formal contracts, supplier performance monitoring, and collaborative communication, to mitigate inefficiencies and enhance operational performance (Gruchmann et al., 2023).

Applying TCE in healthcare procurement provides a framework for understanding how hospitals can strategically manage supplier interactions, reduce risks, and optimize resource allocation (Olufemi-Phillips & Titilope Tosin Adewale, 2023). Consequently, this theory strengthens the study's examination of how Supplier Relationship Management influences organizational efficiency through cost-effectiveness, process responsiveness, and quality of procurement outputs (Emon et al., 2024).

Enterprise Risk Management (ERM) Theory, developed by Frigo and Anderson (2011), emphasizes a structured and comprehensive approach to identifying, assessing, and managing risks across an organization (Kanu, 2021). The theory highlights the need for organizations to proactively anticipate uncertainties and implement strategies to mitigate potential negative impacts on objectives (Kochkodan & Petryna, 2024).

ERM integrates risk management into strategic planning and operational processes, ensuring that decision-making considers both internal and external threats. Contemporary research underscores that ERM enhances organizational resilience, improves resource allocation, and supports long-term performance in complex and uncertain environments (Mupa et al., 2024).

Enterprise Risk Management (ERM) Theory provides a framework for understanding how risks related to supply delays, quality issues, and cost fluctuations can be systematically identified and managed (Jean-Jules & Vicente, 2021). Hospitals that apply ERM can implement risk mitigation strategies such as supplier audits, contingency planning, and performance monitoring to ensure the continuity of medical supply delivery (Hamad & Theeb,

2024). This approach promotes operational stability and safeguards patient care from potential procurement disruptions. By integrating ERM principles, hospitals can enhance decision-making, minimize financial and operational losses, and improve overall organizational efficiency (Kumar Pemmasani & Anderson, 2020). Therefore, ERM reinforces the study's focus on Risk Management as a critical factor influencing cost-effectiveness, process responsiveness, and the quality of procurement outputs in private hospitals (Nathasya, 2024).

Stakeholder Theory, developed by Freeman (1984), emphasizes that organizations must consider the interests and expectations of all stakeholders—including employees, suppliers, customers, communities, and the environment—in decision-making processes (Awa et al., 2024).

The theory posits that long-term organizational success depends on balancing economic, social, and environmental responsibilities to meet stakeholder needs (Ashrafi et al., 2020). In procurement, this translates to ethical, socially responsible, and environmentally sustainable practices that benefit both the organization and its broader network of stakeholders (Gurzawska, 2020). Contemporary research highlights that incorporating stakeholder perspectives enhances transparency, accountability, and sustainable value creation in organizational operations (Alshukri et al., 2024).

In the context of hospital procurement, Stakeholder Theory provides a foundation for implementing Sustainable Procurement practices that consider the ethical, social, and environmental impacts of purchasing decisions (Tseng et al., 2022). Hospitals can adopt ethical procurement policies, prioritize socially responsible suppliers, and implement green purchasing initiatives to address the concerns of multiple stakeholders (Offei et al., 2025).

These practices ensure that procurement decisions support patient care, community welfare, and environmental sustainability simultaneously (Lăzăroiu et al., 2020). By embedding stakeholder considerations into procurement strategies, hospitals can strengthen supplier relationships, mitigate reputational risks, and promote long-term operational resilience (Fredson et al., 2025). Therefore, Stakeholder Theory underpins the study's focus on Sustainable Procurement as a key factor influencing cost-effectiveness, process responsiveness, and quality of procurement outputs in private hospitals (Bempah, 2023).

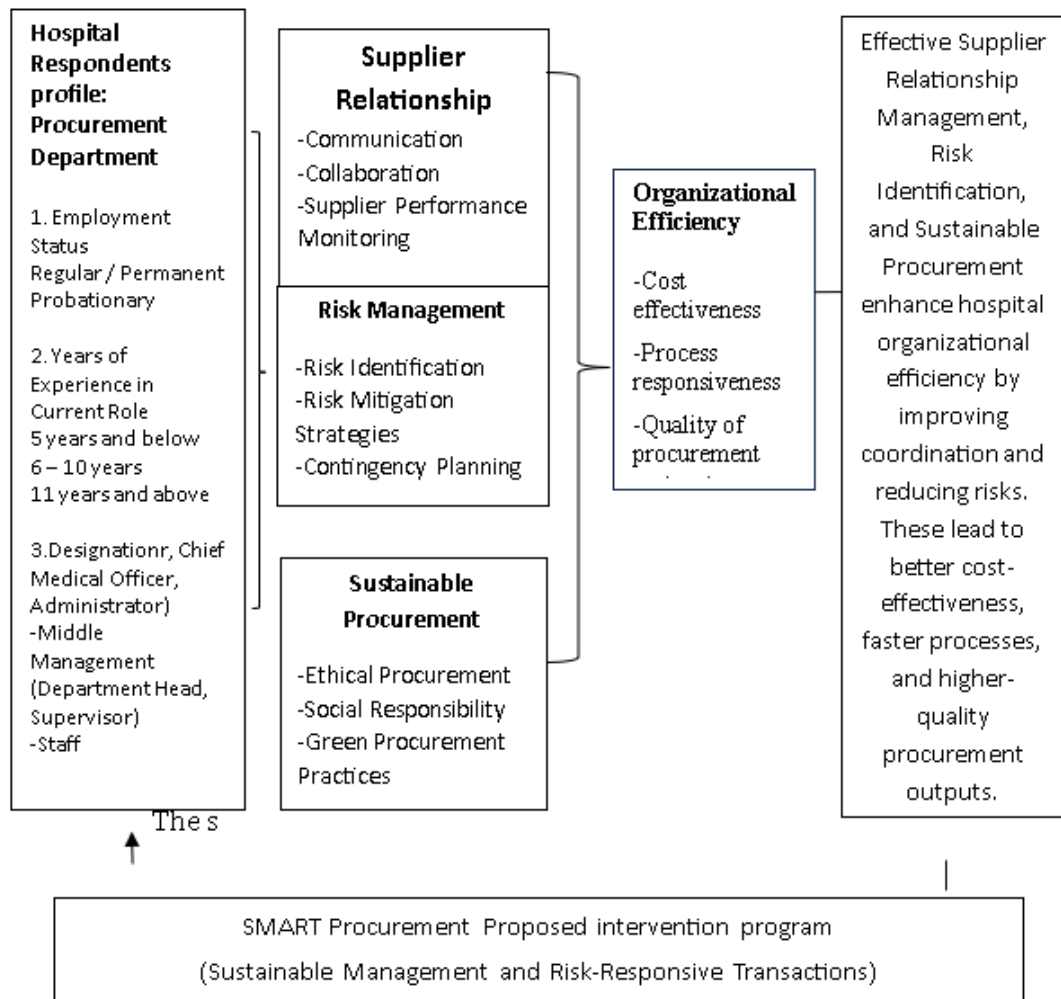
Resource-Based View (RBV) Theory, developed by Barney (1991), posits that organizations gain a sustainable competitive advantage by effectively utilizing and managing their unique resources and capabilities (Lubis, 2022).

The theory emphasizes that valuable, rare, inimitable, and non-substitutable resources contribute to superior performance and long-term success (Wenjie Sun et al., 2024). RBV suggests that organizational efficiency is achieved when these strategic resources are aligned with operational processes and decision-making (Osobajo & Bjeirmi, 2021). Recent studies highlight that RBV remains relevant in understanding how internal capabilities, such as effective procurement and supply chain management, drive performance outcomes in complex organizational environments (Kero & Bogale, 2023).

In the context of hospital organizational efficiency, RBV Theory provides a framework for understanding how strategic resources—such as skilled procurement staff, efficient supplier networks, and advanced procurement systems—can be leveraged to enhance organizational efficiency (Mathobo & Matsoma, 2025). Hospitals that optimize these resources can achieve cost-effectiveness, streamline processes, and improve the quality of procurement outputs (Almehwari et al., 2024).

By focusing on internal capabilities, hospitals can reduce dependency on external factors and strengthen operational resilience (Scoot, 2024). Integrating RBV principles into procurement practices enables institutions to align resources with strategic objectives, ensuring that procurement contributes directly to overall performance (Twumasi, 2022). Therefore, RBV underpins the study's focus on Organizational Efficiency as an outcome influenced by effective Supplier Relationship Management, Risk Management, and Sustainable Procurement practices in private hospital.

**Figure 1: Schematic Diagram**



Schematic diagram presents the conceptual framework of this study, emphasizing the procurement department of private hospitals. At the foundation, the framework considers the characteristics of hospital respondents as the independent variables. These characteristics include employment status, years of experience, and designation, categorized as top management, middle management, and staff. These factors influence how procurement practices are implemented and operationalized within the hospital.

At the core of the framework are the key procurement practices, which serve as the dependent variables. These include: Supplier Relationship Management (SRM) – measured by communication, collaboration, and supplier performance, highlighting the importance of strong supplier partnerships for timely and high-quality delivery of medical supplies (Sann, 2024). Risk Management (RM) – measured through risk identification, risk mitigation strategies, and contingency planning, which enable hospitals to anticipate and address potential supply disruptions, ensuring operational continuity (Alfina, 2026). Sustainable Procurement (SP) – measured via ethical procurement, social responsibility, and green procurement practices, emphasizing fairness, social impact, and environmental considerations in purchasing decisions (Yeboah & Ernest, 2024).

The influence variable in this framework is Organizational Efficiency, which is operationalized through cost-effectiveness, process responsiveness, and quality of procurement outputs. The diagram suggests that effective implementation of Supplier Relationship Management, Risk Management, and Sustainable Procurement collectively enhances organizational efficiency by reducing operational inefficiencies, minimizing risks, and improving the overall quality of procurement outcomes (Sinthiya, 2023). At the outcome level, the diagram introduces the SMART Procurement Proposed Intervention Program (Sustainable Management and Risk-Responsive Transactions). This program is designed to address areas where hospitals exhibit weaknesses in procurement practices. By integrating supplier relationship management, risk mitigation, and sustainable

procurement strategies, the program aims to Strengthen coordination among stakeholders, reduce operational and supply chain risks, enhance cost-effectiveness and process efficiency, Improve the quality of procurement outputs. Ultimately, the intervention supports hospital performance and patient care, reinforcing the critical link between strategic procurement practices and organizational success.

### **Scope and limitation**

This study focused on examining the extent to which Supplier Relationship Management, Risk Management, and Sustainable Procurement Practices influenced Organizational Efficiency in selected private hospitals in Bacolod City. Specifically, it was conducted in four participating hospitals, referred to as Hospital A, Hospital B, Hospital C, and Hospital D, to maintain confidentiality and protect the identity of the institutions involved. Data were collected during the first and second semesters of the academic year 2025–2026. The respondents included employees from the employees of the selected hospitals, encompassing Top Management, Middle Management, and staff.

The study was limited in several ways. First, it employed a cross-sectional design, which captured data at a single point in time, preventing the establishment of causality or observation of changes over time. Second, the study relied on self-reported perceptions, which may have been influenced by social desirability bias and lacked objective metrics such as cost savings, defect rates, or delivery times. Third, the focus on private hospitals in Bacolod City limited the generalizability of the findings to public hospitals, other regions, or hospitals in other countries with different operational systems. Finally, the study considered only internal stakeholders in the procurement departments and did not include suppliers, patients, or other external stakeholders, nor did it examine other factors such as hospital size, finances, technology, or competition, which could also affect procurement efficiency.

### **Significance of the study**

This study is significant to the following:

#### **Hospital Administrators and Executive Leadership**

The study may help administrators understand how strategic procurement improves organizational efficiency and guides resource allocation to achieve financial and operational benefits.

#### **Procurement and Supply Chain Professionals**

The study may help practitioners identify best practices in supplier relationship management, risk mitigation, and sustainable procurement, supporting benchmarking and enhancing organizational performance.

#### **Finance Department Personnel**

The study may help finance teams assess the financial impact of procurement decisions, improving budgeting, cost control, and profitability.

#### **Clinical Department Heads and Medical Staff**

The study may help clinical leaders appreciate how procurement affects supply availability, quality, and responsiveness, fostering collaboration for better patient care.

#### **Healthcare Policymakers and Regulators**

The study may help policymakers develop frameworks that professionalize, promote collaboration, and integrate sustainability into healthcare procurement.



## **Suppliers and Vendors'**

The study may help suppliers align with hospital priorities, adopt ethical and sustainable practices, and strengthen long-term partnerships.

## **Academic and Research Community**

The study may help researchers address gaps in healthcare procurement literature and provide a foundation for understanding the impact of SRM, sustainable procurement, and risk management on organizational performance.

## **Patients and Local Communities**

The study may help communities benefit from more efficient, cost-effective, and sustainable healthcare, improving access, quality, and affordability.

## **Researchers and Future Researchers**

The study may help future researchers explore procurement practices in other contexts, conduct longitudinal studies, and examine additional factors influencing healthcare procurement effectiveness.

## **Definition of terms**

The following terminologies were defined according to their operational meanings:

### **Supplier Relationship Management**

Refers to the systematic approach used by the hospital to manage interactions with suppliers to ensure effective communication, collaboration, and performance evaluation. In this study, Supplier Relationship Management is measured through respondents' assessment of communication efficiency, level of collaboration, and supplier performance.

#### **Communication**

Refers to the clarity, timeliness, and effectiveness of information exchange between the hospital and its suppliers, as perceived by the respondents.

#### **Collaboration**

Refers to the degree of cooperation and joint problem-solving activities between the hospital and suppliers to achieve mutual goals.

### **Supplier Performance**

Refers to the ability of suppliers to meet agreed standards in terms of quality, delivery, reliability, and service, as evaluated by the respondents.

### **Risk Management**

Refers to the processes employed by the hospital to identify, assess, and address potential risks in procurement activities. In this study, it is measured through risk identification, mitigation strategies, and contingency planning.

### **Risk Identification**

Refers to the process of recognizing potential risks that may affect procurement operations in the hospital.

### **Risk Mitigation Strategies**

Refers to the actions and measures implemented to reduce or control identified risks in procurement processes.

### **Contingency Planning**

Refers to the preparation of alternative plans and actions to respond effectively to unforeseen disruptions in procurement.

### **Sustainable Procurement**

Refers to the integration of ethical, social, and environmental considerations into the hospital's procurement decisions. In this study, it is assessed through ethical procurement, social responsibility, and green procurement practices.

### **Ethical Procurement**

Refers to the adherence to fairness, transparency, and integrity in procurement processes.

### **Social Responsibility**

Refers to procurement practices that consider the welfare of employees, communities, and stakeholders.

### **Green Procurement Practices**

Refers to the selection of environmentally friendly products and suppliers that minimize negative environmental impact.

### **Organizational Efficiency**

Refers to the hospital's ability to optimize resources and processes to achieve desired procurement outcomes. In this study, it is measured through cost-effectiveness, process responsiveness, and quality of procurement outputs.

### **Cost-Effectiveness**

Refers to the ability of the hospital to obtain goods and services at the best possible value while minimizing costs.

### **Process Responsiveness**

Refers to the speed and flexibility of procurement processes in meeting the needs of the hospital.

### **Quality of Procurement Outputs**

Refers to the extent to which procured goods and services meet required standards and expectations.

## **METHODOLOGY**

This chapter presented the research methodology used to examine the influence of Supplier Relationship Management, Risk Management, and Sustainable Procurement on hospital Organizational Efficiency. It described the research design, respondents, sample, and sampling technique, discussed the data-gathering instruments with their validity and reliability, explained data collection procedures, outlined statistical treatments and analysis methods, and highlighted the ethical considerations ensuring participants' protection and privacy.

## Research Design

In quantitative research, a descriptive research design involves collecting numerical data to describe the characteristics of a population or phenomenon, often using structured instruments such as surveys or questionnaires. It provides statistical summaries, including means, percentages, and frequencies, without manipulating variables (Zhu, 2020). A comparative research design identifies and analyzes differences between two or more groups, highlighting variations in outcomes across populations, such as top management, middle management, and staff (Spatioti & Kazanidis, 2022). Meanwhile, a correlational research design examines the relationships between numerical variables, determining the strength and direction of associations without implying causation (Devi, 2022).

This study was deemed necessary to employ a descriptive-comparative and correlational research design to examine the influence of Supplier Relationship Management, Risk Management, and Sustainable Procurement on Organizational Efficiency in hospitals. The descriptive design allowed the researcher to systematically portray existing procurement practices and respondent characteristics, such as employment status and years of experience. The comparative design enabled the study to identify differences in procurement practices and organizational efficiency across respondent groups. Finally, the correlational design assessed the relationships among key variables to determine how procurement practices influence hospital performance, supporting a comprehensive understanding of organizational efficiency in a private hospital in Bacolod City.

## Respondents

The respondents of this study were selected from four private medical facilities located in Bacolod City, Negros Occidental, Philippines, which serve as the principal private healthcare providers in the area. The respondents comprised hospital personnel directly involved in procurement processes, including top management, middle management, and staff members, both regular and probationary employees.

## Population

In research, the population refers to the complete set of individuals, cases, or elements that possess the characteristics being studied and to whom the research results are intended to generalize (Willie, 2024). The total population of personnel across these four facilities was approximately 2,766.

## Sample Size

In quantitative research, the sample size refers to the number of respondents selected from the total population to participate in the study (Adhikari, 2021). It is important because it ensures that the data collected are sufficient and representative of the population, allowing for reliable and valid conclusions (Ahmad et al., 2023). Determining an appropriate sample size helps minimize sampling error and increases the accuracy of the study's findings (Khalid, 2024).

To compute the sample size of the study, Cochran's formula was used, the sample size of the study was 338.

| Name of Hospitals | Population | Sample Size |
|-------------------|------------|-------------|
| Hospital A        | 1,348      | 165         |
| Hospital B        | 331        | 40          |
| Hospital C        | 287        | 35          |
| Hospital D        | 800        | 98          |
| Total:            | 2,766      | 338         |

## Sampling Technique

A sampling technique refers to the method used to select a subset of individuals from a population to participate in a study. It ensures that the selected respondents adequately represent the characteristics of the population, allowing the researcher to draw valid and reliable conclusions (Giri, 2024). Different sampling techniques are employed depending on the nature, size, and purpose of the study.

In this study, stratified random sampling was employed to select the respondents from the participating hospitals. The total population was divided into four strata according to the four selected private hospitals, namely Hospital A, Hospital B, Hospital C, and Hospital D. This technique was deemed appropriate because the hospitals had unequal population sizes; therefore, proportional allocation was used to ensure fair and adequate representation from each institution. Larger hospitals were assigned a larger number of respondents, while smaller hospitals were assigned a smaller number of respondents. After determining the sample size for each hospital, respondents were randomly selected from each stratum to ensure that every qualified hospital personnel involved in procurement had an equal chance of participating in the study. This process helped make the sample more representative of the population of the four selected private hospitals.

## Data Gathering Instrument

The primary data for this study were collected using a structured questionnaire adapted and modified to assess the extent of Supplier Relationship Management, Risk Management, Sustainable Procurement, and Organizational Efficiency in hospitals. The instrument was divided into two main parts to capture both respondent profiles and key study variables. All items were measured using a Likert scale (Strongly Agree – Very High, agree– High, disagree – Low, and Strongly Disagree – Very Low), allowing respondents to indicate the extent to which each statement reflected their hospital's practices.

This part 1 of the instrument is demographic and professional information from the respondents, including employment status (regular or probationary), years of experience in the current role (5 years and below, 6–10 years, and 11 years and above), position/designation (top management, middle management, and staff), and affiliation (hospital/institution). These variables described the respondents' characteristics and served as a basis for comparative analysis.

The study assessed Supplier Relationship Management practices in hospitals. The items were adapted and modified from Thornton and Lowe (2025) and the HICX Supplier Experience Model (2025) to ensure relevance to healthcare procurement operations. The SRM construct consisted of three dimensions: Communication (9 items) – assessed the clarity, frequency, and effectiveness of information exchange with suppliers; Collaboration (8 items) – evaluated the degree of partnership, coordination, and joint problem-solving with suppliers; and Supplier Performance Monitoring (8 items) – measured the processes used to evaluate supplier reliability, quality of goods, and compliance with agreed standards.

Risk Management practices were assessed using items adapted and modified from Poll-Maker Risk Assessment Surveys and Vendor Risk Assessment Questionnaire Guides. The construct included three dimensions: Risk Identification (9 items) – assessed the hospital's ability to recognize potential procurement risks; Risk Mitigation (9 items) – evaluated strategies implemented to manage identified risks; and Contingency Planning (9 items) – measured preparedness in developing alternative plans for potential supply disruptions.

Sustainable Procurement practices were measured using items adapted and modified from the Mölnlycke Health Care Consensus Document (2024), Hauschildt et al. (2025), and The British Medical Association's Ethical Procurement for Health Workbook (2020). The construct consisted of three dimensions: Ethical Procurement (9 items) – assessed adherence to ethical and fair procurement practices; Social Responsibility (8 items) – evaluated commitment to socially responsible procurement, including labor practices and community impact; and Green Procurement Practices (8 items) – measured integration of environmentally sustainable practices in procurement decisions.

Organizational Efficiency was assessed using items adapted and modified from Rouhani-Tazangi et al. (2025) and Brikci (2024). The construct included three dimensions: Cost-Effectiveness (9 items) – assessed the ability

to optimize resources and minimize procurement costs; Process Responsiveness (10 items) – evaluated the efficiency and timeliness of procurement processes; and Quality of Procurement Outputs (8 items) – measured whether procured goods and services met required standards and expectations.

Below are the interpretations, mean scale, and verbal descriptions for Supplier Relationship Management, Risk Management, and Sustainable Procurement: Their Influence on Organizational Efficiency in the Hospital, to be used in the data analysis.

| Number Code | Supplier Relationship Management Interpretation | Mean Range |
|-------------|-------------------------------------------------|------------|
| 4           | Strongly Agree                                  | 3.25-4.00  |
| 3           | Agree                                           | 2.50-3.24  |
| 2           | Disagree                                        | 1.75-2.49  |
| 1           | Strongly disagree                               | 1.00-1.74  |

| Number Code | Risk Management Interpretation | Mean Range |
|-------------|--------------------------------|------------|
| 4           | Strongly Agree                 | 3.25-4.00  |
| 3           | Agree                          | 2.50-3.24  |
| 2           | Disagree                       | 1.75-2.49  |
| 1           | Strongly disagree              | 1.00-1.74  |

| Number Code | Sustainable Procurement Interpretation | Mean range |
|-------------|----------------------------------------|------------|
| 4           | Strongly Agree                         | 3.25-4.00  |
| 3           | Agree                                  | 2.50-3.24  |
| 2           | Disagree                               | 1.75-2.49  |
| 1           | Strongly disagree                      | 1.00-1.74  |

| Number Code | Organizational Efficiency Interpretation | Mean Range |
|-------------|------------------------------------------|------------|
| 4           | Strongly Agree                           | 3.25-4.00  |
| 3           | Agree                                    | 2.50-3.24  |
| 2           | Disagree                                 | 1.75-2.49  |
| 1           | Strongly disagree                        | 1.00-1.74  |

## Data Gathering Procedure

The data for this study were collected following a systematic process to ensure accuracy, ethical compliance, and proper authorization. First, a secure letter was sent to Graduate School to inform the administration of the study and request approval to conduct the research. Next, permission letters were sent to the selected hospitals to obtain consent from the institutions to allow data collection from their personnel. Finally, informed consent letters were provided to all respondents, ensuring they understood the purpose of the study, their voluntary participation, and their right to withdraw at any time. After obtaining the necessary approvals and consent, the structured questionnaires were distributed, and responses were collected for analysis.

## Validity and Reliability

### Validity

The study ensured the content validity of the research instrument by evaluating the relevance and clarity of each item. Content validity was established using the Lawshe Content Validity Ratio (CVR) method (Jeldres, 2023). According to Costa, (2023) opined that out of the 15 expert validators. Each expert rated the items as “essential,” “useful but not essential,” or “not necessary.” Items that did not meet the minimum CVR value of 0.60 for fifteen experts were omitted, following Lawshe (Jeldres & Costa, 2023) and Ayre and Scally.

The study ensured the content validity of the research instrument by evaluating the relevance and clarity of each item. The Lawshe formula was applied, and 15 expert validators assessed the questionnaire. The resulting Content Validity Index (CVI) was 0.99, indicating excellent validity.

### Reliability

To check the reliability of the quantitative instrument, the study used Cronbach’s alpha, which measures the internal consistency of the questionnaire items. Cronbach’s alpha values range from 0 to 1, with 0.70 or higher generally considered acceptable and 0.80 or higher indicating good reliability. The reliability test was conducted among respondents from an institution with characteristics similar to the private hospitals included in the study.

To ensure the reliability of the instrument, a pilot test was conducted with 30 respondents. The internal consistency of the questionnaire was measured using Cronbach’s alpha, which yielded a value of 0.977, indicating a very high level of reliability for all items in the study.

## Statistical Treatment of Data

The statistical analysis for this study was conducted based on the specific objectives and research problems.

Problems 1 to 4 were analyzed using mean and standard deviation to measure the extent of Supplier Relationship Management, Risk Management, and Sustainable Procurement practices in hospitals.

Problems 5 to 8 were examined using Mann-Whitney U Test to determine differences in procurement practices and organizational efficiency across groups based on respondent characteristics, such as employment status, years of experience, and position/designation.

Finally, Problems 9 to 12 were analyzed using Spearman’s Rank-Order Correlations to measure the relationships among Supplier Relationship Management, Risk Management, Sustainable Procurement, and Organizational Efficiency.

## Ethical Considerations

In conducting this study on Supplier Relationship Management, Risk Management, and Sustainable Procurement and their influence on Organizational Efficiency in hospitals, strict ethical principles were observed

to safeguard the rights, dignity, and welfare of all participants.

### **Adequacy of Facilities**

Interviews and surveys were conducted in suitable hospital settings, ensuring a comfortable and professional environment for respondents. Secure digital tools and encrypted storage systems were employed to maintain confidentiality of all collected data.

### **Community Involvement**

The study encouraged active participation from hospital staff, department heads, and management personnel. Their insights directly informed the study's findings, ensuring that results reflect actual procurement practices and challenges. Key findings were shared with hospital stakeholders to support improvement in procurement processes and overall organizational efficiency.

### **Informed Consent**

All participants were fully informed about the study's purpose, methodology, and intended use of results. Participation was strictly voluntary, and respondents were reminded of their right to withdraw at any time without penalty, ensuring adherence to ethical standards throughout the study.

### **Justice and Inclusivity**

The study included hospital staff from different departments and levels of responsibility, such as top management, middle management, and operational staff, to ensure fairness and inclusivity. All voices were valued equally in assessing procurement practices. In recognition of participants' time and contribution, tokens of appreciation were provided.

### **Privacy and Confidentiality**

All personal information and responses were treated with strict confidentiality in accordance with the Data Privacy Act of 2012 (Republic Act No. 10173). Data were anonymized, securely stored, and access was restricted solely to the researcher to protect participant identities and maintain data integrity. No personal data were shared outside the research team, and all procedures complied with legal and ethical standards for handling sensitive information.

### **Researcher's Qualifications**

The researcher possesses expertise in business management, hospital administration, and procurement processes, ensuring competent and ethical conduct of the study. Formal training in both qualitative and quantitative research methods enabled rigorous, accurate data collection, analysis, and interpretation.

### **Risks and Benefits**

The study posed minimal risk, primarily limited to potential discomfort during interviews or surveys. These risks were mitigated through confidentiality, voluntary participation, and careful administration of research instruments. Benefits included generating actionable insights into hospital procurement practices, supporting supplier relationship management, risk mitigation, and sustainable procurement, and enhancing overall organizational efficiency.

### **Social Value**

This study emphasized the social relevance of procurement management in hospitals. By examining effective supplier relationships, risk management strategies, and sustainable procurement practices, the research aims to improve operational efficiency, procurement quality, and sustainability, thereby contributing to enhanced hospital performance and patient care.

## Transparency

Participants were clearly informed about the study's objectives, procedures, and expected outcomes. Open communication fostered trust, promoted honest responses, and encouraged meaningful engagement from all respondents.

## Vulnerability of Participants

All participants were adult hospital employees capable of providing informed consent. No vulnerable groups were included; however, care was taken to ensure participants felt respected, safe, and free from any form of coercion or undue pressure.

## RESULT AND DISCUSSION

This chapter presented the tables, interpretations, and implications of the results, which were supported by relevant literature.

| Table 1                                                                      |                   |     |      |      |    |
|------------------------------------------------------------------------------|-------------------|-----|------|------|----|
| Supplier Relationship Management when grouped according to Employment Status |                   |     |      |      |    |
| Dimension                                                                    | Employment Status | n   | Mean | SD   | VI |
| Communication                                                                | Regular/Permanent | 203 | 3.52 | 0.26 | VH |
|                                                                              | Probationary      | 135 | 3.50 | 0.26 | VH |
| Collaboration                                                                | Regular/Permanent | 203 | 3.50 | 0.30 | VH |
|                                                                              | Probationary      | 135 | 3.55 | 0.30 | VH |
| Supplier Performance Monitoring                                              | Regular/Permanent | 203 | 3.48 | 0.34 | VH |
|                                                                              | Probationary      | 135 | 3.55 | 0.34 | VH |
| Overall                                                                      | Regular/Permanent | 203 | 3.50 | 0.26 | VH |
|                                                                              | Probationary      | 135 | 3.54 | 0.24 | VH |

Table 1 showed that Collaboration among probationary employees had the highest mean score of 3.55 (SD = 0.30). This meant that probationary employees had a strong view of working together with suppliers. The lowest mean score was found in Supplier Performance Monitoring among regular/permanent employees, with 3.48 (SD = 0.34). This meant that regular/permanent employees rated supplier performance monitoring slightly lower than the other areas. Overall, probationary employees had a higher overall mean score of 3.54 (SD = 0.24) than regular/permanent employees with 3.50 (SD = 0.26), which showed that probationary employees viewed Supplier Relationship Management slightly better.

The results implies that the extent of Supplier Relationship Management in terms of employment status was generally strong among both regular/permanent and probationary employees. In terms of communication,

regular/permanent employees gave the highest rating, which may be because they had more experience in dealing with suppliers and were more familiar with the hospital's communication procedures. This suggested that clear and prompt communication, accurate information, accessible communication channels, regular updates, and quick responses to supplier inquiries helped reduce delays, prevent disruptions, and support smooth hospital operations. In terms of collaboration and supplier performance monitoring, probationary employees gave the highest ratings, suggesting that they viewed supplier trust, respect, joint projects, supplier participation in decisions, and monitoring of delivery, quality, and cost more positively. However, regular/permanent employees gave the lowest rating in supplier performance monitoring, which may indicate actual challenges such as the need for better tracking tools, faster action on non-compliance, and more consistent feedback to suppliers. Overall, probationary employees had a slightly stronger perception of Supplier Relationship Management than regular/permanent employees, showing that supplier relationship practices were generally effective, while supplier monitoring among regular/permanent employees may still need continuous improvement.

**Table 2**

Supplier Relationship Management when grouped according to years of Experience in Current Role

| Dimension                       | Length of Service  | n   | Mean | SD   | VI |
|---------------------------------|--------------------|-----|------|------|----|
| Communication                   | 5 years and below  | 155 | 3.50 | 0.27 | VH |
|                                 | 6 – 10 years       | 146 | 3.53 | 0.26 | VH |
|                                 | 11 years and above | 37  | 3.48 | 0.21 | VH |
| Collaboration                   | 5 years and below  | 155 | 3.54 | 0.32 | VH |
|                                 | 6 – 10 years       | 146 | 3.51 | 0.29 | VH |
|                                 | 11 years and above | 37  | 3.51 | 0.29 | VH |
| Supplier Performance Monitoring | 5 years and below  | 155 | 3.53 | 0.35 | VH |
|                                 | 6 – 10 years       | 146 | 3.49 | 0.33 | VH |
|                                 | 11 years and above | 37  | 3.51 | 0.34 | VH |
| Overall                         | 5 years and below  | 155 | 3.53 | 0.27 | VH |
|                                 | 6 – 10 years       | 146 | 3.51 | 0.25 | VH |
|                                 | 11 years and above | 37  | 3.50 | 0.21 | VH |

The result was supported by Transaction Cost Economics, which implied that Supplier Relationship Management helped reduce uncertainty, delays, and inefficiencies in hospital procurement by strengthening communication, collaboration, and supplier performance monitoring among employees (Wang, 2021). Li, (2023) affirmed the high result in communication by showing that buyer–supplier communication was related to better operational performance, which supported the higher rating of regular/permanent employees who may have been more familiar with supplier coordination. Kirema, (2025) supported the high result in collaboration by reporting that

supplier relationship management improved healthcare procurement performance through trust, feedback, communication, and supplier involvement. Recent healthcare procurement literature also affirmed the high result in supplier performance monitoring by emphasizing that monitoring systems, supplier evaluation, compliance, and feedback helped ensure efficiency and continuous availability of supplies (Mwesiumo & Buvik, 2022).

However, some literature contradicted the very high result by showing that supplier relationship management in healthcare was still affected by procurement delays, supply chain complexity, and compliance issues (Adu-Gyamfi et al., 2021). Other studies also reported that supplier communication was not always effective because organizations still experienced delayed responses, weak coordination, and unclear communication channels (Rahman & Islam, 2024). In addition, the slightly lower rating of regular/permanent employees in supplier performance monitoring may suggest that longer work exposure allowed them to observe actual gaps in tracking supplier performance, addressing non-compliance, and giving consistent feedback to suppliers (Njeri, 2020).

Table 2 showed that the highest result was found in Collaboration among employees with 5 years and below experience, with a mean score of 3.54 (SD = 0.32). This meant that employees with shorter years of experience viewed collaboration with suppliers more strongly. The lowest result was found in Communication among employees with 11 years and above experience, with a mean score of 3.48 (SD = 0.21). This meant that employees with longer years of experience rated communication with suppliers slightly lower than the other groups. Overall, employees with 5 years and below experience obtained the highest overall mean score of 3.53 (SD = 0.27), while employees with 11 years and above experience obtained the lowest overall mean score of 3.50 (SD = 0.21).

The result implied that the extent of Supplier Relationship Management when grouped according to years of experience in the current role was generally strong in terms of communication, collaboration, and supplier performance monitoring. The highest result was found in collaboration among employees with 5 years and below experience, which meant that less-experienced employees had viewed supplier collaboration as important in improving hospital operations and had a more positive perception of working with suppliers. Meanwhile, the lowest result was found in communication among employees with 11 years and above experience, suggesting that more-experienced employees had rated supplier communication more cautiously because they were more exposed to actual communication challenges with suppliers. Overall, employees with 5 years and below experience had the strongest perception of Supplier Relationship Management, while those with 11 years and above experience had the lowest overall perception.

The results supported by Social Exchange Theory supports the result because supplier relationship management is developed through repeated interaction, trust, reciprocity, communication, and collaboration; therefore, employees with different lengths of experience may evaluate supplier relationships differently based on their actual exposure to supplier exchanges and procurement practices (Rajala et al., 2025). The result is affirmed by recent literature showing that supplier relationship management involves strategic interaction with suppliers to build long-term collaboration, trust, and mutual benefit, which supports the strong perception of SRM among employees with five years and below experience (Wieland et al., 2025). Li et al., (2023) also affirmed the result by emphasizing that buyer–supplier communication activities influence operational and financial performance, showing that communication remains an important dimension of supplier relationship management across employees with different years of experience. Another study affirmed the result by showing that supplier relationship management strengthens operational performance through collaboration, resilience, and supplier coordination, supporting the finding that SRM was generally strong across all experience groups (Sarpong et al., 2024).

However, some literature contradicts the result because mature supplier relationship management is usually associated with accumulated knowledge, long-term interaction, and stronger relational capability; therefore, employees with longer years of experience may be expected to rate communication and collaboration higher rather than lower (Qian et al., 2023). Rajala et al., (2025) further contradicted the result by explaining that supplier experience is shaped by expectations, costs, benefits, and alternative relationships, suggesting that lower ratings among more experienced employees may reflect critical judgment rather than weak supplier relationship management. The finding also contrasts with recent studies stating that effective supplier

relationship management depends on trust, transparency, communication, collaboration, and information sharing, because employees with longer procurement exposure are usually expected to have better understanding of supplier coordination and relationship governance (Rasdien et al., 2026).

**Table 3**

Supplier Relationship Management of Selected Private Hospitals When Grouped According to Designation

| Dimension                       | Designation       | n   | Mean | SD   | VI |
|---------------------------------|-------------------|-----|------|------|----|
| Communication                   | Top Management    | 32  | 3.49 | 0.26 | VH |
|                                 | Middle Management | 138 | 3.53 | 0.26 | VH |
|                                 | Staff             | 168 | 3.50 | 0.25 | VH |
| Collaboration                   | Top Management    | 32  | 3.56 | 0.28 | VH |
|                                 | Middle Management | 138 | 3.51 | 0.30 | VH |
|                                 | Staff             | 168 | 3.53 | 0.32 | VH |
| Supplier Performance Monitoring | Top Management    | 32  | 3.61 | 0.32 | VH |
|                                 | Middle Management | 138 | 3.48 | 0.33 | VH |
|                                 | Staff             | 168 | 3.52 | 0.35 | VH |
| Overall                         | Top Management    | 32  | 3.55 | 0.24 | VH |
|                                 | Middle Management | 138 | 3.51 | 0.25 | VH |
|                                 | Staff             | 168 | 3.51 | 0.26 | VH |

Table 3, which presented the extent of Supplier Relationship Management in terms of communication, collaboration, and supplier performance monitoring of selected private hospitals when grouped according to designation, showed that the highest result was found in Supplier Performance Monitoring among Top Management, with a mean score of 3.61 (SD = 0.32). On the other hand, the lowest result was found in Supplier Performance Monitoring among Middle Management, with a mean score of 3.48 (SD = 0.33). Furthermore, Top Management obtained the highest overall mean score of 3.55 (SD = 0.24). Meanwhile, Middle Management and Staff both obtained the lowest overall mean score of 3.51, with Middle Management (SD = 0.25) and Staff (SD = 0.26). Overall, the results showed that Top Management had the strongest perception of Supplier Relationship Management, while Middle Management and Staff had slightly lower overall ratings.

The results showed that Supplier Relationship Management was very high when grouped according to designation in terms of communication, collaboration, and supplier performance monitoring. This implied that clear, prompt, accurate, and timely communication with suppliers had supported smooth hospital operations. Collaboration with suppliers through trust, respect, joint projects, and supplier participation had also helped improve procurement efficiency and reduce delays. Moreover, supplier performance monitoring was considered

important in evaluating delivery, quality, cost, compliance, and accountability. Overall, Supplier Relationship Management was strongly practiced across all designations and had contributed to smoother hospital operations, timely delivery of supplies, improved supplier accountability, reduced procurement delays, and better organizational efficiency.

The result was supported by Transaction Cost Economics, which implied that Supplier Relationship Management reduced procurement uncertainty and inefficiency because top management, middle management, and staff had recognized the value of communication, collaboration, and supplier performance monitoring in hospital operations (Cuypers et al., 2021). The high rating of Top Management in supplier performance monitoring was affirmed by healthcare procurement literature, which emphasized that supplier evaluation, compliance monitoring, inventory control, and e-procurement systems helped improve efficiency and ensure the continuous availability of medical supplies (Olaleye, 2024). The high rating across Middle Management and Staff was supported by Emon, who found that supplier relationship management practices significantly improved supply chain and operational performance, showing that effective communication and coordination with suppliers enhanced organizational efficiency among personnel (Emon et al., 2024). The strong ratings across designations were also affirmed by Tabish, who explained that procurement management strategies in healthcare helped improve supply chain efficiency, reduce costs, and support better patient-care outcomes, which aligned with the positive perceptions of top management, middle management, and staff (Tabish, 2024).

However, the slightly lower rating of Middle Management in supplier performance monitoring was supported by literature showing that healthcare procurement still faced challenges such as supply chain complexity, regulatory compliance, cost management, and risk mitigation (Leppänen, 2024). The very high result because the healthcare supply chain report showed that healthcare leaders continued to face supply chain resiliency concerns, suggesting that supplier coordination and monitoring could still be difficult even among management personnel (Zamiela, 2021). Another contrasting view showed that healthcare providers still experienced product shortages and supply chain disruptions in 2024, which suggested that staff and middle management may still encounter actual difficulties in communication, collaboration, and supplier monitoring despite the high ratings (Anozie et al., 2024).

**Table 4**

Relationship of Selected Private Hospitals When Grouped According to Affiliate

| Variable                        | Affiliate  | n   | M    |      | VI |
|---------------------------------|------------|-----|------|------|----|
| Communication                   | Hospital A | 165 | 3.52 | 0.26 | VH |
|                                 | Hospital B | 40  | 3.51 | 0.27 | VH |
|                                 | Hospital C | 35  | 3.51 | 0.29 | VH |
|                                 | Hospital D | 98  | 3.50 | 0.25 | VH |
| Collaboration                   | Hospital A | 165 | 3.52 | 0.31 | VH |
|                                 | Hospital B | 40  | 3.56 | 0.29 | VH |
|                                 | Hospital C | 35  | 3.55 | 0.32 | VH |
|                                 | Hospital D | 98  | 3.52 | 0.30 | VH |
| Supplier Performance Monitoring | Hospital A | 165 | 3.50 | 0.34 | VH |

|         |            |     |      |      |    |
|---------|------------|-----|------|------|----|
|         | Hospital B | 40  | 3.55 | 0.33 | VH |
|         | Hospital C | 35  | 3.54 | 0.33 | VH |
|         | Hospital D | 98  | 3.50 | 0.34 | VH |
| Overall | Hospital A | 165 | 3.51 | 0.25 | VH |
|         | Hospital B | 40  | 3.54 | 0.25 | VH |
|         | Hospital C | 35  | 3.53 | 0.27 | VH |
|         | Hospital D | 98  | 3.51 | 0.25 | VH |

Table 4 showed the extent of Supplier Relationship Management of selected private hospitals when grouped according to affiliate. For Communication, the highest mean was obtained by Hospital A with a mean of 3.52, while the lowest mean was obtained by Hospital D with a mean of 3.50. For Collaboration, the highest mean was obtained by Hospital B with a mean of 3.56, while the lowest mean was obtained by both Hospital A and Hospital D with a mean of 3.52. For Supplier Performance Monitoring, the highest mean was obtained by Hospital B with a mean of 3.55, while the lowest mean was obtained by both Hospital A and Hospital D with a mean of 3.50. Overall, the highest mean was obtained by Hospital B with a mean of 3.54, while the lowest mean was obtained by both Hospital A and Hospital D with a mean of 3.51.

The result showed that the highest result was found in Collaboration among Hospital B, with a mean score of 3.56 (SD = 0.29). This indicated that Hospital B had the strongest rating in terms of supplier collaboration compared with the other dimensions and affiliates. On the other hand, the lowest results were found in Communication among Hospital D, with a mean score of 3.50 (SD = 0.25), Supplier Performance Monitoring among Hospital A, with a mean score of 3.50 (SD = 0.34), and Supplier Performance Monitoring among Hospital D, with a mean score of 3.50 (SD = 0.34). These results showed that these areas had slightly lower ratings compared with the other results in the table. Furthermore, Hospital B obtained the highest overall result with a mean score of 3.54 (SD = 0.25). Meanwhile, Hospital A and Hospital D obtained the lowest overall results, both with a mean score of 3.51 (SD = 0.25). Overall, the findings showed that Hospital B had the strongest overall assessment of Supplier Relationship Management, while Hospital A and Hospital D had slightly lower overall ratings.

The results showed that the extent of Supplier Relationship Management when grouped according to affiliate was very high in terms of communication, collaboration, and supplier performance monitoring. In communication, Hospital A had the highest result, while Hospital D had the lowest, although both were still interpreted as very high. This implied that clear, prompt, accurate, and timely communication with suppliers had supported smooth hospital operations. In collaboration, Hospital B had the highest result, while Hospital A and Hospital D had the lowest results, but were still very high. This showed that trust, respect, joint projects, supplier involvement, and treating suppliers as strategic partners had helped improve procurement efficiency and reduce delays. In supplier performance monitoring, Hospital B again had the highest result, while Hospital A and Hospital D had the lowest, yet still very high. This indicated that regular evaluation of supplier delivery, quality, cost, compliance, and accountability had helped improve hospital efficiency. Overall, Hospital B had the strongest perception of Supplier Relationship Management, followed by Hospital C, while Hospital A and Hospital D had the lowest results. However, all affiliates were interpreted as very high, showing that Supplier Relationship Management had been strongly practiced across the selected private hospitals and had contributed to smoother procurement processes, timely delivery of hospital needs, stronger supplier accountability, reduced delays, and improved organizational efficiency.

Stakeholder Theory supported the result because hospital procurement relied on the cooperation of key stakeholders, including management, procurement personnel, suppliers, and service units (Awa et al., 2024). This is connected to the very high extent of Supplier Relationship Management across hospitals, as the affiliates had recognized supplier communication, collaboration, and performance monitoring as important practices in maintaining smooth procurement processes and continuous hospital service delivery (Harrison et al., 2020). Tseng et al., (2022) affirmed the result by showing that supplier relationship management had positive effects on procurement performance in Level 6 hospitals, particularly through supplier trust, communication, feedback, and involvement, which supported the very high ratings across the hospital affiliates. Emon et al. (2024) affirmed the very high result in communication by explaining that effective supplier relationship management practices strengthened coordination, information sharing, and operational performance, supporting the finding that hospitals highly valued clear, timely, and responsive communication with suppliers. Sarpong et al. (2024) also affirmed the result by showing that supplier relationship management improved operational performance through supply chain resilience, which supported the very high ratings in collaboration and supplier performance monitoring among the selected private hospital affiliates.

However, recent healthcare procurement literature contradicted the uniformly very high result because hospital procurement continued to face challenges related to regulatory complexity's, cost pressure, supplier risk, and supply continuity, which may explain why some affiliates had slightly lower ratings in communication and supplier performance monitoring (Mathobo & Matsoma, 2025). A study on county referral hospitals in Kenya also showed that procurement performance was affected by procurement risk management, stakeholder management, supplier appraisal, and contract management, suggesting that not all hospitals may experience supplier relationship management at the same level across affiliates (Apeh et al., 2024).

| <b>Table 5</b>                                                                 |          |             |           |           |
|--------------------------------------------------------------------------------|----------|-------------|-----------|-----------|
| The extent of Supplier Relationship Management Dimensions (Taken Collectively) |          |             |           |           |
| <b>Dimension</b>                                                               | <b>N</b> | <b>Mean</b> | <b>SD</b> | <b>VI</b> |
| Communication                                                                  | 338      | 3.51        | 0.26      | VH        |
| Collaboration                                                                  | 338      | 3.52        | 0.30      | VH        |
| Supplier Performance Monitoring                                                | 338      | 3.51        | 0.34      | VH        |
| Overall                                                                        | 338      | 3.52        | 0.25      | VH        |

Table 5 showed that the extent of Supplier Relationship Management dimensions taken collectively was very high. Among the three dimensions, collaboration obtained the highest mean score of 3.52 with a standard deviation of 0.30, verbally interpreted as very high. Meanwhile, communication and supplier performance monitoring obtained the lowest mean scores of 3.51, with standard deviations of 0.26 and 0.34, respectively, but both were still verbally interpreted as very high. Overall, Supplier Relationship Management obtained a mean score of 3.52 with a standard deviation of 0.25, verbally interpreted as very high.

The result implied that the selected private hospitals had strongly practiced Supplier Relationship Management in terms of communication, collaboration, and supplier performance monitoring. The very high result in communication showed that clear, prompt, accurate, and open communication with suppliers had helped reduce misunderstandings, errors, delays, and service disruptions. The very high result in collaboration indicated that mutual trust, supplier involvement, joint projects, strategic partnerships, and collaborative problem-solving had strengthened hospital operations, improved procurement efficiency, supported innovation, managed risks, and increased supply chain reliability. Likewise, the very high result in supplier performance monitoring showed that regular evaluation, clear performance standards, feedback, monitoring tools, prompt action on non-compliance, and supplier improvement had promoted accountability, transparency, and continuous hospital efficiency. Overall, strong Supplier Relationship Management had contributed to smoother procurement

processes, timely delivery of hospital needs, reduced delays, improved supplier accountability, and better organizational efficiency.

The Resource-Based View Theory supports the result because strong supplier communication, collaboration, and performance monitoring could be considered valuable organizational capabilities that helped hospitals improve procurement efficiency, maintain supply reliability, and support better operational performance (Khan et al., 2021). Osobajo (2024) affirmed the result because their study highlighted that leveraging organizational knowledge and supplier-related competencies enhances competitive advantage and operational effectiveness through improved coordination and information sharing (Osobajo & Bjeirmi, 2021). A 2024 dynamic capabilities study also affirmed the result because it emphasized that communication, trust, collaboration, and supplier performance monitoring work together to strengthen supply chain responsiveness, reliability, and overall efficiency (Wenjie Sun et al., 2024). Ivalua (2023), likewise affirmed the result because it described supplier relationship management as the structured management of supplier performance, risk, and collaboration, which improves supplier performance, strengthens coordination, and enhances value creation between buyers and suppliers.

However, a separate supply chain governance perspective contradicted the very high result by noting that many organizations still struggle with SRM maturity due to fragmented systems, inconsistent metrics, and weak governance structures that limit effective supplier optimization (Gurzawska, 2020). Another study further explained that supplier management often remains reactive and difficult to scale, suggesting that consistent high-level communication, collaboration, and monitoring may not always be achieved across all healthcare institutions (Tseng et al., 2022). Lastly, research on supplier performance systems indicated that performance monitoring effectiveness can decline when supplier engagement is weak or when evaluation indicators are not properly aligned with organizational goals, challenging the assumption of uniformly very high monitoring practices (Mwesiumo & Buvik, 2022).

**Table 6**

Risk Management of Selected Private Hospitals When Grouped According to Employment Status

| Dimension                  | Employment Status | N   | Mean | SD   | VI |
|----------------------------|-------------------|-----|------|------|----|
| Risk Identification        | Regular/Permanent | 203 | 3.55 | 0.34 | VH |
|                            | Probationary      | 135 | 3.42 | 0.35 | VH |
| Risk Mitigation Strategies | Regular/Permanent | 203 | 3.57 | 0.34 | VH |
|                            | Probationary      | 135 | 3.46 | 0.36 | VH |
| Contingency Planning       | Regular/Permanent | 203 | 3.44 | 0.32 | VH |
|                            | Probationary      | 135 | 3.42 | 0.30 | VH |
| Overall                    | Regular/Permanent | 203 | 3.52 | 0.27 | VH |
|                            | Probationary      | 135 | 3.43 | 0.28 | VH |

Table 6 showed that the highest result was found in Risk Mitigation Strategies among regular/permanent employees, with a mean score of 3.57 (SD = 0.34). On the other hand, the lowest results were found in Risk Identification among probationary employees and Contingency Planning among probationary employees, both with a mean score of 3.42, with Risk Identification (SD = 0.35) and Contingency Planning (SD = 0.30). Furthermore, regular/permanent employees obtained the highest overall mean score of 3.52 (SD = 0.27). Meanwhile, probationary employees obtained the lowest overall mean score of 3.43 (SD = 0.28). Overall, the results showed that regular/permanent employees had a higher assessment of Risk Management compared with probationary employees.

The results of Table 6 implied that the extent of Risk Management when grouped according to employment status was very high in terms of risk identification, risk mitigation strategies, and contingency planning. The highest result was found in risk mitigation strategies among regular/permanent employees, which indicated that they had the strongest perception of the hospital's practices in reducing procurement risks. Meanwhile, the lowest results were found in risk identification, contingency planning, and overall risk management among probationary employees, although these were still interpreted as very high. Overall, regular/permanent employees had a higher assessment than probationary employees, suggesting that they had a stronger perception of the hospitals' risk management practices. The findings further implied that the selected private hospitals had strongly practiced risk identification through formal methods, regular assessment and documentation of supplier risks, staff involvement, and the use of past procurement risks to prevent future problems. Likewise, risk mitigation strategies and contingency planning had been strongly implemented through procurement policies, proactive approaches, staff training, supplier collaboration, alternative sourcing, emergency procurement procedures, and response actions for supplier failures or procurement crises. These practices had helped reduce costly procurement disruptions, maintain the timely delivery of hospital needs, support service continuity, and improve overall hospital efficiency.

Enterprise Risk Management supported the result because it emphasized that organizations should identify, assess, mitigate, monitor, and prepare for risks in a systematic way to protect operations and sustain performance (Jean-Jules & Vicente, 2021). This is connected to the very high-risk management ratings because regular/permanent and probationary employees had recognized the importance of risk identification, risk mitigation strategies, and contingency planning in preventing procurement delays, supplier failures, and hospital service disruptions (Kanu, 2021). Navalayo (2025) affirmed the result because their study on Level Five hospitals found that procurement risk management practices influenced service delivery, particularly through supplier diversification, supplier relationship management, and procurement risk management, which supported the very high assessment of risk management among hospital employees. Healthcare supply chain risk management was found to involve risk identification, mitigation, and preparedness practices that helped healthcare organizations reduce disruptions and strengthen supply continuity (Sermhattakit & Sae-Lim, 2025). Padmane et al. (2024) affirmed the result by explaining that healthcare supply chain risk management frameworks focus on identifying, assessing, mitigating, and monitoring possible disruptions, which supported the finding that the selected private hospitals had very high practices in risk identification, risk mitigation strategies, and contingency planning.

However, recent healthcare procurement literature contradicted the very high result because healthcare procurement still faced challenges such as supply chain complexity, regulatory compliance, supplier instability, cost pressure, and continuity risks, suggesting that risk management practices may not always be fully effective in hospital settings (Mathobo & Matsoma, 2025). Apeh et al. (2024) also contradicted the result because their review emphasized that healthcare supply chains continued to experience disruption, inefficiency, and resilience challenges, which suggested that hospitals may still face weaknesses in risk mitigation and contingency planning despite positive employee assessments. Nyile (2023) further contradicted the result by emphasizing the need for supplier risk assessment templates, cybersecurity requirements, contract language, supplier inventory, and response testing, which implied that many healthcare organizations still needed stronger and more formalized systems for supplier risk monitoring and recovery planning.

**Table 7**

Risk Management of Selected Private Hospitals When Grouped According to Years of Experience in Current

| Dimension                  | Years of Experience | n   | Mean | SD   | VI |
|----------------------------|---------------------|-----|------|------|----|
| Risk Identification        | 5 years and below   | 155 | 3.46 | 0.34 | VH |
|                            | 6 – 10 years        | 146 | 3.57 | 0.34 | VH |
|                            | 11 years and above  | 37  | 3.37 | 0.35 | VH |
| Risk Mitigation Strategies | 5 years and below   | 155 | 3.52 | 0.34 | VH |
|                            | 6 – 10 years        | 146 | 3.57 | 0.36 | VH |
|                            | 11 years and above  | 37  | 3.42 | 0.35 | VH |
| Contingency Planning       | 5 years and below   | 155 | 3.44 | 0.31 | VH |
|                            | 6 – 10 years        | 146 | 3.43 | 0.32 | VH |
|                            | 11 years and above  | 37  | 3.40 | 0.30 | VH |
| Overall                    | 5 years and below   | 155 | 3.47 | 0.28 | VH |
|                            | 6 – 10 years        | 146 | 3.52 | 0.26 | VH |
|                            | 11 years and above  | 37  | 3.40 | 0.26 | VH |

Table 7 presented the extent of risk management in terms of risk identification, risk mitigation strategies, and contingency planning of selected private hospitals when grouped according to years of experience in the current role. The results showed that all groups obtained a Very High verbal interpretation. For Risk Identification, respondents with 6–10 years of experience obtained the highest mean of 3.57, while those with 11 years and above obtained the lowest mean of 3.37. For Risk Mitigation Strategies, the highest mean was also recorded among those with 6–10 years of experience with a mean of 3.57, while the lowest mean was found among those with 11 years and above with a mean of 3.42. For Contingency Planning, respondents with 5 years and below obtained the highest mean of 3.44, while those with 11 years and above obtained the lowest mean of 3.40. Overall, the highest mean was recorded among respondents with 6–10 years of experience with a mean of 3.52, followed by those with 5 years and below with a mean of 3.47, while those with 11 years and above obtained the lowest mean of 3.40.

This implied that risk management practices in the selected private hospitals were implemented to a very high extent across all experience groups. The highest overall rating among respondents with 6–10 years of experience suggested that employees in this group may have had stronger involvement and familiarity with procurement risk management practices, particularly in identifying supplier risks, assessing and documenting procurement risks, using proactive risk mitigation strategies, reviewing mitigation plans, and collaborating with suppliers to reduce disruptions. Meanwhile, the relatively lower overall mean among respondents with 11 years and above may have suggested that although they still perceived risk management as very highly practiced, they may have been more critical or experienced in recognizing gaps in the system. In terms of the

survey statements, the results suggested strong agreement that hospitals used formal methods to identify procurement risks, involved relevant staff, considered operational and strategic risks, provided clear mitigation guidelines, trained procurement staff, collaborated with suppliers, and maintained contingency plans for procurement disruptions. The slightly lower mean in Contingency Planning among the more experienced group may have indicated the need to further strengthen activities such as regular testing and simulations of contingency plans, updating emergency procurement procedures, and ensuring clear communication strategies during procurement crises.

Enterprise Risk Management Theory supported the result because it emphasized that organizations should identify, assess, mitigate, monitor, and prepare for risks in a systematic manner; this connected to the very high ratings because employees across years of experience had recognized risk identification, risk mitigation strategies, and contingency planning as important practices in preventing procurement disruptions and sustaining hospital efficiency (Lie, 2023).

Navalayo and Nyile (2025), affirmed the result because their study on Level Five hospitals found that procurement risk management practices influenced service delivery, showing that supplier diversification, supplier relationship management, strategic inventory management, and procurement automation helped hospitals reduce procurement risks and improve service continuity. Ghamedi (2025), also affirmed the result because healthcare supply chain risk management was found to involve risk identification, mitigation, and preparedness practices that helped healthcare organizations reduce disruptions and strengthen the continuity of supplies and services. (Shenoy, 2023), further affirmed the result by explaining that healthcare supply chain risk management frameworks focus on identifying, assessing, mitigating, and monitoring possible disruptions, which supported the finding that the hospitals practiced risk identification, mitigation strategies, and contingency planning to a very high extent.

However, recent healthcare procurement literature contradicted the very high result because healthcare procurement still faced supply chain complexity, regulatory requirements, supplier instability, cost pressure, and continuity risks, suggesting that risk management practices may still encounter challenges despite positive employee assessments. Lie (2023), also contradicted the result by emphasizing that healthcare organizations still needed stronger supplier risk inventories, contract controls, cybersecurity requirements, incident response procedures, and response testing, which suggested that risk identification and contingency planning were still areas requiring continuous improvement. Censinet (2026) likewise contradicted the result by noting that healthcare organizations needed to centralize vendor inventories, prioritize critical suppliers, strengthen contracts, and regularly test contingency and incident response plans, implying that procurement risk management could remain vulnerable when supplier risks and response plans were not continuously updated and tested.

| Table 8                                                                             |                   |     |      |      |    |
|-------------------------------------------------------------------------------------|-------------------|-----|------|------|----|
| Risk Management of Selected Private Hospitals When Grouped According to Designation |                   |     |      |      |    |
| Dimension                                                                           | Designation       | n   | Mean | SD   | VI |
| Risk Identification                                                                 | Top Management    | 32  | 3.42 | 0.37 | VH |
|                                                                                     | Middle Management | 138 | 3.54 | 0.34 | VH |
|                                                                                     | Staff             | 168 | 3.48 | 0.35 | VH |
| Risk Mitigation Strategies                                                          | Top Management    | 32  | 3.53 | 0.35 | VH |
|                                                                                     | Middle Management | 138 | 3.55 | 0.36 | VH |

|                      |                   |     |      |      |    |
|----------------------|-------------------|-----|------|------|----|
|                      | Staff             | 168 | 3.51 | 0.35 | VH |
| Contingency Planning | Top Management    | 32  | 3.38 | 0.29 | VH |
|                      | Middle Management | 138 | 3.44 | 0.31 | VH |
|                      | Staff             | 168 | 3.44 | 0.32 | VH |
| Overall              | Top Management    | 32  | 3.44 | 0.30 | VH |
|                      | Middle Management | 138 | 3.51 | 0.27 | VH |
|                      | Staff             | 168 | 3.48 | 0.27 | VH |

Table 8 showed the extent of Risk Management of selected private hospitals when grouped according to designation. For Risk Identification, the highest mean was obtained by Middle Management with a mean score of 3.54 (SD = 0.34), while the lowest mean was obtained by Top Management with a mean score of 3.42 (SD = 0.37). For Risk Mitigation Strategies, the highest mean was obtained by Middle Management with a mean score of 3.55 (SD = 0.36), while the lowest mean was obtained by Staff with a mean score of 3.51 (SD = 0.35). For Contingency Planning, the highest mean was obtained by both Middle Management with a mean score of 3.44 (SD = 0.31) and Staff with a mean score of 3.44 (SD = 0.32), while the lowest mean was obtained by Top Management with a mean score of 3.38 (SD = 0.29). Overall, the highest mean was obtained by Middle Management with a mean score of 3.51 (SD = 0.27), while the lowest mean was obtained by Top Management with a mean score of 3.44 (SD = 0.30).

Table 8 revealed that the extent of Risk Management of selected private hospitals when grouped according to designation was very high, which meant that respondents had strongly observed and practiced risk management in procurement operations. The very high rating in risk identification indicated that the hospitals had used formal methods, regularly assessed and documented supplier risks, involved relevant staff, considered operational and strategic risks, and shared risk information with concerned departments. Middle Management obtained the highest mean in risk identification and risk mitigation strategies, showing that they had played an active role in monitoring procurement conditions, preventing future problems, implementing risk reduction measures, and coordinating with suppliers to avoid costly disruptions. The very high rating in risk mitigation strategies and contingency planning also showed that the hospitals had clear procurement policies, proactive approaches, staff training, supplier collaboration, KPI monitoring, formal contingency plans, alternative sourcing strategies, emergency procedures, and communication strategies during procurement crises. Overall, the results justified that risk management had been very highly practiced because the hospitals had established systems for identifying risks, reducing disruptions, and preparing contingency actions that supported continuous hospital efficiency.

Enterprise Risk Management Theory supported the result because organizations became more efficient when risks were systematically identified, assessed, mitigated, monitored, and communicated across responsible units.

Navalayo and Nyile (2025) affirmed the result because procurement risk management practices, such as supplier diversification, supplier relationship management, inventory management, and procurement automation, improved hospital service delivery. A 2023 healthcare supply chain risk management study also affirmed the result by emphasizing that structured risk management practices strengthened healthcare supply chain resilience (Singh et al., 2024).

However, Oluoch (2021) contradicted the result because risk management strategies in low-resource healthcare settings were often weak and affected healthcare project performance, unlike the very high-risk management practices found in the selected private hospitals.

**Table 9**

Risk Management of Selected Private Hospitals When Grouped According to Affiliate

| Dimension                  | Affiliate         | n          | Mean        | SD          | VI        |
|----------------------------|-------------------|------------|-------------|-------------|-----------|
| Risk Identification        | Hospital A        | 165        | 3.51        | 0.35        | VH        |
|                            | Hospital B        | 40         | 3.48        | 0.33        | VH        |
|                            | Hospital C        | 35         | 3.50        | 0.35        | VH        |
|                            | Hospital D        | 98         | 3.49        | 0.35        | VH        |
| Risk Mitigation Strategies | Hospital A        | 165        | 3.54        | 0.36        | VH        |
|                            | Hospital B        | 40         | 3.50        | 0.35        | VH        |
|                            | Hospital C        | 35         | 3.52        | 0.32        | VH        |
|                            | Hospital D        | 98         | 3.52        | 0.36        | VH        |
| Contingency Planning       | Hospital A        | 165        | 3.41        | 0.31        | VH        |
|                            | Hospital B        | 40         | 3.47        | 0.30        | VH        |
|                            | Hospital C        | 35         | 3.53        | 0.33        | VH        |
|                            | Hospital D        | 98         | 3.42        | 0.31        | VH        |
| <b>Overall</b>             | <b>Hospital A</b> | <b>165</b> | <b>3.49</b> | <b>0.27</b> | <b>VH</b> |
|                            | <b>Hospital B</b> | <b>40</b>  | <b>3.48</b> | <b>0.28</b> | <b>VH</b> |
|                            | <b>Hospital C</b> | <b>35</b>  | <b>3.52</b> | <b>0.28</b> | <b>VH</b> |
|                            | <b>Hospital D</b> | <b>98</b>  | <b>3.48</b> | <b>0.28</b> | <b>VH</b> |

Table 9 shows the level of Risk Management of selected private hospitals when grouped according to affiliate. For Risk Identification, the highest mean was obtained by Hospital A with a mean score of 3.51 (SD = 0.35), while the lowest mean was obtained by Hospital B with a mean score of 3.48 (SD = 0.33). For Risk Mitigation Strategies, the highest mean was obtained by Hospital A with a mean score of 3.54 (SD = 0.36), while the lowest mean was obtained by Hospital B with a mean score of 3.50 (SD = 0.35). For Contingency Planning, the highest mean was obtained by Hospital C with a mean score of 3.53 (SD = 0.33), while the lowest mean was obtained by Hospital A with a mean score of 3.41 (SD = 0.31). Overall, the highest mean

was obtained by Hospital C with a mean score of 3.52 (SD = 0.28), while the lowest mean was obtained by both Hospital B and Hospital D with a mean score of 3.48 (SD = 0.28).

The results revealed that the level of Risk Management of selected private hospitals when grouped according to affiliate was very high across all dimensions. Hospital A obtained the highest mean in risk identification and risk mitigation strategies, indicating strong practices in formal risk assessment, supplier risk documentation, staff involvement, procurement policies, proactive mitigation, supplier collaboration, and monitoring systems. Hospital C obtained the highest mean in contingency planning and in the overall result, suggesting the strongest preparation for supplier failures, emergency procurement procedures, alternative sourcing, staff training, and communication strategies during procurement crises. Meanwhile, Hospital B obtained the lowest mean in risk identification and risk mitigation strategies, while Hospital A obtained the lowest mean in contingency planning. Overall, although Hospital B and Hospital D had the lowest overall means, all ratings were still very high, showing that risk management practices had been strongly implemented across the selected private hospitals to support continuous hospital efficiency.

Enterprise Risk Management Theory supported the result because it explained that hospitals became more efficient when risks are identified, assessed, mitigated, monitored, and communicated across departments, which was reflected in the very high ratings of Hospital A, Hospital B, Hospital C, and Hospital D (Kanu, 2021). Recent literature supported the result because healthcare supply chain risk management emphasized formal risk assessment, supplier monitoring, coordination, and contingency planning to prevent disruptions in hospital services (Apeh et al., 2024). Blake, (2023) also affirmed the result by explaining that strategies such as multi-sourcing, stockpiling, capacity reservation, and flexible supply contracts helped strengthen supply chain resilience, which supported the very high rating in contingency planning among the selected hospitals(Singh et al., 2024). However, the result was contradicted by Dogbe, who found that supply chain risks had a significant negative effect on healthcare delivery in public hospitals in Ghana, showing that not all hospitals were able to manage procurement risks effectively (Shenoy, 2023). The COVID-19 pandemic exposed major vulnerabilities in healthcare logistics and service systems, suggesting that some healthcare institutions still experienced weaknesses in risk preparedness and supply continuity (Govindan et al., 2026).

**Table 10**

*Risk Management of Selected Private Hospitals (Taken Collectively)*

| Dimension                  | n          | Mean        | SD          | VI        |
|----------------------------|------------|-------------|-------------|-----------|
| Risk Identification        | 338        | 3.50        | 0.35        | VH        |
| Risk Mitigation Strategies | 338        | 3.53        | 0.35        | VH        |
| Contingency Planning       | 338        | 3.43        | 0.31        | VH        |
| <b>Overall</b>             | <b>338</b> | <b>3.49</b> | <b>0.27</b> | <b>VH</b> |

Table 10 showed the extent of Risk Management of selected private hospitals taken collectively. For Risk Management, the highest mean was obtained by Risk Mitigation Strategies with a mean score of 3.53 (SD = 0.35), while the lowest mean was obtained by Contingency Planning with a mean score of 3.43 (SD = 0.31). Overall, the extent of Risk Management obtained a mean score of 3.49 (SD = 0.27).

The results showed that the selected private hospitals had a very high extent of Risk Management taken collectively. This indicated that the hospitals had strongly implemented procurement risk management practices, particularly in identifying possible procurement risks, assessing supplier-related concerns, involving relevant personnel, and communicating risk information to concerned departments. Among the dimensions, Risk Mitigation Strategies appeared to be the strongest area, suggesting that the hospitals had clear procurement policies, proactive risk reduction measures, supplier coordination, staff training, financial support, and monitoring tools to prevent procurement delays and disruptions. Although Contingency Planning was still rated very high, it appeared to be the dimension that needed further strengthening, particularly in the regular review, testing, and simulation of contingency plans for supplier failure, emergency procurement, and unexpected supply interruptions.

The results implied that the selected private hospitals had established procurement systems that helped maintain the continuity of hospital operations. Strong risk identification allowed the hospitals to recognize supplier, operational, and strategic risks before they affected service delivery, while strong mitigation practices helped reduce costly procurement disruptions. However, the relatively lower result in contingency planning suggested the need for more frequent drills, updated alternative sourcing strategies, and clearer emergency response procedures. Strengthening this area may further improve hospital readiness, reduce service delays, and ensure that procurement operations remain responsive during crises.

Recent literature affirmed the result by explaining that healthcare supply chain resilience depended on redundancy, collaboration, robustness, supply chain design, and communication, which supported the hospitals' strong practices in risk identification, mitigation, and contingency planning (Besk, 2026). Spieske et al., (2025) also affirmed the result by showing that hospitals and medical supply organizations needed resilient procurement systems to ensure the availability of critical medical supplies during disruptions, which supported the hospitals' strong attention to risk mitigation strategies.

However, the result was contradicted by studies showing that the COVID-19 pandemic created severe shortages of PPE, ventilators, drugs, and other critical medical supplies, indicating that some healthcare supply chains still experienced procurement challenges despite risk management efforts (Shenoy, 2023). (Senis ' (2023) )study on Pakistani hospitals also contradicted the result because it found that hospitals continued to experience supply chain risks such as shortages of medical resources, PPE kits, personnel, and vaccines, suggesting that contingency planning and risk preparedness remained difficult in some healthcare settings.

**Table 11**

Sustainable Procurement of Selected Private Hospitals When Grouped According to Employment Status

| Dimension                         | Employment Status        | n          | Mea<br>n    | SD          | VI                   |
|-----------------------------------|--------------------------|------------|-------------|-------------|----------------------|
| Ethical<br>Procurement            | Regular/Permanent        | 203        | 3.55        | 0.27        | V                    |
|                                   | Probationary             | 135        | 3,52        | 0.29        | H<br>V<br>H          |
| Social<br>Responsibility          | Regular/Permanent        | 203        | 3.56        | 0.35        | V                    |
|                                   | Probationary             | 135        | 3.54        | 0.32        | H<br>V<br>H          |
| Green<br>Procurement<br>Practices | Regular/Permanent        | 203        | 3.53        | 0.28        | V                    |
|                                   | Probationary             | 135        | 3.53        | 0.29        | H<br>V<br>H          |
| <b>Overall</b>                    | <b>Regular/Permanent</b> | <b>203</b> | <b>3.55</b> | <b>0.25</b> | <b>V</b>             |
|                                   | <b>Probationary</b>      | <b>135</b> | <b>3.53</b> | <b>0.25</b> | <b>H<br/>V<br/>H</b> |

Table 11 showed the extent of Sustainable Procurement of selected private hospitals when grouped according to employment status. For Ethical Procurement, the highest mean was obtained by Regular/Permanent with a mean score of 3.55 (SD = 0.27), while the lowest mean was obtained by Probationary with a mean score

of 3.52 (SD = 0.29). For Social Responsibility, the highest mean was obtained by Regular/Permanent with a mean score of 3.56 (SD = 0.35), while the lowest mean was obtained by Probationary with a mean score of 3.54 (SD = 0.32). For Green Procurement Practices, both Regular/Permanent and Probationary obtained the same mean score of 3.53, with Regular/Permanent having SD = 0.28 and Probationary having SD = 0.29. Overall, the highest mean was obtained by Regular/Permanent with a mean score of 3.55 (SD = 0.25), while the lowest mean was obtained by Probationary with a mean score of 3.53 (SD = 0.25).

The result revealed that the extent of Sustainable Procurement of selected private hospitals when grouped according to employment status was very high. Regular/Permanent employees obtained the highest overall mean, which indicated that they had more strongly observed the extent of ethical procurement, social responsibility, and green procurement practices in the hospitals. This meant that they recognized the hospitals' efforts in selecting suppliers with ethical business practices, maintaining transparency, including ethical clauses in contracts, and supporting suppliers that complied with legal and trade regulations.

Regular/Permanent employees also obtained the highest mean in Ethical Procurement and Social Responsibility. This showed that they had more strongly perceived the extent to which procurement decisions considered ethical conduct, fair labor practices, employee welfare, supplier diversity, and community impact. Meanwhile, Probationary employees obtained the lowest mean in Ethical Procurement and Social Responsibility, but their ratings were still very high, which meant that they also strongly perceived that these sustainable procurement practices were evident in the hospitals.

For Green Procurement Practices, both Regular/Permanent and Probationary employees obtained the same mean, showing that both groups had the same strong perception of the extent of the hospitals' efforts to purchase environmentally friendly products, include green criteria in supplier evaluation, reduce waste, prefer suppliers with environmental systems, and support long-term sustainability. Overall, the result implied that the extent of Sustainable Procurement was very high in the selected private hospitals, regardless of employment status.

Recent literature affirmed the result because sustainable procurement in healthcare emphasized ethical, social, and environmental criteria in supplier selection, supporting the very high extent of ethical procurement, social responsibility, and green procurement practices among the selected private hospitals (Ping, 2024). Literature also affirmed that sustainable procurement programs helped healthcare organizations reduce waste, save resources, improve efficiency, and create positive impacts for staff, patients, and the community, supporting the high ratings of both regular/permanent and probationary employees (Wuis, 2024).

However, Shenoy, (2023) contradicted the result by finding that public health sector procurement in Pakistan faced internal and external challenges that hindered sustainable procurement. Nsowah et al. (2020) ) also contradicted the result by reporting barriers to green procurement, such as inadequate funds, limited practical tools, insufficient green supplies, lack of qualified personnel, and weak management commitment.

**Table 12**

Sustainable Procurement of Selected Private Hospitals When Grouped According to Years of Experience in Current Role

| Dimension              | Years of Experience | n   | Me<br>an | SD   | VI     |
|------------------------|---------------------|-----|----------|------|--------|
| Ethical<br>Procurement | 5 years and below   | 155 | 3.55     | 0.30 | V<br>H |
|                        | 6 – 10 years        | 146 | 3,53     | 0.26 | V<br>H |
|                        | 11 years and above  | 37  | 3.48     | 0.28 | V<br>H |

|                             |                           |            |             |             |                |
|-----------------------------|---------------------------|------------|-------------|-------------|----------------|
|                             |                           |            |             |             | V<br>H         |
| Social Responsibility       | 5 years and below         | 155        | 3.55        | 0.33        | V<br>H         |
|                             | 6 – 10 years              | 146        | 3.57        | 0.35        | V<br>H         |
|                             | 11 years and above        | 37         | 3.49        | 0.31        | V<br>H         |
|                             |                           |            |             |             | V<br>H         |
| Green Procurement Practices | 5 years and below         | 155        | 3.56        | 0.30        | V<br>H         |
|                             | 6 – 10 years              | 146        | 3.50        | 0.25        | V<br>H         |
|                             | 11 years and above        | 37         | 3.51        | 0.29        | V<br>H         |
|                             |                           |            |             |             | V<br>H         |
| <b>Overall</b>              | <b>5 years and below</b>  | <b>155</b> | <b>3.55</b> | <b>0.27</b> | <b>V<br/>H</b> |
|                             | <b>6 – 10 years</b>       | <b>146</b> | <b>3.53</b> | <b>0.23</b> | <b>V<br/>H</b> |
|                             | <b>11 years and above</b> | <b>37</b>  | <b>3.49</b> | <b>0.22</b> | <b>V<br/>H</b> |
|                             |                           |            |             |             | <b>V<br/>H</b> |

Table 12 showed the extent of Sustainable Procurement of selected private hospitals when grouped according to years of experience in current role. For Ethical Procurement, the highest mean was obtained by 5 years and below with a mean score of 3.55 (SD = 0.30), while the lowest mean was obtained by 11 years and above with a mean score of 3.48 (SD = 0.28).

For Social Responsibility, the highest mean was obtained by 6–10 years with a mean score of 3.57 (SD = 0.35), while the lowest mean was obtained by 11 years and above with a mean score of 3.49 (SD = 0.31).

For Green Procurement Practices, the highest mean was obtained by 5 years and below with a mean score of 3.56 (SD = 0.30), while the lowest mean was obtained by 6–10 years with a mean score of 3.50 (SD = 0.25).

Overall, the highest mean was obtained by 5 years and below with a mean score of 3.55 (SD = 0.27), while the lowest mean was obtained by 11 years and above with a mean score of 3.49 (SD = 0.22).

The result revealed that the extent of Sustainable Procurement of selected private hospitals when grouped according to years of experience was very high across all groups. This meant that employees, whether new or experienced, had strongly observed ethical procurement, social responsibility, and green procurement practices in the hospitals.

Employees with 5 years and below obtained the highest overall mean, which indicated that they had the strongest perception of sustainable procurement. This was because they strongly recognized the hospitals' efforts in choosing ethical suppliers, maintaining transparency, requiring legal compliance, purchasing environmentally friendly products, reducing waste, and including green criteria in supplier evaluation.

Employees with 6–10 years of experience obtained the highest rating in Social Responsibility, showing that they strongly observed procurement practices that considered fair labor, employee welfare, supplier diversity, community impact, and prevention of labor violations.

Employees with 11 years and above obtained the lowest overall mean, but the result was still very high, which meant that they also strongly observed sustainable procurement practices. Overall, the result showed that sustainable procurement was very highly evident because the hospitals integrated ethical standards, social responsibility, and environmental concerns in their procurement decisions.

Recent literature affirmed the result by explaining that sustainable procurement in healthcare integrated ethical, social, and environmental considerations in procurement decisions, which supported the very high extent of sustainable procurement across all years of experience (Samuels, 2025). (Shenoy, 2023) affirmed the result by emphasizing that health institutions could promote responsible resource use, reduce environmental impact, and support equitable healthcare through sustainable procurement. (Shenoy, 2023) also affirmed the result because green supplier selection in hospitals was linked to improved waste management, timely delivery, and cost efficiency.

However, (Shenoy, 2023) contradicted the result because hospitals in Ghana faced barriers to green procurement, such as limited funds, lack of practical tools, inadequate personnel, and weak management support. (Mayavo (2022) )also contradicted the result by showing that green procurement adoption in the health sector was affected by economic challenges, policy gaps, weak supply chain management, limited stakeholder engagement, technology issues, and insufficient training.

**Table 13**

Sustainable Procurement of Selected Private Hospitals When Grouped According to Designation

| Dimension                   | Designation       | n   | Mean | SD   | VI     |
|-----------------------------|-------------------|-----|------|------|--------|
| Ethical Procurement         | Top Management    | 32  | 3.51 | 0.27 | V<br>H |
|                             | Middle Management | 138 | 3.54 | 0.27 | V<br>H |
|                             | Staff             | 168 | 3.54 | 0.28 | V<br>H |
|                             |                   |     |      |      | V<br>H |
| Social Responsibility       | Top Management    | 32  | 3.57 | 0.32 | V<br>H |
|                             | Middle Management | 138 | 3.54 | 0.36 | V<br>H |
|                             | Staff             | 168 | 3.56 | 0.32 | V<br>H |
|                             |                   |     |      |      | V<br>H |
| Green Procurement Practices | Top Management    | 32  | 3.48 | 0.27 | V<br>H |
|                             | Middle Management | 138 | 3.49 | 0.26 | V<br>H |
|                             | Staff             | 168 | 3.57 | 0.30 | V<br>H |
|                             |                   |     |      |      | V<br>H |

|                |                          |            |             |             |          |
|----------------|--------------------------|------------|-------------|-------------|----------|
| <b>Overall</b> | <b>Top Management</b>    | <b>32</b>  | <b>3.52</b> | <b>0.24</b> | <b>V</b> |
|                | <b>Middle Management</b> | <b>138</b> | <b>3.52</b> | <b>0.24</b> | <b>H</b> |
|                | <b>Staff</b>             | <b>168</b> | <b>356</b>  | <b>0.25</b> | <b>V</b> |
|                |                          |            |             |             | <b>H</b> |

Table 13 showed the extent of Sustainable Procurement of selected private hospitals when grouped according to designation. For Ethical Procurement, the highest mean was obtained by both Middle Management with a mean score of 3.54 (SD = 0.27) and Staff with a mean score of 3.54 (SD = 0.28), while the lowest mean was obtained by Top Management with a mean score of 3.51 (SD = 0.27). For Social Responsibility, the highest mean was obtained by Top Management with a mean score of 3.57 (SD = 0.32), while the lowest mean was obtained by Middle Management with a mean score of 3.54 (SD = 0.36). For Green Procurement Practices, the highest mean was obtained by Staff with a mean score of 3.57 (SD = 0.30), while the lowest mean was obtained by Top Management with a mean score of 3.48 (SD = 0.27). Overall, the highest mean was obtained by Staff with a mean score of 3.56 (SD = 0.25), while the lowest mean was obtained by both Top Management with a mean score of 3.52 (SD = 0.24) and Middle Management with a mean score of 3.52 (SD = 0.24).

The results revealed that the extent of Sustainable Procurement of selected private hospitals when grouped according to designation was very high. This meant that Top Management, Middle Management, and Staff strongly observed that procurement decisions were guided by ethical standards, social responsibility, and environmental considerations. For Ethical Procurement, Middle Management and Staff obtained the highest mean because they were more directly involved in supplier evaluation, contract monitoring, transparency in supplier dealings, and checking supplier compliance with legal and ethical trade regulations. This showed that ethical procurement was evident in the hospitals through the selection of suppliers with ethical business practices and the avoidance of suppliers with unethical records.

For Social Responsibility, Top Management obtained the highest mean because they were more involved in policy direction and decision-making related to fair labor practices, employee welfare, supplier diversity, community impact, and prevention of labor violations. This indicated that social responsibility was supported at the leadership level and integrated into procurement policies. For Green Procurement Practices, Staff obtained the highest mean because they were more exposed to the actual implementation of purchasing environmentally friendly products, reducing waste, checking green procurement criteria, and monitoring environmental requirements from suppliers. Overall, Staff obtained the highest overall mean because they had direct participation in daily procurement activities, while Top Management and Middle Management still had very high ratings, showing that sustainable procurement was strongly evident across all designations.

Recent literature supported the result because sustainable procurement in healthcare required ethical, social, and environmental criteria in supplier selection, which aligned with the very high ratings across Top Management, Middle Management, and Staff (Amid, 2020). The result was also supported by sustainable procurement guidance showing that procurement strategies should align with organizational goals, sustainability commitments, supplier monitoring, and long-term positive supply chain impacts, which explained why staff directly involved in procurement perceived sustainable procurement strongly (Shenoy, 2023).

However, Shenoy, (2023) contradicted the result because public health sector procurement in Pakistan still faced internal and external challenges that hindered sustainable procurement, showing that not all health institutions had fully established ethical, social, and green procurement systems. The result was also contradicted by Nsowah et al.,(2024) who found barriers to green procurement in hospitals, such as inadequate financial resources, limited tools, lack of qualified personnel, and weak management commitment, which differed from the very high extent of sustainable procurement in the present study.

**Table 14**

Sustainable Procurement of Selected Private Hospitals When Grouped According to Affiliate

| Variable                    | Affiliate         | n          | M           | SD          | VI        |
|-----------------------------|-------------------|------------|-------------|-------------|-----------|
| Ethical Procurement         | Hospital A        | 165        | 3.53        | 0.27        | VH        |
|                             | Hospital B        | 40         | 3.55        | 0.29        | VH        |
|                             | Hospital C        | 35         | 3.57        | 0.30        | VH        |
|                             | Hospital D        | 98         | 3.53        | 0.28        | VH        |
| Social Responsibility       | Hospital A        | 165        | 3.56        | 0.34        | VH        |
|                             | Hospital B        | 40         | 3.53        | 0.33        | VH        |
|                             | Hospital C        | 35         | 3.58        | 0.34        | VH        |
|                             | Hospital D        | 98         | 3.55        | 0.35        | VH        |
| Green Procurement Practices | Hospital A        | 165        | 3.52        | 0.27        | VH        |
|                             | Hospital B        | 40         | 3.54        | 0.29        | VH        |
|                             | Hospital C        | 35         | 3.56        | 0.32        | VH        |
|                             | Hospital D        | 98         | 3.53        | 0.28        | VH        |
| <b>Overall</b>              | <b>Hospital A</b> | <b>165</b> | <b>3.53</b> | <b>0.24</b> | <b>VH</b> |
|                             | <b>Hospital B</b> | <b>40</b>  | <b>3.54</b> | <b>0.26</b> | <b>VH</b> |
|                             | <b>Hospital C</b> | <b>35</b>  | <b>3.57</b> | <b>0.28</b> | <b>VH</b> |
|                             | <b>Hospital D</b> | <b>98</b>  | <b>3.53</b> | <b>0.25</b> | <b>VH</b> |

Table 14 showed the extent of Sustainable Procurement of selected private hospitals when grouped according to affiliate. For Ethical Procurement, the highest mean was obtained by Hospital C with a mean score of 3.57 (SD = 0.30), while the lowest mean was obtained by both Hospital A with a mean score of 3.53 (SD = 0.27) and Hospital D with a mean score of 3.53 (SD = 0.28). For Social Responsibility, the highest mean was obtained by Hospital C with a mean score of 3.58 (SD = 0.34), while the lowest mean was obtained by Hospital B with a mean score of 3.53 (SD = 0.33). For Green Procurement Practices, the highest mean was obtained by Hospital C with a mean score of 3.56 (SD = 0.32), while the lowest mean was obtained by Hospital A with a mean score of 3.52 (SD = 0.27). Overall, the highest mean was obtained by Hospital C with a mean score of 3.57 (SD = 0.28), while the lowest mean was obtained by both Hospital A with a mean score of 3.53 (SD = 0.24) and Hospital D with a mean score of 3.53 (SD = 0.25).

The results revealed that the extent of Sustainable Procurement among the selected private hospitals, when grouped according to affiliate, was very high across all dimensions. This indicated that the four hospitals had

substantially integrated ethical procurement, social responsibility, and green procurement practices into their procurement systems. The result suggested that sustainable procurement was not limited to one affiliate but was generally evident across the selected hospitals through supplier evaluation, ethical compliance, socially responsible sourcing, and environmentally conscious purchasing decisions.

Hospital C obtained the highest overall mean and consistently ranked highest in Ethical Procurement, Social Responsibility, and Green Procurement Practices. This implied that Hospital C had the strongest perceived implementation of sustainable procurement practices, particularly in ensuring supplier ethical conduct, maintaining transparency, considering fair labor and community impact, and applying environmental criteria in purchasing decisions. Its higher rating may suggest stronger institutional commitment, clearer procurement policies, or more visible sustainability practices within its procurement operations.

Although Hospital A and Hospital D obtained the lowest overall means, their ratings were still interpreted as very high. This indicated that sustainable procurement remained strongly evident in these hospitals, although there may be areas for further enhancement, particularly in strengthening supplier monitoring, environmental reporting, and sustainability-based procurement evaluation. Overall, the findings suggested that the selected private hospitals had developed a strong sustainable procurement orientation, where ethical, social, and environmental considerations supported responsible purchasing decisions and contributed to long-term hospital efficiency and sustainability.

Recent literature affirmed the result because sustainable procurement in healthcare emphasized that hospitals should integrate ethical, social, and environmental criteria in supplier selection, contract management, and procurement decision-making to strengthen responsible purchasing practices (Ling, 2023). (henoy, (2023)also affirmed the result because hospitals with clear procurement systems could reduce waste, conserve resources, improve operational efficiency, and create positive outcomes for staff, patients, suppliers, and the wider community.

However, Shenoy, (2023) contradicted the result because their study found that some hospitals still experienced internal and external procurement challenges that limited the full implementation of sustainable procurement practices. Nsowah et al.(2024) also contradicted the result because hospitals continued to face barriers to green procurement, such as limited financial resources, lack of practical tools, insufficient qualified personnel, and weak management commitment.

| <b>Table 15</b>                                                            |            |             |             |           |
|----------------------------------------------------------------------------|------------|-------------|-------------|-----------|
| Sustainable Procurement of Selected Private Hospitals (Taken Collectively) |            |             |             |           |
| Dimension                                                                  | n          | Mean        | SD          | VI        |
| Ethical Procurement                                                        | 338        | 3.54        | 0.28        | VH        |
| Social Responsibility                                                      | 338        | 3.55        | 0.34        | VH        |
| Green Procurement Practices                                                | 338        | 3.53        | 0.28        | VH        |
| <b>Overall</b>                                                             | <b>338</b> | <b>3.54</b> | <b>0.25</b> | <b>VH</b> |

Table 15 showed the extent of Sustainable Procurement of selected private hospitals taken collectively. For Sustainable Procurement, the highest mean was obtained by Social Responsibility with a mean score of 3.55

(SD = 0.34), while the lowest mean was obtained by Green Procurement Practices with a mean score of 3.53 (SD = 0.28).

Overall, the extent of Sustainable Procurement obtained a mean score of 3.54 (SD = 0.25).

The results revealed that the extent of Sustainable Procurement of selected private hospitals taken collectively was very high. This meant that the hospitals had strongly integrated ethical, social, and environmental considerations into their procurement decisions. Social Responsibility obtained the highest result, which indicated that the hospitals gave strong attention to fair labor practices, employee welfare, supplier diversity, community impact, and prevention of labor violations. Ethical Procurement was also very high, showing that the hospitals emphasized ethical supplier selection, transparency, ethical contract provisions, and compliance with legal and trade regulations. Green Procurement Practices obtained the lowest result, but it was still very high, which meant that the hospitals also observed environmentally responsible purchasing, waste reduction, green supplier evaluation, and environmental monitoring. The slightly lower result in Green Procurement Practices suggested that hospitals may further strengthen environmental certification requirements, reporting of procurement impact, and supplier compliance with green standards. Overall, the findings showed that sustainable procurement was highly evident because the hospitals considered ethical responsibility, social welfare, and environmental sustainability in their procurement systems.

Soing (2020) affirmed the result because sustainable procurement in healthcare included social responsibility and ethical considerations and could also contribute to cost savings and improved institutional reputation. Sustainable procurement guidance also affirmed the result because supplier evaluation and procurement strategies should consider social and environmental capabilities, which supported the high extent of ethical, social, and green procurement practices in hospitals (Dirk, 2021).

However, (Zaidi et al. (2020) ) contradicted the result because their study found that Pakistan's public health sector still faced internal and external challenges that hindered sustainable procurement. (Nsowah et al. (2024) also contradicted the result because hospitals in Ghana experienced barriers to green procurement, including lack of financial resources, limited practical tools, inadequate qualified personnel, and weak top management commitment

| <b>Table 16</b>                                                                                  |                          |            |             |             |           |
|--------------------------------------------------------------------------------------------------|--------------------------|------------|-------------|-------------|-----------|
| Operational Efficiency of Selected Private Hospitals When Grouped According to Employment Status |                          |            |             |             |           |
| Dimension                                                                                        | Employment Status        | N          | Mean        | SD          | VI        |
| Effectiveness                                                                                    | Regular/Permanent        | 203        | 3.55        | 0.32        | VH        |
|                                                                                                  | Probationary             | 135        | 3.57        | 0.3         | VH        |
| Process Responsiveness                                                                           | Regular/Permanent        | 203        | 3.6         | 0.29        | VH        |
|                                                                                                  | Probationary             | 135        | 3.56        | 0.28        | VH        |
| Quality of Procurement Outputs                                                                   | Regular/Permanent        | 203        | 3.62        | 0.34        | VH        |
|                                                                                                  | Probationary             | 135        | 3.55        | 0.36        | VH        |
| <b>Overall</b>                                                                                   | <b>Regular/Permanent</b> | <b>203</b> | <b>3.59</b> | <b>0.25</b> | <b>VH</b> |
|                                                                                                  | <b>Probationary</b>      | <b>135</b> | <b>3.56</b> | <b>0.24</b> | <b>VH</b> |

Table 16 showed the level of Operational Efficiency of selected private hospitals when grouped according to employment status. For Effectiveness, the highest mean was obtained by Probationary with a mean score of 3.57 (SD = 0.30), while the lowest mean was obtained by Regular/Permanent with a mean score of 3.55 (SD = 0.32). For Process Responsiveness, the highest mean was obtained by Regular/Permanent with a mean score of 3.60 (SD = 0.29), while the lowest mean was obtained by Probationary with a mean score of 3.56 (SD = 0.28). For Quality of Procurement Outputs, the highest mean was obtained by Regular/Permanent with a mean score of 3.62 (SD = 0.34), while the lowest mean was obtained by Probationary with a mean score of 3.55 (SD = 0.36).

= 0.36). Overall, the highest mean was obtained by Regular/Permanent with a mean score of 3.59 (SD = 0.25), while the lowest mean was obtained by Probationary with a mean score of 3.56 (SD = 0.24).

The results revealed that the level of Operational Efficiency of selected private hospitals when grouped according to employment status was very high.

This indicated that both Regular/Permanent and Probationary employees strongly observed efficiency in procurement operations. For Effectiveness, Probationary employees obtained the highest mean, showing that they strongly perceived procurement activities as cost-effective through cost savings, budget control, competitive supplier negotiations, and cost monitoring. For Process Responsiveness, Regular/Permanent employees obtained the highest mean, indicating that they more strongly observed fast processing of procurement requests, prompt response to urgent supply needs, effective supplier communication, and proper management of delays. For Quality of Procurement Outputs, Regular/Permanent employees also obtained the highest mean, suggesting that they strongly perceived procured goods and services as compliant with quality standards, safety requirements, contract provisions, and end-user expectations. Although Probationary employees obtained the lowest overall mean, their rating was still very high, which meant that they also recognized the efficiency of procurement operations. Overall, the findings showed that operational efficiency was strongly evident in the hospitals because procurement practices supported cost control, timely service response, and quality procurement outputs regardless of employment status.

Recent literature affirmed the result because strategic procurement in healthcare was found to improve operational efficiency through cost containment, better resource allocation, and improved service quality, which supported the very high ratings of both Regular/Permanent and Probationary employees (Olaleye, 2024).

Vanbrabant et al., (2020) ) also affirmed the result because integrated hospital supply chain decision-making helped reduce logistics costs and improve material flow performance, supporting the finding that procurement operations were efficient in terms of cost control, responsiveness, and quality outputs.

However, Adhikari et al. (2024) )contradicted the result because their study found procurement challenges and stock-outs of essential medicines, showing that some healthcare institutions still experienced weak procurement responsiveness and supply continuity. The result was also contradicted by healthcare supply chain literature showing that hospitals continued to face shortages, inefficiencies, and vulnerabilities that disrupted patient care, increased costs, and strained hospital operations (Klingenberg, 2024).

**Table 17**  
Operational Efficiency of Selected Private Hospitals When Grouped According to Years of Experience in Current Role

| Dimension                      | Years of Experience       | N          | Mean        | SD          | VI        |
|--------------------------------|---------------------------|------------|-------------|-------------|-----------|
| Effectiveness                  | 5 years and below         | 155        | 3.55        | 0.31        | VH        |
|                                | 6 – 10 years              | 146        | 3.57        | 0.32        | VH        |
|                                | 11 years and above        | 37         | 3.55        | 0.31        | VH        |
| Process Responsiveness         | 5 years and below         | 155        | 3.57        | 0.29        | VH        |
|                                | 6 – 10 years              | 146        | 3.61        | 0.28        | VH        |
|                                | 11 years and above        | 37         | 3.53        | 0.26        | VH        |
| Quality of Procurement Outputs | 5 years and below         | 155        | 3.58        | 0.35        | VH        |
|                                | 6 – 10 years              | 146        | 3.63        | 0.34        | VH        |
|                                | 11 years and above        | 37         | 3.48        | 0.36        | VH        |
| <b>Overall</b>                 | <b>5 years and below</b>  | <b>155</b> | <b>3.57</b> | <b>0.25</b> | <b>VH</b> |
|                                | <b>6 – 10 years</b>       | <b>146</b> | <b>3.6</b>  | <b>0.24</b> | <b>VH</b> |
|                                | <b>11 years and above</b> | <b>37</b>  | <b>3.52</b> | <b>0.22</b> | <b>VH</b> |

Table 17 showed the level of Operational Efficiency of selected private hospitals when grouped according to years of experience in current role. For Effectiveness, the highest mean was obtained by 6–10 years with a mean score of 3.57 (SD = 0.32), while the lowest mean was obtained by both 5 years and below with a mean score of 3.55 (SD = 0.31) and 11 years and above with a mean score of 3.55 (SD = 0.31). For Process Responsiveness, the highest mean was obtained by 6–10 years with a mean score of 3.61 (SD = 0.28), while the lowest mean was obtained by 11 years and above with a mean score of 3.53 (SD = 0.26). For Quality of Procurement Outputs, the highest mean was obtained by 6–10 years with a mean score of 3.63 (SD = 0.34), while the lowest mean was obtained by 11 years and above with a mean score of 3.48 (SD = 0.36). Overall, the highest mean was obtained by 6–10 years with a mean score of 3.60 (SD = 0.24), while the lowest mean was obtained by 11 years and above with a mean score of 3.52 (SD = 0.22).

The results revealed that the level of Operational Efficiency of selected private hospitals when grouped according to years of experience in the current role was very high. This meant that employees across all experience groups strongly observed efficiency in procurement operations in terms of effectiveness, process responsiveness, and quality of procurement outputs. Employees with 6–10 years of experience obtained the highest overall mean, showing that they had the strongest perception of efficient procurement practices. In terms of Effectiveness, this group strongly observed cost savings, effective budget management, competitive supplier negotiations, cost monitoring, and procurement decisions that supported cost reduction. They also obtained the highest mean in Process Responsiveness, indicating that they strongly observed fast processing of procurement requests, prompt response to urgent supply needs, timely supplier communication, and proper management of delays. For Quality of Procurement Outputs, employees with 6–10 years of experience again obtained the highest mean, suggesting that they strongly perceived procured goods and services as compliant with quality standards, safety requirements, contract provisions, and end-user expectations. Employees with 11 years and above obtained the lowest overall mean, but the rating was still very high, showing that operational efficiency was strongly evident because procurement practices supported cost control, timely response, and quality outputs across all experience groups.

Recent literature affirmed the result because strategic procurement in healthcare improved operational efficiency through better resource allocation, cost control, and service quality, which supported the very high ratings across all years of experience (Almehwari et al., 2024). Vanbrabant et al.(2024)also affirmed the result because integrated hospital supply chain decision-making helped reduce logistics costs and improve material flow performance, supporting the strong ratings in cost effectiveness, process responsiveness, and quality procurement outputs.

However, Chebolu-Subramanian and Gaukler ,(2025) contradicted the result because their study found that essential medicine shortages were worsened by procurement inefficiencies, showing that some healthcare institutions still experienced weak procurement responsiveness and supply continuity. Patel and colleagues also contradicted the result because healthcare supply chain threats continued to affect patient safety and hospital operations, suggesting that some hospitals still faced delays, shortages, and quality risks in procurement outputs (Tseng et al., 2022).

| Table 18                                                                                   |                   |     |      |      |    |
|--------------------------------------------------------------------------------------------|-------------------|-----|------|------|----|
| Operational Efficiency of Selected Private Hospitals When Grouped According to Designation |                   |     |      |      |    |
| Dimension                                                                                  | Designation       | n   | Mean | SD   | VI |
| Effectiveness                                                                              | Top Management    | 32  | 3.51 | 0.28 | VH |
|                                                                                            | Middle Management | 138 | 3.59 | 0.33 | VH |
|                                                                                            | Staff             | 168 | 3.54 | 0.30 | VH |
| Process Responsiveness                                                                     | Top Management    | 32  | 3.59 | 0.33 | VH |
|                                                                                            | Middle Management | 138 | 3.60 | 0.28 | VH |

|                                |                   |     |      |      |    |
|--------------------------------|-------------------|-----|------|------|----|
|                                | Staff             | 168 | 3.57 | 0.28 | VH |
| Quality of Procurement Outputs | Top Management    | 32  | 3.55 | 0.33 | VH |
|                                | Middle Management | 138 | 3.60 | 0.36 | VH |
|                                | Staff             | 168 | 3.60 | 0.35 | VH |
| Overall                        | Top Management    | 32  | 3.55 | 0.26 | VH |
|                                | Middle Management | 138 | 3.60 | 0.25 | VH |
|                                | Staff             | 168 | 3.57 | 0.24 | VH |

Table 18 showed the level of Operational Efficiency of selected private hospitals when grouped according to designation. For Effectiveness, the highest mean was obtained by Middle Management with a mean score of 3.59 (SD = 0.33), while the lowest mean was obtained by Top Management with a mean score of 3.51 (SD = 0.28). For Process Responsiveness, the highest mean was obtained by Middle Management with a mean score of 3.60 (SD = 0.28), while the lowest mean was obtained by Staff with a mean score of 3.57 (SD = 0.28). For Quality of Procurement Outputs, the highest mean was obtained by both Middle Management with a mean score of 3.60 (SD = 0.36) and Staff with a mean score of 3.60 (SD = 0.35), while the lowest mean was obtained by Top Management with a mean score of 3.55 (SD = 0.33). Overall, the highest mean was obtained by Middle Management with a mean score of 3.60 (SD = 0.25), while the lowest mean was obtained by Top Management with a mean score of 3.55 (SD = 0.26).

The results revealed that the level of Operational Efficiency of selected private hospitals when grouped according to designation was very high across all dimensions. This meant that Top Management, Middle Management, and Staff strongly observed efficiency in procurement operations in terms of cost effectiveness, process responsiveness, and quality of procurement outputs.

Middle Management obtained the highest mean in Effectiveness, which indicated that they strongly observed cost savings, effective budget management, competitive supplier negotiations, cost monitoring, and value-based procurement decisions. Middle Management also obtained the highest mean in Process Responsiveness, showing that they had stronger perception of fast procurement processing, prompt response to urgent supply needs, timely supplier communication, and monitoring of supplier lead times.

For Quality of Procurement Outputs, both Middle Management and Staff obtained the highest mean, which suggested that they strongly observed that procured goods and services met quality standards, safety requirements, contract compliance, and end-user satisfaction. Top Management obtained the lowest mean in Effectiveness, Quality of Procurement Outputs, and overall result, but the ratings were still very high, indicating that they also strongly recognized the efficiency of procurement operations. Overall, the results showed that operational efficiency was very highly evident because procurement activities supported cost control, timely response to operational needs, and delivery of quality procurement outputs in the selected private hospitals.

Recent literature affirmed the result because strategic procurement in healthcare improved operational efficiency through better resource allocation, cost containment, and service quality, which supported the very high ratings across designations (Olaleye, 2024). (Shenoy, 2023) also affirmed the result because integrated hospital supply chain decision-making helped reduce logistics costs and improve material flow performance, supporting the strong ratings in cost effectiveness, process responsiveness, and quality of procurement outputs.

However, Lie,(2023) contradicted the result because their study found procurement challenges and stock-outs of essential medicines, showing that some healthcare institutions still experienced weak procurement responsiveness and supply continuity. Wagner, (2020) also contradicted the result because healthcare supply disruption monitoring showed continuing risks involving medicines, medical devices, PPE, and other supplies, suggesting that some hospitals still faced procurement delays and supply problems.

**Table 19**

Operational Efficiency of Selected Private Hospitals When Grouped According to Affiliate

| Variable                       | Affiliate         |            |             |             | VI        |
|--------------------------------|-------------------|------------|-------------|-------------|-----------|
| Effectiveness                  | Hospital A        | 165        | 3.55        | 0.31        | VH        |
|                                | Hospital B        | 40         | 3.58        | 0.31        | VH        |
|                                | Hospital C        | 35         | 3.59        | 0.32        | VH        |
|                                | Hospital D        | 98         | 3.55        | 0.32        | VH        |
| Process Responsiveness         | Hospital A        | 165        | 3.59        | 0.28        | VH        |
|                                | Hospital B        | 40         | 3.59        | 0.30        | VH        |
|                                | Hospital C        | 35         | 3.63        | 0.30        | VH        |
|                                | Hospital D        | 98         | 3.57        | 0.28        | VH        |
| Quality of Procurement Outputs | Hospital A        | 165        | 3.59        | 0.35        | VH        |
|                                | Hospital B        | 40         | 3.58        | 0.35        | VH        |
|                                | Hospital C        | 35         | 3.64        | 0.32        | VH        |
|                                | Hospital D        | 98         | 3.59        | 0.36        | VH        |
| <b>Overall</b>                 | <b>Hospital A</b> | <b>165</b> | <b>3.57</b> | <b>0.24</b> | <b>VH</b> |
|                                | <b>Hospital B</b> | <b>40</b>  | <b>3.58</b> | <b>0.26</b> | <b>VH</b> |
|                                | <b>Hospital C</b> | <b>35</b>  | <b>3.62</b> | <b>0.24</b> | <b>VH</b> |
|                                | <b>Hospital D</b> | <b>98</b>  | <b>3.57</b> | <b>0.25</b> | <b>VH</b> |

Table 19 showed the level of Operational Efficiency of selected private hospitals when grouped according to affiliate. For Effectiveness, the highest mean was obtained by Hospital C with a mean score of 3.59 (SD = 0.32), while the lowest mean was obtained by both Hospital A with a mean score of 3.55 (SD = 0.31) and Hospital D with a mean score of 3.55 (SD = 0.32). For Process Responsiveness, the highest mean was obtained by Hospital C with a mean score of 3.63 (SD = 0.30), while the lowest mean was obtained by Hospital D with a mean score of 3.57 (SD = 0.28). For Quality of Procurement Outputs, the highest mean was obtained by Hospital C with a mean score of 3.64 (SD = 0.32), while the lowest mean was obtained by Hospital B with a mean score of 3.58 (SD = 0.35). Overall, the highest mean was obtained by Hospital C with a mean score of 3.62 (SD = 0.24), while the lowest mean was obtained by both Hospital A with a mean score of 3.57 (SD = 0.24) and Hospital D with a mean score of 3.57 (SD = 0.25).

The results revealed that the level of Operational Efficiency of selected private hospitals when grouped according to affiliate was very high across all dimensions. This meant that the hospitals had strongly observed efficiency in terms of cost effectiveness, process responsiveness, and quality of procurement outputs. Hospital C obtained the highest mean in Effectiveness, which indicated that it had stronger practices in achieving cost savings, managing procurement budgets, negotiating competitive prices, monitoring procurement costs, and supporting value-based purchasing. Hospital C also obtained the highest mean in Process Responsiveness, showing that it had more efficient procurement processing, faster response to urgent supply needs, timely supplier communication, and better monitoring of supplier lead times. In terms of Quality of Procurement Outputs, Hospital C again obtained the highest mean, suggesting that its procured goods and services more

consistently met quality standards, safety requirements, contract compliance, and end-user satisfaction. Meanwhile, Hospital A and Hospital D obtained the lowest overall means, but their ratings were still very high, indicating that operational efficiency remained strongly evident in these hospitals. Overall, the result implied that the selected private hospitals had efficient procurement operations, but Hospital C showed the strongest performance in cost control, responsiveness, and quality procurement outputs.

Recent literature affirmed the result because strategic procurement in healthcare was found to improve operational efficiency, optimize resource allocation, support cost containment, and enhance service quality, which aligned with the very high level of effectiveness, responsiveness, and quality of procurement outputs in the selected private hospitals (Yeboah & Ernest, 2024). (Kajamaa, (2022)also affirmed the result because integrated hospital supply chain decision-making was shown to reduce logistics costs and improve material flow performance, supporting the finding that procurement operations were efficient across hospital affiliates.

However, Ma'rifat (2024)contradicted the result because hospital supply chains continued to experience shortages, inefficiencies, and vulnerabilities that disrupted patient care, increased costs, and strained hospital operations. The result was also contradicted by Klingenberg, (2024) which emphasized the need for monitoring programs for healthcare supply disruptions involving medications, medical devices, PPE, and other supplies, suggesting that some hospitals still faced procurement delays and supply continuity problems.

| <b>Table 20</b>                                                           |            |             |             |           |
|---------------------------------------------------------------------------|------------|-------------|-------------|-----------|
| Operational Efficiency of Selected Private Hospitals (Taken Collectively) |            |             |             |           |
| Dimension                                                                 | N          | Mean        | SD          | VI        |
| Effectiveness                                                             | 338        | 3.56        | 0.31        | VH        |
| Process Responsiveness                                                    | 338        | 3.58        | 0.28        | VH        |
| Quality of Procurement Output                                             | 338        | 3.59        | 0.35        | VH        |
| <b>Overall</b>                                                            | <b>338</b> | <b>3.58</b> | <b>0.25</b> | <b>VH</b> |

Table 20 showed the level of Operational Efficiency of selected private hospitals taken collectively. For Operational Efficiency, the highest mean was obtained by Quality of Procurement Outputs with a mean score of 3.59 (SD = 0.35), while the lowest mean was obtained by Effectiveness with a mean score of 3.56 (SD = 0.31). Overall, the level of Operational Efficiency obtained a mean score of 3.58 (SD = 0.25).

The results revealed that the hospitals' procurement processes were generally effective in producing quality outputs, responding to operational needs, and managing costs. The highest result in Quality of Procurement Outputs suggested that the procured goods and services consistently met quality standards, supplier performance was evaluated, safety and regulatory requirements were observed, defects were minimized, and internal customers were satisfied with procurement quality. This implied that the selected private hospitals gave strong attention to the reliability, safety, and usefulness of procured supplies and services.

The very high result in Process Responsiveness indicated that procurement requests were processed promptly, urgent supply needs were addressed, supplier lead times were monitored, and end-users were given timely updates on the status of their procurement requests. This showed that the procurement units were responsive to hospital operations and were able to support the timely availability of needed supplies and services.

Although Cost Effectiveness obtained the lowest mean among the three dimensions, it was still interpreted as Very High. This meant that procurement activities strongly contributed to cost savings, competitive supplier pricing, budget control, cost monitoring, technology use, and long-term value. However, since it had the lowest mean, it also indicated that cost effectiveness may still be further strengthened, particularly in assessing procurement return on investment, improving cost monitoring mechanisms, and maximizing technology for more cost-efficient procurement. Overall, the findings indicated that the selected private hospitals demonstrated a very high level of organizational efficiency in procurement. Their procurement systems were able to balance

cost control, timely response, and quality assurance. The results further implied that hospital procurement was not only focused on reducing expenses but also on ensuring timely delivery, maintaining quality standards, and supporting the continuous availability of goods and services needed for hospital operations.

Resource-Based View Theory supported the result because the very high operational efficiency showed that the hospitals had strong internal procurement capabilities in cost control, responsiveness, supplier monitoring, technology use, and quality assurance (Khan et al., 2021). Recent literature affirmed the result by emphasizing that healthcare procurement improved operational efficiency when hospitals used process optimization, e-procurement systems, supplier relationship management, inventory control, and trained procurement staff (Olaleye, 2024). Effective procurement practices had a positive direct effect on organizational performance, supporting the very high results in cost effectiveness, process responsiveness, and quality of procurement outputs (Almehwari et al., 2024).

However, some literature contradicted the result by noting that healthcare procurement still faced challenges in cost control, regulatory compliance, supply chain disruptions, product quality assurance, inventory management, and supplier relationship management, which could weaken operational efficiency (Apeh et al., 2024). Other literature also contradicted the result by showing that inconsistent inventory practices could cause waste, inefficiencies, staff frustration, and possible risks to quality of care, suggesting that very high procurement efficiency may not always be achieved in hospital settings (Kajamaa & Laukkanen, 2022).

**Table 21**

Differences in Supplier Relationship Management by Employment Status

| Variable                        |                   | n   | M    | SD   | p.value | Si g. | Decision to $H_0$ |
|---------------------------------|-------------------|-----|------|------|---------|-------|-------------------|
| Communication                   | Regular/Permanent | 203 | 3.52 | 0.26 | .35     | ns    | Accepted          |
|                                 | Probationary      | 135 | 3.50 | 0.26 |         |       |                   |
| Collaboration                   | Regular/Permanent | 203 | 3.50 | 0.30 | .34     | ns    | Accepted          |
|                                 | Probationary      | 135 | 3.55 | 0.30 |         |       |                   |
| Supplier Performance Monitoring | Regular/Permanent | 203 | 3.48 | 0.34 | .07     | ns    | Accepted          |
|                                 | Probationary      | 135 | 3.55 | 0.34 |         |       |                   |
| Overall                         | Regular/Permanent | 203 | 3.50 | 0.26 | .07     | ns    | Accepted          |
|                                 | Probationary      | 135 | 3.54 | 0.24 |         |       |                   |

Legend: ns - No Significance Difference

Table 21 showed the significant differences in Supplier Relationship Management dimensions by employment status. For Communication, Regular/Permanent obtained a mean score of 3.52 (SD = 0.26), while Probationary obtained 3.50 (SD = 0.26), with a p-value of .35, indicating no significant difference. For Collaboration, Probationary obtained a mean score of 3.55 (SD = 0.30), while Regular/Permanent obtained 3.50 (SD = 0.30),

with a p-value of .34, indicating no significant difference. For Supplier Performance Monitoring, Probationary obtained a mean score of 3.55 (SD = 0.34), while Regular/Permanent obtained 3.48 (SD = 0.34), with a p-value of .07, indicating no significant difference. Overall, Probationary obtained a mean score of 3.54 (SD = 0.24), while Regular/Permanent obtained 3.50 (SD = 0.26), with a p-value of .07, indicating no significant difference

The results revealed that the decision was Accepted for Communication, Collaboration, Supplier Performance Monitoring, and the Overall Supplier Relationship Management when grouped according to employment status; therefore, there was no significant difference between Regular/Permanent and Probationary employees. This means that both groups had similar perceptions regarding the hospital's communication, collaboration, and supplier performance monitoring practices. The accepted result may be because supplier relationship management practices are applied uniformly across employment status, regardless of whether employees are regular/permanent or probationary. Based on the survey questionnaire, both groups may have observed that clear and prompt communication with suppliers, timely information sharing, accessible communication channels, and quick responses to supplier inquiries are practiced in the hospital. They may have also experienced similar levels of supplier collaboration through mutual trust, supplier involvement in quality improvement, joint problem-solving, and supplier participation in improving hospital processes. In addition, both employment groups may have recognized that supplier performance is monitored through regular evaluation of delivery, quality, cost, compliance, accountability, and performance standards, which supports smooth hospital operations and procurement efficiency.

Stakeholder Theory supports the accepted result because supplier relationship management depends on the shared participation of internal employees and external suppliers, regardless of employment status, in achieving hospital efficiency and service continuity (Awa et al., 2024). Recent studies affirm the result by showing that supplier relationship management practices strengthen procurement performance through supplier trust, communication, feedback, and supplier involvement in planning, which may explain why both regular/permanent and probationary employees perceived the practices similarly (Tseng et al., 2022). Supplier relationship management enhances collaboration and improves procurement efficiency through coordinated planning and stronger supplier engagement (Emon et al., 2024). Purwanto further affirmed that supplier relationship management improves operational performance by strengthening organizational knowledge sharing, coordination, and relational capabilities across supply chain partners (Purwanto, 2022).

However, some studies contradict the result by emphasizing that supplier relationship management effectiveness may vary depending on employee commitment, role involvement, and participation in procurement activities (Sermhattakit & Sae-Lim, 2025). Other findings suggest that responsibility allocation and clarity issues can affect communication and collaboration at different organizational levels, which may lead to differences in SRM perception among employee groups (Vicente et al., 2021). Likewise, supplier relationship management challenges related to cost, quality, delivery, risk, and local procurement complexity may produce varying assessments when employees have different levels of exposure to supplier management tasks (Ma'rifat & Suraharta, 2024).

**Table 22**

Differences in Risk Management Dimensions by Employment Status

| Variable                   | Group             | n   | M    | SD   | P.value | Sig. |  | Decision to<br><i>H<sub>0</sub></i> |
|----------------------------|-------------------|-----|------|------|---------|------|--|-------------------------------------|
|                            |                   |     |      |      |         |      |  |                                     |
| Risk Identification        | Regular/Permanent | 203 | 3.55 | 0.33 | < .01   | s    |  | Reject                              |
|                            | Probationary      | 135 | 3.42 | 0.35 |         |      |  |                                     |
| Risk Management Strategies | Regular/Permanent | 203 | 3.57 | 0.34 | < .01   | s    |  | Reject                              |
|                            | Probationary      | 135 | 3.46 | 0.36 |         |      |  |                                     |
| Contingency Planning       | Regular/Permanent | 203 | 3.44 | 0.32 | .39     | ns   |  | Accepted                            |

|         |                   |     |      |      |       |   |  |        |
|---------|-------------------|-----|------|------|-------|---|--|--------|
|         | Probationary      | 135 | 3.42 | 0.3  |       |   |  |        |
| Overall | Regular/Permanent | 203 | 3.52 | 0.27 | < .01 | s |  | Reject |
|         | Probationary      | 135 | 3.43 | 0.28 |       |   |  |        |

Legend: s - Significance Difference

ns - No Significance Difference

Table 22 showed that Risk Mitigation Strategies obtained the highest mean score among Regular/Permanent employees ( $M = 3.57$ ,  $SD = 0.34$ ), while Contingency Planning obtained the lowest mean score for both Regular/Permanent employees ( $M = 3.44$ ,  $SD = 0.32$ ) and Probationary employees ( $M = 3.42$ ,  $SD = 0.30$ ). In terms of significance, Risk Identification and Risk Mitigation Strategies showed significant differences by employment status, with p-values of  $< .01$ . However, Contingency Planning showed no significant difference, with a p-value of  $.39$ . Overall, Regular/Permanent employees had a higher mean score ( $M = 3.52$ ) than Probationary employees ( $M = 3.43$ ), indicating a significant difference in Risk Management by employment status.

The result was rejected in Risk Identification meaning the null hypothesis was rejected and there was a significant difference between Regular/Permanent and Probationary employees. This indicates that employment status affected their perception of risk identification practices, with Regular/Permanent employees having higher exposure to identifying, documenting, and sharing procurement risks.

The result was also rejected in Risk Mitigation Strategies meaning there was a significant difference between the two groups. This suggests that Regular/Permanent employees had greater awareness and involvement in procurement policies, risk reduction approaches, training, supplier collaboration, and monitoring of risk mitigation activities.

However, the result was accepted in Contingency Planning indicating no significant difference. This means that both Regular/Permanent and Probationary employees had similar perceptions of contingency plans, alternative sourcing, emergency procedures, and response actions during procurement disruptions.

Overall, the result was rejected indicating a significant difference in Risk Management by employment status. This implies that employment status influenced the perception of Risk Management, especially in Risk Identification and Risk Mitigation Strategies.

Enterprise Risk Management supports the result because risk management is strengthened when employees are involved in identifying, assessing, mitigating, and monitoring risks; therefore, differences may occur when regular/permanent employees have greater exposure to procurement risk processes than probationary employees (Kane, 2021). Procurement risk management practices, such as supplier assessment, contingency planning, and risk mitigation, significantly influence hospital service delivery, supporting the significant difference in Risk Identification and Risk Mitigation Strategies (Sermhattakit & Sae-Lim, 2025). Klingberg affirmed the result by explaining that workers' risk perceptions differ based on personal and work-related characteristics, which supports why Regular/Permanent and Probationary employees may differ in their perception of risk management practices (Klingenberg, 2024).

However, Mupa (2024), also affirmed the result by emphasizing that supply chain risk management requires organizational stakeholders to identify, establish, assess, and manage risk processes, which may be more familiar to employees with longer or more stable organizational involvement. Some studies contradict the result by emphasizing that risk management should be an organization-wide system, where risk identification, assessment, mitigation, and monitoring are shared processes rather than practices limited to one employment group (Jean-Jules & Vicente, 2021). Navalayo, (2025), may also contradict the significant difference because their hospital study focused on procurement and stores staff as a group and showed that procurement risk management practices generally influenced service delivery, rather than emphasizing differences by employment status. The accepted result in Contingency Planning is supported by studies emphasizing that

contingency planning, supplier substitution, and response procedures are usually formal organizational practices, which may explain why Regular/Permanent and Probationary employees perceived this dimension similarly (Hamad & Theeb, 2024).

**Table 23**

## Differences in Sustainable Procurement Practices by Employment Status

| Variable              | Group             | n   | M    | SD   | P.valu | Sig. | Decision to $H_0$ |
|-----------------------|-------------------|-----|------|------|--------|------|-------------------|
| Ethical Proc          | Regular/Permanent | 203 | 3.55 | 0.27 | .59    | ns   | Accepted          |
|                       | Probationary      | 135 | 3.52 | 0.29 |        |      |                   |
| Social Responsibility | Regular/Permanent | 203 | 3.56 | 0.35 | .31    | ns   | Accepted          |
|                       | Probationary      | 135 | 3.54 | 0.32 |        |      |                   |
| Green Proc Practices  | Regular/Permanent | 203 | 3.53 | 0.28 | .88    | ns   | Accepted          |
|                       | Probationary      | 135 | 3.53 | 0.29 |        |      |                   |
| Overall               | Regular/Permanent | 203 | 3.55 | 0.25 | .47    | ns   | Accepted          |
|                       |                   |     |      |      |        |      |                   |

Table 23 presents the significant differences in Sustainable Procurement Practices when grouped according to employment status. For Ethical Procurement, Regular/Permanent employees obtained a mean score of 3.55 (SD = 0.27), while Probationary employees obtained 3.52 (SD = 0.29), with a p-value of .59. For Social Responsibility, Regular/Permanent employees obtained 3.56 (SD = 0.35), while Probationary employees obtained 3.54 (SD = 0.32), with a p-value of .31. For Green Procurement Practices, both Regular/Permanent and Probationary employees obtained the same mean score of 3.53, with standard deviations of 0.28 and 0.29, respectively, and a p-value of .88. Overall, Regular/Permanent employees obtained a mean score of 3.55 (SD = 0.25), while Probationary employees obtained 3.53 (SD = 0.25), with a p-value of .47.

Since all p-values were greater than the 0.05 level of significance, the null hypothesis was accepted. This means that there was no significant difference in the perceptions of Regular/Permanent and Probationary employees regarding Ethical Procurement, Social Responsibility, Green Procurement Practices, and overall Sustainable Procurement Practices. The very small differences in the mean scores suggest that sustainable procurement practices were similarly observed by both employment groups.

The result implied that employment status did not affect how employees perceived sustainable procurement practices in the selected private hospitals. This may indicate that ethical procurement, socially responsible purchasing, and green procurement practices are implemented as common hospital-wide policies rather than practices experienced only by a particular employment group. Thus, both Regular/Permanent and Probationary employees may have similar exposure to procurement standards, sustainability policies, supplier-related guidelines, and organizational expectations related to sustainable procurement.

Stakeholder Theory supports the result because sustainable procurement involves the shared responsibility of hospital management, employees, suppliers, and the community; therefore, Regular/Permanent and Probationary employees may perceive ethical procurement, social responsibility, and green procurement similarly when these practices are implemented as institutional policies (Awa et al., 2024). Recent literature

affirms the result by emphasizing that sustainable procurement in healthcare integrates environmental, social, and ethical considerations into purchasing decisions, making it a system-wide practice rather than one limited to a specific employee group (Yeboah & Ernest, 2024). Opoku-Mensah et al. (2025) also affirmed that sustainable procurement in the health sector promotes responsible resource use, reduced environmental impact, and ethical supplier selection, supporting the finding that both employment groups similarly recognized these practices. Chiang et al. (2024) further affirmed that sustainable supply chain management in hospitals is strengthened by trust, moral integrity, and cooperation between hospitals and suppliers, which supports the accepted result on ethical and socially responsible procurement.

However, some studies contradict the result by emphasizing that sustainable procurement practices may be perceived differently when employees vary in training, knowledge, capacity, and direct involvement in procurement decisions (Samuels, 2025). Kuruneru et al. (2025) found that sustainable procurement may still face barriers such as limited implementation capacity, environmental concerns, social challenges, and economic constraints, which may create different employee perceptions when exposure to procurement activities differs. Kibbeling et al. (2026) also contradicted the result by showing that support and staff employees may experience barriers to sustainable procurement differently, suggesting that employment role, awareness, and organizational participation can influence perceptions of sustainable procurement practices.

| Table 24                                                      |                   |     |      |      |             |          |                       |
|---------------------------------------------------------------|-------------------|-----|------|------|-------------|----------|-----------------------|
| Differences in Organizational Efficiency by Employment Status |                   |     |      |      |             |          |                       |
| Variable                                                      | Group             | N   | M    | SD   | p.v<br>alue | Sig<br>. | Decisio<br>n to $H_0$ |
| Effectiveness                                                 | Regular/Permanent | 203 | 3.55 | 0.32 | 0.66        | ns       | Accepted              |
|                                                               | Probationary      | 135 | 3.57 | 0.3  |             |          |                       |
| Process Responsiveness                                        | Regular/Permanent | 203 | 3.6  | 0.29 | 0.22        | ns       | Accepted              |
|                                                               | Probationary      | 135 | 3.56 | 0.28 |             |          |                       |
| Quality of Procurement Outputs                                | Regular/Permanent | 203 | 3.62 | 0.34 | 0.03        | s        | Reject                |
|                                                               | Probationary      | 135 | 3.55 | 0.36 |             |          |                       |
| Overall                                                       | Regular/Permanent | 203 | 3.59 | 0.25 | 0.08        | ns       | Accepted              |
|                                                               | Probationary      | 135 | 3.56 | 0.24 |             |          |                       |

Table 24 showed the significant differences in Organizational Efficiency dimensions by employment status. For Effectiveness, Regular/Permanent obtained a mean score of 3.55 (SD = 0.32), while Probationary obtained 3.57 (SD = 0.30), with a p-value of 0.66, indicating no significant difference. For Process Responsiveness, Regular/Permanent obtained a mean score of 3.60 (SD = 0.29), while Probationary obtained 3.56 (SD = 0.28),

with a p-value of 0.22, indicating no significant difference. For Quality of Procurement Outputs, Regular/Permanent obtained a mean score of 3.62 (SD = 0.34), while Probationary obtained 3.55 (SD = 0.36), with a p-value of 0.03, indicating a significant difference. Overall, Regular/Permanent obtained a mean score of 3.59 (SD = 0.25), while Probationary obtained 3.56 (SD = 0.24), with a p-value of 0.08, indicating no significant difference.

The result revealed that the null hypothesis was accepted for Cost Effectiveness, Process Responsiveness, and Overall Organizational Efficiency because there was no significant difference between Regular/Permanent and Probationary employees.

This means that both employment groups had similar perceptions that procurement activities achieve cost savings, supplier negotiations result in competitive pricing, budgets are properly managed, cost monitoring is practiced, and technology supports cost-effective procurement strategies. The accepted result in Process Responsiveness suggests that both groups similarly observed that procurement requests are processed promptly, urgent supply needs are addressed, supplier lead times are monitored, delays are managed, and end-users are updated on the status of their requests.

However, the null hypothesis was rejected for Quality of Procurement Outputs because the result showed a significant difference between Regular/Permanent and Probationary employees. This may be because Regular/Permanent employees are more exposed to evaluating supplier performance, checking contract compliance, monitoring product quality, ensuring safety and regulatory standards, and addressing defects in procured items. Overall, employment status did not significantly affect the general perception of organizational efficiency, but it had an effect on how employees perceived the quality of procurement outputs in the selected private hospitals.

Recent literature affirms the result by emphasizing that procurement practices contribute to organizational performance when procurement planning and staff competency are strengthened, suggesting that common hospital procurement systems may produce similar perceptions of efficiency among employees regardless of employment status (Paul et al., 2024).

Procurement training improves procurement process efficiency and organizational performance, supporting the accepted findings for cost effectiveness and process responsiveness when employees are guided by shared procedures and procurement-related competencies (Devi, 2022).

However, some studies contradict the result because healthcare procurement efficiency may vary according to employees' training, work exposure, and direct participation in procurement decisions, which may explain the rejected result in Quality of Procurement Outputs (Sermhattakit & Sae-Lim, 2025). Other literature also contradicts the accepted overall result by noting that healthcare procurement is affected by regulatory compliance, supplier management, cost control, supply chain complexity, and product quality concerns, which may create different perceptions among employees depending on their authority, experience, and exposure to procurement quality issues (Hamad & Theeb, 2024).

**Table 25**

Relationship Between Supplier Relationship and Risk Management

| Variable 1                       | Variable 2      | n   | r    | P.value | Sig. | Decision to Ho |
|----------------------------------|-----------------|-----|------|---------|------|----------------|
| Supplier Relationship Management | Risk Management | 338 | 0.16 | 0.003   | s    | Reject         |

Table 25 showed that the relationship between Supplier Relationship Management and Risk Management. The result obtained an r-value of 0.16 and a p-value of 0.003, indicating a significant but very weak positive

relationship between the two variables. Since the p-value was lower than the 0.05 level of significance, the null hypothesis was rejected. This means that Supplier Relationship Management significantly relates to Risk Management among the selected private hospitals.

The result implied that as Supplier Relationship Management improves, Risk Management also tends to improve, although the relationship is very weak. This may be explained by the role of supplier communication, collaboration, and performance monitoring in reducing procurement-related risks. Clear and timely communication with suppliers helps prevent misunderstandings, delays, and service disruptions. Likewise, supplier collaboration supports risk management through trust, joint problem-solving, supplier involvement, and improved supply reliability.

Supplier performance monitoring also contributes to risk management because regular evaluation of supplier delivery, quality, cost, compliance, and accountability helps hospitals detect supplier problems early and address non-compliance before it affects operations. These practices support risk identification, risk mitigation strategies, and contingency planning.

Enterprise Risk Management supports the result because it explains that organizations can strengthen procurement decisions by systematically identifying, assessing, mitigating, and monitoring risks that may affect operations (Frigo & Anderson, 2011). Recent procurement studies affirm the result by showing that supplier relationship management contributes to better procurement risk control through supplier coordination, supplier diversification, inventory management, and procurement automation in hospital settings (Kirema, 2025).

Supplier relationship practices also support risk management because long-term supplier partnerships, regular audits, collaborative risk management, and digital technologies improve transparency, monitoring, and preparedness for supply disruptions (Lie, 2020). Supplier risk management literature further affirms the result by emphasizing that organizations need updated frameworks to identify, assess, and manage supplier-related risks in modern supply chain (Santos, 2025).

However, some literature may contradict the result because risk management in healthcare procurement is also affected by supply chain complexity, regulatory compliance, cost management, and overall procurement systems, not only supplier relationship management (Adebayo et al., 2025).

Other studies also suggest that healthcare procurement efficiency depends on inventory control, quality compliance, cost minimization, and operational efficiency, which may explain why the relationship between Supplier Relationship Management and Risk Management was significant but very weak (Apeh et al., 2024). This means that although Supplier Relationship Management helps improve Risk Management, its influence may be limited because hospital risk management also depends on internal controls, compliance requirements, product quality standards, and procurement process efficiency (Magnascientia, 2024).

**Table 26**

Relationship Between Risk Management and Sustainable Procurement

| Variable 1      | Variable 2                        | n   | R    | p      | Sig. | Decision to H <sub>0</sub> |
|-----------------|-----------------------------------|-----|------|--------|------|----------------------------|
| Risk Management | Sustainable Procurement Practices | 338 | 0.35 | < .001 | s    | Reject                     |

Table 26 showed that Risk Management had a significant positive relationship with Sustainable Procurement Practices, as shown by the r-value of 0.35 and p-value of < .001. Since the p-value was less than 0.05, the null hypothesis was rejected, meaning that Risk Management was significantly related to Sustainable Procurement Practices in the selected private hospitals. The r-value of 0.35 indicates a positive relationship; Consequently, as Risk Management improves, Sustainable Procurement Practices also tend to improve.

This result can be implied that effective risk identification, risk mitigation strategies, and contingency planning help hospitals manage procurement risks that may affect ethical, socially responsible, and green purchasing decisions. Risk identification allows hospitals to assess supplier risks, document concerns, use previous risk experiences, and share risk information with relevant departments. Risk mitigation strategies, such as clear procurement policies, staff training, supplier collaboration, resource allocation, and KPI monitoring, also support responsible and sustainable procurement practices. Likewise, contingency planning helps hospitals maintain sustainable procurement even during supplier failures, emergencies, and procurement disruptions.

Enterprise Risk Management supports the result because it emphasizes that identifying, reducing, and preparing for risks helps organizations manage uncertainty and strengthen responsible procurement decisions (Frigo & Anderson, 2011). Recent studies also affirm the result by showing that weak sustainability practices may create supply chain vulnerabilities, disruptions, and higher emergency procurement costs, making risk management important in sustainable procurement (Lo, 2024). Similarly, studies on supply chain risk management emphasize that sustainability and resilience should be integrated to improve sustainable operations (Chotia, 2026).

However, some studies may contradict the result by suggesting that sustainable procurement can also be driven mainly by environmental policies, supplier ethics, social responsibility goals, and compliance requirements rather than risk management alone (Ting, 2025). This means that sustainable procurement may still improve through green purchasing, waste reduction, and low-carbon supply initiatives even without a strong dependence on risk management (Liu, 2025; Vocks, 2025).

**Table 27**

Relationship Between Supplier Relationship Management and Sustainable Procurement

| Variable 1                       | Variable 2                        | n   | R    | P.value | Sig. | Decision to H <sub>0</sub> |
|----------------------------------|-----------------------------------|-----|------|---------|------|----------------------------|
| Supplier Relationship Management | Sustainable Procurement Practices | 338 | 0.49 | < .001  | s    | Reject                     |

Table 27 showed that Supplier Relationship Management had a significant positive relationship with Sustainable Procurement Practices, as shown by the r-value of 0.49 and p-value of < .001. Since the p-value was less than 0.05, the null hypothesis was rejected, meaning that better supplier relationship management was significantly associated with better sustainable procurement practices.

This implies that when hospitals have clear supplier communication, collaboration, and supplier performance monitoring, they are more likely to strengthen ethical procurement, social responsibility, and green procurement practices. The result can be justified because prompt communication, timely supplier information, mutual trust, supplier involvement, and regular supplier evaluation help hospitals maintain transparency, accountability, compliance, and responsible purchasing decisions.

Stakeholder Theory supports the result because it emphasizes that organizations should consider the interests of suppliers, communities, and other stakeholders in making responsible and sustainable procurement decisions (Yeboah & Ernest, 2024). Supplier relationship management improves procurement performance through strong buyer–supplier relationships and reliable access to essential goods and services (Apeh et al., 2024). Sustainable procurement studies also affirm the result by explaining that sustainability in procurement improves quality, cost efficiency, stakeholder relationships, and environmental outcomes (Samuels, 2025).

However, some studies contradict the result by suggesting that sustainable procurement may also be influenced more by green procurement policies, ethical sourcing rules, labor standards, and regulatory compliance than by supplier relationship management alone (Cooper, 2024).). This means that sustainable procurement may still

improve through strong policies and compliance systems, even when supplier relationship management is not the main driver (Lăzăroiu et al., 2020).

**Table 28**

Relationship Between Supplier Relationship Management an Organizational Efficiency

| Variable 1                       | Variable 2                | n   | R    | p      | Sig. | Decision to H <sub>0</sub> |
|----------------------------------|---------------------------|-----|------|--------|------|----------------------------|
| Supplier Relationship Management | Organizational Efficiency | 338 | 0.45 | < .001 | s    | Reject                     |

Table 28 shows the relationship between Supplier Relationship Management and Organizational Efficiency. The result obtained an r-value of 0.45 and a p-value of < .001, indicating a significant moderate positive relationship between the two variables. Since the p-value was lower than the 0.05 level of significance, the null hypothesis was rejected. This means that Supplier Relationship Management significantly relates to Organizational Efficiency among the selected private hospitals.

The result implies that as Supplier Relationship Management improves, Organizational Efficiency also tends to improve. This may be attributed to effective supplier communication, collaboration, and performance monitoring, which help reduce procurement delays, errors, misunderstandings, and supply disruptions. Strong supplier relationships also support timely delivery of hospital needs, better cost control, faster procurement processes, and improved quality of goods and services.

Furthermore, supplier collaboration and regular performance monitoring help hospitals identify reliable suppliers, address supplier-related concerns, and maintain smooth procurement operations. Therefore, the rejected null hypothesis indicates that stronger Supplier Relationship Management is significantly associated with better cost effectiveness, process responsiveness, and quality procurement outputs in the selected private hospitals.

Stakeholder Theory supports the result because it explains that hospitals must maintain strong relationships with key stakeholders, including suppliers, to improve procurement efficiency, service quality, and organizational performance Asa et al., (2023) affirmed the result by showing that supplier relationship management improves organizational performance through better trust, communication, response time, and access to essential goods and services. Sinthiya, (2025) also affirmed the result by finding that supplier relationship management, particularly collaboration, trust, communication, and supplier performance monitoring, leads to more efficient, transparent, and reliable procurement processes in public healthcare institutions.

However, other healthcare procurement literature may contradict the result by emphasizing that organizational efficiency can also be improved through e-procurement systems, inventory control, regulatory compliance, and staff training, not only through supplier relationship management (Olaleye, 2024). Other studies also suggest that technology, predictive analytics, and data-driven supply chain systems can directly improve healthcare supply chain efficiency and responsiveness, meaning organizational efficiency may improve even without relying mainly on supplier relationship management (Uchechukwu Anozie et al., 2024).

## SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

### Summary of Findings

The descriptive findings showed that the selected private hospitals demonstrated a very high extent of Supplier Relationship Management, Risk Management, Sustainable Procurement Practices, and Organizational Efficiency. This meant that the respondents generally perceived the hospitals' procurement practices as strong, organized, responsive, and quality-oriented. Specifically, the highest results were found in areas such as quality procurement outputs, social responsibility, supplier collaboration, and risk identification. These findings showed

that the hospitals were able to maintain quality standards in procurement, promote responsible purchasing, coordinate well with suppliers, and identify procurement-related risks effectively.

However, the lowest results, although still interpreted positively, were found in ethical procurement, effectiveness, contingency planning, and the perception of quality procurement outputs among probationary employees. These findings indicated that these areas still needed improvement to further strengthen procurement practices and organizational efficiency in the selected private hospitals.

The inferential findings showed that most differences by employment status were not significant, particularly in Supplier Relationship Management, Sustainable Procurement Practices, and overall Organizational Efficiency. This meant that regular/permanent and probationary employees had generally similar perceptions of these procurement practices.

However, significant differences were found in Risk Management and Quality of Procurement Outputs. This showed that regular/permanent employees had higher awareness and involvement in procurement risk processes and quality monitoring compared with probationary employees.

The correlation findings showed that Supplier Relationship Management, Risk Management, Sustainable Procurement Practices, and Organizational Efficiency were significantly related. The strongest relationship was between Supplier Relationship Management and Sustainable Procurement Practices, while the weakest relationship was between Risk Management and Sustainable Procurement Practices. This meant that supplier relationship practices contributed more strongly to sustainable procurement, while risk management still needed further improvement.

## Conclusions

Based on the descriptive findings, the study concluded that the selected private hospitals had strong procurement-related practices and organizational efficiency. Their very high ratings in Supplier Relationship Management, Risk Management, Sustainable Procurement Practices, and Organizational Efficiency showed that the hospitals had generally effective systems for supplier coordination, risk handling, responsible procurement, and quality service support.

The study also concluded that the hospitals should sustain their strengths in quality procurement outputs, social responsibility, supplier collaboration, and risk identification. These areas contributed to organized, responsive, and quality-oriented procurement operations.

However, the study further concluded that improvement was still needed in ethical procurement, effectiveness, contingency planning, and quality procurement outputs among probationary employees. These were the lowest areas in the descriptive findings and should be given attention to further improve hospital procurement performance.

Based on the inferential findings, the study concluded that employment status did not greatly affect the employees' perceptions of Supplier Relationship Management, Sustainable Procurement Practices, and overall Organizational Efficiency. This means that regular/permanent and probationary employees generally shared similar views in these areas.

However, employment status influenced Risk Management and Quality of Procurement Outputs. Regular/permanent employees appeared to have higher awareness and involvement in these areas than probationary employees. Therefore, hospitals need to strengthen the participation and orientation of probationary employees in risk management and quality monitoring processes.

Finally, the study concluded that Supplier Relationship Management, Risk Management, Sustainable Procurement Practices, and Organizational Efficiency were significantly connected. Strong supplier relationship practices had the greatest contribution, especially to sustainable procurement. Meanwhile, Risk Management, although significant, was the weakest relationship and should be further enhanced through better risk mitigation strategies, contingency planning, and employee involvement.

## Recommendations

Based on the findings, the selected private hospitals may implement a SMART Procurement Program: Sustainable Management and Risk-Responsive Transactions. This umbrella program may include six major components: Ethical Procurement Improvement, Procurement Effectiveness Enhancement, Contingency Planning and Risk Preparedness, Probationary Employee Procurement Orientation and Mentoring, Quality Procurement Monitoring, and Supplier Partnership and Sustainability. These components directly address the lowest areas identified in the study, particularly ethical procurement, effectiveness, contingency planning, and quality procurement outputs among probationary employees. The program may be implemented through regular orientations, procurement monitoring, risk mapping, mentoring, supplier evaluation, quality inspection, and sustainability-based supplier assessment. Through this intervention, hospitals may strengthen risk management, improve employee involvement, sustain supplier relationships, and enhance sustainable procurement and organizational efficiency.

This program is designed to improve the areas that need further enhancement, particularly ethical procurement, procurement effectiveness, contingency planning, quality procurement outputs among probationary employees, and risk management. It also aims to sustain the strong areas identified in the study, especially supplier relationship management, social responsibility, supplier collaboration, risk identification, and quality procurement outputs.

### **SMART Procurement Program: Sustainable Management and Risk-Responsive Transactions**

#### **Rationale**

Based on the summary of findings conclusion, and recommendations, the selected private hospitals showed a very high extent of Supplier Relationship Management, Risk Management, Sustainable Procurement Practices, and Organizational Efficiency. However, some areas still needed strengthening, particularly ethical procurement, procurement effectiveness, contingency planning, probationary employee involvement, quality procurement monitoring, supplier partnership, and sustainability practices.

The findings also showed that employment status significantly affected Risk Management and Quality of Procurement Outputs, which meant that regular/permanent employees may have had greater awareness and involvement in procurement risk activities and quality monitoring compared with probationary employees. Moreover, some of the lowest results were observed in areas related to ethical procurement, effectiveness, contingency planning, green procurement practices, and quality procurement outputs among probationary employees.

Thus, the SMART Procurement Program: Sustainable Management and Risk-Responsive Transactions was proposed as an umbrella intervention program to address these areas. It aimed to strengthen ethical, sustainable, risk-responsive, and quality-oriented procurement practices in the selected private hospitals.

#### **General Objective**

The program aimed to strengthen hospital procurement practices by improving ethical procurement, procurement effectiveness, contingency planning, probationary employee orientation and mentoring, quality procurement monitoring, and supplier partnership and sustainability.

#### **Specific Objectives**

Specifically, the program aims to:

1. enhance transparency, fairness, accountability, and ethical compliance in procurement practices;
2. improve procurement effectiveness through better cost control, supplier negotiation, and resource utilization;

3. strengthen contingency planning and risk preparedness for possible supply disruptions;
4. increase the awareness and participation of probationary employees in procurement risk and quality processes;
5. improve the monitoring of quality procurement outputs;
6. strengthen supplier partnership, supplier accountability, and sustainable procurement practices;
7. establish an evaluation mechanism to monitor the effectiveness of the intervention program.

### Components of the Intervention Program

| Key Result / Area to Address                                                                    | Program Component                                           | Activities                                                                                                                                                                                                 | Persons Involved                                                                                     | Expected Outcome                                                                                         | Budget      |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------|
| Ethical procurement was one of the areas that needed continuous improvement.                    | Ethical Procurement Improvement                             | Conduct seminar on ethical procurement, transparency, conflict of interest, fairness in supplier selection, and anti-favoritism; prepare ethical procurement checklist; require ethical commitment form.   | Hospital administrators, procurement officers, finance personnel, internal audit, department heads   | Improved transparency, fairness, and accountability in procurement decisions                             | PHP 15,000  |
| Effectiveness obtained one of the lowest results under organizational efficiency.               | Procurement Effectiveness Enhancement                       | Review procurement processes; conduct cost-saving and budget-control workshop; improve supplier negotiation; monitor cost-effectiveness; prepare monthly procurement efficiency report.                    | Hospital administrators, finance office, procurement head, procurement staff                         | Improved cost control, reduced unnecessary expenses, and better resource utilization                     | PHP 20,000  |
| Contingency planning had lower ratings compared with other risk management areas.               | Contingency Planning and Risk Preparedness                  | Conduct risk identification and contingency planning workshop; prepare risk registry; develop alternative supplier list; create emergency procurement procedures; conduct simulation or tabletop exercise. | Risk management team, procurement office, department heads, suppliers                                | Improved preparedness for supplier failure, supply shortage, and procurement disruptions                 | PHP 25,000  |
| Risk Management and Quality of Procurement Outputs significantly differed by employment status. | Probationary Employee Procurement Orientation and Mentoring | Conduct procurement orientation for probationary employees; assign mentors; train on procurement policies, risk identification, quality checking, and reporting.                                           | HR office, procurement head, supervisors, regular/permanent employee mentors, probationary employees | Increased awareness and involvement of probationary employees in procurement risk and quality activities | PHP 15,000  |
| Quality of Procurement Outputs showed significant difference by employment status.              | Quality Procurement Monitoring                              | Use quality inspection checklist; monitor defects, delayed deliveries, supplier compliance, and end-user satisfaction; conduct quarterly quality review.                                                   | Procurement office, quality assurance team, department heads, end-user departments                   | Improved quality of procured goods and services and stronger supplier compliance                         | PHP 20,000  |
| Green procurement practices and supplier sustainability needed continuous enhancement.          | Supplier Partnership and Sustainability                     | Conduct supplier forum; implement supplier scorecard; include ethical, social, and green criteria in supplier evaluation; monitor sustainability compliance; recognize compliant suppliers.                | Procurement committee, sustainability team, suppliers, hospital administrators                       | Stronger supplier partnership, improved sustainability compliance, and better supplier accountability    | PHP 25,000  |
| Need to determine whether the program improved procurement practices.                           | Program Monitoring and Evaluation                           | Conduct pre- and post-evaluation; gather feedback; review procurement indicators; prepare evaluation report and improvement plan.                                                                          | Hospital administrators, procurement head, HR, quality assurance team                                | Measured program effectiveness and identified areas for improvement                                      | PHP 10,000  |
|                                                                                                 |                                                             |                                                                                                                                                                                                            | Total Estimated Budget                                                                               |                                                                                                          | PHP 130,000 |

| Program Area                                      | Sub-Area                                                       | Activity                                      | Objectives                                                                                          | Methodology / How to Conduct the Program                                                                                                                              | Person/s In Charge                               | Program Tools                                                                                |
|---------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------|
| I. Ethical and Transparent Procurement Management | Transparency, fairness, accountability, and ethical compliance | Procurement Ethics and Compliance Orientation | To enhance transparency, fairness, accountability, and ethical compliance in procurement practices. | Conduct an orientation on procurement policies, ethical standards, conflict of interest, supplier selection, proper documentation, and accountability. Present sample | Procurement Head; Compliance Officer; HR Officer | Procurement Ethics Checklist; Conflict of Interest Disclosure Form; Procurement Policy Guide |

|                                                         |                                   |                                                 |                                                                                                                                     |                                                                                                                                                                                                      |                                                        |                                                                              |
|---------------------------------------------------------|-----------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------|
|                                                         |                                   |                                                 |                                                                                                                                     | cases and allow discussion among participants.                                                                                                                                                       |                                                        |                                                                              |
|                                                         | Fair supplier selection           | Supplier Evaluation and Accreditation Session   | To ensure that suppliers are selected fairly and objectively based on approved standards.                                           | Discuss supplier accreditation requirements and evaluation criteria. Train personnel on rating suppliers based on quality, price, delivery capacity, legal compliance, and sustainability practices. | Procurement Committee; Quality Assurance Officer       | Supplier Evaluation and Accreditation Form; Supplier Accreditation Checklist |
|                                                         | Documentation and accountability  | Procurement Documentation Review Workshop       | To improve completeness, accuracy, and accountability in procurement records.                                                       | Review sample purchase requests, quotations, canvass sheets, purchase orders, delivery receipts, and inspection reports. Use a checklist to identify missing documents.                              | Procurement Officer; Internal Auditor                  | Procurement Documentation Checklist; Procurement Transaction Monitoring Log  |
| 2. Procurement Effectiveness and Cost Control           | Cost control and budget alignment | Cost Monitoring and Budget Utilization Training | To improve procurement effectiveness through better cost control and proper use of resources.                                       | Conduct training on budget checking, price comparison, cost monitoring, and avoiding unnecessary purchases. Use sample procurement transactions for hands-on exercises.                              | Finance Officer; Budget Officer; Procurement Head      | Cost Comparison Form; Budget Utilization Monitoring Sheet                    |
|                                                         | Supplier negotiation              | Supplier Negotiation Skills Workshop            | To strengthen supplier negotiation skills in terms of price, delivery schedule, warranty, and service conditions.                   | Conduct role-playing activities between procurement staff and suppliers. Discuss ethical negotiation strategies and proper documentation of agreed terms.                                            | Procurement Head; Finance Officer                      | Supplier Negotiation Guide; Negotiation Outcome Form                         |
|                                                         | Resource utilization              | Purchase Request Review and Needs Assessment    | To ensure that procurement requests are necessary, justified, within budget, and aligned with hospital needs.                       | Require departments to submit purchase requests with clear justification. Review each request using a standard form before approval.                                                                 | Department Heads; Procurement Officer; Finance Officer | Purchase Request Review Form; Needs Assessment Checklist                     |
| 3. Risk-Responsive Procurement and Contingency Planning | Risk identification               | Procurement Risk Assessment Workshop            | To identify possible procurement risks such as delayed delivery, supplier failure, price increase, poor quality, and lack of stock. | Conduct a workshop where participants identify common procurement risks. Use a risk matrix to rate risks according to likelihood and impact.                                                         | Risk Management Officer; Procurement Head              | Procurement Risk Assessment Checklist; Risk Rating Matrix                    |
|                                                         | Risk mitigation                   | Risk Mitigation Action Planning                 | To prepare specific actions that will reduce the effect of procurement risks.                                                       | Prepare action plans for identified risks. Include preventive actions, responsible persons, timeline,                                                                                                | Risk Management Officer; Procurement Committee         | Risk Mitigation Action Plan Template                                         |

|                                                                          |                                 |                                                                  |                                                                                                                        |                                                                                                                                                                               |                                                                    |                                                                            |
|--------------------------------------------------------------------------|---------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------|
|                                                                          |                                 |                                                                  |                                                                                                                        | and required resources.                                                                                                                                                       |                                                                    |                                                                            |
|                                                                          | Contingency planning            | Alternative Supplier Mapping Activity                            | To prepare backup suppliers in case of supply disruption or supplier failure.                                          | Identify critical hospital supplies and list at least two alternative suppliers for each item. Validate supplier capacity, pricing, delivery time, and compliance documents.  | Procurement Officer; Supply Officer; Department Heads              | Alternative Supplier Masterlist; Critical Supplies Monitoring Sheet        |
|                                                                          | Emergency procurement           | Emergency Procurement Simulation Drill                           | To test personnel readiness during urgent procurement situations.                                                      | Conduct a simulation scenario such as sudden shortage of supplies. Assign roles, process emergency requests, contact suppliers, monitor delivery, and evaluate response time. | Procurement Head; Risk Management Officer; Emergency Response Team | Emergency Procurement Protocol; Simulation Evaluation Form                 |
| 4. Employee awareness and Participation in Procurement Quality Processes | Probationary employee awareness | Procurement Quality Awareness Session for Probationary Employees | To increase the awareness of probationary employees regarding procurement risk, quality, and accountability processes. | Conduct a basic orientation on procurement flow, quality checking, risk reporting, proper use of supplies, and employee participation in quality improvement.                 | HR Officer; Procurement Officer; Quality Assurance Officer         | Procurement Awareness Handout; Procurement Flowchart                       |
|                                                                          | Risk and quality reporting      | Risk and Quality Concern Reporting System                        | To encourage employees to report supply concerns, damaged items, delayed requests, and quality issues.                 | Introduce a reporting form or logbook where employees can record procurement concerns. Review reports monthly and prepare corrective actions.                                 | Quality Assurance Officer; Department Supervisors                  | Risk and Quality Concern Report Form; Concern Monitoring Logbook           |
|                                                                          | Employee participation          | Procurement Feedback and Improvement Meeting                     | To gather suggestions from probationary employees and staff regarding procurement responsiveness and quality.          | Conduct monthly or quarterly feedback meetings. Summarize common concerns and prepare improvement actions based on feedback gathered.                                         | HR Officer; Department Heads; Procurement Committee                | Procurement Feedback Form; Improvement Action Plan Template                |
| 5. Quality Monitoring of Procurement Outputs                             | Product quality checking        | Delivery and Quality Inspection Activity                         | To improve monitoring of quality procurement outputs before acceptance and use.                                        | Inspect delivered items based on quantity, specifications, condition, expiration date, packaging, and usability. Record findings before accepting delivery.                   | Quality Assurance Officer; Supply Officer; End-User Department     | Delivery and Quality Inspection Report; Receiving Checklist                |
|                                                                          | Output monitoring               | Procurement Output Monitoring Review                             | To monitor whether procured items meet required quality, timeliness, and purpose.                                      | Review procurement outputs monthly. Check delivery time, quality of supplies, user satisfaction, and compliance with specifications.                                          | Procurement Head; Quality Assurance Officer                        | Procurement Output Monitoring Form; Monthly Procurement Performance Report |

|                                                                      |                         |                                               |                                                                                                            |                                                                                                                                                                                          |                                                                         |                                                                            |
|----------------------------------------------------------------------|-------------------------|-----------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------|
|                                                                      | Corrective action       | Quality Issue Corrective Action Process       | To address poor-quality supplies, wrong deliveries, delayed orders, or supplier non-compliance.            | Record the issue, notify the supplier, require corrective action, and monitor whether the problem is resolved.                                                                           | Procurement Officer; Quality Assurance Officer; Supplier Representative | Corrective Action Request Form; Supplier Issue Log                         |
| 6. Supplier Partnership, Accountability, and Sustainable Procurement | Supplier partnership    | Supplier Partnership Meeting                  | To strengthen communication, coordination, and partnership with suppliers.                                 | Conduct regular meetings with key suppliers to discuss delivery performance, quality concerns, pricing, sustainability expectations, and improvement plans.                              | Procurement Head; Supplier Representatives                              | Supplier Communication Log; Supplier Partnership Meeting Minutes           |
|                                                                      | Supplier accountability | Supplier Performance Evaluation               | To hold suppliers accountable for delivery, quality, responsiveness, compliance, and service performance.  | Rate suppliers using a scorecard. Discuss results with suppliers and require improvement plans for low-performing suppliers.                                                             | Procurement Committee; Quality Assurance Officer                        | Supplier Performance Monitoring Scorecard; Supplier Corrective Action Form |
|                                                                      | Sustainable procurement | Sustainable Procurement Screening             | To ensure procurement decisions consider ethical, social, and environmental responsibility.                | Screen suppliers and products based on ethical sourcing, social responsibility, environmental impact, proper packaging, durability, and compliance with sustainability standards.        | Procurement Officer; Sustainability Officer; Department Heads           | Sustainable Procurement Checklist; Green Procurement Evaluation Form       |
|                                                                      | Continuous improvement  | Supplier and Procurement Improvement Planning | To improve supplier partnership and procurement sustainability through regular review and action planning. | Analyze supplier evaluation results, procurement feedback, and sustainability checklist results. Prepare improvement plans for supplier development and procurement process improvement. | Procurement Head; Procurement Committee; Quality Assurance Officer      | Supplier Improvement Plan Template; Procurement Improvement Action Plan    |

| Program Area                                                   | Objectives                                                                                                    | Activities                                                                                                                                                    | Time Frame                     | Responsible Persons                                                            | Success Indicators                                                                                                                     | Evaluation                                                                         |
|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| 1. Ethical Procurement Improvement                             | To strengthen transparency, fairness, integrity, and accountability in procurement practices                  | Conduct ethical procurement seminar; prepare checklist; review supplier selection procedures; require conflict-of-interest disclosure                         | 1st Quarter                    | Hospital administrators, procurement head, internal auditor, finance office    | At least 90% of personnel attended; checklist was used; conflict-of-interest forms were submitted                                      | Attendance sheet, checklist review, participant evaluation form, compliance report |
| 2. Procurement Effectiveness Enhancement                       | To improve cost-effectiveness, budget control, supplier negotiation, and resource utilization                 | Conduct cost-control workshop; review timelines and cost records; prepare monthly cost-efficiency report; strengthen supplier negotiation                     | 1st-2nd Quarter                | Procurement office, finance office, department heads                           | Reduced unnecessary expenses; improved budget monitoring; monthly reports were prepared                                                | Monthly cost-efficiency report, finance review, procurement performance report     |
| 3. Contingency Planning and Risk Preparedness                  | To improve risk identification, risk mitigation, and preparedness for procurement disruptions                 | Develop risk registry; prepare alternative supplier list; create emergency procurement procedures; conduct contingency simulation                             | 2nd Quarter                    | Risk management team, procurement office, department heads                     | Risk registry was completed; alternative suppliers were identified; contingency plan was updated and tested                            | Risk registry review, simulation report, contingency plan assessment               |
| 4. Probationary Employee Procurement Orientation and Mentoring | To increase the knowledge and involvement of probationary employees in procurement risk and quality processes | Conduct orientation; assign mentors; provide training on risk identification, supplier monitoring, and quality checking; conduct follow-up mentoring          | Upon hiring and every 6 months | HR office, procurement head, supervisors, regular/permanent employee mentors   | Probationary employees completed orientation; mentoring sessions were conducted; understanding of risk and quality procedures improved | Pre-test and post-test, mentoring log, supervisor feedback form                    |
| 5. Quality Procurement Monitoring                              | To improve the quality of procurement outputs and ensure compliance with quality standards                    | Use quality checklist; inspect delivered goods and services; monitor supplier compliance; gather end-user feedback; review defect and return reports          | Quarterly                      | Procurement office, quality assurance team, end-user departments               | Fewer defective or non-compliant items; improved supplier compliance; quality checklist was consistently used                          | Quality checklist, supplier compliance report, end-user satisfaction survey        |
| 6. Supplier Partnership and Sustainability                     | To strengthen supplier collaboration, supplier accountability, and sustainable procurement practices          | Conduct supplier coordination meeting; implement scorecard; include ethical, social, and green criteria in supplier evaluation; recognize compliant suppliers | 3rd Quarter                    | Procurement committee, suppliers, sustainability team, hospital administrators | Supplier scorecards were implemented; suppliers complied with ethical and green standards; coordination improved                       | Supplier scorecard, sustainability compliance report, supplier feedback form       |
| 7. Program Monitoring and Evaluation                           | To evaluate the effectiveness of the SMART Procurement Program and identify areas for improvement             | Conduct pre- and post-program evaluation; gather feedback; review success indicators; prepare evaluation report and improvement plan                          | 4th Quarter                    | Hospital administrators, procurement head, HR, quality assurance team          | Program evaluation was completed; improvement plan was prepared; procurement performance indicators improved                           | Evaluation form, summary report, improvement action plan                           |

## Proposed matrix program

### Evaluation Form for the SMART Procurement Program

Title of Program: SMART Procurement Program: Sustainable Management and Risk-Responsive Transactions

Name of Evaluator: \_\_\_\_\_

Department/Office: \_\_\_\_\_

Date: \_\_\_\_\_

Direction: Please evaluate the program by checking the appropriate rating. Scale: 4 - Strongly Agree / Very High; 3 - Agree / High; 2 - Disagree / Low; 1 - Strongly Disagree / Very Low.

| Evaluation Indicators                                                                                             | 4 | 3 | 2 | 1 |
|-------------------------------------------------------------------------------------------------------------------|---|---|---|---|
| 1. The program helped improve ethical procurement practices.                                                      |   |   |   |   |
| 2. The program strengthened transparency and fairness in supplier selection.                                      |   |   |   |   |
| 3. The program helped improve procurement effectiveness and cost control.                                         |   |   |   |   |
| 4. The program improved awareness of procurement risks.                                                           |   |   |   |   |
| 5. The program strengthened contingency planning and preparedness for supply disruptions.                         |   |   |   |   |
| 6. The program increased the participation of probationary employees in procurement processes.                    |   |   |   |   |
| 7. The mentoring activities helped probationary employees understand procurement policies and quality procedures. |   |   |   |   |
| 8. The program improved the monitoring of quality procurement outputs.                                            |   |   |   |   |
| 9. The program strengthened supplier accountability and performance monitoring.                                   |   |   |   |   |
| 10. The program promoted sustainable and green procurement practices.                                             |   |   |   |   |
| 11. The activities were relevant to the procurement needs of the hospital.                                        |   |   |   |   |
| 12. The program should be continued and improved in the future.                                                   |   |   |   |   |

| Rating Range | Interpretation                  |
|--------------|---------------------------------|
| 3.25 - 4.00  | Very High Program Effectiveness |
| 2.50 - 3.24  | High Program Effectiveness      |
| 1.75 - 2.49  | Low Program Effectiveness       |
| 1.00 - 1.74  | Very Low Program Effectiveness  |

### Comments and Suggestions

Evaluator's Signature: \_\_\_\_\_

## REFERENCES

- Adhikari, G. P. (2021). Calculating the sample size in quantitative studies. 4(December), 14–29.
- Ahmad, N., Alias, F. A., Komputer, J. S., & Pengkomputeran, K. P (2023). Understanding Population And Sample In Research :Key Concepts For Valid Conclusions. 19–24.
- Alfina, K. N. (2026). Integrating risk management in implementing circular economy principles in the healthcare sector : a case study from Indonesia. 2(1), 151–192. <https://doi.org/10.1108/JRPC-03-2024-0014>
- Almehwari, S. A., Almalki, I. S., Abumilha, B. A., & Altharwi, B. H. (2024). Improving Hospital Efficiency and Cost Management: A Systematic Review and Meta-Analysis. Cureus, 16(10). <https://doi.org/10.7759/cureus.71721>
- Alshukri, T., Ojekemi, O. S., & Öz, T. (2024). The Interplay of Corporate Social Responsibility Innovation Capability , Organizational Learning , and Sustainable Value Creation : Does Stakeholder Engagement Matter ?
- Apeh, C. E., Odionu, C. S., Bristol-Alagbariya, B., Okon, R., & Austin-Gabriel, B. (2024). Reviewing healthcare supply chain management: Strategies for enhancing efficiency and resilience. International Journal of Multidisciplinary Research and Growth Evaluation, 5(1), 1209–1216. <https://doi.org/10.54660/ijmrge.2024.5.1.1209-1216>
- Aric, R. (2020). Transaction cost theory: past, present and future. AMS Review, 1–13.
- Aric, R. (2020). Transaction cost theory: Past, present and future. AMS Review, –13.
- Ashrafi, M., Magnan, G. M., Adams, M., & Walker, T. R. (2020). Understanding the conceptual evolutionary path and theoretical underpinnings of corporate social responsibility and corporate sustainability. Sustainability (Switzerland), 12(3). <https://doi.org/10.3390/su12030760>
- Awa, H. O., Etim, W., & Ogbonda, E. (2024). Stakeholders, stakeholder theory and Corporate Social Responsibility (CSR). International Journal of Corporate Social Responsibility, 9(1). <https://doi.org/10.1186/s40991-024-00094-y>
- Bempah, K. O. (2023). Assessing The Impact Of Sustainable Supply Chain Management On K . Owusu Bempah , PhD Thesis , Aston University 2023 . K . Owusu Bempah , PhD Thesis , Aston University 2023
- Cooper, M. (2024). Implementing ethical procurement standards: Experiences and challenges in different sectors. <https://doi.org/10.20944/preprints202407.0615.v1>
- Cuyppers, I. R. P., Hennart, J. F., Silverman, B. S., & Ertug, G. (2021) Transaction cost theory: Past progress, current challenges, and suggestions for the future. Academy of Management Annals, 15(1), 111– 150. <https://doi.org/10.5465/annals.2019.0051>

14. Devi, B. (2022). Application Of Correlational Research Design In NURSING. 11, 60–69. <https://doi.org/10.17605/OSF.IO/YRZ68>
15. Devi, B. (2022). Application of correlational research design in nursing. <https://doi.org/10.17605/OSF.IO/YRZ68>
16. Emon, M. M. H., Khan, T., & Siam, S. A. J. (2024). Quantifying the influence of supplier relationship management and supply chain performance: an investigation of Bangladesh's manufacturing and service sectors. *Brazilian Journal of Operations and Production Management*, 21(2), 1–18. <https://doi.org/10.14488/BJOPM.2015.2024>
17. Fredson, G., Adebisi, B., Ayorinde, O. B., Onukwulu, C., Adediwin, O., Alexandra, & Ihechere, O. (2025). Building Resilient Supply Chains in Emerging Markets: Sustainable Procurement and Stakeholder Engagement Strategies. *Worldscientificnews.Com*, 201(March), 57–95.
18. Fredson, G., Adebisi, B., Ayorinde, O. B., Onukwulu, C., Adediwin, O., Alexandra, & Ihechere, O. (2025). Building resilient supply chains in emerging markets. *World Scientific News*, 201, 57–95.
19. Giri, O. P. (2024). *Indonesian Journal of Teaching in Science*. 4(2), 165–176.
20. Gruchmann, T., Elgazzar, S., & Ali, A. H. (2023). Blockchain technology in pharmaceutical supply chains: a transaction cost perspective. *Modern Supply Chain Research and Applications*, 5(2), 115–133. <https://doi.org/10.1108/mscra-10-2022-0023>
21. Gurzawska, A. (2020). Towards Responsible and Sustainable Supply Chains – Innovation, Multi-stakeholder Approach and Governance. *Philosophy of Management*, 19(3), 267–295. <https://doi.org/10.1007/s40926-019-00114>
22. Hamad, E., & Theeb, A. (2024). The Role of Management Control Systems in Supply Chain Risk Management: A Case Study of Hospitals in Saudi Arabia. July, 0–1.
23. Hannelin, A. (2025). Integrating TCE and RBV in outsourcing decisions.
24. Hodgkinson, R., Phillips, H., Allgar, V., Young, A., Le Couteur, A., Holwell, A., Teige, C., & Wright, B. (2023). Comparison of Diagnostic Profiles of Deaf and Hearing Children with a Diagnosis of Autism. *International Journal of Environmental Research and Public Health*, 20(3). <https://doi.org/10.3390/ijerph20032143>
25. Jean-Jules, J., & Vicente, R. (2021). Rethinking the implementation of enterprise risk management (ERM) as a socio-technical challenge. *Journal of Risk Research*, 24(2), 247–266. <https://doi.org/10.1080/13669877.2020.1750462>
26. Jeldres, M. R., & Costa, E. D. (2023). A review of Lawshe ' s method for calculating content validity in the social sciences. November, 1–8. <https://doi.org/10.3389/feduc.2023.1271335>
27. Jiménez, V., & Afonso, P. (2023). Transaction costs in healthcare. *Cogent Business & Management*, 10(2). <https://doi.org/10.1080/23311975.2023.2220479>
28. Kajamaa, A., & Laukkanen, P. H. (2022). Organizational arrangements and hospital efficiency. *BMC Health Services Research*. <https://doi.org/10.1186/s12913-022-08376-6>
29. Kanu, M. S. (2021). A Theoretical Framework for Enterprise Risk Management and Organizational Performance. *International Business Research*, 14(5), 63. <https://doi.org/10.5539/ibr.v14n5p63>
30. Kero, C. A., & Bogale, A. T. (2023). International Journal of Sustainable Development and Planning A Systematic Review of Resource-Based View and Dynamic Capabilities of Firms and Future Research Avenues. 18(10), 3137–3154.
31. Ketokivi, M., & Mahoney, J. T. (2020). Transaction Cost Economics As a Theory of Supply Chain Efficiency. *Production and Operations Management*, 29(4), 1011–1031. <https://doi.org/10.1111/poms.13148>
32. Khalid, S. (2024). How to choose a sampling technique and determine sample size for research : A simplified guide for researchers. *Oral Oncology Reports*, 12(September), 100662. <https://doi.org/10.1016/j.oor.2024.100662>
33. Khan, M., Ajmal, M. M., Jabeen, F., Talwar, S., Dhir, A., & Amandeep Dhir, C. (2021). Sustainable supply management as a source of competitive advantage in Finnish SMEs: A resource-based view. *Wiley Online Library*, 32(4), 1603–1618.
34. Khanpoor, H., Alizadeh, A., Khosravizadeh, O., Amerzadeh, M., & Rafiei, S. (2025). A mixed - methods model for healthcare system responsiveness to public health : insights from Iranian experts. *Health Research Policy and Systems*. <https://doi.org/10.1186/s12961-025-01295-y>

35. Kirema, C. M., Muleke, V., & Ooko, W. (2025). Supplier relationship management and procurement performance of hospitals. *Journal of Entrepreneurship & Project Management*, 9(3), 88–101.
36. Klingenberg, J. (2024). Analysing distribution of contingency planning liability.
37. Kumar Pemmasani, P., & Anderson, K. (2020). Resilient by Design: Integrating Risk Management into Enterprise Healthcare Systems for the Digital Age. *International Journal of Modern Computing*, 1–0.
38. Kwasafu, O. K., Adinyira, E., Agyekum, K., & Botchway, B. (2026). Barriers to green construction procurement practices in developing economies: empirical evidence from Ghana. *International Journal of Building Pathology and Adaptation*, 1–18. <https://doi.org/10.1108/IJBPA-08-2025-0191>
39. Lăzăroiu, G., Ionescu, L., Uță, C., Hurloiu, I., Andronie, M., & Dijmarescu, I. (2020). Environmentally responsible behavior and sustainability policy adoption in green public procurement. *Sustainability (Switzerland)*, 12(5). <https://doi.org/10.3390/su12052110>
40. Leppänen, R.-E. (2024). Enhancing Supplier Risk Management in Hospital Procurement: A Case Study of Finnish Public Procurement Law Compliance.
41. Lubis, N. W. (2022). Resource Based View ( RBV ) in Improving Company Strategic. 2(6), 587–596.
42. Ma'rifat, R. A., & Suraharta, I. I. J. (2024). A Study Of Healthcare Risks And Mitigating Strategies: Case Of Shaam Hospital UAE. 2(2), 306–312.
43. Mathobo, N., & Matsoma, N. (2025). Theories for Enhancing the Efficiency of Medicine Procurement in Limpopo Public Hospitals. *Holistica – Journal of Business and Public Administration*, 16(2), 115–127. <https://doi.org/10.2478/hjbpa-2025-0020>
44. Miguel, L. L. M. (2026). “ Enhancing Reintegration : The Role of Prisonbased Aftercare Programs in Supporting Persons Deprived of Liberty in Bureau of Jail Management and Penology of Cabarroguis , Quirino .” IX(2454), 3116–3131. <https://doi.org/10.47772/IJRISS>
45. Mupa, M. N., Chiganze, F. R., & Mpofu, T. I. (2024). The Role of Enterprise Risk Management ( ERM ) in Supporting Strategic Decision-Making Processes in the Energy Sector. 8(2), 826–848.
46. Nathasya, H. (2024). The Role of Project Risk Management Data in Accurately Budgeting Irish Healthcare Projects. *Edu Research Indonesian Institute For Corporate Learning And Studies (IICLS)*, 5(1), 70–80.
47. Offei, F. A., Aikins, I., Letunovska, N., Ziabina, Y., State, S., & Procurement, T. S. (2025). Business-Oriented Approaches to Green Supply Chain Management: Enhancing Healthcare Delivery Through Sustainable Procurement. 52(August), 143–151.
48. Olaleye, I. A. (2024). Optimizing procurement efficiency : Frameworks for data-driven cost reduction and strategic vendor management.
49. Olatundun Fasasi, G. (2023). Digital Communication Policy Framework Enhancing Transparency and Accountability in Health-Social Service Collaboration. *International Journal of Advanced Multidisciplinary Research and Studies*, 3(1), 1630–1640. <https://doi.org/10.62225/2583049x.2023.3.1.5207>
50. Olufemi-Phillips, , & Titilope Tosin Adewale. (2023). Building econometric models for evaluating cost efficiency in healthcare procurement systems. *International Journal of Frontline Research and Reviews*, 1(3), 083–091. <https://doi.org/10.56355/ijfr.2023.1.3.0026>
51. Osobajo, O. A., & Bjeirmi, B. (2021). Aligning tacit knowledge and competitive advantage: A resource-based view. *International Journal of Knowledge Management Studies*, 12(3), 203–226. <https://doi.org/10.1504/IJKMS.2021.116391>
52. Paul, P. O., Ogugua, J. O., & Eyo-udo, N. L. (2024). Procurement in healthcare : Ensuring efficiency and compliance in medical supplies and equipment management. 1–10.
53. Pham, M. (2023). The impact of entrepreneurship knowledge on students' e- entrepreneurial intentions. *Innovation & Entrepreneurship*.
54. Purwanto, A. (2022). Uncertain Supply Chain Management The effect of supplier performance and transformational supply chain leadership style on supply chain performance in manufacturing companies. 10, 2017–2022. <https://doi.org/10.5267/j.uscm.2021.12.001>
55. Qader, S., Lefebvre, V., Tatem, A., Bengtsson, L., Bird, T., Pape, U., Himelein, K., & Ninneman, A. (2021). Semi-automatic mapping of pre-census enumeration areas and population sampling frame. *Humanities and Social Sciences Communications*, 1–14. <https://doi.org/10.1057/s41599-020->

00670-0.

56. Rahma, S., & Tir, R. (2024). The Impact of Sustainable Practices on Social Responsibility in Healthcare Institutions: A Case Study of Kaiser Permanente.
57. Samuels, A. (2025). Assessing The Impact Of Sustainable Public Procurement On Organisational Practices And Stakeholder Engagement Towards Environmental And Social Responsibility: A Systematic Literature Review. 1(1), 84–120.
58. Sendra-Pons, P., Calatayud, C., & Garzón, D. (2022). A review of entrepreneurship education research and practice. *Journal of Management and Business Education*, 5(4), 361–376.
59. Sermhattakit, A., & Sae-Lim, P. (2025). Key Risks and Mitigation Strategies in Enterprise Risk Management for Private Hospitals: A Mixed-Method Study. *Inquiry (United States)*, 62. <https://doi.org/10.1177/00469580251347132>
60. Shenoy, A. (2023). Nurturing entrepreneurial mindset: The role of higher education in fostering creativity and adaptability. *International Journal of Innovation in Education*, 11(4), 215–229.
61. Singh, S., Miller, E., & Closser, S. (2024). Nurturing transformative local structures of multisectoral collaboration for primary health care: qualitative insights from select states in India. *BMC Health Services Research*, 24(1), 1–15. <https://doi.org/10.1186/s12913-024-11002-2>
62. Sinthiya, C. (2023). The Impact of Supplier Relationship, Procurement Efficiency and Cost Reduction Management on. 4(4), 15–21.
63. Spatioti, A. G., & Kazanidis, I. (2022). A Comparative Study of the ADDIE Instructional Design Model in Distance Education. 1–20.
64. Spatioti, A. G., & Kazanidis, I. (2022). ADDIE instructional design model.
65. Tseng, M. L., Ha, H. M., Lim, M. K., Wu, K. J., & Iranmanesh, M. (2022). Sustainable supply chain management in stakeholders: supporting from sustainable supply and process management in the healthcare industry in Vietnam. *International Journal of Logistics Research and Applications*, 25(4–5), 364–383. <https://doi.org/10.1080/13675567.2020.1749577>
66. Twumasi, E. A., & Scott, L. M. (2019). Applying The Resource-Based View (Rbv) Theory In Sustainable Procurement Practice In The Aec Sector. *Sustainable Construction and Sustainability Expertise Underlying Concepts: Getting the Balance Right*, December, 396–403.
67. Uchechukwu Christopher Anozie, Gbenga Adewumi, Oyinlola Esther Obafunsho, Adekunle Stephen Toromade, & Oladapo Sola Olaluwoye. (2024). Leveraging advanced technologies in Supply Chain Risk Management (SCRM) to mitigate healthcare disruptions: A comprehensive review. *World Journal of Advanced Research and Reviews*, 23(1), 1039–1045. <https://doi.org/10.30574/wjarr.2024.23.1.2094>
68. Wafa, I. A., Pratama, N. R., Sofia, N. F., Anastasia, E. S., Konstantin, T., Wijaya, M. A., Rifqi Wiyono, M., Djuari, L., & Novida, H. (2022). Impact of COVID-19 Lockdown on the Metabolic Control Parameters in Patients with Diabetes Mellitus: A Systematic Review and Meta-Analysis. *Diabetes and Metabolism Journal*, 46(2), 260–272. <https://doi.org/10.4093/dmj.2021.0125>
69. Wenjie Sun, Kecun Chen, & Jianhua Mei. (2024). Integrating the Resource- Based View and Dynamic Capabilities: a Comprehensive Framework for Sustaining Competitive Advantage in Dynamic Markets. *EPRA International Journal of Economic and Business Review*, 1–8. <https://doi.org/10.36713/epra18157>
70. Willie, M. M. (2024). Population and Target Population in Research Methodology. 4(1), 75–79.
71. Yaman, Y. (2024). Operational Resilience In Organizations: Effects Of Internal And External Factors, And Impacts On Organizational Performance And Learning. 2, 306–312.
72. Yeboah, S. A., & Ernest, K. (2024). Sustainable Procurement Practices: A Holistic Framework for Ethical, Green, and Social Impact. 1–19.
73. Zhu, H. (2020). Understanding Descriptive Research Designs and Methods. February, 8–12. <https://doi.org/10.1097/NUR.0000000000000493>