

Development of Enhanced Automated Internal Procurement Monitoring and Reporting System in PhilHealth Regional Office V

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Abstract

Government procurement remains a critical administrative function in Philippine public institutions, yet many agencies continue to rely on manual and fragmented internal workflows despite reforms emphasizing digitalization. This study examined the procurement monitoring and reporting practices of PhilHealth Regional Office V and used the findings as basis for a proposed Enhanced Automated Internal Procurement Monitoring and Reporting System. Anchored on Systems Theory, Business Process Management, and Government Service Delivery Theory, the study employed a descriptive-developmental design. Documentary analysis was conducted on procurement records covering Fiscal Year 2024 to June 2025, while a structured Likert-scale survey was administered to 33 personnel directly involved in procurement-related activities. Results showed that procurement transactions generally follow prescribed procedures but remain highly dependent on manual encoding, physical routing, and non-integrated tracking tools. Documentary findings indicated an overall timeliness compliance rate of 58.51%, with delays concentrated in supplier sourcing, evaluation of quotations, and contract preparation and endorsement. Survey findings further revealed operational problems related to incomplete Purchase Requests, limited manpower, difficulty obtaining complete supplier quotations, manual comparison of quotations, and challenges in tracking contract status. Based on these findings, a web-based enhanced automated internal procurement monitoring and reporting system is proposed. The system features a centralized database, single-entry data capture, automated document generation, supplier registry, RFQ monitoring, real-time status tracking, automated reporting, and role-based access controls. The proposed system is expected to improve data accuracy, reduce processing delays, strengthen internal control, and support procurement modernization in PhilHealth Regional Office V.

Keywords: Government Procurement, Procurement Monitoring, Procurement Reporting, Workflow Automation, Digital Transformation, Philhealth Regional Office V, Public Sector Information Systems

1. Introduction

Government procurement is a critical function of public administration because it ensures that public resources are used responsibly and in support of public programs. In the Philippines, procurement activities have long been governed by Republic Act No. 9184, or the Government Procurement Reform Act, which established uniform procedures intended to promote transparency, competition, and efficiency across government agencies. Although the law provided a structured framework, many offices continued to rely on paper-based routing, repeated data encoding, and physically signed documents, all of which contribute to delays and clerical inconsistencies.

Procurement reform entered a new stage with Republic Act No. 12009, the New Government Procurement Act, which places stronger emphasis on modernization, digitalization, streamlined procedures, and value for money. While external procurement activities such as bid posting and award publication have been partly digitized through the Philippine Government Electronic Procurement System (PhilGEPS), internal agency workflows often remain only partially automated. This gap is evident in PhilHealth Regional Office V, where procurement activities continue to depend on manual document preparation, review, routing, and monitoring even with the use of PhilGEPS and the Document Digital Recording and Tracking Utility (DDirect).

The study was undertaken to determine the current procurement monitoring and reporting practices of PhilHealth Regional Office V, describe its internal procurement workflow for transactions conducted through alternative methods of procurement with an Approved Budget for the Contract of Php 500,000.00 and below, identify operational problems across major workflow stages, and use the findings as basis for a proposed Enhanced Automated Internal Procurement Monitoring and Reporting System.

1.1 Background of the Study on Procurement Monitoring and Reporting in the Public Sector

PhilHealth Regional Office V processes a substantial volume of procurement transactions through the Management Services Division (MSD)-Procurement Team. Although Requests for Quotation may be distributed electronically and postings are made through PhilGEPS when required, the internal cycle still depends on manually prepared Purchase

Requests, Requests for Quotation, Abstracts of Canvass, Job Orders, Purchase Orders, Notices of Award, routing slips, and monitoring reports. The need to encode the same information into multiple documents extends processing time and increases the risk of inconsistencies across records.

1.2 Themes and Insights from Related Literature on Procurement Digitalization and Workflow Automation

International and local literature consistently emphasizes that electronic procurement improves transparency, supplier access, and auditability, but its full benefits are realized only when national procurement platforms are complemented by automated internal workflows. Studies from international development institutions and public sector process-improvement literature note that agencies still encounter delays when document preparation, approval routing, and reporting remain manual. Local studies likewise recommend integrated systems that combine tracking, document generation, and internal workflow coordination to minimize redundant encoding and improve document accuracy.

1.3 Local, National, and Institutional Context of Procurement Modernization

The need for internal modernization is particularly relevant in the Philippine public sector. National policy now requires agencies to simplify procedures, improve service delivery, and prepare for broader procurement reform under Republic Act No. 12009. Within PhilHealth Regional Office V, procurement transactions are processed by a small group of personnel serving both the Regional Office and Local Health Insurance Offices, making the office an appropriate setting for examining how manual workflows, limited staffing, and non-integrated monitoring systems affect procurement efficiency.

1.4 Theoretical or Conceptual Basis of Procurement Workflow Improvement

The study is anchored on Systems Theory, Business Process Management (BPM) Theory, and Government Service Delivery Theory. Systems Theory views procurement as a set of interdependent activities in which delays or inconsistencies in one component affect the performance of the whole system. BPM Theory provides a process-centered lens for examining planning, sourcing, evaluation, and contract management, highlighting opportunities to remove redundancies and improve workflow efficiency. Government Service Delivery Theory supports the need for public institutions to adopt more efficient, responsive, and transparent administrative practices in order to deliver public services effectively.

1.5 Research Gaps and Rationale

Despite the growth of e-procurement initiatives, existing literature pays limited attention to agency-level automated monitoring and reporting systems tailored to the internal workflows of specific public offices. In PhilHealth Regional Office V, DDirect supports document tracking but does not automate document preparation, workflow routing, or consolidated procurement reporting. This creates a gap between national digital procurement reforms and day-to-day operational practice at the agency level, thereby justifying the development of a more integrated internal system.

1.6 Alignment with Relevant Sustainable Development Goals (SDGs)

The study aligns primarily with SDG 9 on industry, innovation, and infrastructure through its emphasis on digital workflows and information systems in government operations. It also supports SDG 16 on peace, justice, and strong institutions by promoting transparency, accountability, and more efficient public sector processes. By strengthening procurement efficiency in a health-sector institution, the study also contributes indirectly to service continuity and institutional effectiveness in the delivery of public health support functions.

1.7 Importance of the Study to Multidisciplinary Sustainability

The significance of the study extends beyond procurement administration. More reliable procurement processes support organizational sustainability through improved resource utilization, better records management, stronger internal control, and faster delivery of operational requirements. For the public sector, these improvements reinforce institutional credibility and help align administrative practice with broader digital governance and modernization initiatives.

2. Material and methods

2.1 Research Design

The study employed a descriptive-developmental research design. The descriptive phase examined existing procurement monitoring and reporting practices and documented the internal workflow, while the developmental phase used empirical findings as basis for proposing an enhanced automated internal procurement monitoring and reporting system.

2.2 Locale of the Study

The research was conducted in PhilHealth Regional Office V, particularly within procurement transactions handled under delegated authority by the MSD-Procurement Team. The office was selected because it processes recurring procurement transactions for both the Regional Office and Local Health Insurance Offices and therefore provides a relevant setting for evaluating procurement documentation, routing, monitoring, and reporting practices.

2.3 Respondents of the Study

Two major sources of data were used. Documentary data were drawn from official procurement records maintained by the MSD-Procurement Team, including Purchase Requests, Requests for Quotation, Abstracts of Canvass, Job Orders, Purchase Orders, Notices of Award, workflow instructions, routing logs, and monitoring documents covering Fiscal Year 2024 through June 30, 2025. Survey data were gathered from 33 personnel directly involved in procurement-related activities, including procurement staff, BAC-related personnel, Fund Management Section personnel, a Commission on Audit respondent, and end-users from Local Health Insurance Offices and Regional Office units.

2.4 Sample and Sampling Procedure

A total enumeration approach was used for the survey component in order to capture the views of all personnel directly involved in procurement-related activities within the office. Documentary analysis covered transactions processed through alternative methods of procurement with an Approved Budget for the Contract of Php 500,000.00 and below, since these transactions represent the primary operational responsibility of the procurement unit under the delegated arrangement.

2.5 Research Instrument

Two research instruments were used. First, a documentary analysis matrix guided the extraction of verifiable data on data accuracy, timeliness of processing and document flow, manpower complement and workload distribution, workflow sequence, and monitoring points. Second, a structured five-point Likert-scale questionnaire was administered to identify operational problems encountered during planning, sourcing, evaluation, and contract management, and to validate the consistency of the documented workflow with actual practice.

2.6 Data Gathering Procedure

Documentary analysis was conducted first after obtaining the required authorization to access procurement records. A documentary analysis matrix was used to review and organize official records systematically. After the documentary review, the survey questionnaire was administered through printed copies for Regional Office personnel and through digital messaging for personnel assigned in Local Health Insurance Offices. Completed responses were reviewed for completeness before tabulation and analysis.

2.7 Data Analysis Techniques

Documentary data were organized according to procurement stage and document type. Frequency counts and descriptive observations were used to assess consistency of records, documentation gaps, workflow sequence, processing delays, and workload distribution. For the survey data, responses were summarized using frequency counts, percentages, and weighted mean scores. The weighted mean served as the principal descriptive measure for interpreting the extent of operational problems and the level of agreement regarding procurement workflow validation.

2.8 Ethical Considerations

Formal authorization was secured from PhilHealth Regional Office V prior to data gathering. Participation in the survey was voluntary, and responses were handled with confidentiality. Documentary records were used strictly within the approved scope of the research, reported only in aggregate form, and managed in accordance with institutional policies and applicable ethical and data privacy standards.

3. Results and Discussion

3.1 Current Procurement Monitoring and Reporting Practices in PhilHealth Regional Office V

The documentary analysis showed that procurement transactions generally follow prescribed procedures, but current monitoring and reporting practices remain largely manual. Supplier names, Approved Budget for the Contract amounts, and reference numbers were generally consistent across procurement documents, yet discrepancies still appeared in selected transactions, particularly in supplier details, reference numbers, and revised Purchase Requests. Incomplete fields and missing attachments were also noted in some records, requiring follow-up actions and contributing to delays.

Timeliness analysis based on DDirect log records identified 4,366 routing entries, which were consolidated into 801 unique procurement transactions. Overall compliance with allowable processing time reached 58.51%, while 41.49% of transactions extended beyond the prescribed period. The supplier sourcing stage recorded 58.43% compliance, the evaluation stage 63.92%, and contract preparation and endorsement 53.18%. These results indicate that delays are concentrated in stages requiring supplier coordination, document verification, multiple approvals, and repeated routing for correction or completion.

Documentary evidence on manpower complement further showed that the procurement unit operates with only three core operational personnel who carry overlapping functions across receipt of Purchase Requests, RFQ processing, supplier canvassing, abstract preparation, contract documentation, routing, and monitoring. The overlapping distribution of tasks supports continuity of operations but also creates workload concentration, dependence on specific staff members, and risks of delay when personnel are unavailable or transaction volume increases.

3.2 Existing Internal Procurement Workflow for Alternative Methods of Procurement

The documented internal workflow for alternative methods of procurement begins with the preparation and submission of the Purchase Request and proceeds through review of completeness, preparation and issuance of the Request for Quotation, supplier canvassing, evaluation of quotations, preparation of the Abstract of Canvass, and preparation of the Purchase Order or Job Order. For transactions of Php 50,000.00 and above, Requests for Quotation, Job Orders, and Notices of Award are posted through PhilGEPS and in conspicuous office spaces as part of compliance requirements.

Monitoring within this workflow relies mainly on logbooks for incoming Purchase Requests, DDirect for document movement, and periodic procurement status reports. Survey validation produced an overall mean of 4.20, interpreted as Agree, indicating that personnel generally perceive the workflow as clear, defined, and consistently implemented. However, the indicator on the effectiveness of existing monitoring practices obtained the lowest rating within the validation section, confirming that the workflow itself is structured but its monitoring mechanisms remain limited by manual and non-integrated practices.

3.3 Operational Problems Encountered in the Different Stages of the Procurement Workflow

Operational problems were evident across all major stages of the procurement workflow. In the planning stage, the overall mean was 3.81, with respondents pointing to incomplete or inaccurate Purchase Requests, frequent revisions, manual preparation and routing, and the absence of a centralized mechanism for tracking request status. In the sourcing stage, the overall mean reached 4.20, making it the most problematic stage from the respondents' perspective. Major issues included difficulty obtaining complete and timely supplier quotations, inconsistencies between RFQs and supplier quotations, limited manpower assigned to sourcing, and difficulty monitoring RFQ status and supplier responses.

The evaluation stage obtained an overall mean of 3.20 and was affected mainly by manual encoding of procurement data, manual comparison of supplier quotations, multiple layers of document review, limited status visibility, and uneven workload distribution. In the contract management stage, the overall mean was 3.38, with respondents citing problems in tracking contract status after award, retrieving procurement records, correcting errors in Job Order details, and coordinating responsibilities between procurement personnel and end-users. Together, these findings show that problems in earlier stages propagate into later stages, extending overall processing time and reducing monitoring efficiency.

3.4 Proposed Enhanced Automated Internal Procurement Monitoring and Reporting System

The proposed Enhanced Automated Internal Procurement Monitoring and Reporting System was designed to respond directly to the documented issues in data consistency, processing delay, workload concentration, and monitoring visibility. The proposed web-based system uses a centralized procurement database that allows information to be entered once and reused across procurement documents, thereby reducing repetitive encoding and improving consistency from Purchase Request to Notice of Award. The proposed system also incorporates a centralized supplier registry, an RFQ monitoring module, real-time status tracking, automated daily and monthly reporting, and role-based access controls to strengthen accountability and internal control.

4. Conclusion and Recommendations

The study concludes that procurement monitoring and reporting practices in PhilHealth Regional Office V are operational and generally compliant with procedural requirements, but remain constrained by manual processing, repeated data encoding, non-integrated tracking mechanisms, and limited manpower. Delays are most evident in sourcing, evaluation, and contract preparation, where supplier coordination, document verification, and repeated routing increase processing time. These conditions affect data accuracy, workload distribution, and the ability of the office to monitor transactions in real time.

The findings support the adoption of a centralized automated internal procurement monitoring and reporting system. PhilHealth Regional Office V may strengthen procurement operations by implementing single-entry data management, automated document generation, real-time tracking, and automated reporting; by improving guidance and coordination for end-users during Purchase Request preparation; by maintaining a more structured supplier registry and RFQ monitoring process; and by periodically reviewing workload distribution to reduce dependency on a small number of personnel. Continuous orientation and training for procurement staff and end-users are also recommended to support more consistent system use and workflow compliance.

The study is limited to procurement transactions handled under delegated authority within one regional office and is based primarily on documentary analysis and self-reported perceptions from directly involved personnel. Future studies may expand the scope to other agencies or regional offices, test the proposed system after implementation, and examine its impact on actual turnaround time, user adoption, reporting accuracy, and institutional readiness for full procurement modernization under Republic Act No. 12009.

Compliance with ethical standards

This study complied with applicable academic and institutional ethical standards. Documentary review and survey administration were undertaken only after formal authorization from PhilHealth Regional Office V. Participation in the survey was voluntary, and respondents were informed of the purpose of the study, the scope of their participation, and the

confidentiality of the data gathered. No personal identifiers were reported, documentary records were used solely for academic purposes, and all findings were presented in aggregate form. No conflict of interest was declared, and no external funding was received for the conduct of the study.

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