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Optimizing The Revenue Recording System For Non-Core Assets Through Gap Analysis SERVQUAL Model (Case Study : PT Perkebunan Nusantara III (Persero))

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Abstrak

PT Perkebunan Nusantara III (Persero) sebagai Holding Perkebunan memiliki peran penting dalam melakukan monitoring dan evaluasi atas pendapatan non-core asset yang bersumber dari seluruh anak perusahaan PTPN Group. Penggunaan sistem ERP SAP diharapkan dapat mengotomatisasi dan menyeragamkan pencatatan pendapatan optimalisasi aset. Namun, proses pelaporan yang masih mengandalkan input manual dan ketidakterpaduan GL Account menyebabkan rendahnya efisiensi penyusunan laporan. Penelitian ini bertujuan untuk mengidentifikasi kesenjangan antara kondisi aktual dan kondisi yang diharapkan dari sistem ERP SAP dalam pencatatan pendapatan non-core, serta merancang solusi optimalisasi pencatatan berbasis sistem. Metode yang digunakan adalah penelitian tindakan (action research) dengan pendekatan kualitatif dan metode analisis kesenjangan (gap analysis). Data diperoleh melalui observasi dan wawancara mendalam pada Divisi Manajemen Aset. Hasil penelitian menunjukkan bahwa sebelum perbaikan, proses penyusunan laporan membutuhkan waktu 1.085 menit, sedangkan setelah dilakukan penambahan GL Account khusus dan penerbitan Surat Edaran tentang standarisasi pencatatan, waktu pengerjaan dapat ditekan hingga 285 menit. Temuan ini menunjukkan bahwa optimalisasi sistem ERP SAP mampu meningkatkan efisiensi pelaporan sebesar 800 menit (13 jam 20 menit), serta memperkuat akuntabilitas dan pengambilan keputusan manajerial berbasis data terintegrasi.

Kata kunci: ERP-SAP; pencatatan pendapatan; optimalisasi aset; gap analysis; PTPN III

Abstract

This study aims to optimize the non-core asset revenue recording system through the SAP ERP platform at the Asset Management Division of PT Perkebunan Nusantara III (Persero). The main problem identified is the length of time required for preparing the revenue monitoring and evaluation report, which reaches 1,085 minutes due to the use of data from ERP and non-ERP sources that have not been standardized. This study uses a qualitative approach through the action research method and SERVQUAL-based Gap Analysis analysis. Data were collected through observation, interviews, questionnaires, and Focus Group Discussions with three main divisions related. The results of the study showed a negative gap in all SERVQUAL dimensions, with an average gap of -1.03 points on a scale of 5, indicating a mismatch between user expectations and reality regarding SAP ERP services. As a solution, the company issued a policy for standardization of recording by adding a special General Ledger (GL) Account to the SAP module. This improvement succeeded in reducing the number of stages in preparing reports from 12 to 11 steps and reducing SAP data analysis time from 420 minutes to 220 minutes. The implementation of this policy is considered effective in increasing

the efficiency and accuracy of recording revenue from asset optimization, as well as supporting achieving of the Key Performance Indicator (KPI) for non-core asset.

Keywords: ERP SAP; Asset Management; PTPN III; Gap Analysis; SERVQUAL; Asset Optimization; Recording Standardization.

1. Introduction

In the era of digitalization and business transformation, Enterprise Resource Planning (ERP) systems have become the backbone of modern corporate operations. PT Perkebunan Nusantara III (Persero), as the Holding Company of the PTPN Group, has implemented ERP-SAP as the primary system for financial recording and reporting across all its subsidiaries. However, in practice, challenges remain in preparing reports on non-core asset income, primarily due to the lack of integrated and standardized recording mechanisms within the system (Laudon, 2008).

Digital transformation in corporate governance has become imperative, especially for state-owned enterprises (SOEs) that manage strategic assets. Since 2016, PT Perkebunan Nusantara III (Persero) has adopted the SAP-based ERP system to accelerate and harmonize the recording of business transactions across its group entities.

Following the consolidation and transition into an Operational Holding, new challenges have emerged, particularly in the monitoring and evaluating income generated from asset optimization within the Asset Management Division. The core issue lies in the absence of standardized recording procedures for non-core asset income, which results in delays and complexity in report preparation. In such a scenario, the ERP-SAP system has yet to fully address the need of end users.

Existing literature highlights frequent misalignments between ERP system implementation and actual business processes (Hewavitharana, 2019). These misalignments often arise because ERP systems are designed based on generic procedures rather than tailored organizational requirements, thus necessitating reengineering approaches such as gap analysis (Kim & Ji, 2018; Panwar, Hansen, & Kozak, 2012).

Previous studies have extensively discussed ERP implementation in general but have rarely focused on the specific gaps between ERP systems and the need for non-core asset income recording particularly within the context of state-owned plantation enterprises (Hewavitharana, 2019). This gap contributes to inefficiencies in report generation and delays in strategic decision-making related to asset optimization.

The aim of this study is to analyze the current state of income recording, design solutions through improvements to the General Ledger (GL) Account structure, and propose standardized policies applicable to all entities within the PTPN Group.

As a summary of findings, this research demonstrates that through the introduction of dedicated GL Accounts and standardization measures, the time required for report preparation decreased significantly from 1,085 minutes to 285 minutes. This result shows that optimizing the ERP-SAP system not only enhances efficiency but also supports the principles of Good Corporate Governance in managing non-core assets.

2. Illustrations

2.1. Questionnaire Design:

A total of 15 questions were developed and distributed to 30 respondents consisting of mid-to-senior managers from the Asset Management Division, Accounting & Taxation Division, and Procurement & IT Division. These questions were categorized into five SERVQUAL dimensions as follows:

- **Tangibles:** Physical and technological appearance of the ERP-SAP system
- **Reliability:** Accuracy and consistency in system-generated reports
- **Responsiveness:** Speed of response to system-related issues and requests
- **Assurance:** Confidence and data security perceived by users
- **Empathy:** Willingness of system managers to understand user need

Each item was rated using a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The average score for Perceived Performance (P) and Expected Performance (E) was calculated for each item, and the Service Quality (Q) score was obtained using the formula:

$$\text{SERVQUAL Score (Q)} = \frac{\text{Perception (P)} - \text{Expectation (E)}}{\text{Perception (P)} + \text{Expectation (E)}}$$

- If $Q > 0$ → Service exceeds expectations (Highly satisfactory)
- If $Q = 0$ → Service meets expectations (Satisfactory)
- If $Q < 0$ → Service falls below expectations (Unsatisfactory)

3. Results

The gap analysis revealed negative SERVQUAL scores in most dimensions, indicating discrepancies between user expectations and actual system performance. The most critical gaps were identified in the **Reliability** and **Responsiveness** dimensions, particularly related to:

- The system's failure to generate timely reports consistently.
- Delays in addressing feedback from end users.
- Challenging in distinguishing income from asset optimization due to non-specific GL accounts.

4. Equations

4.1. Result and Discussions

Based on observations of the reporting process for monitoring and evaluating revenue from asset optimization, it was found that before the improvement, the time required to compile reports reached 1,085 minutes (18 hours and 5 minutes). This process involved several stages, including data collection, data analysis, and report preparation using both SAP and non-SAP sources. Notably, the duration for compiling data from non-SAP sources was 600 minutes, longer than the 485 minutes taken for SAP-based data.

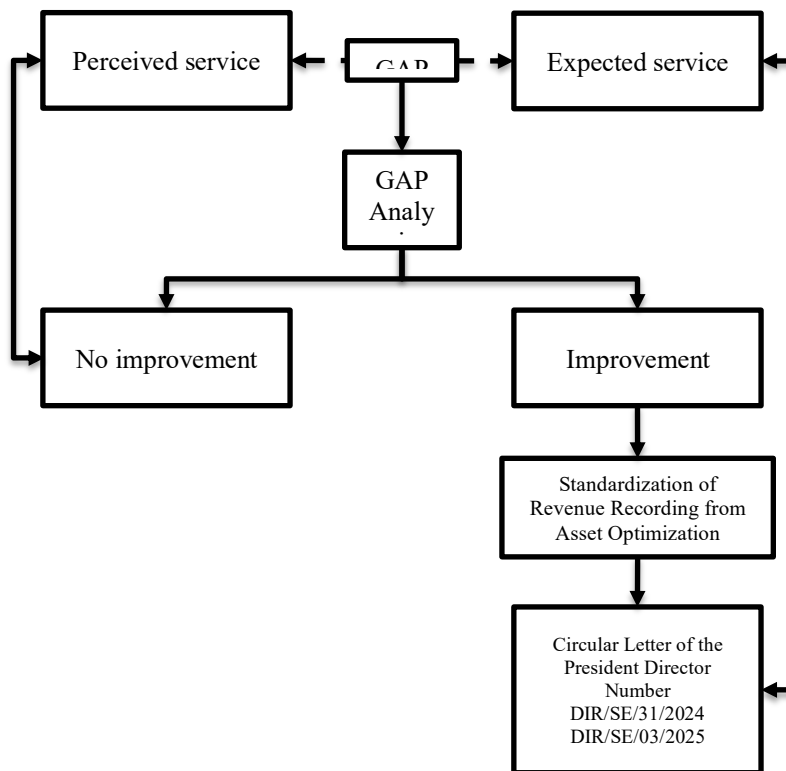


Figure 1. Conceptual Framework for the Standardization of Revenue Recording within the ERP-SAP Platform

The conducted gap analysis identified two significant issues:

- The absence of a dedicated General Ledger (GL) Account to record revenue from asset optimization in a structured manner according to business categories.
- The lack of a formal company policy governing the standardization of such revenue recording practices.

As a solution, new GL Accounts were introduced in the ERP-SAP system to specifically classify revenues based on business segments, including property, hospitality, mining, and others. Additionally, the company issued formal directives in the form of Director’s Circular Letters No. DIR/SE/31/2024 and DIR/SE/03/2025, mandating the standard use of these GL Accounts across all subsidiaries within the PTPN Group.

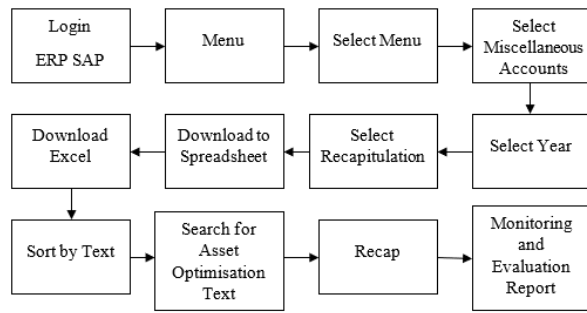


Figure 2. The Process of Preparing Monitoring and Evaluation Reports through ERP-SAP Before Standardization

Based on the outcomes of a Focus Group Discussion (FGD) involving the Asset Management Division, the Accounting & Taxation Division, and the Procurement & Information Technology Division, it was agreed that the revenue recording system would be transitioned from the Finance module to the Sales and Distribution (SD) module, thereby enabling the classification of transactions through service-based materials.

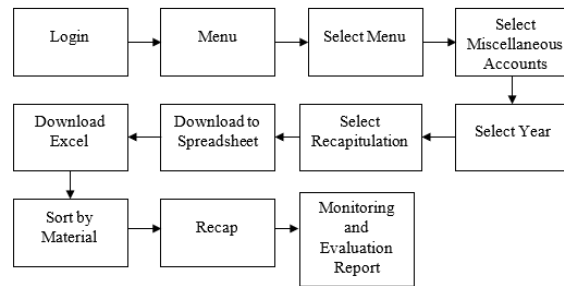


Figure 3. The Process of Preparing Monitoring and Evaluation Reports through ERP-SAP After Standardization

Following the implementation, the report preparation process experienced a significant increase in efficiency. The processing time was reduced to 285 minutes, representing a reduction of 800 minutes (13 hours and 20 minutes). The data collection process for non-SAP sources was eliminated entirely, as all transactions are now recorded via the standardized ERP-SAP structure.

Amount in Local Crpy	LCurr	Profit Center	Segme... Text
73.164.500	IDR	HHO0000001	Pendapatan Kayu dari Sentosa Hasta Reksa
40.996.962	IDR	HHO0000001	Pendapatan Kayu dari Sentosa Hasta Reksa
5.000.000	IDR	HHO0000001	23-10-2023 setoran pendapatan lain-lain
1.407.765.485	IDR	HHO0000001	Akrual Kompen. Variable KSO DJABA Sept'23
7.075.591.587	IDR	HHO0000001	Kompensasi Sawit Bln Oktober 2023
8.324.225.396	IDR	HHO0000001	Kompensasi Sawit Bln Oktober 2023
1.475.000	IDR	HHO0000001	31-10-2023 saldo penutupan rek dari AC No.13001
1.475.000	IDR	HHO0000001	31-10-2023 saldo penutupan rek dari AC No.13001
347.006.032	IDR	HHO0000001	31-10-2023 saldo penutupan rek dari AC No.13001
8.000.000	IDR	HK43000001	-Pendapatan Sewa Mesin P1202310V00010 Bln Oktober
55.131.657	IDR	HK43000001	-Pendapatan Lain Lain IHT Oktober
1.674.162	IDR	HK44000001	Pend. Rumput Kingres Bl. Oktober 2023
9.000.000	IDR	HK03000001	Pendapatan PMDK Kebun Pasirmalang
12.320.000	IDR	HK43000001	Kekurangan Pencatatan Atas Sewa Mesin 2023
8.000.000	IDR	HK43000001	-Pendapatan Sewa Mesin P1202310V00010 Bln Oktober
18.531.000	IDR	HK43000001	TERIMA TRANSFER DARI PT FOKUS RITEL INDOPRIMA
18.531.000	IDR	HK43000001	TERIMA TRANSFER DARI PT FOKUS RITEL INDOPRIMA
12.320.000	IDR	HK43000001	Kekurangan Pencatatan Atas Sewa Mesin 2023
8.000.000	IDR	HK43000001	-Pendapatan Sewa Mesin P1202310V00010 Bln Oktober
17.350.505.781	IDR		

Figure 4. Display of Miscellaneous Income in the ERP-SAP System Before the Enhancement

Before the improvement, revenue data were broadly recorded under GL Account 42000016 “Other Income”, which included not only income from asset optimization, but also foreign exchange, product sales, and service revenue. This made it challenging to isolate data specific to non-core assets. After the enhancement, three main GL Accounts were created:

- GL 41900001: Revenue from Asset Optimization Activities
- GL 41900005: Revenue from Agrotourism Activities
- GL 42000054: Revenue from Joint Operations (KSO) within the PTPN Group

Each GL Account is supported by a structured hierarchy of product classifications, such as property, plantation, livestock, and agrotourism, allowing for more explicit revenue categorization and improved reporting accuracy.

Local Crpy Amt.	Material Description	Text	Purchasing Doc.	LCurr
190.000-	Agro Parkir & Tiket -Swak...			IDR
100.000-	Agro Parkir & Tiket -Swak...			IDR
300.000-	Agro Wahana -Swakelola			IDR
14.087.818-	Agro Wahana -Swakelola			IDR
2.940.000-	Agro Wahana -Swakelola			IDR
1.840.000-	Agro Wahana -Swakelola			IDR
400.000-	Agro Wahana -Swakelola			IDR
1.520.000-	Agro Wahana -Swakelola			IDR
1.470.000-	Agro Wahana -Swakelola			IDR
67.500-	Agro Resto - Swakelola			IDR
267.000-	Agro Resto - Swakelola			IDR
16.725-	Agro Resto - Swakelola			IDR
130.000-	Agro Resto - Swakelola			IDR
285.000-	Agro Resto - Swakelola			IDR
557.500-	Agro Resto - Swakelola			IDR
65.000-	Agro Resto - Swakelola			IDR
42.125-	Agro Resto - Swakelola			IDR
74.295.000-	Agro Parkir & Tiket -Swak...			IDR
4.125.000-	Agro Parkir & Tiket -Swak...			IDR

Figure 5. Display of Miscellaneous Income in the ERP-SAP System After the Enhancement

The standardization of revenue recording in the ERP-SAP system has contributed directly to achieving the 2024 Key Performance Indicator (KPI) for the Asset Management Division. The revenue target from non-core asset optimization, initially set at IDR 794.74 billion, was exceeded, with actual revenue reaching IDR 961.89 billion. The significant contributors included:

- Plantation Business: IDR 295.76 billion
- Rental Income: IDR 190.02 billion
- Mining Sector: IDR 137.21 billion

This improvement also positively influenced the decision-making process at the executive level, enabling faster strategic responses due to the earlier availability of accurate monitoring reports. From a managerial standpoint, the workload of staff was also reduced, as data processing no longer involved manual or fragmented tasks.

To evaluate the effectiveness of the ERP-SAP system in recording non-core asset income at PT Perkebunan Nusantara III (Persero), this study employed the SERVQUAL method as part of a gap analysis framework. SERVQUAL assesses the gap between customers' expectations and their actual perceptions of service performance, using five key dimensions: **Tangibles, Reliability, Responsiveness, Assurance, and Empathy** (Zeithaml et al., 1990).

Improvement Measures:

To address these gaps, two key interventions were made:

- **Creation of Specific GL Accounts:** New accounts such as *GL 41900001 (Revenue from Asset Optimization)* and *GL 42000054 (Revenue from Joint Operations)* were introduced.
- **Standardization Policy Issuance:** The company released Circular Letters *DIR/SE/31/2024* and *DIR/SE/03/2025*, mandating uniform use of GL accounts across all subsidiaries.

Outcome:

After implementing these improvements, the report preparation time dropped drastically from **1,085 minutes to 285 minutes**, a reduction of **800 minutes (13 hours and 20 minutes)**. Furthermore, positive SERVQUAL scores began to appear in **Tangibles and Assurance**, indicating improved user satisfaction due to:

- More explicit interface and structured data inputs
 - Better alignment between user need and system capabilities
- Increased user confidence in data accuracy and security

(1)

3. Online license transfer

Research Approach

This study adopts a qualitative approach in the form of action research, aiming to directly improve the process of recording non-core asset income at PT Perkebunan Nusantara III (Persero). Action research is chosen because it emphasizes real-world problem-solving within the organization and involves the active participation of key stakeholders (Anna et al., 2021).

Type and Sources of Data

The data utilized in this research are primary data, obtained through direct observation and interviews with individuals involved in asset management, including the Head of Division, Heads of Subdivision, and assistants responsible for ERP and finance.

Secondary data were acquired from ERP-SAP system documentation, internal policy documents, and financial and operational reports.

Data Collection Techniques

Data were collected using the following techniques:

- Observation of the reporting process before and after standardization,
- In-depth interviews with internal staff of the Asset Management Division,
- Documentation of policies, General Ledger (GL) accounts, and ERP-SAP interface screens.

Data Analysis Technique

This study employs a gap analysis method to examine the discrepancies between the current and desired conditions. The analysis focuses on:

- The structure of GL accounts within the ERP-SAP system,
- The reporting process for monitoring and evaluation,
- Internal policies related to recording income from asset optimization.

The results of the gap analysis serve as the foundation for formulating new policies and proposing system changes in ERP-SAP, which are then formalized through issuing a Director's Circular Letter to ensure standardization across the organization.

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