

Information System Audit in a Spare Parts Distribution Company Using the ITIL V3 Service Strategy Framework

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Received:

September 21, 2025

Revised:

March 10, 2026

Accepted:

April 11, 2026

Published:

April 22, 2026

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DOI:

10.63158/journalisi.v8i2.1532

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Abstract. Information system audits play an important role in evaluating the effectiveness, governance, and strategic alignment of IT services within organizations. This study assesses the capability level of IT service strategy implementation in a spare-parts distribution company using the ITIL V3 framework, with a focus on three Service Strategy sub-processes: Service Portfolio Management, Financial Management, and Demand Management. A qualitative case study approach was employed through semi-structured interviews and document analysis involving key personnel responsible for IT service operations. Capability assessment used a binary scoring method, where Fully Achieved was rated as 1 and Not Achieved as 0, and the aggregated results were mapped to capability levels. The findings show that the organization operates between Level 2 (repeatable) and Level 3 (defined), indicating that core processes have been documented and partially implemented, but are not yet fully integrated across functions. Key gaps were identified in internal coordination, management information, monitoring practices, and customer interface mechanisms. The study recommends strengthening service governance through clearer policies, better cross-functional coordination, and more integrated monitoring to improve IT service performance and business alignment.

Keywords: Information System Audit; ITIL V3; IT Service Management; Service Strategy; Capability Assessment

1. INTRODUCTION

Information systems audits are a crucial component in maintaining the effectiveness, efficiency, and security of company operations in the digital era [1], [2]. As the business world's dependence on information technology increases, the need for reliable, scalable, and well-managed systems becomes increasingly urgent [3], [4]. In this context, information systems audits serve not only to identify system weaknesses but also as a means to ensure that information technology strategies, policies, and processes align with the organization's business objectives [5], [6].

One widely used approach to support the information systems audit process is the Information Technology Infrastructure Library (ITIL), an international framework that provides best practice guidance for managing information technology services [7], [8]. This research focuses on the use of the ITIL version 3 (ITIL V3) framework, specifically the Service Strategy domain, which serves as the primary foundation for strategic planning and development of IT services [9], [10]. This domain emphasizes developing a service strategy that adds value to the organization and supports the achievement of business goals effectively and sustainably [11].

In the context of a bearing spare parts distributor, implementing a Service Strategy is crucial because companies in this sector require information systems capable of managing supply chains, inventory, and customer service quickly and accurately [12]. Operational efficiency and optimizing customer service are key competitive advantages in this industry, and they are highly dependent on an appropriate IT service strategy [13], [14]. Through the implementation of ITIL V3-based audits, specifically in the Service Strategy domain, companies can identify areas of weakness, evaluate the effectiveness of their service strategies, and formulate plans for continuous improvement of their information systems [15].

Furthermore, this audit is expected to provide an overview of the company's level of readiness to implement ITIL principles, the information system's compliance with international standards, and the level of ITIL adoption by the human resources involved [16], [17]. Therefore, the results of this study are expected to make a significant contribution to improving the quality of information technology services, strengthening

IT governance, and supporting the achievement of the company's long-term business goals [18]. Specifically, this study will examine several important aspects of an ITIL V3-based information system audit, including: readiness to implement the ITIL framework, consistency of implementation across work units, system compliance with ITIL standards, level of employee adoption, performance and efficiency of the resulting processes, and various obstacles encountered in its implementation. With this approach, the study is expected to provide comprehensive recommendations regarding strategies for improving IT service quality through the implementation of the ITIL V3 Service Strategy domain in a spare parts distribution company [19], [20].

Although many companies are beginning to implement Frameworks from ITIL to help manage their IT Services, the earlier works have generally concentrated on either trying to measure all of the current methods which companies have used in the past for IT Service Management or focusing on a particular ITIL Framework or Domain such as Service Operation or Service Design. Unfortunately, there has not been a significant amount of research performed which uses the ITIL V3 Framework in measuring how effective the service strategy component of distribution (logistics) based companies are in using the ITIL V3 Framework to support their operations. Therefore, the purpose of this study is to assess how well a spare-parts distribution company has implemented the ITIL V3 Service Strategy. The research contributions of this study are twofold. First, this study provides a structured assessment of the capabilities of implementing the ITIL V3 Service Strategy, while also presenting practical recommendations on the company's current service strategy implementation and how to improve the governance of IT Services through the use of the ITIL V3 Framework.

2. METHODS

A qualitative case study approach was used to assess the level of capability for implementing IT Service Strategy within a spare-parts distribution company through the ITIL V3 framework. The study assessed three sub-processes, all belonging to the Service Strategy domain, including Service Portfolio Management, Financial Management, and Demand Management.

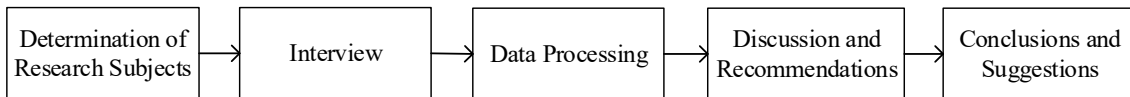


Figure 1. Research Flowchart [21]

The overall research process is illustrated in Figure 1, which includes the stages of identifying research subjects, collecting data through interviews and documentation, conducting capability assessment, performing gap analysis, and developing recommendations. The study was executed through several structured stages. The first step was to determine the research subject. A spare-parts distribution company was selected to examine how information systems support operational processes such as inventory management, supply chain activities, and customer transactions [20]. The second step involved developing audit instruments based on ITIL V3 Service Strategy process attributes to assess the capability level of each sub-process [22], [23].

Data collection was conducted using two primary methods: semi-structured interviews and document analysis. The study involved five key informants, consisting of one IT Manager, one System Administrator, and three operational staff responsible for IT service execution. These respondents were selected based on their direct involvement in managing IT services within the organization [24]. Semi-structured interviews were conducted to capture detailed insights into current IT service practices, while document analysis was performed to validate interview findings through supporting evidence such as system operation procedures, service reports, and financial records [25].

The evaluation of process capability was carried out using a capability rating approach derived from ITIL process capability attributes. Each attribute was assessed using two qualitative indicators: Fully Achieved (F) and Not Achieved (N). For analysis purposes, these qualitative values were converted into numerical scores, where F = 1 and N = 0. The total score for each attribute was averaged across all respondents to obtain a normalized value between 0 and 1. These normalized values were then mapped into capability levels using the following scale:

- 1) 0.00 - 0.50 → Level 1–2 (initial to repeatable)
- 2) 0.51 - 0.75 → Level 2–3 (repeatable to defined)
- 3) 0.76 - 1.00 → Level 3+ (defined and managed)

Intermediate values (e.g., 2.5) represent transitional capability levels between defined stages, indicating partial achievement of process maturity. The audit instrument was developed based on ITIL V3 Service Strategy process attributes and validated through document confirmation to ensure data reliability and consistency. After the scoring process, a gap analysis was conducted by comparing the current capability levels with the expected ITIL best practice levels [26]. Based on the identified gaps, recommendations were formulated to improve IT service strategy implementation within the organization [27].

3. RESULTS AND DISCUSSION

This section presents the results of the information system audit based on the ITIL V3 framework, focusing on the Service Strategy domain. The analysis was conducted through interviews and document confirmation to determine the capability level. The research discussion includes the current capability level and the desired capability level. This study discusses the results of the SAP system audit by analyzing interviews and documents. The capability level analysis includes the current capability level and the desired capability level, as well as a gap analysis and recommendations for the sub-processes being studied. This research focuses on three key sub-processes within the ITIL V3 Service Strategy domain: Service Portfolio Management, Financial Management, and Demand Management.

This research aimed to assess the capability level and integrate it within the ITIL V3 framework. The assessment used the Capability model in ITIL V3, with a rating scale of N (not achieved) and F (fully achieved). In assessing the capability level, the researcher used a rating scale for each attribute. This scale is important for measuring the extent to which each sub-process achieves the desired capability level. The assessment results were used to analyze the gap between the average capability level and the desired capability level. The audit results provide recommendations for improving information technology governance in the studied domain. This recommendation aims to improve the capability level of each sub-process, so that organizations can more effectively provide IT services according to the ITIL V3 standard.

3.1. Service Portfolio Management

Service Portfolio Management is a sub-domain of Service Strategy. It represents the service provider's business value, encompassing business needs and their responses. Service Portfolio Management is responsible for managing the entire service lifecycle, ensuring that included services contribute to strategic objectives and meet agreed business outcomes. As a gatekeeper, Service Portfolio Management ensures that providers only deliver services that are relevant and aligned with business needs.

The following activities are performed to assess the capability level of Service Portfolio Management:

- 1) Determine assessment criteria covering key aspects of Service Portfolio Management.
- 2) Review documents and policies related to Service Portfolio Management to understand the organization's strategic objectives.
- 3) Identify and apply relevant metrics to measure Service Portfolio Management performance, such as service implementation success rate, project completion speed, and customer satisfaction level.
- 4) Conduct an audit of inactive services to understand the reasons for discontinuation and evaluate lessons learned for future improvements.
- 5) Identify findings and deficiencies from the assessment, and develop a comprehensive improvement plan to enhance service portfolio management capabilities.

Based on interviews conducted following the ITIL V3 Service Portfolio Management sub-process, the following findings emerged regarding the company's current condition:

- 1) Well-documented, compliant with best practices, and consistently implemented documentation reflects a high level of operational management capability.
- 2) Support service availability that meets or exceeds established targets, including response and recovery times, demonstrates a high level of efficient support delivery.
- 3) The ability to effectively recognize and assess various categories of incidents, as well as having structured procedures for handling various types of incidents, demonstrates strong incident management capabilities.

Based on the findings of the Service Portfolio Management sub-process shown in Table 1, it has the achievement of process attributes where at level 1: Pre-requisites which averages a value of 2. Then at Level 1.5: Management Intent which averages a value of 3. Then at Level 2: Process Capability which averages a value of 2. Then at Level 2.5: Internal Integration which averages a value of 2.5. Then at Level 3: Products / Output which averages a value of 2. Then at Level 3.5: Quality Control which averages a value of 2.5. Then at Level 4: Management Information which averages a value of 3. Then at Level 4.5: External Integration which averages a value of 2.5. Then at Level 5: Customer Interface which averages a value of 2.5.

Table 1. Results of the Service Portfolio Management Sub-Domain Interview

<i>Level 1: Pre-requisites</i>	1	2	3	4	5
Is there any IT SPM activity carried out within the organization (e.g., service status updates, service catalog publication, customer access to service catalog)?	F	F	N	N	N
<i>Has the service status classification been defined (e.g., required, defined, analyzed, approved, leased, designed, developed, built, tested, released, operated, retired)?</i>	F	F	N	N	N
<i>Level 1.5: Management Intent</i>	1	2	3	4	5
<i>Have the objectives and benefits of the IT service portfolio and IT SPM been communicated throughout the organization?</i>	F	F	F	N	N
<i>Has management provided policies, guidelines, and clearly defined the role of SPM?</i>	F	F	F	N	N
<i>Level 2: Process Capability</i>	1	2	3	4	5
<i>Have responsibilities for IT SPM activities been formally assigned?</i>	F	N	N	N	N
<i>Have information attributes of services been defined (e.g., description, value proposition, business case, priority, risk, offerings/packages, cost & pricing)?</i>	F	F	F	N	N
<i>Level 2.5: Internal Integration</i>	1	2	3	4	5
<i>Are periodic meetings conducted to review, coordinate, and evaluate all IT SPM activities (including related procedures)?</i>	F	F	F	N	N
<i>Is there a mechanism to ensure the completeness of the service portfolio across all IT SPM activities?</i>	F	F	N	N	N

<i>Level 3: Products / Output</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Are standard service reports prepared regularly?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Are reports on service portfolio management activities prepared and communicated periodically?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Level 3.5: Quality Control</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Are service portfolio quality criteria explicitly and formally defined?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Is there a designated role responsible for verifying IT SPM outputs?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Have personnel responsible for IT SPM activities received appropriate training?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Does the organization use specific tools or ownership methods to verify IT SPM outputs?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Level 4: Management Information</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Does the organization define and periodically review IT SPM objectives and targets?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Does IT SPM provide summary or recap reports of the service portfolio to management?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Level 4.5: External Integration</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Are regular meetings held with service owners?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Do all IT service owners notify the IT Service Portfolio Manager of any service changes?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Level 5: Customer Interface</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Do you ask customers whether IT SPM activities sufficiently support their business needs?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Do you ask customers whether they are satisfied with the services provided?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Is customer survey information incorporated into service improvement agendas, particularly demand management?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Do you monitor customer value perception regarding the services delivered?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>

The moderate scores in internal integration and customer interface indicate that although documentation practices are established, the coordination between IT services and business units is still fragmented. This suggests that service alignment has not yet

been fully institutionalized within the organization. Recommendations for Domain Portfolio Management Services

- 1) Develop a structured IT service portfolio that clearly defines all IT services supporting distribution operations such as inventory systems, logistics management systems, and customer order processing systems.
- 2) Establish formal procedures for evaluating new IT services based on business value, operational efficiency, and customer impact.
- 3) Implement periodic service portfolio reviews to ensure alignment between IT services and business strategy.
- 4) Improve documentation and communication of service portfolio information across organizational units.

3.2. Financial Management

Financial Management is a subdomain of Service Strategy. It manages the financial aspects related to the provision of IT services. This includes budget management, financial planning, financial performance measurement, and cost monitoring associated with the IT service lifecycle. The following activities are carried out for the Capability Level assessment in the Financial Management section:

- 1) Determines assessment criteria covering critical financial aspects, such as budget planning, financial performance measurement, and cost monitoring.
- 2) Measures appropriate metrics for measuring financial performance, such as ROI (Return on Investment), cost-effectiveness, and budget planning accuracy.
- 3) Evaluates the extent to which the budget is allocated and managed effectively to support the provision of IT services.
- 4) Identifies findings and deficiencies from the assessment, and develops a comprehensive improvement plan to enhance the service's financial management capabilities.

Based on interviews and observations conducted within the ITIL V3 Financial Management sub-process, the following audit findings, based on the company's current condition, are presented:

- 1) The ability to clearly understand and report budgets, costs, and expenses related to IT services.

- 2) Improved investment management with a focus on business value and optimal return on investment.
- 3) Continuous monitoring of expenditures and financial results enables continuous improvement.

Based on the findings in the Financial Management sub-process, as shown in Table 2, this sub-process achieved process attributes with an average score of 2.5 for Level 1: Pre-requisites. Level 1.5: Management Intent achieved an average score of 3. Level 2: Process Capability achieved an average score of 2.5. Level 2.5: Internal Integration achieved an average score of 2.5. Level 3: Products/Output achieved an average score of 2.5. Then at Level 3.5: Quality Control the average value reached 2. Then at Level 4: Management Information the average value reached 2. Then at Level 4.5: External Integration the average value reached 2. Then at Level 5: Customer Interface the average value reached 2.5.

Table 2. Results of the Financial Management Sub Domain Interview

<i>Level 1: Pre-requisites</i>	1	2	3	4	5
<i>Are financial management responsibilities formally assigned to specific personnel or functional units within the organization?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Has the organization established a defined budget to support IT service delivery?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Level 1.5: Management Intent</i>	1	2	3	4	5
<i>Have the goals and benefits of financial management been clearly communicated across the organization?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Are financial management objectives, particularly those related to IT expenditure and cost recovery mechanisms, explicitly defined?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Level 2: Process Capability</i>	1	2	3	4	5
<i>Is there a clearly defined process for managing service costs?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Do you have procedures in place for reporting revenue?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Level 2.5: Internal Integration</i>	1	2	3	4	5

<i>Does Financial Management ensure the accuracy and completeness of IT service expense and revenue reporting?</i>	F	F	F	N	N
<i>If charging mechanisms are applied, are the rates determined and regularly evaluated based on actual cost data and established pricing policies?</i>	F	F	N	N	N
Level 3: Products/Output	1	2	3	4	5
<i>Are periodic financial reports on expenses and revenues systematically generated?</i>	F	F	N	N	N
<i>Are customer billing processes conducted using centralized cost allocation and cost recovery mechanisms?</i>	F	F	F	N	N
Level 3.5: Quality Control	1	2	3	4	5
<i>Are clear quality standards and criteria established and implemented for financial management activities?</i>	F	F	F	N	N
<i>Have personnel responsible for financial management received adequate training?</i>	F	F	N	N	N
<i>Does the organization regularly define and review financial targets and performance objectives?</i>	F	F	N	N	N
<i>Are appropriate tools utilized to support financial management processes?</i>	F	F	F	N	N
Level 4: Management Information	1	2	3	4	5
<i>Does Financial Management provide projections of future IT service expenditures?</i>	F	F	N	N	N
<i>Are comparisons between planned and actual service costs regularly reported?</i>	F	F	N	N	N
<i>Does Financial Management provide information regarding financial targets for cost recovery?</i>	F	F	N	N	N
<i>Are forecasts prepared for future resource requirements and associated costs?</i>	F	F	N	N	N
Level 4.5: External Integration	1	2	3	4	5
<i>Are regular discussions conducted with stakeholders regarding financial management issues?</i>	F	F	N	N	N

<i>Does Financial Management coordinate with Change Management to control service costs?</i>	F	F	N	N	N
<i>Is there information exchange between Financial Management and Configuration Management related to asset procurement?</i>	F	F	N	N	N
<i>Does Financial Management collaborate with Configuration Management to estimate unit costs?</i>	F	F	N	N	N
Level 5: Customer Interface	1	2	3	4	5
<i>Are customers consulted to assess whether financial management activities support their business needs?</i>	F	F	F	N	N
<i>Is customer satisfaction regarding IT services regularly evaluated?</i>	F	F	N	N	N
<i>Is customer feedback incorporated into service improvement planning, particularly within demand management?</i>	F	F	F	N	N
<i>Does the organization monitor customer perceptions of value regarding delivered IT services?</i>	F	F	N	N	N

The relatively lower scores in management information and external integration reflect limited financial transparency and weak integration between financial processes and service management functions. Recommendations for Domain Financial Management

- 1) Implement structured cost management procedures for IT services to improve transparency in IT operational expenses.
- 2) Develop IT budgeting and financial planning mechanisms aligned with the company's strategic objectives.
- 3) Establish regular financial monitoring reports to evaluate the cost efficiency of IT service operations.
- 4) Strengthen coordination between IT management and financial departments to ensure effective IT investment decisions.

3.3. Demand Management

Demand Management is a subdomain of Service Strategy. This subdomain is crucial within the context of IT Service Management (ITSM). Its primary focus is on managing and understanding customer demand for IT services.

The following activities are carried out for Capability Level assessment in the Demand Management section:

- 1) Gathering comprehensive information about what customers want from a service perspective and how those services can add value to them.
- 2) Capacity and resource planning to ensure that the organization has sufficient capabilities to meet customer demand.
- 3) Continuous monitoring of demand levels, resource utilization, and service performance.
- 4) Involves a deep understanding of existing services and the potential for new service development.

Based on interviews and observations conducted within the ITIL V3 Demand Management sub-process, the following audit findings, based on the company's current situation, are as follows:

- 1) Improved capacity management, ensuring adequate resource availability to meet demand.
- 2) Deeper analysis of demand patterns, enabling the company to deliver services according to customer needs.
- 3) Ability to establish and manage service priorities based on urgency and business impact.

Based on the findings in Table 3 for the Demand Management sub-process, this sub-process has achieved process attributes with an average score of 3 for Level 1: Prerequisites. Level 1.5: Management Intent, with an average score of 2.5. Level 2: Process Capability, with an average score of 2.5. Then at Level 2.5: Internal Integration, the average score is 2.5. Then at Level 3: Products / Output, the average score is 2.5. Then at Level 3.5: Quality Control, the average score is 3. Then at Level 4: Management Information, the average score is 2. Then at Level 4.5: External Integration, the average score is 2. Then at Level 5: Customer Interface, the average score is 3.

Table 3. Interview Results from the Demand Management Sub Domain

<i>Level 1: Pre-requisites</i>	1	2	3	4	5
<i>Are demand management activities carried out within the organization (e.g., analysis of business activity patterns that influence user service consumption)?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>(misalnya analisis pola aktivitas bisnis, yang mempengaruhi konsumsi layanan pengguna)"</i>					
<i>Are there activities to monitor user service utilization?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Level 1.5: Management Intent</i>	1	2	3	4	5
<i>Have the objectives and benefits of demand management been communicated throughout the organization?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Is there a clear intent linking demand management activities to the organization's business strategy and objectives?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Level 2: Process Capability</i>	1	2	3	4	5
<i>Have responsibilities for demand management activities been formally defined?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Has a formal demand management process been defined and documented?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Are there mechanisms or procedures in place to monitor and review existing IT service demand patterns?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Has demand management identified patterns of business activity for each user profile?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Level 2.5: Internal Integration</i>	1	2	3	4	5
<i>Are periodic meetings held between strategic-level and tactical-level roles in demand management?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>
<i>Do tactical-level roles provide feedback on the outcomes of current differential charging implementation?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Level 3: Products / Output</i>	1	2	3	4	5
<i>Are user profile reports prepared periodically?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Are reports on business activity patterns generated regularly?</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>	<i>N</i>
<i>Are user profiles and their business activity patterns explicitly defined and documented?</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>N</i>	<i>N</i>

<i>Do you have mechanisms to update records for each implementation of differential charging?</i>	F	F	F	N	N
Level 3.5: Quality Control	1	2	3	4	5
<i>Are quality standards and criteria to verify demand management outputs explicitly defined and implemented?</i>	F	F	F	N	N
<i>Have personnel responsible for demand management activities received appropriate training?</i>	F	F	F	N	N
Level 4: Management Information	1	2	3	4	5
<i>Does the organization define and periodically review demand management objectives and targets?</i>	F	F	N	N	N
<i>Does demand management provide summary reports of the service portfolio to management?</i>	F	F	N	N	N
<i>Does demand management provide information regarding changes and planned service verification within the service portfolio?</i>	F	F	N	N	N
<i>Does demand management provide performance reports to management?</i>	F	F	N	N	N
Level 4.5: External Integration	1	2	3	4	5
<i>Does demand management exchange information with Financial Management regarding service package charging (cost and pricing)?</i>	F	F	F	N	N
<i>Does demand management exchange information with IT Service Portfolio Management to prioritize services?</i>	F	F	N	N	N
Level 5: Customer Interface	1	2	3	4	5
<i>Do you ask customers whether demand management activities adequately meet user demand?</i>	F	F	F	N	N
<i>Do you ask customers whether they are satisfied with the services provided?</i>	F	F	F	N	N
<i>Do you actively monitor customer satisfaction trends related to the fulfillment of their service requests?</i>	F	F	F	N	N
<i>Do you incorporate customer survey information into service improvement agendas, particularly in demand management?</i>	F	F	F	N	N

The higher scores in monitoring activities indicate operational awareness; however, the lack of forecasting capability highlights the organization's reactive rather than

proactive service strategy approach. Recommendations for Domain Demand Management

- 1) Implement demand analysis mechanisms to monitor patterns of IT service usage across operational departments.
- 2) Develop forecasting methods to predict future demand for IT services related to logistics, inventory, and customer service systems.
- 3) Improve coordination between IT units and business departments to ensure that IT services adequately support operational demand.
- 4) Establish customer feedback mechanisms to evaluate the effectiveness of IT service delivery.

3.4. GAP Analysis

The gap analysis indicates that the organization aims to improve distribution efficiency by reducing delivery time and increasing inventory accuracy. Currently, the average delivery time is 3 business days, and inventory accuracy is approximately 90%, with several items frequently experiencing stockouts. The desired condition is to reduce delivery time to 1–2 business days and increase inventory accuracy to at least 95%. The identified gaps in delivery time and inventory accuracy are directly related to weaknesses in IT service strategy implementation, particularly in demand forecasting (Demand Management) and service coordination (Service Portfolio Management). These findings confirm that limitations in IT Service Management (ITSM) processes contribute to operational inefficiencies. Inefficient logistics processes and suboptimal delivery route planning reflect weak coordination of IT-supported services, while the lack of real-time inventory monitoring and accurate demand forecasting indicates limitations in demand management practices. To address these gaps, the organization should improve service coordination by optimizing IT-supported logistics planning and implement real-time inventory monitoring systems supported by stronger demand forecasting capabilities.

3.5. Discussion

The assessment results show that the capability levels of the three evaluated sub-processes within the ITIL V3 Service Strategy domain—Service Portfolio Management, Financial Management, and Demand Management—generally fall between Level 2 and Level 3. This indicates that the organization has moved beyond an initial or ad hoc

stage and has already established a number of documented and repeatable practices in managing IT services [28]. In practical terms, the company has demonstrated awareness of the importance of IT service governance, supported by the existence of basic procedures, reporting mechanisms, and assigned responsibilities in several service strategy activities. However, the findings also show that these processes have not yet reached a fully integrated, managed, and strategically optimized state. This condition suggests that the organization is still in a transitional phase, where operational IT practices are present, but their alignment with broader business strategy remains limited. Such a pattern is consistent with earlier ITIL-based studies, which found that organizations often succeed first in documenting processes and establishing procedural control, but require additional organizational maturity to achieve cross-functional integration and strategic coordination across business units [29].

From the perspective of Service Portfolio Management, the results indicate that the company has made reasonable progress in documenting services, communicating several portfolio-related activities, and maintaining service-related reporting. These strengths are important because, in a spare-parts distribution environment, IT services must support operational continuity in inventory control, logistics coordination, and customer order processing. The existence of documented services and periodic reporting suggests that the company already recognizes the role of IT as a business enabler rather than merely a technical support function. Even so, the lower scores in internal integration, external integration, and customer interface reveal that service portfolio practices are not yet fully connected to the needs of business units and end users. This fragmented coordination may limit the organization's ability to ensure that each IT service contributes directly to distribution efficiency and customer responsiveness. In a business context where delayed information can affect stock availability, delivery lead time, and customer satisfaction, weak portfolio integration can reduce the strategic value of IT services. Therefore, the issue is not simply the availability of service documentation, but the extent to which the service portfolio is actively governed as a dynamic mechanism for aligning IT capabilities with changing business priorities [30].

The findings from the Financial Management sub-process present a similar pattern. The organization appears to have established a basic level of financial discipline through

budgeting procedures, cost reporting, and the identification of financial responsibilities. These results indicate that financial control over IT services is already present at an operational level, which is an important foundation for sustaining IT investments in a competitive distribution business. Proper budgeting and expenditure tracking are especially relevant in organizations that rely on information systems to manage supply chain activities, warehouse operations, and transaction processing, because inefficient IT spending can directly affect business performance. However, the relatively lower ratings in management information and external integration indicate that financial management remains largely administrative rather than strategic. The company still has limited capability in forecasting future IT expenditure, comparing planned and actual costs systematically, and integrating financial information with other ITSM processes such as change management, configuration management, and service portfolio decisions [31]. As a result, financial management may support control, but not yet decision-making. This limitation reduces the organization's ability to evaluate the business value of IT services in a forward-looking manner, which is essential for prioritizing investments that can improve delivery performance, inventory accuracy, and service reliability. In other words, the company manages costs, but it has not yet fully leveraged financial information as a strategic input for service improvement.

The results of the Demand Management assessment reveal a slightly stronger operational position compared with the other two sub-processes, particularly in relation to monitoring service usage, understanding current demand patterns, and maintaining customer-oriented interactions. This suggests that the company has developed a reasonable level of operational awareness regarding how IT services are consumed across the organization. For a spare-parts distribution company, this capability is highly relevant because service demand is often affected by fluctuations in customer orders, supplier cycles, stock movement, and logistics activity. The ability to monitor utilization and identify business activity patterns helps the organization respond to immediate operational requirements. Even so, the findings also show that demand management remains predominantly reactive rather than proactive. Although the company can observe and respond to existing service demand, it still lacks stronger forecasting capability, integrated planning mechanisms, and sufficient management reporting to anticipate future demand changes [32]. This weakness is particularly significant because the gap analysis demonstrated ongoing problems related to

delivery time and inventory accuracy. Without accurate demand forecasting and better integration with financial planning and service portfolio management, IT services may continue to react only after operational issues emerge, rather than preventing them in advance. Therefore, the organization needs to move from demand monitoring toward predictive and planning-oriented demand management practices that can better support business continuity and operational efficiency.

When viewed collectively, the three sub-processes show that the main challenge is not the absence of ITSM practices, but rather the limited integration among them. Service Portfolio Management, Financial Management, and Demand Management each show evidence of partial implementation, yet they do not function as a tightly connected strategic system. This fragmented condition has important implications for the organization's business performance. The gap analysis showed that the company seeks to reduce delivery time from approximately 3 business days to 1–2 business days and improve inventory accuracy from around 90% to at least 95%. These operational targets cannot be achieved solely through improvements in technical systems or isolated process documentation. They require a coordinated service strategy in which service demand forecasts inform service portfolio priorities, financial planning supports high-value IT investments, and management information is shared across functions to support decision-making. The current maturity level suggests that the organization has established the foundations for such coordination, but has not yet institutionalized it. This is why service inefficiencies, such as stockouts, suboptimal route planning, and limitations in real-time monitoring, continue to appear despite the existence of some formal IT practices.

These findings also reinforce the broader argument presented in the introduction that information system audits should not only identify weaknesses in technical implementation, but also examine the alignment between IT services and organizational objectives. In this study, the ITIL V3 Service Strategy framework proved useful for revealing that the company's weaknesses are concentrated at the strategic and integrative levels, rather than only at the procedural level. The organization appears relatively prepared to adopt ITIL principles in a basic form, but the deeper level of adoption—where processes are measured, coordinated, forecast-driven, and closely aligned with business value—still requires substantial development. This supports

previous studies arguing that ITIL adoption is often gradual and that real organizational benefits emerge when service management processes are consistently embedded across units and linked to strategic outcomes rather than treated as isolated administrative functions [33].

4. CONCLUSION

The evaluation of IT service strategy implementation using the ITIL V3 Service Strategy framework in a spare-parts distribution company indicates that the organization operates between capability level 2 and level 3, where processes are documented but not yet fully integrated. The main gaps are found in internal integration, service monitoring, and customer interface processes. To address these issues, improvements are required in service documentation, coordination between IT and business units, and the implementation of integrated monitoring mechanisms. These improvements are expected to enhance IT service governance and overall operational performance.

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