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Exploration of Inventory Management and Stock Control Practices in the Engineering and Construction Division: A Focus on Pelco I, Sto. Domingo, Mexico, Pampanga

Engr. John Leslie M. Dizon, PhD.[1], Engr. Allan E. David[2], Engr. Amelito M. Sison[3], Danilo T. Galang, LLB[4], Engr. Enrico M. Go[5]

ABSTRACT. Effective inventory management is crucial for optimizing organizational efficiency and performance. This study explores key themes in inventory management and **stock control practices** focusing on workforce planning, employee engagement, communication, risk management, modernization, and strategic planning. The findings indicate that strategic workforce planning is essential for ensuring adequate staffing levels and preventing delays while active employee engagement enhances accuracy and decision-making. Clear communication and interdepartmental collaboration are vital for coordinating efforts and aligning strategies. Risk management practices including **FIFO** implementation and regular audits are necessary to mitigate risks related to stockouts, damages, and theft. Modernizing **inventory management** systems and investing in advanced warehouse facilities improve data accuracy and operational efficiency. Strategic material planning ensures timely procurement and prevents shortages. The study concludes that integrating these elements leads to more efficient operations, better risk mitigation, and alignment with organizational goals, thereby enhancing overall performance and competitive advantage. Recommendations include enhancing workforce planning, increasing employee engagement, strengthening communication, improving risk management strategies, investing in modernization, and enhancing strategic planning and allocation. Implementing these recommendations can lead to significant improvements in inventory management practices and organizational efficiency.

KEYWORDS: Stocks Control Practices, Inventory Management, FIFO

I. INTRODUCTION

Businesses across industries rely on effective inventory management to reduce costs and improve customer service *(Mahajan, et al., 2024).* For state-owned monopolies offering public services, inventory management becomes more complex due to diverse inventory needs *(Yang, R., 2023; González Gómez, E. P., 2023).* Materials management, which focuses on planning and regulating material acquisition and use, is crucial for maintaining efficient operations *(González Gómez, E. P., 2023).* Regardless of the sector, effective systems for managing and controlling stock are integral to business success *(Zhyhula, S., 2023).* In distribution, manufacturing, and related businesses, well-managed inventory minimizes capital tied up in stock, satisfies customer needs, and controls costs *(Dana, et al., 2021; Gijsbrechts, et al., 2022).* While inventory management principles are straightforward (what to stock, how much, when to reorder), their practical implementation is complex. Factors like conflicting divisional objectives, uncertainties in supply and demand, and growing inventory volumes with diverse demand patterns complicate the decision-making process *(Ahlqvist, et al., 2020; Rosario, J., 2022).* Material classification is one strategy for optimizing inventory management to achieve reliable customer service at minimal cost *(Ajayi, et al., 2021).*

Public utilities, particularly those owned and controlled by governments, face additional challenges. Weak performance incentives, customer resistance to tariffs, and insufficient maintenance funding often hinder progress (Karpinska, et al., 2021). Since public property is collectively owned, accountability for inventory management may be lacking.

Inventory management is particularly crucial within the Engineering and Construction Division of public utilities, which is responsible for maintaining and expanding infrastructure to ensure reliable service delivery. Delays caused by insufficient materials or equipment can disrupt service and lead to significant revenue losses.

Electric cooperatives (ECs) in the Philippines, such as PELCO I, face unique challenges due to the decentralized nature of the country's power grid. These cooperatives must manage inventory to maintain service reliability amid limited budgets, infrastructure development needs, disaster preparedness, and corruption risks. Effective inventory management is essential

for maintaining infrastructure and ensuring a swift response to disruptions, such as those caused by typhoons or earthquakes.

The primary objective of inventory management is to optimize financial commitments by ensuring adequate stock levels that meet customer needs. This requires making strategic decisions about how much to order and when to reorder, balancing inventory costs with service levels. As the number of items with diverse demand patterns grows, this becomes increasingly complex *(Rosario, J., 2022).* Material classification helps streamline inventory management, making operations more efficient and cost-effective *(Ajayi, et al., 2021).*

This study focuses on PELCO I, a public utility company in Sto. Domingo, Mexico, Philippines, to explore the current inventory management and stock control practices within their Engineering and Construction Division. By identifying areas for improvement, the study aims to enhance efficiency, reduce costs, and improve service delivery. The findings may inform future policies and practices for public utilities, benefiting the wider community.

Background on Electric Distribution Utilities and PELCO I

Electric distribution utilities play a vital role in the power sector, delivering electricity from generation sources to residential, commercial, and industrial consumers. These utilities are responsible for maintaining the complex infrastructure required for reliable power delivery, including power lines, transformers, substations, and other equipment. Effective inventory management is a cornerstone of these operations.

The Philippines, a developing country, relies heavily on a decentralized network of electric cooperatives (ECs) like PELCO I. These ECs are essential for distributing electricity to local communities across the archipelago. PELCO I, specifically located in Sto. Domingo, Mexico, Pampanga, faces several unique challenges as a public utility operating in the Philippines. These include limited budgets that can constrain the ability to maintain optimal inventory levels, the ongoing need for infrastructure development, the importance of disaster preparedness in a region prone to natural disasters, and the potential for corruption risks that must be mitigated.

Pampanga is a rapidly industrializing and agricultural region, driving increased electricity demand. PELCO I must adapt its inventory management strategies to meet the evolving needs of its diverse customer base. Understanding these needs across residential, commercial, and industrial sectors is crucial for reliable electricity supply tailored to different segments. Additionally, government initiatives to improve inventory management within ECs can be a valuable resource for PELCO I as they seek to optimize their processes. PELCO I, currently utilize the FIFO (First-In, First-Out) method for its inventory management system.

The Engineering and Construction Division plays a critical role within PELCO I. This Division is responsible for designing, building, and maintaining the utility's vast infrastructure network. Their work encompasses everything from installing new power lines and transformers to repairing damage after natural disasters. The Division's efficient operation is directly tied to the utility's ability to provide reliable service to its customers. Effective inventory management within the Engineering and Construction Division is essential to ensure they have the necessary materials and equipment on hand to carry out their tasks quickly and without delays.

2. RESEARCH PARADIGM

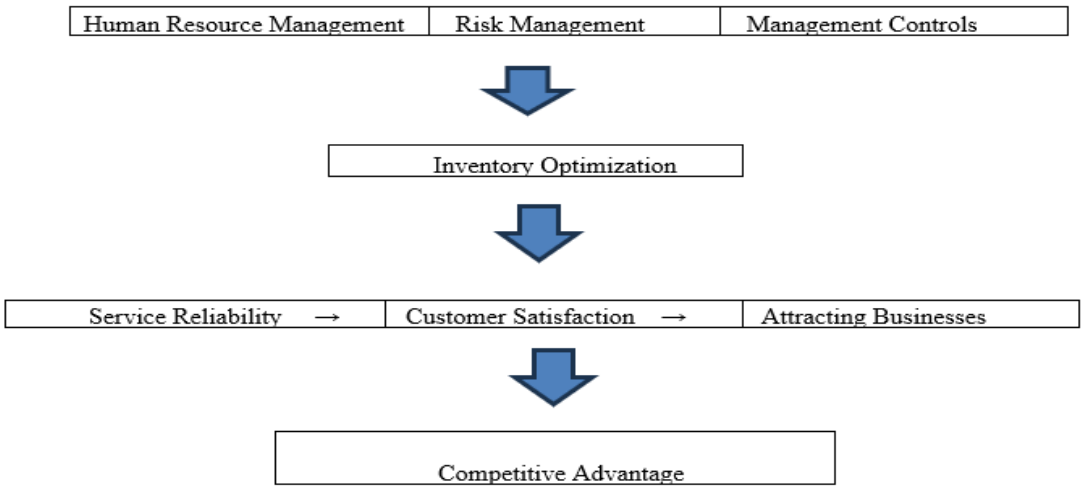


Figure 1: Research Paradigm

The research paradigm outlines the relationship between key variables in inventory management at PELCO I, a public utility providing electricity. It begins with the inputs human resource management, risk management, and inventory management controls which collectively influence inventory optimization. Optimized inventory ensures that the right materials are available at the right time, reducing disruptions in service delivery. This leads to service reliability, which is the intermediate outcome that directly impacts customer satisfaction and the ability to attract businesses. In turn, these outcomes contribute to a competitive advantage for PELCO I, distinguishing it as a reliable service provider in the marketplace. The paradigm integrates theories like Mintzberg's managerial roles and the Resource-Based View (RBV) to explain how PELCO I can leverage its internal resources to improve operational performance and achieve sustainable growth.

This study delves into the Exploration of Inventory Management and Stock Control Practices in The Engineering and Construction Division: A Focus on PELCO I, Sto. Domingo, Mexico, Pampanga. The study seeks to answer the following question:

1. What is the current inventory management and stock control practices in terms of human resource and risk management?
    1.1. Human Resource Management
    1. 2. Risk Management
2. What are the key Monitoring control and processes that contribute to effective inventory management at PELCO I be assessed? (Mintzberg Roles)
3. Does optimized inventory enable a more reliable electricity supply, creating a competitive advantage such as enhanced customer satisfaction and the ability to attract businesses to the region? (RBV)
5. What actionable strategies risk management plan can be made based on the findings of the study?

Scope and Delimitation of the Study

The scope of this research focuses exclusively on evaluating the inventory management practices within PELCO I's Engineering and Construction Division located in Sto. Domingo, Mexico, Pampanga, Philippines. This focus allows for a detailed examination of specific inventory management aspects, including inventory control, demand forecasting, supplier relationship management, cost optimization, and performance metrics. By concentrating on these areas, the study aims to provide a thorough analysis of how these practices impact operational efficiency and service delivery within the division. Furthermore, the investigation encompasses various interconnected departments such as Finance, Administration, Logistics and Purchasing, Operations, and Store Users, allowing for a comprehensive understanding of the collaborative nature of inventory management within the organization.

Delimitations of the study are crucial in defining its boundaries and ensuring a clear focus. The research is confined geographically to PELCO I, limiting the applicability of findings to this specific electric cooperative. Additionally, the departmental scope is narrowed to the Engineering and Construction Department meaning insights gained may not reflect practices in other divisions within PELCO I or in different organizations. The study will involve a sample size of 20 participants directly involved in inventory management which may limit the breadth of perspectives captured. This focused sampling is intended to provide a representative view but it inherently restricts the generalizability of the findings to a broader context.

Moreover, the study acknowledges certain limitations regarding data availability and access to resources. While the research aims to utilize internal data on inventory practices and performance metrics, confidentiality concerns may restrict access, necessitating reliance on interviews and surveys for information gathering. Additionally, time constraints may hinder the depth of investigation within each department, potentially affecting the comprehensiveness of insights. By defining these delimitations, the research seeks to maintain a focused and manageable scope while recognizing the potential impacts on the general applicability of its findings.

3. METHODS

This section contains the essential details on the research design, respondents, population and sampling, ethical consideration, instrumentation, data gathering procedure, and data analysis.

3.1 Research Design

These research study applied a **qualitative approach** within **phenomenological study** to explore the lived experiences of employees involved in inventory management and stock control at PELCO 1. This approach is well-suited for uncovering the complexities inherent in the engineering and construction sector, where inventory practices are often influenced by project timelines, material variability, and coordination challenges *(Kembro & Norrman, 2022).* By focusing on the perceptions and insights of staff the research aims to identify not just the challenges they face but also the innovative strategies they employ to optimize inventory processes. This qualitative lens allows for a nuanced understanding of how employees navigate the dynamic nature of their work environment, shedding light on areas that quantitative studies may overlook.

The **purposive sampling technique** used in this study strategically selects participants who share a common

connection to PELCO I and its inventory management systems. While the participants come from diverse backgrounds, the commonality among them is their direct or indirect involvement with the utility's operations and decision-making processes. This shared focus ensures that all respondents have relevant knowledge or experience related to inventory management within the context of a public utility service.

The participants are grouped based on their roles or perspectives that intersect with inventory management in PELCO I, ensuring they all provide insights that are pertinent to the research objectives. Specifically, the area office staff, managers, and finance personnel are directly engaged in managing and overseeing inventory operations, while industry experts, researchers, and PELCO I central management contribute their expertise on best practices and policy guidance. Other government agencies are also involved due to their regulatory or oversight roles in public utilities, providing an external but related perspective on how inventory management intersects with national and local policies. Finally, the customers represent the external viewpoint, particularly in how inventory management affects service delivery, reliability, and satisfaction.

This common thread—each participant's involvement with or impact on PELCO I's inventory management systems—ensures that the study collects focused, relevant data from various angles. By incorporating both internal and external stakeholders, the study reflects a comprehensive view of inventory practices while maintaining a strong emphasis on their direct connection to PELCO I's operations, service reliability, and customer satisfaction.

. To safeguard participant anonymity, identities were concealed, which fosters a more open dialogue and encourages honest feedback. As noted by *Ferraro et al. (2023),* maintaining confidentiality is vital in qualitative research, as it can lead to more reliable and valid findings by reducing social desirability bias and encouraging candid responses.

Table 1: Research Respondents/Participants Matrix

Group of Participants	**Number of Participants**
PELCO I Sto. Domingo Area Office Staff, Manager, and Finance Staff	5
Provincial Industry Experts, Researchers, and PELCO I Central Management	5
Other Government Agencies	5
Customers	5
TOTAL	**20**

3.2. Research Instruments

The research instrument is a semi-structured interview guide specifically designed to explore the inventory management and stock control practices at PELCO I. This approach allows for flexibility enabling researchers to probe deeper into responses while ensuring that all critical areas related to the Statement of the Problem are addressed. The guide includes targeted questions divided into four main problems. 1.) Human Resource Management, 2.) Risk Management, 3.) Monitoring Controls and Processes, and 4.) the impact of optimized inventory on competitive advantages. Each problem is carefully constructed to draw out qualitative insights that reflect the complexities of inventory management in the engineering and construction sectors. According to *Kembro and Norrman (2022),* the involvement of skilled personnel is vital for effective inventory practices and this research aims to highlight the roles and responsibilities of staff in this context. The semi-structured format of the interviews not only facilitates the collection of standardized data but also allows participants to articulate their experiences and perspectives which can lead to rich contextual findings. For example, questions focused on monitoring controls are informed by the work of *Ferraro et al. (2023),* emphasizing the need for robust tracking systems in inventory management. Furthermore, exploring how inventory optimization can enhance service reliability and customer satisfaction draws from insights by *Ammar et al. (2021) and Richards (2019).* By engaging various stakeholders, including management, finance staff, and frequent customers, the study aims to capture a comprehensive picture of the inventory management practices at PELCO I, ultimately contributing to the understanding of how these practices can translate into competitive advantages in the market. This methodological rigor enhances the study's reliability and validity making it a

valuable resource for both academic and practical applications in the field of supply chain management.

The development of the interview guide for the qualitative part of the study followed a structured process aimed at enhancing its validity and reliability. Initially, the researcher will draft the guide based on the Statement of the Problem and a comprehensive review of relevant theories and literature. To ensure that the questions are well-aligned with the research objectives and suitable for the target audience, expert validation will be conducted. This involves engaging specialists in research methodology, inventory management, and linguistics to critique the guide, ensuring that the questions are clear, unbiased, and comprehensively address the research goals. According to *Flick (2020),* involving experts in the validation process can significantly improve the instrument's quality and relevance.

In addition to expert feedback the study implemented a reliability testing through a pilot test involving a small representative sample of the target population. This step aims to identify any ambiguities or misinterpretations in the questions. Internal consistency will be evaluated using thematic analysis assessing how well various items intended to measure the same concept yield similar results. Test-retest reliability will further validate the instrument by administering the same guide to the same participants at two different times to measure consistency over time. The insights gained from these tests will lead to necessary revisions of the interview guide, ensuring that it meets the standards of clarity and relevance for effective data collection. This methodological rigor enhances the credibility of the research findings and supports the overall objective of improving inventory management practices within PELCO I.

3.3. Data Gathering Procedure

After securing all the necessary permits and complying with all the protocol for the exploration of inventory management and stock control practices at Pelco I in Sto. Domingo, Mexico, Pampanga, a qualitative data collection process will be utilized to gain in-depth insights into existing practices and challenges. Begin with conducting semi-structured interviews with key stakeholders, including inventory managers, project managers, and procurement officers. These interviews was focus on their experiences, perceptions, and strategies related to inventory management. Questions will delve into current practices, obstacles encountered in stock control, and the effectiveness of existing systems. Additionally, focus group discussions was held with frontline staff involved in inventory handling to gather diverse perspectives and foster open dialogue about daily operational challenges and potential improvements.

To further enrich the qualitative data site observations performed to assess physical inventory organization, storage conditions, and the efficiency of stock handling processes. This allowed for a real-time understanding of workflows and identify inefficiencies that may not be captured through interviews alone. Document analysis will also be included, reviewing existing inventory reports, procedures, and training materials to contextualize findings within the company's operational framework. Recent studies highlight the importance of qualitative insights in inventory management, emphasizing that understanding the human factors and operational dynamics is crucial for implementing effective stock control practices *(Aydin & Guner, 2021).* This qualitative approach will ensure a comprehensive understanding of Pelco I's inventory management practices, leading to well-informed recommendations for improvement.

Handling Non-Responses and Incomplete Responses

To effectively manage non-responses and incomplete responses during the data collection process at Pelco I series of targeted strategies was implemented. Proactive follow-up will be a key approach if initial interview requests go unanswered polite follow-up communications whether through email or phone calls will be employed to encourage participation. This gentle reminder can serve to reinforce the importance of their input and increase overall engagement. Additionally, offering alternative contact methods will provide participants with flexibility allowing them to choose between online or in-person interviews which can help accommodate individual preferences and improve response rates.

In cases where responses are incomplete partial data utilization were still be valuable. Careful notes was recorded during interviews capturing insights even when answers are not fully fleshed out. These partial responses will be analyzed within their context ensuring that the study reflects the available information while recognizing its limitations. In certain situations, imputation techniques may be considered particularly when substantial partial data reveals discernible patterns among other respondents. Techniques such as mean imputation where missing values are replaced with the average of existing responses will be employed judiciously with clear acknowledgment of their use in the analysis. This multifaceted approach will help ensure a robust dataset while addressing challenges related to non-responses and incomplete information.

3.4. Data Analysis

The datagathered responses from the participants for exploring inventory management and stock control practices at Pelco I. The researcher utilized thematic analysis to derive meaningful insights from interviews, focus groups, and observations. Initially, all transcribed interviews will undergo open coding to identify significant phrases and concepts. This coding process will help generate initial themes related to key

aspects such as efficiency in stock control, technology utilization, and communication challenges. By grouping these codes into broader themes, the analysis will reflect common challenges and effective practices highlighted by stakeholders thereby capturing the nuanced experiences within the organization. According to *Braun and Clarke (2006),* thematic analysis is particularly effective in qualitative research as it allows researchers to explore and interpret participants' perspectives leading to a deeper understanding of complex issues.

Furthermore, the analysis will be contextualized within Pelco I's operational environment considering factors like company culture and external market influences. This step is crucial as it enables the identification of how organizational dynamics shape inventory management practices. By reviewing the identified themes against the backdrop of industry standards the study aims to provide actionable recommendations for improvement. Research emphasizes that understanding the contextual factors influencing inventory practices can significantly enhance operational efficiency *(Aydin & Guner, 2021).* This comprehensive qualitative approach will ultimately support Pelco I in optimizing its inventory management strategies and addressing existing challenges effectively.

Ethical consideration is a set of guiding principles in research design and practices*, (Bhandari, 2002).* The ethical principles that the researchers include in this study are the following. First is informed consent. It is an ethical principle that provides information to the participants about the study and the risks and benefits of participating in the study. The researchers include the principle of confidentiality under the *Data Privacy Act of 2012*. The third principle is the potential harm of the study as it may include sensitive questions that prompt negative emotion. Lastly is the result of communication as the researchers conduct this study with honesty, reliability, credibility, and transparency. *(Bhandari, 2022).*

RESULTS AND DISCUSSION

The current inventory management and stock control practices in terms of human resource and risk management.

Table 2: ***Thematic Analysis of the Interview on PELCO 1 Human Resources Management***

Questions	Answers	Themes
How does Pelco 1 involve personnel from the Engineering and Construction Department in inventory management decisions? (e.g., ordering, allocation, etc.)	Pelco 1 engages its employees in inventory management decisions by consulting with the employees responsible for identifying material shortages. Training on proper monitoring of electrical materials and the use of material management system.	Enhancing Employee Involvement in Inventory Management Decisions
What training or skills development programs are offered to equip personnel with knowledge of inventory management practices?	Warehouse/supervisor maintain inventory records and ensure that inventory levels are within standards. And conduct regular inventory and reconcile some discrepancies Training on proper monitoring of electrical materials and the use of material management system. Management seminar, leadership, communication seminar. Work Order Training/Seminar with work life balance. Let employees attend sessions regarding inventory management.	Enhanced Training Programs for Effective Inventory Management
How does Pelco 1 ensure clear communication and collaboration between different departments (e.g., Procurement, Engineering) regarding inventory needs?	PelcoI ensures clear communication and collaboration between different departments through proper coordination and documentation of procedures and documents. Conduct regular meetings, having project-based collaboration. (CAPEX, COB). We usually held meetings involving different departments and personnel involved in inventory management. Additional Statement Additional manpower and optimization at Pelco 1, assist Inventory management system. besides from area Engineer. There must be additional personnel monitoring the stocks area	Enhancing Communication and Collaboration Across Departments Additional Themes Workforce Planning and Scalability

These themes reflect the current trends and practices in Human Resource Management related to inventory management. Effective workforce planning, employee involvement, communication, and training are all critical components that contribute to enhanced inventory management. Integrating recent research with practical insights from participants provides a comprehensive understanding of how organizations can improve their inventory management practices through strategic HRM approaches.

Table 3: Thematic Analysis of the Interview on PELCO 1 Risk Management

Questions	Answers	Themes
What are the primary risks associated with inventory management at Pelco 1? (e.g., stockouts, obsolescence, damage)	Stockouts, damages and theft (possible). Overstocking Pelco 1 must implement the first in first out strategy to avoid aging of the materials.	Mitigating Risks of Stockouts, Damages, and Theft
How does Pelco 1 identify and mitigate potential risks concerning inventory management?	Update existing AIMS program to include analytic/report on stock level and notifications for stocks nearing critical level. Monthly inventories, Regular Internal Auditing, Logistic Reviews. Set limits (low) on stocks.	Effective Monitoring and Management of Inventory Stocks
How are decisions made regarding safety stock levels for critical materials?	The warehouse personnel are in charged in the releasing, inventory, a house keeping of Pelco 1 warehouse. Coordinate & plan with purchasing to manage the stocks.	Optimizing Warehouse Operations and Housekeeping Practices

These themes reflect essential aspects of inventory management supported by recent research and practical insights from participants. Addressing risks related to stockouts, damages, and theft, implementing effective monitoring and management strategies, and optimizing warehouse operations are all critical for enhancing inventory management practices. Integrating these insights can lead to improved operational efficiency better inventory control and higher customer satisfaction.

The key Monitoring control and processes that contribute to effective inventory management at PELCO I be assessed? (Mintzberg Roles)

Table 4: Thematic Analysis of the Interview on Monitoring and Control Processes

Questions	Answers	Themes
Please describe the key processes involved in monitoring and controlling inventory levels at Pelco 1. (e.g., stock tracking, forecasting, reporting)	PelcoI ensures clear communication and collaboration between different departments through proper coordination and documentation of procedures and documents. Conduct regular meetings, having project-based collaboration. (CAPEX, COB).	Strengthening Communication and Collaboration Across Departments

	We usually held meetings involving different departments and personnel involved in inventory management.	
What inventory management software or systems are used at Pelco 1?	As assigned O&M div. Manager, we are required by the management to submit propose projects in our area coverage, so that they can forecast the materials needed. Planning, ordering, stocking, labeling & identification, allocation, and pulling, and crediting.	Forecasting Materials Based on Project Proposals Implementing and Sustaining Effective Inventory Management Practices
How frequently are inventory levels reviewed and adjusted based on demand fluctuations?	Every request of the area is being checked & evaluated by the technical services dept. Manager.	Evaluating Area Requests for Inventory Management

The themes and participant insights illustrate the essential aspects of monitoring and controlling inventory processes. Effective communication and collaboration, accurate forecasting based on project proposals, sustained inventory management practices, and thorough evaluation of area requests are crucial for monitoring and control processes. Implementing these strategies ensures optimized inventory levels, mitigates risks, and aligns with organizational goals, contributing to overall efficiency and effectiveness in inventory management of Pelco 1.

Does optimized inventory enable a more reliable electricity supply, creating a competitive advantage such as enhanced customer satisfaction and the ability to attract businesses to the region? (RBV)

Table 4: Thematic Analysis of the Interview Optimize inventory on Reliable Electricity Supply and Competitive Advantage

Questions	**Answers**	**Themes**
In your experience, how does PELCO 1 makes an effective inventory management contribute to a reliable electricity supply at Pelco 1?	Allocation of quantity for every project. A new and modernized system with better interface.	Effective Allocation and Planning of Inventory for Projects Adopting a Modernized Inventory Management System with Enhanced Interface
How do you make sure that there is a reliable electricity supply to maintain customer satisfaction in the region?	Yes, as part of Engineering and Construction Division of PELCOI supervises the Warehouse Section, therefore they are primarily responsible for the conduct of material planning to maintain the required inventory needed by the coop. Additionally, they also participate in specifying the technical requirements for materials and equipment needed for the construction projects of the coop.	Strategic Material Planning and Technical Specification for Construction Projects

	We are conducting budget deliberations and monthly reporting on inventory status.	Regular Budgeting and Reporting for Inventory Management
In your opinion, how does PELCO 1, optimized inventory management be a competitive advantage for Pelco 1 in attracting businesses to the region? And what are their possible actions to be taken?	A new and modernized system with better interface. Yes, build a warehouse with modern facilities	Adopting a Modernized Inventory Management System with Enhanced Interface Investing in Modern Warehouse Facilities

These themes highlight the importance of aligning inventory practices with project requirements, financial controls, and operational efficiency to achieve successful outcomes in inventory management.

What actionable strategies risk management plan can be made based on the findings of the study?

	Procedure 58 **INVENTORY AND RISK MANAGEMENT PLAN**	Date prepared : October 15, 2024 Date approved : Effectivity Date : Revision No. : Revision Date :
Prepared by: Engr. John Leslie M. Dizon David Proponents	Reviewed by: Engr. Amelito M. Sison TSD Manager	Approved by: Engr. Alla General Manager

1.0 **OBJECTIVES**

Develop guidelines for the whole process of PELCO I warehouse.

2.0 **SCOPE**

This procedure outlines the whole process at the PELCO 1 warehouse.

3.0 **REFERENCES**

3.1. ISO 9001:2015 Section 6.2.2, 7.1.5 8.2, 8.4, 8.6, 8.7 and 10.3

3.2. RA 9184

3.3. NEA Memo 2017-019-Revised Procurement Guidelines and Simplified

Bidding Procedures for Electric Cooperatives IRR-RA10531 (2017)

3.4. PELCO I Procedure 11: Procurement Process

4.0 **RESPONSIBILITIES AND AUTHORITIES**

Section Chief (Planning and Design, Construction, Warehouse), Division Manager (Engineering and Construction, Power System Maintenance, Technical Audit, TSD Manager, General Manager, BOD

5.0 **PROCESS**

5.1. Planning Stage

The process begins with selecting the project type, the Planning and Design Section Chief together with the Construction Section Chief shall plan the specific location for the CAPEX projects. The Warehouse Section Chief together with Planning and Design and Relaying and Metering Section Chief shall plan for the OPEX projects. While private projects involve consumers who request exclusive use of electrical facilities and equipment. CAPEX - refers to the ERC approved capital expenditures of the EC to be recovered through rate increase. In our case, CAPEX projects focus on enhancing our electrical infrastructure, which includes upgrading the capacity of substations, constructing new substations, and rehabilitating transmission and distribution lines. OPEX, or Operational Expenditure, refers to the ongoing expenses incurred in the daily operation and maintenance of a cooperative's assets. In our case, OPEX projects involve activities focused on maintaining electrical lines and other facilities to ensure their reliable operation. Private projects refer to initiatives specifically designed for private consumers who are the sole users of materials and equipment. In this case, these projects focus on providing tailored solutions to individual consumers

or businesses that require dedicated electrical infrastructure. ***Actual Utilization Based Planning*** for OPEX and private projects will be implemented and considered.

5.2. Project Process

5.2.1. CAPEX Project Process: The first step involves planning for a specific site. Necessary documentation is created, including staking sheets, the Cost Allocation Unit (CAU), and Bills of Materials (BOMs). Once these documents are prepared, a list of needed materials is compiled.

5.2.2. OPEX Project Process: The process starts by reviewing materials charged from previous years. An adjustment of 10% is added to the previous list, followed by the generation of a comprehensive list of materials needed for procurement.

5.2.3. Private Project Process: This process begins with listing materials charged from previous years, applying a 10% adjustment, and then creating a list of materials required for procurement.

5.3. Budget Allocation

Budget allocation is performed for CAPEX, OPEX, and Private projects to ensure sufficient resources are available for procurement and project execution.

5.4. Procurement Process

5.4.1 Public Bidding: This method shall be used for the procurement of contracts amounting to P2Million and above.

5.4.2 Sealed Canvass: Approved Budget of the Contract is P300,000.00 and above but below P2Million if there is no splitting of procurement.

5.4.3 Open Canvass: This mode of procurement can be resorted to when there is an unforeseen contingency requiring immediate purchase, provided, that amount shall not exceed P300 Thousand; provided further that at least three (3) price quotations from accredited suppliers shall be obtained.

5.5. Delivery Process

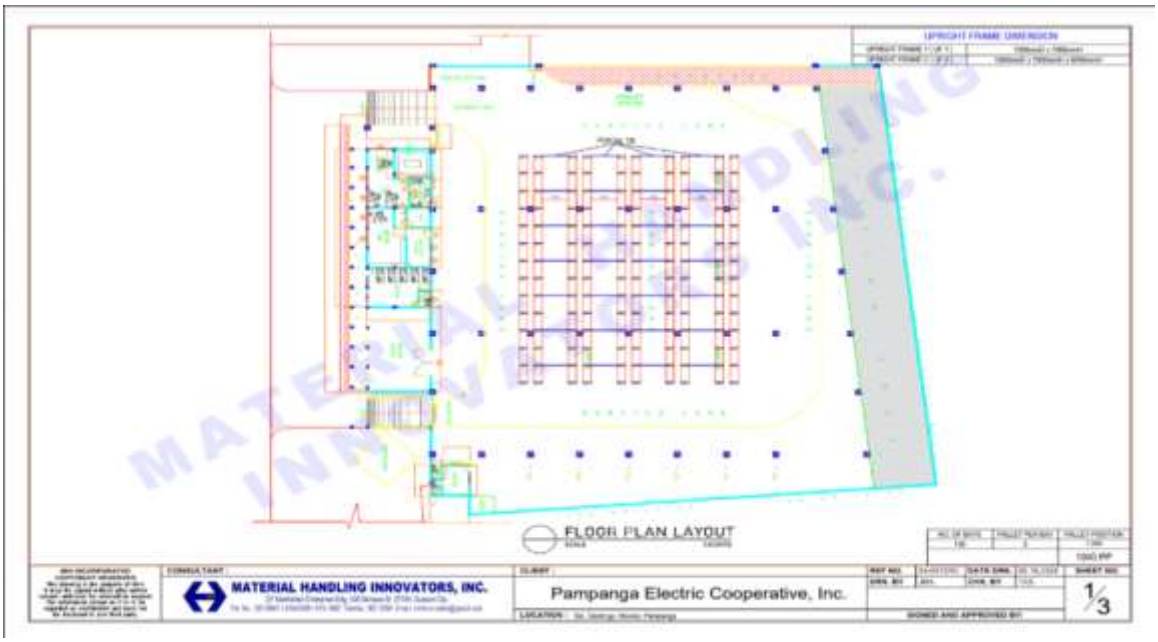
Once the procurement process is complete, the winning bidders will supply and deliver the items to the PELCO 1 warehouse.

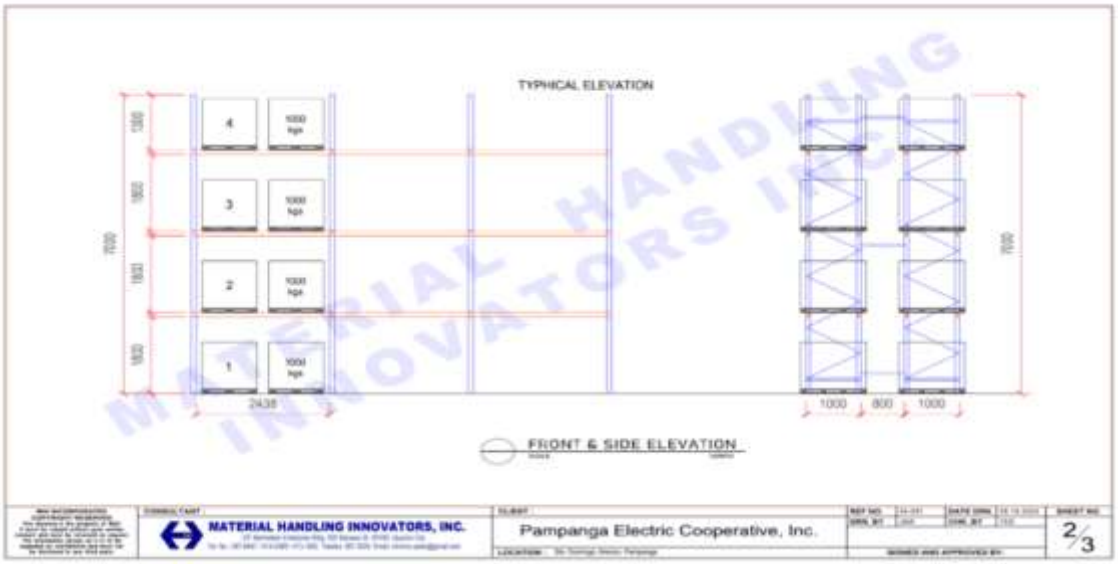
5.1. Receiving of Materials

Upon delivery, the Warehouse Section Chief is responsible for receiving the items. This includes conducting a thorough inspection to ensure all materials are in good condition and verifying the quantities against the procurement documents. Any discrepancies or issues must be documented and addressed promptly to maintain accurate inventory records. Received items/materials will be included in the database of the newly improved **PELCO I Asset Inventory Management System V2.0 -2024 (AIMS V2.0 - 2024).**

5.2. Stocking Process

Once materials are received, they will be organized and stored using the new PELCO I racking system. This system is designed to stock materials by project type—CAPEX, OPEX, and Private—ensuring each project's materials are stored separately. Proper tagging and material coding/identification will be used. This organization enhances efficiency and streamlines inventory management, facilitating quicker retrieval as needed.





5.8. Releasing Process

5.8.1 FIFO (First In, First Out): This method ensures that the oldest stock is used first, minimizing the risk of materials becoming obsolete.

5.8.2 LIFO (Last In, First Out): Under this system, the most recently received items are used first, which can be useful for certain materials with specific shelf lives.

5.8.3. Two Bin System: This method involves maintaining two bins for each material. When the first bin is emptied, a reorder is triggered before switching to the second bin, ensuring continuous supply, and minimizing stockouts.

Introduction:

- The two-bin system is a smart way of continuously monitoring the order point. It is a simple self-operating perpetual inventory system.
- This inventory control method is mainly used for small or low-value items.

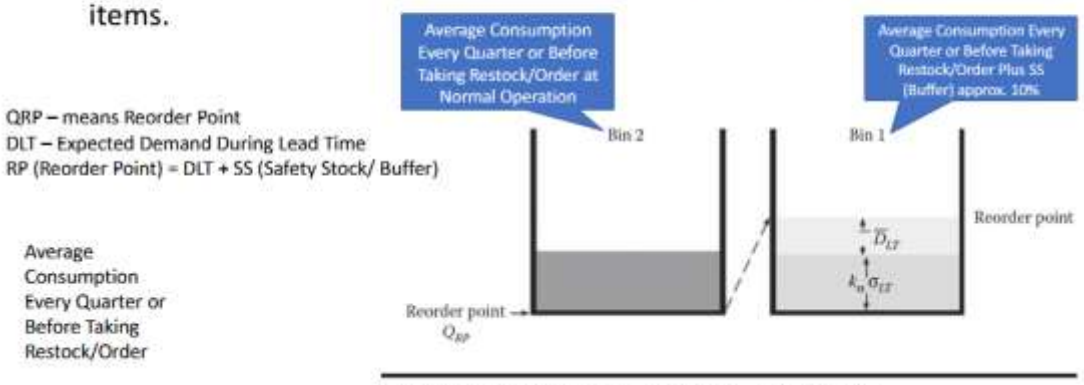


Figure 5.11 Two-bin perpetual inventory control system.

Procedure:

1. Two bins are marked 1 and 2.
2. First, Bin 1 is filled to the RP level. Bin 1 now contains units to cover expected demand in the LT period plus SS.
3. The bottom of Bin 2 is labeled the RP.
4. Bin 2 is emptied, the number of units remaining are all in Bin 1 and they are the RP in number.
5. Withdrawals are made from Bin 2 first.
6. When Bin 2 is depleted, an order is placed for the EOQ, and further units are taken from Bin 1. Each time Bin 2 is emptied, a new order is placed—it is equivalent to reaching the RP.

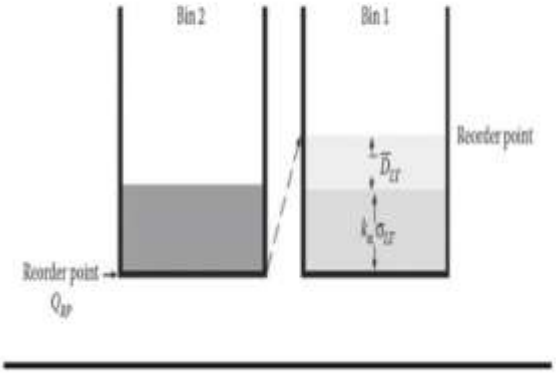


Figure 5.11 Two-bin perpetual inventory control system.

5.9 Inventory Monitoring and Control

Continuous monitoring and control of inventory levels will be implemented to ensure optimal stock levels are maintained for all materials, reducing risks of stockouts and overstock situations.

5.9.1 Inventory Committee

Chairperson – Warehouse Section Chief
Member 1 – Planning and Design Section Chief
Member 2 – Construction Section Chief
Member 3 – Warehouse Aide
Witness – Technical Auditor

5.9.2. Responsibilities

Chairperson –Prepare Inventory Report.
Member 1 – Assistance during Actual Inventory
Member 2 – Assistance during Actual Inventory
Member 3 – Documentation
Witness – Validation of Inventory Report

5.10. Frequency of Inventory

Inventory checks will be conducted **monthly (every 1st week of each month)** to assess stock levels, verify accuracy, and ensure that materials are being managed effectively.

5.11. Collaboration with Internal Audit

Inventory assessments will be performed in collaboration with the Technical Audit Division Manager to ensure compliance, accuracy, and accountability in inventory management practices

5.12 Risk Related to Inventory

Potential risks associated with inventory management include:

5.12.1 Stockout: Insufficient stock to meet supply demands
5.12.2 Overstock: Excess stock beyond demand.
5.12.3 Damage/Obsolescence: Materials damaged due to human error or outdated from prolonged storage.

5.12.4 Theft: Loss of materials due to negligence or lack of security.
5.12.5 Wrong Specs Delivered: Receipt of incorrect items from suppliers.
5.12.6 Limited Manpower: Need for additional staff due to high workload.
5.12.7 Lack of Training: Insufficient training for personnel handling inventory.
5.12.8 Discrepancies on Inventory: occurs when the inventory recorded in the warehouse management system (WMS) or your inventory management system differs from what's actually on the shelf.

5.13 Risk Management

To mitigate these risks, the following strategies will be employed:
5.13.1 Stockout: Implement close monitoring and emergency procurement strategies, along with repeat orders.
5.13.2 Stock (100% Supply): All necessary materials are fully stocked, ensuring uninterrupted operations.
5.13.3 Low Stock (40%): Materials are nearing a threshold that requires reordering to avoid potential shortages.
5.13.4 After determining the stock levels during inventory and finding that materials are at a low stock level, it is crucial to initiate a reorder process to replenish the inventory.

Low stock levels often result from the difficulty in accurately forecasting materials for OPEX and private projects, particularly when it's hard to predict when issues may arise. Fluctuating demand, changes in project scope, and external factors complicate predictions, leading to potential disruptions in operations and project timelines. Placing repeat orders can streamline the procurement process, especially during the bidding phase, thereby reducing the time required to replenish materials and minimizing the risk of stockouts.
5.13.5 Critical Stock (10%): Inventory is significantly low and immediate action is needed to replenish before stockouts occur.
5.13.6 No Stock (0%): Complete depletion of materials hinders operations, leading to potential delays and consumer dissatisfaction.
5.13.7 Overstock: Utilize accurate forecasting and historical data for material usage.
5.13.8 Damage/Obsolescence: Apply the FIFO method to reduce the risk of obsolescence.
5.13.9 Theft: Install CCTVs and conduct close monitoring of the inventory system.
5.13. 10 Limited Manpower: Hire additional staff as needed to manage workload effectively.

Control No. PM11– 10

5.13.1.1.Lack of Training: Schedule regular training sessions for new personnel to enhance their skills and knowledge.
5.13.1.2 Discrepancies on Inventory: Dealing with discrepancies in inventory can be challenging, but here are some steps to address the issue effectively:
5.13.1.3. Identify the Discrepancy: Start by pinpointing where the discrepancies occur. This could be between physical counts and recorded data, or discrepancies between different locations.

5.1.1.1 Implement Controls: Establish better inventory management practices, such as:

- Regular audits and cycle counts
- Enhanced training for staff handling inventory
- Use of inventory management software to track items accurately

5.1.1.2 Document Findings: Keep detailed records of the discrepancies, the investigation process, and any corrective actions taken. This documentation can be helpful for future reference and accountability.

5.1.1.3 Adjust Inventory Records: Once discrepancies are verified, make necessary adjustments to your inventory records to reflect the accurate counts.

5.1.1.4 Communicate with Team: Ensure that all team members involved in inventory management are aware of the discrepancies and understand any new procedures implemented to prevent future issues.

5.1.1.5 Monitor Trends: After resolving the immediate issue, monitor inventory trends over time to identify any recurring problems that may need further attention.

5.1.1.6 Review Supplier Relationships: If discrepancies are frequent, review your suppliers and shipping processes to ensure reliable inventory levels. By taking these steps, you can minimize discrepancies and improve overall inventory accuracy.

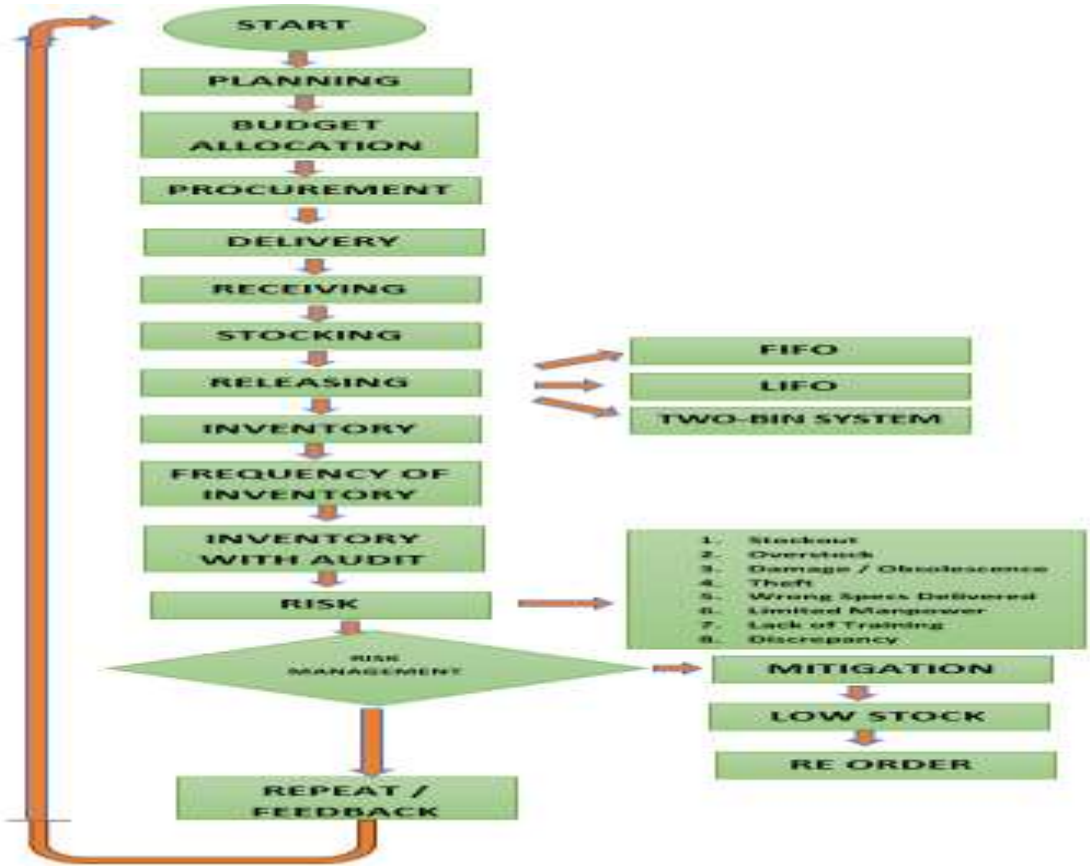
5.1.2 Monitoring and Review:

5.1.2.1 Set up KPIs to measure inventory performance (e.g., turnover rate, carrying costs).
5.1.2.2 Regularly review and update the inventory and risk management plan based on changing circumstances or new risks.
5.1.3 Documentation
Keep detailed records of all procedures, risk assessments, and actions taken. This documentation will support audits and help refine processes over time.

5.1.4 Continuous Improvement

Encourage feedback from team members to identify areas for improvement in inventory and risk management.

FLOWCHART



6.0 RECORDS

6.1 Inventory Report Form

Conclusion and Recommendation

The current inventory management and stock control practices in terms of human resource and risk management.

Human Resources

Pelco 1's approach to inventory management reflects a comprehensive and proactive strategy centered around human resources. By involving key personnel from Engineering and Construction in inventory decision-making, the company ensures that stock management is closely aligned with operational needs. The emphasis on both technical and soft skills training equips employees with the necessary tools to address inventory challenges effectively while cross-departmental collaboration strengthens communication and alignment across the organization. Additionally, Pelco 1's recognition of the need for workforce scalability demonstrates a forward-thinking approach ensuring that inventory management can keep pace with the company's growth. Overall, Pelco 1's human resource management practices in inventory control are well-structured to support efficient operations, foster employee development, and ensure long-term scalability.

Risk Management

Pelco 1 has developed a robust risk management framework for its inventory control system addressing key risks such as stockouts, material damage, and theft through strategic measures. The adoption of methods like First In, First Out (FIFO) and enhancements to the AIMS program for better analytics and stock notifications are key elements in minimizing material aging and overstocking. Regular inventories, internal audits, and logistics reviews ensure close monitoring of stock levels and help prevent potential risks from materializing.

Warehouse personnel play a critical role in managing inventory with responsibility for the release, organization, and upkeep of stock. The close coordination with the purchasing team further ensures that critical materials are available when needed maintaining proper stock levels and optimizing safety stock for operational continuity. These well-established risk management practices not only safeguard against disruptions

but also improve warehouse efficiency, inventory control, and customer satisfaction. In summary, Pelco 1's proactive approach to inventory risk management allows the company to effectively mitigate potential issues, enhance operational efficiency, and maintain smooth operations even in the face of challenges.

The key Monitoring control and processes that contribute to effective inventory management at PELCO I be assessed? (Mintzberg Roles)

Pelco 1 has developed a structured and collaborative approach to inventory management, emphasizing strong cross-departmental communication and effective forecasting. By involving key personnel from various departments in inventory decisions and ensuring regular reviews of stock levels the company aligns its inventory management practices with operational needs and project requirements. The integration of regular inventory checks, internal audits, and enhanced forecasting techniques further strengthens the company's ability to maintain optimal stock levels while mitigating potential risks. Through these practices, Pelco 1 ensures that its inventory management system is both efficient and responsive to the dynamic needs of the organization. Ultimately, Pelco 1's holistic approach to inventory control which combines clear procedures, active monitoring, and interdepartmental collaboration contributes significantly to improved operational efficiency and organizational effectiveness.

Does optimized inventory enable a more reliable electricity supply, creating a competitive advantage such as enhanced customer satisfaction and the ability to attract businesses to the region? (RBV)

Optimized inventory management at Pelco 1 plays a pivotal role in ensuring a reliable electricity supply which in turn contributes to a significant competitive advantage. By effectively planning and allocating resources the company ensures that the right materials are available for both current and future projects minimizing the risk of shortages or delays that could disrupt operations. The strategic involvement of the Engineering and Construction Division, alongside regular budget reviews and inventory reports, helps maintain optimal stock levels that align with operational demands.

Furthermore, Pelco 1's investment in modernizing its inventory management system and warehouse facilities strengthens its ability to respond to changing inventory demands quickly and efficiently. These enhancements not only improve operational efficiency but also help maintain a consistent and reliable electricity supply which is crucial for meeting customer expectations. By optimizing inventory management, Pelco 1 demonstrates its capability to meet customer needs with reliability and consistency creating a competitive advantage that attracts businesses to the region. This ability to offer efficient uninterrupted service enhances customer satisfaction and positions Pelco 1 as a leader in the energy sector, further reinforcing its market position and fostering business growth. Through the lens of the Resource-Based View (RBV), Pelco 1's optimized inventory management represents a valuable and unique resource that contributes to long-term strategic success.

RECOMMENDATIONS

Based on the analysis of inventory management and stock control practices the following recommendations are proposed to enhance overall efficiency and effectiveness:

Human Resource Management

Based on the findings regarding Pelco 1's human resource and risk management practices in inventory control, the following recommendations are made to further enhance the company's inventory management strategy:

Enhance Cross-Departmental Collaboration and Communication - While Pelco 1 already emphasizes collaboration across departments, continued investment in regular inter-departmental meetings and cross-functional project teams will strengthen communication and ensure that inventory decisions remain aligned with evolving operational needs. Further formalizing and expanding this practice, especially as the company scales, could help mitigate potential gaps in communication, particularly as inventory demands increase.

Expand Training and Development Programs - Although Pelco 1 already offers a blend of technical and soft skills training there is an opportunity to deepen this training further by incorporating more advanced inventory management tools and techniques. This could include training on predictive analytics for forecasting demand, advanced material tracking systems, or more specialized leadership programs for inventory managers. Additionally, offering periodic refresher courses would ensure that the workforce stays up-to-date on the latest inventory management practices and technology.

Invest in Scalable Inventory Management Technologies - Given the company's recognition of the need for workforce scalability it is recommended that Pelco 1 continue to invest in modern inventory management technologies such as AI-powered analytics or automated stock tracking systems. These technologies will help streamline inventory processes, increase accuracy, and allow for more agile responses to fluctuating inventory demands as the company grows.

Strengthen Risk Management Strategies - Pelco 1 already employs a range of risk management practices to address issues like stockouts, damage, and theft. However, it would be

beneficial to conduct periodic risk assessments to identify emerging risks and ensure that mitigation strategies are updated accordingly. Additionally, the company could explore implementing real-time monitoring tools to better track inventory movements and reduce the likelihood of errors or discrepancies in stock levels.

Increase Focus on Workforce Scalability - As Pelco 1 continues to expand scaling the workforce involved in inventory management is essential to meeting growing demands. Expanding recruitment efforts to include more specialized inventory management roles or investing in temporary or contract staff during peak periods could ensure that inventory management remains efficient even during times of growth or high demand.

Continuous Review of Inventory Optimization Strategies - As operational needs and market conditions evolve, Pelco 1 should continue to review and refine its inventory management practices to ensure they remain optimized. This could include conducting regular audits of the inventory system, soliciting feedback from employees at all levels, and analyzing performance metrics to identify areas for improvement.

Risk Management

Strengthen Real-Time Monitoring and Analytics Tools - While the AIMS program has been enhanced for better analytics and stock notifications, further investment in real-time monitoring systems could improve responsiveness. Implementing advanced technologies such as IoT-enabled sensors or RFID tracking could provide more precise, real-time data on inventory movement and stock levels. This would help reduce human error, minimize stockouts, and better detect discrepancies caused by theft or damage.

Expand Preventive Maintenance and Quality Control - To further mitigate risks related to material damage, Pelco 1 could introduce more preventive maintenance protocols for stored materials and equipment. Regular inspections of materials, especially those sensitive to environmental conditions (e.g., electrical components), can prevent material degradation before it impacts project timelines. Additionally, implementing stricter quality control measures for incoming inventory would help ensure that damaged or substandard materials are identified before they reach the warehouse or job site.

Increase Cross-Training of Warehouse Personnel - Warehouse personnel are critical in managing stock, and ensuring they are well-trained to handle inventory effectively is key. Expanding cross-training initiatives so that employees can perform multiple functions (e.g., stock release, inventory audits, and damage control) can improve efficiency and responsiveness. Cross-training also enhances workforce flexibility allowing for better coverage during periods of high demand or employee absence.

Enhanced Collaboration with Suppliers and Vendors - Strengthening partnerships with suppliers and vendors can further minimize risks of stockouts and delays in material procurement. Pelco 1 could work with its suppliers to implement just-in-time inventory practices or establish safety stock agreements ensuring that critical materials are available when needed without overstocking. Furthermore, maintaining open channels of communication with suppliers can help anticipate potential supply chain disruptions and adjust inventory levels proactively.

Develop a Comprehensive Risk Mitigation Framework - While current risk management practices address stockouts, material damage, and theft, Pelco 1 could benefit from developing a more comprehensive risk mitigation framework. This framework would include detailed contingency plans for supply chain disruptions, inventory shortfalls, and external events such as market volatility or regulatory changes. Regularly updating the risk framework based on emerging trends and potential vulnerabilities would keep Pelco 1 well-prepared to handle unexpected challenges.

Invest in Advanced Forecasting and Demand Planning - Although Pelco 1 uses project proposals from the O&M division for forecasting materials, adopting more advanced demand planning tools could improve accuracy and help avoid both stockouts and overstocking. Utilizing machine learning algorithms for predictive analytics could improve demand forecasting by identifying trends based on historical data and external factors (e.g., seasonal demand, regional development). This would enhance inventory optimization and resource allocation.

Continuous Evaluation and Improvement of Risk Management Practices - Finally, it is essential that Pelco 1 continuously evaluates and refines its risk management practices. Conducting regular risk assessments and internal audits, as well as gathering feedback from warehouse staff and department managers, can identify potential gaps in the current system. This iterative approach will ensure that risk management processes evolve in line with changing operational needs and external conditions.

The key Monitoring control and processes that contribute to effective inventory management at PELCO I be assessed? (Mintzberg Roles)

Pelco 1's approach to inventory management effectively integrates key monitoring controls and processes that align with the company's operational needs and ensure that stock levels remain optimal. Based on an assessment of these practices through the lens of Mintzberg's managerial roles, the following

recommendations can further strengthen Pelco 1's inventory management system:

Enhance Data-Driven Decision Making (Informational Role - Monitor & Disseminator) - Pelco 1's focus on regular inventory checks, internal audits, and enhanced forecasting techniques is commendable. To further improve the monitoring and decision-making process, the company should consider adopting more advanced data analytics and business intelligence tools. By leveraging predictive analytics, Pelco 1 can better anticipate stock needs based on historical trends, project demands, and external factors. This would allow for more proactive decision-making and the ability to prevent potential inventory issues before they arise.

Strengthen Leadership in Cross-Departmental Collaboration (Interpersonal Role - Leader & Liaison) - The company already emphasizes cross-departmental collaboration, but it would be beneficial to formalize this further by appointing dedicated inventory management leaders within each department. These leaders could ensure that inventory decisions are aligned with each department's goals, while fostering stronger communication between teams. This would ensure that inventory management remains agile and responsive to the specific needs of various departments, such as Engineering, Procurement, and Operations.

Implement Real-Time Inventory Monitoring (Decisional Role - Resource Allocator) - Although Pelco 1 conducts regular reviews of stock levels, implementing real-time inventory monitoring tools (e.g., RFID, IoT sensors) would allow the company to make more immediate decisions regarding stock allocation. This could reduce delays and minimize the impact of shortages or excess stock. By leveraging technology for real-time tracking, Pelco 1 can optimize resource allocation and more effectively manage materials, leading to greater efficiency across departments.

Increase Employee Training on Forecasting and Demand Planning (Interpersonal Role - Leader) - Pelco 1's emphasis on training is a strong foundation, but to enhance forecasting accuracy, the company should invest in specialized training for employees in departments involved in demand planning. Training in advanced forecasting methodologies and tools (e.g., machine learning algorithms, time-series analysis) would help staff better predict demand fluctuations and prepare inventory accordingly. This would lead to more precise inventory decisions and reduce the risk of overstocking or stockouts.

Regularly Update Inventory Control Procedures (Decisional Role - Disturbance Handler) - As inventory demands change and operational needs evolve, it is critical for Pelco 1 to regularly review and update its inventory control procedures. This could involve soliciting feedback from employees, conducting annual process reviews, and adapting policies to reflect new challenges, such as changes in project scope or supply chain disruptions. By staying flexible and adaptable, Pelco 1 can continue to manage its inventory effectively even as external factors evolve.

Foster a Continuous Improvement Culture (Informational Role - Monitor & Disseminator) - Pelco 1 should encourage a culture of continuous improvement by actively seeking feedback from all levels of staff involved in inventory management. Regularly assessing performance metrics and conducting post-project reviews will help identify inefficiencies and areas for improvement. This feedback loop will not only ensure that inventory control practices remain up to date, but also empower employees to contribute ideas for optimizing processes.

Utilize Performance Metrics for Accountability (Decisional Role - Resource Allocator) - To ensure that inventory practices are aligned with organizational goals, Pelco 1 should continue to use performance metrics (e.g., stock turnover rates, inventory accuracy, lead times) to measure success. These metrics should be communicated regularly to all relevant departments, fostering accountability. Managers should use these metrics to allocate resources effectively, make data-driven decisions, and identify areas where further efficiencies can be gained.

Does optimized inventory enable a more reliable electricity supply, creating a competitive advantage such as enhanced customer satisfaction and the ability to attract businesses to the region? (RBV)

Based on the findings and conclusion of the study the following recommendations are made to further leverage inventory optimization as a resource for Pelco 1's long-term strategic success:

Leverage Inventory Optimization as a Core Competency - Pelco 1 should continue to position inventory management as a core competency that differentiates it from competitors. This can be achieved by further enhancing inventory forecasting, implementing cutting-edge inventory management technologies, and optimizing stock replenishment processes. By continuously improving its inventory control practices, Pelco 1 can maintain the reliability of its electricity supply which is a key driver of customer satisfaction and business growth.

Develop Strategic Partnerships with Key Suppliers - To further optimize inventory and ensure a continuous, reliable electricity supply, Pelco 1 should explore deeper collaboration with key suppliers. Strategic partnerships could include agreements that provide flexible, just-in-time inventory, or even vendor-managed inventory (VMI) arrangements. This would ensure that critical materials are always available when needed,

preventing delays and reinforcing the company's reliability in providing uninterrupted services.

Invest in Predictive Analytics for Inventory Forecasting - Pelco 1 can enhance its competitive advantage by investing in predictive analytics and machine learning tools to forecast inventory needs more accurately. Advanced forecasting methods can reduce the risk of stockouts or overstocking, ensuring that inventory is closely aligned with project schedules and operational demands. By anticipating fluctuations in demand the company can further optimize its inventory levels, avoid disruptions, and enhance service reliability.

Enhance Transparency and Communication Across the Value Chain - Improved communication with customers, suppliers, and internal teams can further enhance inventory management efficiency. Pelco 1 should consider integrating its inventory management system with its broader supply chain and customer service platforms. This would allow for greater transparency in inventory levels, project timelines, and material availability, helping to build trust with customers and attract new business by demonstrating responsiveness and reliability.

Focus on Continuous Improvement and Innovation - Pelco 1 should foster a culture of continuous improvement by regularly reviewing inventory management practices, soliciting employee feedback, and exploring innovative inventory management solutions. By staying ahead of industry trends and adopting new technologies (e.g., blockchain for transparency or robotics for warehouse management), the company can not only enhance operational efficiency but also further solidify its position as a leader in the energy sector.

Expand Inventory Capacity and Scalability to Meet Growing Demand - As Pelco 1 continues to grow, so will the demand for inventory. The company should expand its inventory capacity by investing in larger or more strategically located warehouses and incorporating scalable solutions into its inventory management system. This would ensure that Pelco 1 can meet growing demand efficiently while maintaining the high levels of service that customers expect.

Capitalize on Sustainability and Green Inventory Practices - In line with global trends towards sustainability, Pelco 1 could explore environmentally friendly inventory practices. This could include the sourcing of materials from sustainable suppliers, reducing waste in inventory processes, and optimizing transportation to lower carbon emissions. These practices not only align with broader corporate social responsibility (CSR) goals but also provide a marketable competitive advantage, particularly in regions where sustainability is a key factor in business decisions.

Branding and Marketing Based on Reliability and Inventory Management - Pelco 1 should promote its advanced inventory management practices as a key part of its brand. By marketing the company's ability to consistently meet customer needs without service disruptions, Pelco 1 can attract new business and position itself as the most reliable energy provider in the region. Highlighting the company's efficient and responsive inventory management could be a powerful differentiator, helping to attract businesses to the region and enhancing customer loyalty.

ACTION PLAN

Objective	Actions	Responsible Party	Timeline	Performance Metric
Enhance Workforce Planning and Scalability	Conduct Workforce Assessment Evaluate current staffing levels and identify gaps.	HR Department	1 month	Completed assessment report
	Develop Staffing Plan Create a scalable staffing plan with additional roles.	HR Department and Inventory Management Team	2 months	Approved staffing plan
	Recruit and Train New Personnel Recruit staff and provide inventory management training.	HR Department and Inventory Management Team	3 months	Number of new hires trained and integrated

Objective	Actions	Responsible Party	Timeline	Performance Metric
Increase Employee Involvement in Inventory Decisions	Establish Feedback Mechanisms Implement regular feedback sessions with inventory staff.	Inventory Management Team	Ongoing, starting in 1 month	Frequency of feedback sessions and actionable items
	Form Decision-Making Committees Create committees for addressing inventory issues.	Inventory Management Team	2 months	Number of committees formed and issues resolved
Invest in Modern Inventory Management Systems	Assess Current Systems Review current system capabilities and identify needs.	IT Department and Inventory Management Team	1 month	Assessment report with identified needs
	Select and Implement New System Choose and install a modern inventory management system.	IT Department	4 months	Successful implementation and system integration
	Train Staff on New System Provide training on the new inventory management system.	IT Department and Training Coordinator	1 month after system implementation	Training completion rates and user proficiency
Upgrade Warehouse Facilities	Conduct Facilities Assessment Evaluate current warehouse facilities and identify upgrades.	Facilities Management Team	1 month	Assessment report with recommendations
	Plan and Execute Facility Upgrades Implement upgrades based on assessment.	Facilities Management Team	6 months	Completion of upgrades and improved functionality
	Optimize Warehouse Operations Streamline warehouse processes and implement new procedures.	Warehouse Manager	2 months post-upgrade	Operational efficiency metrics and reduced processing times
Implement Comprehensive Risk Management Strategies	Develop Risk Management Plan Create a plan to address stockouts, damages, and theft.	Risk Management Team	2 months	Approved risk management plan

Objective	Actions	Responsible Party	Timeline	Performance Metric
	Introduce Risk Mitigation Measures Implement enhanced security, audits, and tracking systems.	Risk Management Team and Inventory Management Team	3 months	Reduction in reported incidents of stockouts, damages, and theft
	Monitor and Review Risk Management Practices Regularly review and update risk management practices.	Risk Management Team	Ongoing, with quarterly reviews	Risk management review reports and improvements
Strengthen Interdepartmental Communication and Collaboration	Schedule Regular Cross-Departmental Meetings Organize regular meetings involving different departments.	Inventory Management Team	Monthly, starting in 1 month	Meeting frequency and participation rates
	Implement Communication Tools Adopt tools for better information sharing.	IT Department	2 months	Adoption rate and effectiveness of communication tools
Enhance Training Programs	Develop Comprehensive Training Programs Design and implement training on best practices and system usage.	Training Coordinator	2 months	Training program content and participant feedback
	Conduct Regular Training Sessions Offer sessions and workshops for employees.	Training Coordinator	Ongoing	Number of sessions conducted and employee attendance
Regularly Review and Update Inventory Management Practices	Conduct Periodic Reviews Review inventory management practices and performance metrics.	Inventory Management Team	Quarterly	Review reports and implemented improvements
	Update Practices Based on Feedback Modify practices based on feedback and performance data.	Inventory Management Team	Ongoing	Implementation of updated practices and observed improvements

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