Enhancing Economic Development Through Inventory Management Optimization in Agro-Based Industries in Bihar: A Comparative Study of EOQ And EPQ Models

Rahul Kumar[1], Dr. Kalpana Kumari Pal[2]

[1]Research Scholar, Department of Commerce, Magadh University,Bodh-Gaya, Gaya, Bihar, India
[2]Associate Professor (Retired), Department of Commerce, Magadh University, Bodh- Gaya

Abstract:
Inventory management is crucial for optimizing operational efficiency and cost-effectiveness in agro-based industries, particularly in regions like Bihar,known for their agricultural resources. This study compares the effectiveness of two inventory management models, the Economic Order Quantity (EOQ) and Economic Production Quantity (EPQ), in addressing the unique challenges faced by Bihar's agro-based industries. Data from Taruwar Agro Industries Private Limited in Ashiyana, Patna, use to calculate EOQ and EPQ values for three product categories: Tomato Chili, Peri Peri, and Punjabi Tadka. The study employs relevant formulas to compute optimal order quantities and total inventory costs, assuming constant demand, quality, price, holding costs, and ordering costs. Both the EOQ and EPQ models offered viable approaches to inventory optimization. EOQ focused on minimizing holding and ordering costs, while EPQ integrated production-related costs to optimize production flow. The study underscored the importance of aligning inventory management strategies with operational capabilities, market demand, and financial objectives. This study contributes to advancing theoretical understanding and practical applications of inventory management in agro-based economies like Bihar. Recommendations for empirical validation, contextual adaptation, technology integration, and long-term impact assessment are provided to enhance inventory management practices. Integration of the BCG matrix into decision-making processes offers a comprehensive approach to prioritizing inventory management strategies and guiding strategic implications.

Keywords: Inventory management, Economic Order Quantity (EOQ), Economic Production Quantity (EPQ), Agro-based industries, Optimization strategies, BCG matrix.

1. Introduction

Inventory management is a critical component of operational efficiency and cost-effectiveness in various industries, particularly those closely linked to agricultural production. In Bihar, a state renowned for its agricultural resources, optimized inventory management practices have the potential to significantly contribute to economic development. This paper aims to compare two inventory management models: the Economic Order Quantity (EOQ) model, which optimizes order quantities, and the Economic Production Quantity (EPQ) model, which incorporates production costs into inventory optimization.

This comparison aims to determine the most effective inventory optimization approach for Bihar's agro-based industries. Bihar's agro-based industries encompass a wide array of activities, including food processing, dairy production, and agricultural inputs manufacturing. These industries are vital to Bihar's economy, supporting a large portion of its population. However, these industries encounter obstacles like supply chain interruptions, seasonal demand fluctuations, and insufficient infrastructure, hindering their development and efficiency. Effective inventory management emerges as a crucial solution to mitigate these challenges and unlock the full potential of Bihar's agro-based industries. The EOQ model, introduced by Harris in 1913, focuses on determining the optimal order quantity that minimizes total inventory costs, balancing ordering costs and holding costs. Over the years, researchers have explored various extensions and applications of the EOQ model, highlighting its enduring relevance in inventory management theory and practice. In contrast, the EPQ model integrates production costs into inventory optimization, offering a nuanced approach particularly relevant to industries where production and inventory management are closely intertwined. A comprehensive examination of inventory management practices in Bihar's agro-based industries requires a thorough understanding of the region's unique challenges and opportunities. Seasonal output variations, limited storage facilities in small agricultural businesses, and inadequate transportation infrastructure notably impact inventory management in Bihar.

2. Review OF Literature

Inventory management is a critical aspect of operations across various industries, with extensive literature exploring different models and strategies. In the context of agro-based industries, where the challenges of agricultural production and supply chain dynamics are pronounced, effective inventory management assumes even greater significance for sustaining operations and driving economic growth. By minimizing total inventory costs through the determination of the optimal order quantity, the EOQ model has been widely adopted and studied. Recents contributions by authors such as Chiu et al.(2010) , Gharaei et al.(2023) and Ghasemi (2015) have extended the applicability of the EOQ model, considering contemporary challenges such as globalization and technological advancements. Despite its widespread use, the EOQ model has limitations, particularly in industries where production and inventory management are closely intertwined. To address these limitations, alternative models such as the Economic Production Quantity (EPQ) model have been proposed. The EPQ model integrates production costs into inventory optimization, providing a more comprehensive framework for decision-making. Authors like Huang(2004) ,Khurana et al.(2018) , Nobil and Taleizadeh, (2016) and Pal et al. (2016) have contributed to the understanding and application of the EPQ model in various industry contexts. Moreover, domestic and international research by Wee (2009) highlights the perishable nature of agricultural products, emphasizing the importance of inventory models tailored to perishable goods. Core elements such as demand, freshness, and loss rate are crucial considerations in perishable product inventory management. Furthermore, the role of inventory management in maintaining a desired stock level for specific product items has been emphasized by Pasandideh and Niaki (2008). Pentico et al. (2009) discuss how batching inventory can save on transport costs for NGOs, while Wild (2002) advocates for proper warehousing to minimize holding costs. Rahman et al.(2018) stress the importance of reorder levels (ROL) for achieving optimal efficiency and effectiveness in human terrain organizations, while Rahman et al.(2018) argue for moderate inventory levels to balance expenses and minimize lead times. The criticality of inventory management for firm viability is underscored by Salameh and Jaber (2000) who highlight the risks associated with mismanagement, such as space consumption and financial burden. Taleizadeh et al.(2017), Wang and Tang (2009) provide insights into inventory management practices specific to agricultural markets in Odisha, emphasizing the prevention of losses and customer satisfaction. Alfares (2012) discuss the relationship between supply chain management, inventory management, and financial performance in manufacturing firms, highlighting the interconnectedness of these factors. In the specific context of Bihar's agro-based industries, literature on inventory management optimization is relatively scarce. However, recent studies by authors such as Alfares and Ghaithan (2019) , (Çalışkan, 2021) and Halim et al.(2009)have highlighted the importance of tailored inventory management strategies in mitigating the challenges faced by these industries. There is a growing recognition of the need for empirical research to inform decision-making and drive improvements in inventory management practices within Bihar's agro-based economy. This study aims to address this gap by conducting a comparative analysis of the EOQ and EPQ models in the context of Bihar's agro-based industries. By synthesizing insights from recent literature and employing empirical research methodologies, this study aims to generate actionable recommendations that can directly enhance inventory management practices in Bihar, translating theoretical insights into practical solutions. Through a rigorous review of literature and empirical analysis, this study aims to contribute to the advancement of both theory and practice in inventory management, ultimately fostering sustainable economic development in Bihar and similar regions.

2.1 Research Gap (RG)

Despite the significant literature on inventory management in various industries, there is a notable gap in research specific to Bihar's agro-based sectors. This gap primarily revolves around contextual relevance, comparative analysis, empirical evidence, and stakeholder integration.

- **RG1 (*Contextual Relevance and Comparative Analysis*):** Existing literature lacks research specifically tailored to Bihar's agro-based industries, overlooking their unique challenges and opportunities. gap in comparative analysis of inventory management models like EOQ and EPQ within its, hindering the identification of optimal strategies for inventory optimization and reducing costs
- **RG2 (*Empirical Evidence and Stakeholder Integration*)**: The scarcity of empirical studies focusing on Bihar's agro-based industries limits our understanding of inventory management practices and their economic impact. Additionally, there's a need to integrate the perspectives of various stakeholders involved in inventory management decision-making processes to develop comprehensive and effective strategies. Addressing these two key points requires interdisciplinary research efforts that combine theoretical insights with empirical data collection and stakeholder engagement, ultimately facilitating sustainable economic development in Bihar's agro-based industries

Addressing these gaps requires interdisciplinary research efforts that blend theoretical insights with empirical data collection and stakeholder engagement. Such research endeavours can contribute significantly to enhancing inventory management practices and driving economic development in Bihar's agro-based industries.

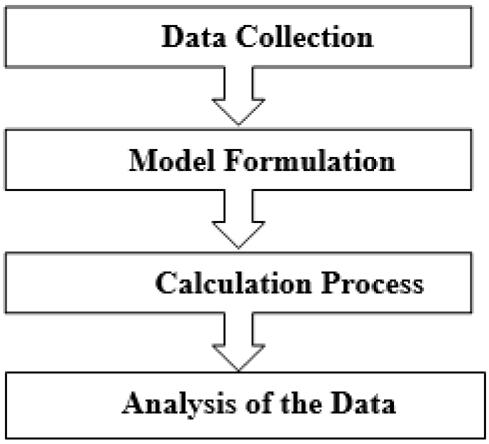
3. RESEARCH OBJECTIVE AND METHODOLOGY

3.1 Research Objectives (RO)

The main goal of this study is to compare different ways of optimizing inventory management, with a focus on the Economic Order Quantity (EOQ) and Economic Production Quantity (EPQ) models used in Bihar's agricultural-based industries. The research aims to achieve the following specific objectives:

- **R01:** To evaluate the effectiveness of the EOQ model in optimizing inventory management practices.
- **R02:** To the applicability and performance of the EPQ model as an alternative approach to inventory optimization.
- **R03:** To identify the key factors influencing inventory management, including demand variability, production setup, and supply chain dynamics.
- **R04:** To analyze the comparative advantages and limitations of the EOQ and EPQ models in optimizing inventory levels, minimizing costs, and enhancing operational efficiency**.**

3.2 Methodology



3.2.1 Data Collection: The methodology began with the collection of relevant data pertaining to inventory management parameters, including annual demand, ordering costs, and holding costs, from Taruwar Agro Industries Private Limited in Ashiyana, Patna, Obtained production rates and operational information to compute the economic production quantity (EPQ).

3.2.2 Model Formulation: To calculate the Economic Order Quantity (EOQ) and Economic Production Quantity (EPQ), as well as the total inventory cost for each model, you'll need the following formulas:

- **EOQ Formula:**

  $$\text{EOQ} = \sqrt{\frac{2DS}{H}}$$

- **EPQ Formula:**

  $$\text{EPQ} = \sqrt{\frac{2DS}{H}(1+\frac{D}{P})}$$

- **Total inventory cost formula:**

  $$\text{Total inventory cost formula} = (D\times S) + \frac{Q}{2}\times H$$

Where:

- D = Annual demand (in units)
- S = Ordering cost per order (in INR)
- H = Holding cost per unit per year (in INR)

- Q = Order quantity (KG)
- P = Production rate per unit time (in units per year)

3.2.3 Calculation Process: Calculate EOQ, EPQ, and total inventory cost for each product (Tomato Chilli, Peri Peri, and Punjabi Tadka) Of Taruwar Agro Industries Private Limited in Ashiyana, Patna.

- **Tomato Chili:**

Annual Demand (D) = 1000 kg, Ordering Cost per Order (S) = 50, Holding Cost per Unit per Year (H) = 0.50, Production rate (P) = 12,000,000 kg/year

EOQ and Total inventory cost on EOQ :

$$\text{EOQ} = \sqrt{\frac{2\times1000\times50}{0.50}} = \sqrt{20000} = 141.42 \text{ kg}$$

$$\text{Total inventory cost} = (1000\times50) + \frac{141.42}{2}\times0.50 = 50000 + (70.71\times0.50) = 50350$$

EPQ and Total inventory cost on EPQ :

$$\text{EPQ} = \sqrt{\frac{2\times1000\times50}{0.50}(1+\frac{1000}{12000000})} = \sqrt{\frac{20000}{1.042}} = 194.12 \text{ kg}$$

$$\text{Total inventory cost} = (1000\times50) + \frac{194.12}{2}\times0.50 = 50000 + (97.06\times0.50) = 50485$$

- **Peri Peri:**

Annual Demand (D) = 800 kg, Ordering Cost per Order (S) = 60, Holding Cost per Unit per Year (H) = 0.40, Production rate (P) = 12,000,000 kg/year

EOQ and Total inventory cost on EOQ :

$$\text{EOQ} = \sqrt{\frac{2\times800\times60}{0.40}} = \sqrt{24000} = 154.92 \text{ kg}$$

$$\text{Total inventory cost} = (800\times60) + \frac{154.92}{2}\times0.50 = 48000 + (77.46\times0.40) = 48309.84$$

EPQ and Total inventory cost on EPQ :

$$\text{EPQ} = \sqrt{\frac{2\times800\times60}{0.40}(1+\frac{1000}{12000000})} = \sqrt{\frac{20000}{1.067}} = 155.11 \text{ kg}$$

$$\text{Total inventory cost} = (800\times60) + \frac{155.11}{2}\times0.50 = 48000 + (77.56\times0.40) = 48310.24$$

- **Punjabi Tadka:**

Annual Demand (D) = 1200 kg, Ordering Cost per Order (S) = 40, Holding Cost per Unit per Year (H) = 0.60, Production rate (P) = 12,000,000 kg/year

EOQ and Total inventory cost on EOQ :

$$\text{EOQ} = \sqrt{\frac{2\times1200\times40}{0.60}} = \sqrt{16000} = 126.49 \text{ kg}$$

$$\text{Total inventory cost} = (1200\times40) + \frac{126.49}{2}\times0.60 = 48000 + (63.25\times0.60) = 48379.5$$

EPQ and Total inventory cost on EPQ :

$$\text{EPQ} = \sqrt{\frac{2\times1200\times40}{0.60}(1+\frac{1200}{12000000})} = \sqrt{\frac{16000}{1.10}} = 126.83 \text{ kg}$$

$$\text{Total inventory cost} = (1200\times40) + \frac{126.83}{2}\times0.60 = 48000 + (63.42\times0.60) = 48385.2$$

4. NOTATION AND ASSUMPTIONS

4.1 Constant Demand and Easy Restocking

The assumption of constant demand throughout the year is foundational to both the EOQ and EPQ models. This assumption simplifies the calculation process and allows for the determination of fixed orders or production quantities. The EOQ model operates under the assumption that products are readily available in the open market, and replenishment occurs promptly upon reaching the minimum threshold level. This assumption facilitates a straightforward ordering process where inventory is restocked as needed to meet demand without delay. Similarly, the EPQ model assumes that production capacity is aligned with demand requirements(Sarkar & Chakrabarti, 2013). This alignment ensures that production occurs as inventory levels decrease below a predetermined minimum threshold, thereby preventing stock-out situations. By maintaining production capacity in sync with demand, the EPQ model effectively addresses inventory needs without disrupting the supply chain.

4.2 Constant Quality

Maintaining constant product quality is another fundamental assumption shared by both models. This assumption implies that the quality of products purchased or produced remains consistent over time, with no variation throughout the year. By assuming product quality remains consistent, both models simplify predicting demand and planning inventory. Consistent quality levels help stabilize demand patterns, allowing for more accurate predictions of future inventory requirements

4.3 Constant Price

Both the EOQ and EPQ models rely on the assumption of a constant price for the product throughout the year. This assumption simplifies cost calculations and allows for consistent financial planning. Under this assumption, prices for purchasing products (in the case of EOQ) or producing goods (in the case of EPQ) remain stable over time. This stability eliminates the need for adjustments to account for fluctuating prices, streamlining inventory management processes.

4.4 Unchanged Holding and Ordering Costs

Holding costs, which encompass expenses related to storing and maintaining inventory, are assumed to remain unchanged throughout the year in both models. These costs may include rentals for storage space, salaries of personnel responsible for inventory management, electricity bills, repairs, maintenance, and other overhead expenses. Similarly, ordering costs, which are associated with placing orders for inventory replenishment, are presumed to remain constant over time(Srivastava & Gupta, 2014). These expenses may include freight charges, packing and forwarding expenses, and other transaction-related costs. In addition to holding and ordering costs, the EPQ model assumes that the setup costs of production remain constant throughout the year. These setup costs, which are incurred each time production is initiated, are assumed to remain consistent regardless of the production length.

4.5 Limitations of EOQ and EPQ Models

The EOQ and EPQ models are valuable tools for inventory management, but they have several limitations. Firstly, they assume constant holding costs, ordering costs, demand, price, and product quality throughout the year, which are often influenced by external factors such as changes in rentals, salaries, consumer preferences, input prices, and raw material quality. These factors are improbable in real-world scenarios, as they are influenced by consumer income, preferences, seasonal variations, and market dynamics. Secondly, the models do not account for the variability in costs, leading to potential discrepancies between predicted and actual costs. Lastly, the models do not consider dynamic demand and price, which can lead to suboptimal inventory management decisions(Sharma et al., 2015). Lastly, the assumption of constant product quality overlooks real-world factors such as production processes, interruptions in power supply, machinery breakdowns, and changes in raw material quality. This can lead to production inefficiencies, wastage, and damages, potentially leading to inaccuracies in inventory management decisions. Lastly, the models do not account for the impact on demand, which can lead to mismatches between predicted and actual demand(Rana & Eyob, 2006). To address these limitations, a more nuanced approach is needed, which should include additional analyses and adjustments to account for the complexities of modern supply chains and market dynamics.

Table 4.1: Difference between EOQ and EPQ

Basis	EOQ	EPQ
Meaning	Economic Order Quantity is the optimal order size to minimize funds blockage and inventory costs.	Economic Production Quantity is the optimal lot size to avoid unnecessary fund blockage and excess storage costs.
Formula	EOQ = $\sqrt{\frac{2DS}{H}}$	$EPQ = \sqrt{\frac{2DS}{H}(1+\frac{D}{P})}$
Production	The company procures the item externally, typically from vendors or suppliers.	The company internally produces the item, utilizing its production facilities and resources.
Lead Time	Assumes constant lead time for order fulfillment and replenishment.	No specific assumption is made regarding lead time, as the focus is on optimizing production quantities rather than order quantities.

Both the EOQ and EPQ models aim to minimize costs by optimizing inventory utilization, ensuring that excess inventory does not tie up funds while also preventing stock shortages that could disrupt production processes. These models achieve cost optimization by balancing major inventory-related expenses, such as holding costs and ordering costs, while also addressing specific production considerations in the case of the EPQ model.

5. RESULTS

Optimal Order Quantities: The EOQ and EPQ models provided insights into the optimal order quantities for each product of Taruwar Agro Industries Private Limited in Ashiyana, Patna. For Tomato Chilli , EOQ suggested an order quantity of approximately 141.42 kg, while EPQ recommended around 194.12 kg. Peri Peri showed similar optimal quantities for both models, with EOQ and EPQ suggesting approximately 154.92 kg and 155.11 kg, respectively. Punjabi Tadka had slightly lower order quantities, with EOQ and EPQ indicating approximately 126.49 kg and 126.83 kg, respectively. EOQ recommended order quantities that aimed to strike a balance between ordering costs and holding costs by minimizing the total inventory cost. EPQ, on the other hand, incorporated production rates into the optimization process, aiming to avoid excess storage costs while ensuring continuous production flow.

Discrepancies between the EOQ and EPQ recommendations highlighted the influence of production setup and capacity on inventory optimization strategies.

Table 5.1: Summary of EOQ, EPQ, and Total Inventory Cost for Each Product.

Product	Annual Demand (kg)	Ordering Cost per Order (INR)	Holding Cost per Unit per Year (INR)	EOQ (kg)	EPQ (kg)	Total Inventory Cost - EOQ (INR)	Total Inventory Cost - EPQ (INR)
Tomato Chili	1000	50	0.50	141.42	194.12	50350	50485
Peri Peri	800	60	0.40	154.92	155.11	48309.84	48310.24
Punjabi Tadka	1200	40	0.60	126.49	126.83	48379.5	48385.2

Source: Taruwar Agro Industries Private Limited , Patna and Calculation

Total Inventory Costs: The total inventory costs, taking into account ordering costs, holding costs, and optimal order quantities, were calculated for each product. For Tomato Chilli, the total inventory cost was 50,350 INR for EOQ and 50,485 INR for EPQ. Peri Peri had total inventory costs of 48,309.84 INR for EOQ and 48,310.24 INR for EPQ. Punjabi Tadka resulted in total inventory costs of 48,379.5 INR for EOQ and 48,385.2 INR for EPQ. While the EOQ and EPQ models produced slightly different optimal order quantities, the resulting total inventory costs were comparable, indicating the effectiveness of both approaches in cost minimization. Small variations in total inventory costs between EOQ and EPQ underscored the importance of considering production-related factors in inventory optimization decisions.

Comparative Analysis: A detailed comparative analysis uncovered nuanced differences between the EOQ and EPQ models, showcasing their distinct methodologies for optimizing inventory management. EOQ is primarily focused on minimizing holding costs by determining the optimal order quantity, while EPQ integrates production costs to optimize inventory levels and production flow simultaneously. Businesses must weigh the trade-offs between holding costs and production setup costs when choosing between EOQ and EPQ, considering factors such as demand variability and production capacity.

Key Factors Influence: Optimal order quantities and total inventory costs were influenced by various factors, including annual demand, ordering costs, holding costs, and production rates. Higher annual demand and production rates generally led to larger optimal order quantities, necessitating efficient inventory management strategies to prevent overstocking or stock outs. Variations in ordering costs and holding costs across different products and industries highlighted the need for tailored inventory management approaches aligned with specific business requirements and constraints.

6. CONCLUSION AND SUGGESTIONS

6.1 Conclusion

Through empirical analysis and theoretical insights, several key findings and implications have emerged:

Optimal Inventory Management Strategies: The analysis revealed that both the EOQ and EPQ models offer viable approaches to optimizing inventory levels and minimizing costs within Bihar's agro-based industries. While the EOQ model focuses on minimizing ordering and holding costs through optimal order quantities, the EPQ model extends this framework by integrating production-related costs and considering production rate constraints.

Trade-offs and Considerations: Businesses must meticulously evaluate the trade-offs between ordering costs, holding costs, and production-related expenses when deciding on an inventory management strategy. The EOQ model may be more suitable for industries with lower production setup costs and relatively stable demand patterns, while the EPQ model may offer advantages in environments where production capacity and demand variability play significant roles.

Strategic Alignment: It is essential for businesses to align their inventory management strategies with their operational capabilities, market demand, and financial objectives. Tailored inventory policies based on EOQ or EPQ principles can help businesses mitigate stockouts, reduce excess inventory holding costs, and improve overall operational efficiency.

Continuous Improvement: Constant monitoring and optimization of inventory management practices are critical for adapting to changing market conditions and maintaining competitiveness. Businesses should leverage advanced analytics tools, inventory management software systems, and interdisciplinary research insights.

6.2 Suggestions

Empirical Validation: More research should emphasize the use of rigorous field studies, in-depth case analyses, and longitudinal investigations to demonstrate the effectiveness of the EOQ and EPQ models in Bihar's agricultural-based industries, ensuring a comprehensive validation process. Such empirical evidence will offer valuable insights into the applicability and performance of these inventory management strategies in real-world settings. Use the BCG Matrix as a guiding tool to select products or product categories for empirical validation. By categorizing products into different quadrants based on their market growth rate and relative market share, businesses can determine the priority products for focus during empirical validation efforts. For instance, products categorized as "stars," representing high-growth segments within Bihar's agro-based industries, may warrant closer scrutiny to understand their inventory management dynamics and optimize strategies accordingly.

Contextual Adaptation: Considering the unique characteristics of Bihar's agro-based industries, future research should investigate adapting inventory management models to tackle challenges like seasonality, demand fluctuations, and region-specific infrastructure limitations prevalent in the region. Tailoring inventory management strategies to the local context will enhance their effectiveness and relevance. Use the BCG matrix to help decide on the most suitable products or product categories for contextual adaptation. For instance, products classified as "Cash Cows," indicating stable, mature segments within Bihar's agro-based industries, could benefit from customized inventory management strategies focused on enhancing efficiency and cost-effectiveness, considering their stable demand patterns.

Technology Integration: Research into the integration of emerging technologies such as the Internet of Things (IoT), blockchain, and artificial intelligence (AI) into inventory management systems can enhance decision-making capabilities, optimize supply chain visibility, and improve operational resilience, leading to more efficient operations. Examining the potential synergies between conventional inventory management models and emerging technologies such as the Internet of Things (IoT), blockchain, and artificial intelligence (AI) can reveal new opportunities for efficiency improvements and substantial cost savings(kumar, 2024). Use the BCG Matrix to identify the best products or product categories for integrating technology. For instance, products categorized as "Question Marks" or "Stars," representing segments with high growth potential, may benefit the most from technological advancements in inventory management. Implementing IoT sensors for real-time inventory tracking or leveraging AI algorithms for demand forecasting can help optimize inventory levels and improve supply chain efficiency.

Long-term Impact Assessment: Evaluating the long-term implications of inventory management decisions is crucial as it guides strategic planning, investment priorities, and long-term sustainability for businesses and policymakers. The BCG matrix can help identify the most crucial products or product categories for assessing long-term impact. Products categorized as "Cash Cows" or "Stars," representing segments with significant potential for long-term growth and profitability, may warrant closer monitoring of inventory management strategies over time. Tracking the performance of these strategies can provide valuable insights into their effectiveness in driving sustainable growth and competitiveness in Bihar's agro-based industries.

The integration of the BCG matrix into decision-making processes offers a comprehensive approach to enhancing inventory management practices in Bihar's agro-based industries, driving sustainable growth and competitiveness in the agricultural sector. Integrating the BCG matrix into decision-making processes helps businesses prioritize empirical validation, guide contextual adaptation, identify technology integration opportunities, and assess the long-term impact of inventory management strategies efficiently.

Table 6.1: BCG Matrix Analysis for Inventory Management Strategy Prioritization

Product Category	Market Growth Rate	Relative Market Share	Strategic Implications
Stars	High	High	Prioritize for technology integration and empirical validation studies. These products represent high-growth segments with significant potential for optimization.
Cash Cows	Low	High	Focus on contextual adaptation and long-term impact assessment. These products exhibit stable demand patterns and are crucial for sustaining profitability.
Question Marks	High	Low	Consider for technology integration efforts. These products have high growth potential but may require further validation through empirical studies.
Dogs	Low	Low	Assess for potential phase-out or restructuring. These products have limited growth prospects and may not warrant significant investment in inventory management optimization.

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