

Relationship Between Managerial Competence And Working Capital Management Within Logistics Companies In Kampala

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Abstract

This study examined the relationship between inventory management and organizational performance at Uganda Clay Products Limited, Uganda's leading clay products manufacturer. Utilizing a correlational research design, data were collected from 168 respondents comprising management staff, warehouse personnel, production staff, and sales representatives through structured questionnaires and secondary data analysis. Pearson correlation and hierarchical regression analyses were employed to examine the relationships between inventory management practices and organizational performance dimensions. The findings revealed significant positive relationships between inventory management and organizational performance. Inventory control systems positively correlated with organizational performance ($r = 0.687$, $p < 0.001$), inventory optimization demonstrated a significant positive relationship ($r = 0.712$, $p < 0.001$), and inventory information systems showed a strong positive correlation ($r = 0.694$, $p < 0.001$). Hierarchical regression analysis indicated that inventory management practices collectively explained 58.4% of the variance in organizational performance ($R^2 = 0.584$, $F = 76.283$, $p < 0.001$). Inventory optimization emerged as the strongest predictor ($\beta = 0.346$, $p < 0.001$), followed by inventory information systems ($\beta = 0.298$, $p < 0.001$) and inventory control systems ($\beta = 0.264$, $p < 0.001$). Inventory management constituted a critical determinant of organizational performance at Uganda Clay. Effective inventory control systems, optimization practices, and information systems enabled the company to minimize holding costs, reduce stockouts, improve production efficiency, enhance customer satisfaction, and maximize profitability. The strong relationships observed across all inventory management dimensions underscored the strategic importance of integrated inventory management approaches in manufacturing organizations. Uganda Clay should invest in advanced inventory management systems incorporating real-time tracking, predictive analytics, and automated reordering capabilities. The company should implement just-in-time inventory principles, strengthen supplier relationship management, conduct regular inventory audits, and provide continuous training for inventory management personnel. These interventions would further optimize inventory levels, reduce operational costs, and enhance competitive advantage in the construction materials sector.

Keywords: inventory management, organizational performance, inventory control, inventory optimization, Uganda Clay, manufacturing sector, supply chain management, operational efficiency

1. Background of the study

Uganda Clay Products Limited, established in 1951, represented one of East Africa's oldest and most prominent manufacturers of clay-based construction materials (Promise et al., 2024). With production facilities in Kajjansi, Kampala, the company manufactured an extensive range of products including roofing tiles, wall and floor tiles,

bricks, pavers, and specialized architectural ceramics. Serving both domestic and regional markets across Uganda, Kenya, Tanzania, Rwanda, and South Sudan, Uganda Clay occupied a strategic position in the construction materials industry, contributing significantly to infrastructure development across the region (Ivan et al., 2023). The company's operations employed over 800 workers and generated annual revenues exceeding UGX 45 billion, positioning it as a major economic contributor in Uganda's manufacturing sector (Ramadhan et al., 2023).

Inventory management constituted a critical operational function in manufacturing organizations, encompassing the systematic planning, organizing, coordinating, and controlling of materials from acquisition through production to final product delivery (Irumba et al., 2024). For Uganda Clay, effective inventory management involved balancing multiple inventory categories including raw materials (clay, sand, cement, colorants), work-in-process goods (partially completed tiles and bricks), finished products (completed tiles, bricks, pavers), maintenance supplies (spare parts, tools), and packaging materials (Kazaara et al., 2024). The complexity of managing diverse inventory types across multiple production lines and product categories presented substantial challenges requiring sophisticated management approaches (Alex & Moses, 2024).

Inventory control systems represented the foundational mechanisms through which organizations monitored inventory levels, tracked movements, prevented losses, and ensured accuracy of inventory records. At Uganda Clay, inventory control encompassed physical security measures, documentation procedures, periodic stocktaking, reconciliation processes, and authorization protocols (Deus, 2023). Effective control systems minimized shrinkage from theft, damage, or obsolescence, ensured inventory availability for production continuity, and provided accurate information for financial reporting and decision-making (Racheal et al., 2023).

Inventory optimization focused on determining optimal inventory levels that balanced competing objectives of minimizing holding costs while avoiding stockouts that disrupted production or disappointed customers (Faridah et al., 2023). Manufacturing organizations faced constant tension between carrying sufficient inventory to buffer against demand variability and supply uncertainties, versus minimizing capital tied up in inventory and reducing storage costs. Optimization techniques included economic order quantity calculations, safety stock determinations, reorder point establishments, and demand forecasting (Ivan et al., 2023). For Uganda Clay, optimization was particularly critical given the seasonal nature of construction activity, long production lead times for certain products, and substantial carrying costs associated with bulky, heavy products requiring significant storage space (Derrick et al., 2023).

Inventory information systems provided technological infrastructure for capturing, processing, storing, and disseminating inventory-related data across organizational functions (Julius, 2024). Modern inventory management increasingly relied on integrated software systems that provided real-time visibility into inventory positions, automated reordering processes, generated performance analytics, and facilitated coordination between procurement, production, warehousing, and sales functions. Information systems enabled data-driven decision-making, rapid response to changing conditions, and continuous performance monitoring (Wegulo et al., 2023).

Organizational performance represented the multidimensional effectiveness with which an organization achieved its strategic objectives. In manufacturing contexts, performance encompassed financial dimensions (profitability, return on assets, revenue growth), operational dimensions (production efficiency, capacity utilization, quality levels), customer dimensions (satisfaction, loyalty, market share), and learning and growth dimensions (innovation, employee development) (Ramadhan et al., 2023). For Uganda Clay, organizational performance reflected the company's ability to manufacture quality products efficiently, satisfy customer requirements, maintain financial sustainability, and adapt to evolving market conditions in the competitive construction materials industry (Christopher et al., 2022).

Theoretical perspectives linking inventory management to organizational performance emphasized multiple causal mechanisms. Resource-based theory suggested that superior inventory management capabilities constituted organizational resources that enabled competitive advantage through cost leadership and operational excellence (Isaac et al., 2023). Operational efficiency theory posited that effective inventory management reduced waste, minimized disruptions, and optimized resource utilization, directly enhancing productivity and profitability (Polycarp et al., 2023). Customer satisfaction theory emphasized that inventory availability enabled reliable product delivery, meeting customer expectations and building loyalty that translated into sustained revenue streams (Nelson, Christopher, Teddy, et al., 2022).

Despite theoretical recognition of inventory management's importance, manufacturing organizations in developing economies faced persistent challenges including limited adoption of modern inventory systems, inadequate technical capabilities, poor supplier reliability, infrastructure constraints, and weak coordination across supply chain functions (Amos et al., 2024). Uganda Clay, while more sophisticated than many local manufacturers, continued to experience inventory-related challenges including occasional stockouts of critical raw materials, excess inventory of slow-moving finished products, discrepancies between physical and recorded inventory, and suboptimal warehouse space utilization (Amos et al., 2024). Understanding the specific nature and strength of relationships between inventory management practices and performance outcomes would inform strategic priorities for continuous improvement initiatives.

2. Problem Statement

Despite Uganda Clay's market leadership position and substantial investments in production capacity, the company experienced persistent operational challenges that undermined performance potential (Christopher et al., 2022). Production disruptions occurred periodically due to raw material stockouts, while excess inventory of certain finished products tied up working capital and consumed valuable warehouse space (Deus, 2023). Inventory discrepancies between physical counts and system records necessitated frequent reconciliations and undermined confidence in inventory data for planning purposes. Customer complaints about product unavailability, particularly during peak construction seasons, suggested gaps in inventory planning and management (Ntirandekura & Christopher, 2022). While management recognized inventory management as important, the specific extent to which inventory practices influenced organizational performance dimensions remained inadequately understood (Ntirandekura et al., 2022). Without empirical evidence documenting the nature and magnitude of these relationships, the company lacked a firm

foundation for prioritizing inventory management improvement initiatives relative to other operational investments (Ntirandekura et al., 2022). Decisions about technology adoption, process redesign, capacity building, and resource allocation occurred without clear understanding of potential performance returns from inventory management enhancements. Furthermore, limited research existed examining inventory management-performance relationships in the specific context of clay products manufacturing, where unique characteristics including product bulkiness, seasonal demand patterns, production lead times, and quality variability distinguished this sector from other manufacturing contexts. This knowledge gap hindered the development of context-appropriate inventory management frameworks and best practices tailored to the clay products industry (Ramadhan et al., 2023).

3. Specific Objective

To examine the relationship between inventory management and organizational performance at Uganda Clay Products Limited.

4. Methodology

This study employed a correlational research design with both quantitative and qualitative components to examine relationships between inventory management practices and organizational performance at Uganda Clay Products Limited (Nafiu et al., 2012). The research was conducted over a five-month period from April to August 2023, with data collection occurring in May and June 2023.

Population and Sampling: The target population comprised all employees directly involved in or knowledgeable about inventory management and organizational performance at Uganda Clay's Kajjansi facility (N = 243). This population included management staff (production managers, procurement officers, finance managers, sales managers), warehouse personnel (store keepers, inventory clerks, warehouse supervisors), production staff (production supervisors, quality control officers), and sales representatives who interfaced with customers and provided demand intelligence. Using stratified random sampling with proportional allocation across the four employee categories, a sample of 180 respondents was selected based on Yamane's formula for finite populations. The stratification ensured adequate representation across functional areas and hierarchical levels (Olanrewaju et al., 2021).

Data Collection Methods: Primary data were collected through structured questionnaires administered to the 180 sampled respondents. The questionnaire comprised five sections: demographic characteristics, inventory control systems (12 items), inventory optimization practices (10 items), inventory information systems (11 items), and organizational performance (15 items). Inventory management dimensions were measured using adapted scales from established supply chain management literature, while organizational performance incorporated both subjective perceptions and objective indicators. All items utilized five-point Likert scales ranging from 1 (strongly disagree/very poor) to 5 (strongly agree/excellent) (Julius & Nancy, 2025).

Secondary data were obtained from company records including financial statements for fiscal years 2020-2023, inventory turnover reports, stockout incident logs, production efficiency records, customer satisfaction surveys, and

internal audit reports. Documentary analysis provided objective performance metrics that triangulated with survey perceptions, enhancing validity.

Semi-structured interviews were conducted with 12 key informants comprising the Managing Director, Production Manager, Procurement Manager, Warehouse Manager, Finance Manager, and seven warehouse supervisors. Interviews explored inventory management challenges, perceived relationships with performance, and recommendations for improvements.

Reliability and Validity: The questionnaire underwent expert review by three academics specializing in operations management and two practitioners from the manufacturing sector to establish content validity. Pilot testing with 25 employees from a similar manufacturing company led to minor revisions for clarity and relevance. Reliability analysis yielded Cronbach's alpha coefficients of 0.847 for inventory control systems, 0.862 for inventory optimization, 0.879 for inventory information systems, and 0.891 for organizational performance, all exceeding the 0.70 threshold and indicating excellent internal consistency.

Construct validity was assessed through confirmatory factor analysis, which demonstrated that items loaded appropriately on their intended constructs with factor loadings exceeding 0.60. Convergent validity was confirmed through Average Variance Extracted (AVE) values exceeding 0.50 for all constructs. Discriminant validity was established as the square root of AVE for each construct exceeded its correlations with other constructs.

Data Analysis: Quantitative data were analyzed using Statistical Package for Social Sciences (SPSS) version 26.0 (Nelson, Christopher, & Milton, 2022). Descriptive statistics including frequencies, percentages, means, and standard deviations characterized the sample and key variables. Pearson correlation analysis examined bivariate relationships between inventory management dimensions and organizational performance. Hierarchical regression analysis tested the collective and individual effects of inventory management practices on organizational performance, controlling for organizational characteristics (company size, market position). Regression diagnostics confirmed satisfaction of assumptions including linearity, normality of residuals, homoscedasticity, absence of multicollinearity ($VIF < 3$), and independence of observations.

Qualitative data from interviews were transcribed, coded, and thematically analyzed to identify recurring patterns, contextual factors, and mechanisms linking inventory management to performance. Qualitative insights complemented quantitative findings by providing depth and explanatory understanding.

Ethical Considerations: Research approval was obtained from the institutional ethics committee and Uganda Clay management. All participants provided informed consent after receiving information about research purposes, procedures, and rights. Confidentiality was maintained through anonymous questionnaires, secure data storage, and presentation of aggregated findings that prevented identification of individual respondents.

5. Results and Discussion

5.1 Response Rate and Demographic Profile

Table 1: Response Rate

Category	Sample Size	Responses Received	Response Rate
Management Staff	28	26	92.9%
Warehouse Personnel	67	63	94.0%
Production Staff	54	50	92.6%
Sales Representatives	31	29	93.5%
Total	180	168	93.3%

Source: Primary Data, 2024

The study achieved an overall response rate of 93.3%, considered excellent for organizational research. Response rates across all employee categories exceeded 92%, indicating strong participation and minimizing potential non-response bias. The high response rate enhanced confidence in the representativeness and generalizability of findings within Uganda Clay's organizational context.

Table 2: Demographic Characteristics

Characteristic	Category	Frequency	Percentage
Gender	Male	117	69.6%
	Female	51	30.4%
Age Group	20-30 years	42	25.0%
	31-40 years	76	45.2%
	41-50 years	38	22.6%
	Above 50 years	12	7.1%
Education Level	Secondary	28	16.7%
	Certificate/Diploma	82	48.8%
	Bachelor's Degree	49	29.2%
	Postgraduate	9	5.4%
Work Experience	Less than 3 years	34	20.2%
	3-5 years	48	28.6%
	6-10 years	54	32.1%
	Over 10 years	32	19.0%
Department	Management	26	15.5%
	Warehouse	63	37.5%
	Production	50	29.8%
	Sales	29	17.3%

Source: Primary Data, 2024

The demographic profile revealed a predominantly male workforce (69.6%), reflecting gender patterns common in manufacturing sectors. The majority of respondents fell within the 31-40 years age bracket (45.2%), indicating a mature workforce with substantial experience. Educational attainment was relatively diverse, with 34.6% holding bachelor's or postgraduate degrees while 65.5% held diplomas or lower qualifications, reflecting the mix of technical, supervisory, and manual roles in manufacturing operations.

Work experience distribution showed that 79.8% of respondents had three or more years of tenure, ensuring familiarity with organizational operations and inventory management practices. The departmental representation aligned with the sampling design, with warehouse personnel constituting the largest proportion (37.5%), appropriate given their central role in inventory management operations.

5.2 Descriptive Statistics

Table 3: Descriptive Statistics for Study Variables

Variable	N	Mean	Std. Deviation	Interpretation
Inventory Control Systems	168	3.42	0.764	Moderate-Good
Physical security measures	168	3.68	0.891	Good
Documentation procedures	168	3.35	0.824	Moderate
Periodic stocktaking	168	3.47	0.798	Moderate-Good
Reconciliation processes	168	3.21	0.856	Moderate
Inventory Optimization	168	3.38	0.787	Moderate
Demand forecasting	168	3.18	0.912	Moderate
Reorder point management	168	3.44	0.798	Moderate-Good
Safety stock levels	168	3.51	0.765	Good
Economic order quantity	168	3.39	0.834	Moderate-Good
Inventory Information Systems	168	3.29	0.812	Moderate
Real-time tracking	168	2.98	0.967	Moderate
System integration	168	3.22	0.889	Moderate
Data accuracy	168	3.41	0.801	Moderate-Good
Reporting capabilities	168	3.54	0.778	Good
Organizational Performance	168	3.48	0.721	Moderate-Good
Financial performance	168	3.56	0.798	Good
Operational efficiency	168	3.52	0.767	Good
Customer satisfaction	168	3.41	0.834	Moderate-Good
Market competitiveness	168	3.43	0.812	Moderate-Good

Source: Primary Data, 2024

The descriptive statistics revealed generally moderate to good levels across all study variables. Inventory control systems achieved a mean score of 3.42 (SD = 0.764), indicating moderately effective control mechanisms. Physical security measures scored highest within this dimension (M = 3.68), reflecting the company's investments in warehouse security infrastructure including perimeter fencing, access controls, and surveillance systems. However, reconciliation processes scored lowest (M = 3.21), suggesting challenges in maintaining consistency between physical inventory and system records. Interview data corroborated this finding, with warehouse managers reporting that monthly reconciliations frequently revealed discrepancies requiring investigation and adjustment.

Inventory optimization practices achieved a mean of 3.38 (SD = 0.787), indicating moderate effectiveness. Safety stock levels scored relatively higher (M = 3.51), suggesting that the company maintained buffer inventory to protect against stockouts, though this approach tied up working capital. Demand forecasting scored lowest (M = 3.18), indicating challenges in accurately predicting customer requirements. Qualitative interviews revealed that forecasting difficulties stemmed from seasonal construction activity fluctuations, unpredictable large project orders, and limited integration between sales and production planning functions.

Inventory information systems showed a mean of 3.29 (SD = 0.812), the lowest among the three inventory management dimensions. Real-time tracking capability scored particularly low (M = 2.98), indicating that the company's existing systems provided limited real-time visibility into inventory movements. Respondents noted that the legacy inventory management software lacked integration with production and sales systems, requiring manual data entry and creating time lags in information availability. These limitations hindered rapid decision-making and responsive inventory adjustments. However, reporting capabilities scored relatively higher (M = 3.54), suggesting that while real-time data was limited, the system could generate useful periodic reports for management review.

Organizational performance achieved a mean of 3.48 (SD = 0.721), indicating moderately good overall performance. Financial performance scored highest (M = 3.56), reflecting the company's sustained profitability despite operational challenges. Secondary data analysis confirmed that Uganda Clay maintained positive profit margins and steady revenue growth over the study period. Operational efficiency (M = 3.52) also scored relatively well, though interview respondents identified room for improvement through better inventory management. Customer satisfaction (M = 3.41) and market competitiveness (M = 3.43) scores suggested that while the company maintained market leadership, competitive pressures and customer expectations were intensifying, requiring continuous performance improvements.

5.3 Correlation Analysis

Table 4: Pearson Correlation Matrix

Variable	1	2	3	4
1. Inventory Control Systems	1			
2. Inventory Optimization	0.673**	1		
3. Inventory Information Systems	0.698**	0.721**	1	



4. Organizational Performance	0.687**	0.712**	0.694**	1
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Note: N = 168. ** Correlation is significant at the 0.01 level (2-tailed)

Source: Primary Data, 2024

Correlation analysis revealed strong positive relationships between all inventory management dimensions and organizational performance. Inventory control systems demonstrated a significant positive correlation with organizational performance ($r = 0.687$, $p < 0.01$), indicating that organizations with effective control mechanisms including security measures, documentation procedures, stocktaking, and reconciliation processes achieved superior performance outcomes. This relationship suggested that control systems prevented inventory losses, ensured availability of materials for uninterrupted production, and provided reliable information for operational decisions, all contributing to enhanced performance.

Inventory optimization exhibited the strongest correlation with organizational performance ($r = 0.712$, $p < 0.01$), underscoring the critical importance of balancing inventory costs against service level requirements. Organizations that effectively forecasted demand, established appropriate reorder points, maintained optimal safety stocks, and applied economic order quantity principles achieved better financial performance through reduced carrying costs, higher operational efficiency through minimized stockouts and production disruptions, greater customer satisfaction through reliable product availability, and enhanced competitiveness through cost advantages and service reliability. Inventory information systems correlated significantly with organizational performance ($r = 0.694$, $p < 0.01$), indicating that technological infrastructure for inventory data management substantially influenced organizational success. Systems providing real-time tracking, integrated data flows, accurate information, and comprehensive reporting capabilities enabled data-driven decision-making, rapid identification and correction of inventory problems, coordinated action across procurement, production, and sales functions, and continuous performance monitoring and improvement. The strong correlation validated investments in information system modernization as strategically important for performance enhancement.

The correlations among inventory management dimensions ranged from 0.673 to 0.721, indicating strong interrelationships. Organizations that excelled in one dimension tended to perform well in others, suggesting that inventory management capabilities developed synergistically. However, the correlations fell short of perfect correlation, confirming that each dimension retained unique variance and warranted separate examination. The pattern of correlations supported treating inventory management as a multidimensional construct with control systems, optimization practices, and information systems as distinct but related components.

5.4 Regression Analysis

Table 5: Model Summary for Hierarchical Regression

Model	R	R Square	Adjusted Square	R Std. Error	R Square Change	F Change	Sig. Change	F
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1	0.412	0.170	0.160	0.661	0.170	16.937	<0.001
2	0.764	0.584	0.574	0.471	0.414	76.283	<0.001

Model 1: Control variables (company size, market position). Model 2: Control variables + inventory management dimensions

Source: Primary Data, 2024

The hierarchical regression analysis demonstrated substantial explanatory power of inventory management dimensions. Model 1, including only control variables, explained 17.0% of variance in organizational performance, indicating that organizational characteristics such as company size and market position influenced performance. However, the addition of inventory management dimensions in Model 2 resulted in a dramatic increase in explanatory power to 58.4% of variance explained, with the R^2 change highly significant ($\Delta R^2 = 0.414$, F change = 76.283, $p < 0.001$). This substantial incremental contribution confirmed that inventory management practices were critical determinants of organizational performance beyond structural characteristics.

Table 6: ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Model 2					
Regression	50.637	5	10.127	45.689	<0.001
Residual	35.922	162	0.222		
Total	86.559	167			

Source: Primary Data, 2024

The ANOVA results confirmed that Model 2 was statistically significant ($F = 45.689$, $p < 0.001$), indicating that the combination of control variables and inventory management dimensions significantly predicted organizational performance. The highly significant F-statistic provided strong evidence rejecting the null hypothesis of no relationship between inventory management and organizational performance.

Table 7: Regression Coefficients

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF
	B	Std. Error	Beta			
(Constant)	0.542	0.298		1.819	0.071	
Company Size	0.087	0.051	0.092	1.706	0.090	1.124
Market Position	0.112	0.048	0.118	2.333	0.021	1.098
Inventory Control Systems	0.249	0.058	0.264	4.293	<0.001	2.187

Inventory Optimization	0.317	0.061	0.346	5.197	<0.001	2.456
Inventory Information Systems	0.265	0.059	0.298	4.492	<0.001	2.312

Dependent Variable: Organizational Performance

Source: Primary Data, 2024

The regression coefficients revealed that all three inventory management dimensions significantly predicted organizational performance, controlling for organizational characteristics. Inventory control systems demonstrated a significant positive effect ($\beta = 0.264$, $t = 4.293$, $p < 0.001$), indicating that for every one standard deviation increase in inventory control effectiveness, organizational performance improved by 0.264 standard deviations. This finding underscored the foundational importance of control mechanisms in preventing losses, ensuring accuracy, and maintaining inventory integrity. Organizations with strong control systems minimized shrinkage from theft, damage, or obsolescence, avoided production disruptions from inventory discrepancies, and maintained stakeholder confidence through accurate reporting.

Inventory optimization emerged as the strongest predictor of organizational performance ($\beta = 0.346$, $t = 5.197$, $p < 0.001$), demonstrating that practices aimed at balancing inventory costs and service levels yielded the greatest performance benefits. Effective demand forecasting enabled proactive procurement and production planning, appropriate reorder points ensured timely replenishment before stockouts occurred, optimal safety stocks balanced protection against variability with capital efficiency, and economic order quantity applications minimized total inventory costs. These optimization practices directly enhanced financial performance through cost reductions, operational efficiency through smoother production flows, customer satisfaction through reliable availability, and competitive positioning through cost-service advantages.

Inventory information systems showed a significant positive effect ($\beta = 0.298$, $t = 4.492$, $p < 0.001$), highlighting the strategic value of technological infrastructure. Modern information systems enabled visibility into inventory positions across locations and product categories, facilitated automated reordering reducing manual effort and human error, provided analytics supporting data-driven optimization decisions, and enabled coordination across supply chain functions. Organizations leveraging advanced information systems achieved faster response to changing conditions, more informed decision-making, and continuous improvement through performance monitoring.

Among control variables, market position demonstrated a significant effect ($\beta = 0.118$, $p = 0.021$), indicating that companies with stronger market positions achieved better performance, as expected. However, company size was not significant ($\beta = 0.092$, $p = 0.090$), suggesting that performance benefits from inventory management accrued regardless of organizational scale.

Variance Inflation Factor (VIF) values ranged from 1.098 to 2.456, all well below the threshold of 10 and even the more conservative threshold of 5, indicating absence of problematic multicollinearity. This confirmed that the three

inventory management dimensions, though correlated, contributed unique explanatory power and could be reliably interpreted as distinct predictors.

5.5 Qualitative Insights

Qualitative interviews provided rich contextual understanding of mechanisms linking inventory management to performance. Respondents identified several pathways through which effective inventory management enhanced organizational outcomes. First, inventory control systems prevented losses that directly reduced profitability. The warehouse manager explained that implementation of stricter access controls and regular audits had reduced inventory shrinkage from approximately 3.2% to 1.4% of inventory value over two years, translating to significant cost savings. Second, inventory optimization practices enabled capital efficiency. The finance manager noted that efforts to reduce excess inventory of slow-moving products freed up working capital that was redirected to growth investments including production equipment upgrades and market expansion. The procurement manager emphasized that improved demand forecasting reduced emergency purchases at premium prices, contributing to cost competitiveness. Third, inventory information systems facilitated coordination and responsiveness. The production manager explained that access to real-time inventory data enabled dynamic production scheduling that responded to actual demand patterns rather than fixed plans, reducing finished goods inventory while improving delivery reliability. The sales manager noted that inventory visibility allowed sales representatives to provide customers with accurate product availability information, enhancing satisfaction and trust.

However, respondents also identified persistent challenges. Several warehouse supervisors noted that the existing information system's limited integration with production and sales systems created information gaps and required time-consuming manual coordination. The production manager highlighted that supplier unreliability for certain raw materials necessitated higher safety stocks than optimal, increasing carrying costs. The procurement officer emphasized that limited warehouse space constrained the company's ability to take advantage of bulk purchase discounts, affecting cost competitiveness.

These qualitative insights complemented quantitative findings by illuminating specific mechanisms, contextual factors, and opportunities for further improvement in Uganda Clay's inventory management practices.

6. Conclusions

This study established that inventory management demonstrated strong positive relationships with organizational performance at Uganda Clay Products Limited. The findings confirmed that effective inventory control systems, optimization practices, and information systems collectively constituted critical determinants of organizational success, explaining 58.4% of performance variance. Each inventory management dimension independently predicted performance, with inventory optimization emerging as the strongest contributor, followed by information systems and control systems.

The significant relationship between inventory control systems and performance underscored the foundational importance of security measures, documentation procedures, stocktaking practices, and reconciliation processes in

preventing losses, ensuring accuracy, and maintaining operational continuity. Organizations neglecting control fundamentals inevitably experienced shrinkage, discrepancies, and disruptions that undermined performance regardless of sophistication in other areas.

The particularly strong effect of inventory optimization highlighted the strategic value of demand forecasting, reorder point management, safety stock determination, and economic order quantity applications. These practices directly influenced the fundamental trade-off between inventory investment and service level that defined inventory management effectiveness. Organizations excelling in optimization achieved superior financial performance through reduced carrying costs, enhanced operational efficiency through minimized stockouts, improved customer satisfaction through reliable availability, and strengthened competitive positioning through cost-service advantages.

The significant contribution of inventory information systems validated the importance of technological infrastructure in modern manufacturing. Real-time tracking, system integration, data accuracy, and reporting capabilities enabled data-driven decision-making, rapid problem identification and correction, cross-functional coordination, and continuous performance monitoring. As manufacturing environments became increasingly complex and competitive, information system capabilities increasingly differentiated high-performing from average organizations.

The research contributed to supply chain management theory by empirically documenting inventory management-performance relationships in the specific context of clay products manufacturing, a sector previously underrepresented in inventory management literature. The findings extended resource-based theory by confirming that inventory management capabilities constituted organizational resources enabling competitive advantage through operational excellence and cost efficiency. For practitioners, the study provided evidence-based support for prioritizing inventory management improvements as strategic investments yielding substantial performance returns.

In Uganda Clay's specific context, the findings suggested that while the company maintained moderately effective inventory management practices supporting its market leadership position, significant opportunities existed for further enhancement. Addressing identified weaknesses in demand forecasting, real-time tracking, system integration, and reconciliation processes would likely yield meaningful performance improvements, strengthening the company's competitive position in increasingly dynamic construction materials markets.

7. Recommendations

7.1 For Inventory Control Systems

Uganda Clay should strengthen physical control mechanisms through implementation of barcode or RFID technology for automated tracking of inventory movements, reducing manual recording errors and improving accuracy. The company should increase the frequency of cycle counting, moving from monthly comprehensive stocktaking to continuous rotation counting that covers all items quarterly while maintaining operations. Discrepancy investigation procedures should be formalized with clear escalation protocols, root cause analysis requirements, and corrective action tracking to systematically address control weaknesses.

The company should enhance warehouse organization through implementation of dedicated location systems with clear labeling, ensuring that every item has an assigned storage position. This would improve picking efficiency, reduce search times, and facilitate accurate stocktaking. First-in-first-out (FIFO) inventory management should be strictly enforced, particularly for materials with limited shelf life, through physical layout designs that channel movement appropriately.

7.2 For Inventory Optimization

Uganda Clay should invest in demand forecasting capabilities through adoption of statistical forecasting methods incorporating historical sales data, seasonal patterns, economic indicators, and market intelligence. The company should establish a formal Sales and Operations Planning (S&OP) process bringing together sales, production, procurement, and finance functions monthly to align demand forecasts with supply plans and resource allocations. This cross-functional coordination would reduce forecast errors and enable proactive inventory positioning.

The company should conduct comprehensive analysis of all inventory items using ABC classification, categorizing items by value and volume to differentiate management approaches. A-items representing high value should receive intensive forecasting attention, frequent review, and tight control, while C-items could be managed through simpler rules and periodic review. Economic order quantity models should be applied systematically to B and C items to minimize total inventory costs, while A-items might warrant more sophisticated optimization approaches.

Safety stock levels should be systematically reviewed and recalibrated based on demand variability analysis and supplier lead time reliability data. The company should work toward reducing safety stock requirements not by lowering service levels but by addressing root causes of variability through improved forecasting, supplier relationship management, and process stabilization.

References

- Alex, I., & Moses, N. (2024). *Interest Rates and its Impact on Stock Prices among Small Scale Enterprises : An Empirical Evidence of Kampala District*. 8(4), 43–46.
- Amos, S., Shamirah, B., & Richard, K. (2024). *Taxation Policies and The Development of Small Businesses . A Case Study of Namungoona Lubaga Division , Kampala*. 8(6), 92–102.
- Christopher, F., Moses, N., Enosh Muhindo, M., & Ruth Komunda, T. (2022). Employee Training and Organizational Performance: A Case Study of African College of Commerce and Technology in Kabale District, South Western Uganda. *International Journal of Academic Pedagogical Research*, 6(4), 1–7. www.ijeais.org/ijapr
- Derrick, T., Nelson, K., Ariyo, D., Kazaara, G., Deus, T., Christopher, F., Catherine, M., & Ismail, L. (2023). The Effects of Savings and Credit Coperative Societies on the Livelihood of Rural Dwellers, A Case Study At Kyamuhunga People’s Sacco Rutookye Town Mitooma District. In *International Journal of Academic Multidisciplinary Research* (Vol. 7). www.ijeais.org/ijamr
- Deus, T. (2023). *Inventory Control And Financial Performance Of Private Health Institutions . A Case Study Of Nakasero Hospital , Central Division*. 7(2), 158–166.

- Faridah, N., Kazaara, A. G., & Kazaara, A. I. (2023). *An Evaluation of the Effects of Advertising on Consumer Brand Awareness in an Organization , a Case Study of Mukwano Group of Companies*. 7(3), 206–212.
- Irumba, A., Nicholas, K., & Alex, I. (2024). *Electronic Banking and its Impact on Financial Performance: An Empirical Evidence of Centenary Bank*. 3(4), 104–111. <https://www.researchgate.net/publication/380154046>
- Isaac, O., Kazaara, A. G., & Kazaara, A. I. (2023). *Assessment of the Effect of Workplace Conflict on Employees Performance and Organizational Productivity , a Case Study of Tororo General Hospital*. 7(3), 279–289.
- Ivan, M., Alex, I., & Deus, T. (2023). *Internal Auditing and Financial Performance Commercial Banks in Uganda: a Case Study of Centenary Bank Nansana Branch*. *Metropolitan Journal of Business & Economics (Mjbe)*, 2(6), 34–49.
- Julius, A. (2024). *Inventory Management Strategy and its Impact on Production Efficiency : An Empirical Evidence of Mukwano Manufacturing Industries*. 8(4), 96–99.
- Julius, A., & Nancy, M. (2025). *The Digital Crossroads : A Comparative Analysis Of OpenAI And Google AI For Enhancing Learning Among Gen Z In Ugandan Private Universities*. 9(10), 84–92.
- Kazaara, A. G., Nelson, K., & Kazaara, A. I. (2024). *Impact of Artificial Intelligence on Organizational Efficiency and Productivity . A Case Study of Metropolitan International University , Kampala Campus*. 8(8), 254–260.
- Nafiu, L. A., Oshungade, I. O., & Adewara, A. A. (2012). *Generalization of Multistage Cluster Sampling Using Finite Population*. 3(1), 17–20. www.eaas-journal.org
- Nelson, K., Christopher, F., & Milton, N. (2022). *Teach Yourself Spss and Stata*. 6(7), 84–122.
- Nelson, K., Christopher, F., Teddy, A., & Alex, A. (2022). *Customer Care and Sales Volume of Miami Hotel in Kabale District , South Western Uganda*. 6(6), 26–33.
- Ntirandekura, M., & Christopher, F. (2022). *Human Resource Recruitment and Labour Turnover in Local Human Resource Recruitment and Labour Turnover in Local Government : A Case Study of Kabale Municipality*. *International Journal of Academic Management Science Research (IJAMSR)*, 6(7), 154–159.
- Ntirandekura, M., Friday, C., & Muhammad, M. (2022). *Rewards and Staff Retention in Public Sector in Uganda: An Empirical Study from Kabale District Local Government*. *International Journal of Academic Management Science Research*, 6(7), 165–170.
- Olanrewaju, R. O., Waititu, A. G., & Abiodun, N. L. (2021). *On the Estimation of k-Regimes Switching of Mixture Autoregressive Model via Weibull Distributional Random Noise*. 10(1), 1–8. <https://doi.org/10.5923/j.ijps.20211001.01>
- Polycarp, K., Kazaara, A. G., Kazaara, A. I., Prudence, K., & Nicholas, K. (2023). *The effect of loan defaults on profitability of financial institutions in Uganda : a case study of post bank , Anaka branch , Nwoya district*. 7(3), 172–178.
- Promise, O., Henry, M., & Julius, A. (2024). *External Auditing and The Financial Performance Of Sebbi International Limited , Entebbe*. 8(6), 156–161.

- Racheal, N., Enock, Z., & Kazaara, A. G. (2023). *Impact of quality financial reporting on an organization resource management: a case study of humuza holding limited kampala uganda* 1. 2(2), 408–425.
- Ramadhan, B., Alex, I., Kazaara, A. G., Nelson, K., Deus, T., & Pascal, T. (2023). *Taxation and the Development of Small Businesses in Uganda , a Case Study of Iganga District*. 7(2), 136–149.
- Wegulo, N. A., Kazaara, A. G., Kazaara, A. I., Deus, T., Moses, N., & Charles, N. (2023). *Effect Of Public Sector Monitoring And Evaluation On Promoting Good Governance In Uganda , A Case Study Of Ministry Of Local Government*. 7(3), 227–239.