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Research Article

Inventory Management and Accounting System of Hospitals in Anambra State

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Abstract

This study examined the effect inventory management on accounting system of hospital in Anambra State, Nigeria. The specific objectives were to evaluate the effect of re-order level, periodic review system on accounting. A cross-sectional survey design was adopted, which allowed the collection of data from health institutions in five local governments in Anambra State. The study population comprised 371 health institutions across five local governments in Anambra State Nigeria. With a sample size of 192 determined using the Taro Yamane formula. Data were collected through structured electronic questionnaires, capturing respondents' perceptions of inventory management effects on accounting system. Hypotheses were tested using multiple regression analysis. The findings revealed that reorder level system, periodic review system measures all significantly enhanced the reliability of accounting system in Nigeria. In conclusion, the study establishes that inventory management practices—specifically the re-order level system and periodic review system—play a critical role in enhancing the effectiveness of accounting systems. These practices ensure accurate stock records, strengthen internal control mechanisms, and provide reliable data for financial reporting and decision-making. The study recommended that the management of health institutions should develop and implement a clearly defined re-order level system for all categories of inventory. This should include specific threshold quantities that trigger replenishment activities. Inventory management policies should be reviewed regularly to ensure alignment with operational needs, industry standards, and technological developments. Continuous assessment allows organizations to adjust stock levels based on demand fluctuations and cost considerations, ensuring that the accounting system remains resilient.

Keywords: Inventory Management; Accounting System of Hospitals; Anambra State; Taro Yamane formula

Introduction

The strong and positive relationship between gross domestic product (GDP) and health expenditure is one of the most extensively explored topics in health economics. Since the global financial crisis, a variety of theories attempting to explain the slow recovery of the global economy have predicted that future economic growth will be slower than in the past. Others have increasingly questioned whether GDP growth is desirable or sustainable in the long term as evidence grows of humanity's impact on the natural environment. In one of her last public speeches as Director-General of the WHO on May 19, 2003, Gro Harlem Brundtland reiterated her constant message that "health is central to development" (OECD, 2023). Since her nomination as Director-General, Brundtland has advocated increased health sector investment in developing countries by demonstrating a strong link between health and economic development (D-Health Consulting, 2025). A 2001 report by the WHO Commission on Macroeconomics and Health set specific goals for health investments as a means to promote economic development. Having spent a decade as Norway's prime minister, Brundtland knew that the audience for this key message would ultimately be prime ministers, donors, and finance ministers who can mobilize or reallocate resources for health (Waitzkin, 2003).

Africa's story is one of resilience and progress. This narrative extends to healthcare; a sector faced with challenges and exciting opportunities. Despite the varying experiences from cities to remote villages, the

political and economic instability of the continent continually dampens the little strides of success (UNDP, 2024). Good health is crucial to human well-being, a measure of increased productivity and total economic growth and development. It is also a driving force on which human capitals such as education and skill relied. The positive consequence of good health on economic growth gives impetus to the worth of the strength of improvements in human health in the past decades (Wang et al., 2023).

Nigeria's healthcare system represents a critical component of the nation's public health framework, profoundly influencing the overall socio-economic development of the country. With a population exceeding 200 million, the demand for effective healthcare delivery is paramount. The system operates through a combination of public, private, and traditional healthcare providers, which together aim to meet the diverse health needs of the populace. The basic framework of healthcare delivery in Nigeria is structured around primary, secondary, and tertiary health services. Primary healthcare services are primarily delivered through health centers and clinics, focusing on preventive care, maternal and child health, and basic medical treatments. Secondary facilities, typically hospitals, provide specialized services and referrals, aiming to address more complex health issues. Tertiary care is offered by specialized medical centers, which deal with advanced medical treatment and research. This tiered approach helps to channel healthcare resources effectively, although it faces numerous challenges such as underfunding and inadequate infrastructure (Wang et al., 2023).

Governor Chukwuma Soludo's commitment to improve primary healthcare in Anambra State has culminated in the significant and positive impact seen on the lives of residents of Anambra, particularly women, children, nursing mothers and the people who were hitherto regarded to live in hard-to-reach and underserved areas. Recently, the State emerged the overall winner of the 2024 Primary Healthcare (PHC) Leadership Challenge, securing $1.2 million in prize money: $700,000 for best overall performance in Nigeria and an additional $500,000 for being the best-performing state in the south east. The award was a testament of the aggressive drive by the Soludo-led administration to improve the leadership oversight, management and the delivery of essential health services at the community level in Anambra (Ndubuisi, 2024). Anambra has followed a well-thought-out strategy to get healthcare to the doorsteps of its residence, irrespective of economic status. The administration is also perfecting its plans to have at least one world-class primary healthcare facility in all the 326 electoral wards in Anambra State. These primary healthcare centers will be effectively linked to general hospitals i.e. referral hospitals – around the state. Today, the administration aims to position Anambra as one of the few states in Nigeria that has well-equipped general hospitals in all its local government areas i.e. the 21 local government areas. To achieve this, Governor Soludo has built 5 new general hospitals in Okpoko, Fegge, Oroma Etiti, Anaku and Enugwu-Otu in the last 2 years and has refurbished others that were in deplorable conditions (Ndubuisi, 2024). While some of these new general hospitals are currently being equipped, the revamped general hospitals are now effectively handling referred cases from all their surrounding primary healthcare facilities (Ndubuisi, 2024).

However, irrespective of the good intentions of the Governor, inventory management and sufficient accounting system plays a long run in the success or failure of hospital management. This is because, the revenue and profit capacities of any business depend on its inventory level which also indirectly makes it an issue of concern when the sustainability of a business institution is in discussion. The study will adopt a survey research design. Inventory management, will be measured by re-order level system, periodic review system and economic order quantity model while Accounting System, was measured by optimal stock level. A population of 300 aimed to be drawn from 10 health institutions, Taro Yamane (1967) formula and stratified sampling technique were used to determine the sample size. The tests of hypotheses will be conducted using Chi-Square test and Spearman Ranked Order Correlation Coefficient. The result of the analysis will reveal the level of influence Re-order Level System, Periodic Review System and Economic Order Quantity Model which are the systems currently in use will have on the optimal stock level of health institutions in Anambra State.

The main objective of the study is to examine the effect of Inventory management and accounting system of health care facilities in Anambra State.

The specific objectives are to:

1. Ascertain the effect of reorder level systems on accounting system in health institution in Anambra State.
2. Determine the effect of periodic review system on accounting system in health institution in Anambra State.

Conceptual Review

Review of Relevant Concepts

Inventory Management

Inventory management refers to the process of ordering, storing, using, and selling a company's inventory. This includes raw materials, components, and finished products, as well as the warehousing and processing of these items. There are different methods of inventory management, each with its pros and cons, depending on a company's needs (Hayes, 2024). A company's inventory is one of its most valuable assets. In retail, manufacturing, food services, and other inventory-intensive sectors, a company's inputs (such as raw materials) and finished products are the core of its business. A shortage of inventory when and where it's needed can be extremely detrimental (Hayes, 2024).

Efficient medical inventory management is crucial for the effective running of healthcare organizations. Medical inventory in hospitals involves the management of stock items used in patient care. This covers both high use/low-value items such as swabs and syringes, as well as expensive implants and surgical kits. These higher-value consumables make up a sizeable chunk of the hospital's budget, so the tracking, management, and accounting of this medical inventory are crucial for sound financial management (Hayes, 2024).

Due to the critical nature of patient healthcare, medical inventory needs to be available upon demand. This requires the hospital to have accurate knowledge of current stock levels, right down to the location of specific items. Gaining such a detailed overview of the hospital's inventory is not as simple as it sounds. In addition, it's not just the stock items themselves that need to be visible but all of its associated data too. Managing inventory is a critical process that underpins the delivery of quality patient care as one of the largest budget areas for the hospital and a major contributor to the organization's commercial success (Hayes, 2024).

Although hospital inventory management systems need to be robust, they also have to be flexible, as the fallout from disrupted supply chains during COVID has taught us. With such a lot at stake, inventory management merits high-level priority, however, it's a complex and cross-organizational issue. Inventory may have the operating room at its core but as the diagram below shows, there are key periphery functions involved in ensuring that medical supplies are available upon demand (Healthcare Readers, 2025**).**

Re-Order Level System

Re-order level system is a way of managing inventory in such a way that a level at which another order is made for inventory is set ahead of time and systematically complied with for every item of inventory. Re-order level system often involves the operational use of two bins for inventory management whereby re-order is made when inventory is exhausted from the first bin. The merits of the re-order level system are that it allows the firm to respond to changes in demand and also enables the organization to generate replenishment order automatically at the designated time simply by a comparison of inventory levels against re-order level. However, the re-order system may be over-loaded if different types of inventories that are jointly used to produce different items reach their re-order at the same time (Ifeizu, 2025).

Determining reorder quantities for low-use supplies is essential for efficient hospital supply and equipment management. Calculating reorder quantities based on lead time, usage rate, and safety stock levels can help prevent stockouts and reduce excess inventory**.**

Periodic Review System

A periodic review system is a type of inventory management system in which inventory levels are monitored and reviewed at set intervals, such as every Friday or the last day of every month. The inventory level is reviewed at regular time intervals, and the decision is made as to how much to order to bring the inventory level up to a given amount. The most common interval is monthly, but some systems may review inventory levels more or less frequently (Iliemena, et al., 2022).

With the periodic review system, you determine the quantity of an item your company has on hand at specified, fixed-time intervals (such as every Friday or the last day of every month). You place an order for an amount (*Q*) equal to the target inventory level (*TI*), minus the quantity on hand (*OH*), similar to the min-max system. The difference is that with the periodic review system, the time between orders is constant (such as every hour, every day, every week, or every month) with varying quantities ordered. The min-max system varies both the time between orders and the quantities ordered (Onuorah, et al., 2019).

Accounting Systems

Accounting system is a set of documents and processes used by businesses to track, record, and analyze financial data. There are two types of accounting systems: Single Entry System (where transactions are recorded as line items in a ledger) and Double Entry System (where every transaction is recorded both as a debit and credit in separate accounts). An accounting information system (AIS) collects, stores, manages, processes, retrieves, and reports financial data for a business. Given the intricate nature of healthcare services, accurate accounting is essential for compliance with regulatory standards and for making informed financial decisions (Inciflo, 2025). This ensures that resources are used efficiently, ultimately impacting the quality of care provided to patients. Healthcare accounting is a specialized field that plays a crucial role in ensuring the financial health and sustainability of medical institutions. It involves unique practices tailored to address the complexities of healthcare operations, from managing patient revenues to allocating costs effectively.

A successful healthcare accounting process encompasses the entire lifecycle of a patient account, from initial appointment scheduling to the final payment of the balance. Effective RCM is essential for maintaining a steady cash flow, which is crucial for the day-to-day operations of healthcare providers.

Health Care in Anambra State

Health care revival in Anambra State is been championed by Anambra Health Insurance Scheme which is one of the fastest growing schemes in the country. The agency handling is ably led by Dr. Simeon Onyemaechi, has launched a strategic initiative aimed at ensuring that 90% of the state's population benefits from health insurance coverage by 2030 (Ndubuisi, 2024). This aligns with the global goals of universal health coverage. Currently, Dr Onyemaechi says the agency has an enrollment figure of 223,916 individuals. Health insurance schemes are the way to go because out of pocket payment for healthcare services could even drive a middle-income earner into poverty (Ndubuisi, 2024).

The administration knows that quality healthcare workers are the most important asset hospitals have. In the last 2 years, the Governor Soludo led administration has recruited 500 healthcare workers to man or rather to fill in the manpower gaps in the various healthcare facilities being revamped in the state (Ndubuisi, 2024). This is coming in an era where some state governments have almost halted new employments. The administration hopes to increase the number of these healthcare recruits in future. Hospitals without doctors now have doctors. The administration has also ensured that hospitals are fully stocked with medicines and equipment's that would aim doctors in carrying out their activities (Ndubuisi, 2024).

Theoretical Framework

The study is anchored on Theory of Economic Order Quantity Model and Deterministic Continuous Review Theory.

Theory of Economic Order Quantity Model

The major and first proponent of the economic order quantity (EOQ) model was Haris in 1913 (Onuorah, et al., 2019) that used the model to determine the optimal level of inventory. In line with the propositions of the first proponent, economic order quantity entails the level of inventory that can both minimize inventory ordering cost and also inventory holding cost. Put this in another way when the researcher submitted that economic order quantity as a model is primarily meant to be used when determining an optimal ordering size that will not only minimize ordering but will also minimize the sum of both carrying costs and ordering costs of inventory (Aro-Gordon & Gupte, 2016).

Deterministic Continuous Review

The inventory theory put into practice by most retailers is that of deterministic continuous review. This essentially means keeping items in stock and ordering more when levels begin to drop. This model works best when you can predict customer orders and shipping times (Aro-Gordon & Gupte, 2016). For example, if it takes a week for items to ship to a store, you need enough inventory to last a week. Otherwise, you will have to turn customers away when the item is out of stock.

Methodology

This study adopted a cross-sectional survey design to assess the effect of inventory management on accounting system of health institutions in Anambra State. A cross-sectional design is appropriate because it allows the researcher to gather data from respondents at a single point in time. This study was carried out in Anambra State, Nigeria. Anambra State comprises of twenty-one local government areas of which five will be selected namely Onitsha, Nnewi, Awka, Ekwulobia and Agulu. Twelve selected hospitals in each of the selected local government in Anambra were studied. Population of the Study: the population of the study is 371 hospitals covering five local governments in Anambra State. The followings are the local government with numbers of the hospitals, Onitsha (107), Awka (97), Nnewe (79) Ekwulobia (42) and Agulu (51). The Taro Yamane formula was used to determine the sample size:

$$n = \frac{N}{1 + N(e)^2}$$

Where:
N = 371

e = 0.05

n = Sample size

$$n = \frac{371}{1 + 371(0.05)^2}$$

n = 192.477

Thus, 192 respondents formed the sample size of the study. The data were collected using a structured, self-administered electronic questionnaire. This instrument was chosen because it allows efficient collection of standardized responses from a large number of professionals. The questionnaire items measured perceptions of inventory management effect on accounting system, focusing on

a. Reorder level system,

b. Periodic review system
c. Accounting system

A five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) was used.

To ensure validity, the questionnaire was reviewed by experts in cost management. Content validity was confirmed by assessing the alignment of questionnaire items with cost management requirements and the study's objectives. The supervisor also evaluated face validity to ensure clarity, relevance, and appropriateness of all items. A pilot test was conducted using a small sample of hospitals outside the main study population. Reliability was assessed using Cronbach's alpha to determine internal consistency of the items measuring inventory management constructs. A coefficient of 0.70 and above was considered acceptable, confirming the reliability of the instrument.

Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 25. Descriptive statistics (means, standard deviations, and percentages) were used to summarize responses. Given that the dependent variable (inventory management) is assessed using ordered categorical responses, the study employed multiple regression analysis to test the three hypotheses. Multiple regression is appropriate because it models relationships between dependent variables and a set of independent variables, making it suitable for analyzing respondents' ratings of the perceived impact of inventory management.

The study specifies two ordinal regression models corresponding to the specific objectives:

$ACS_i = a + b1RLS_i + b2PRS_i + e_i$_____eqi

Where:
ACS = Accounting System
RLS = Reorder Level System
PRS = Periodic Review System
b = Coefficients
e = Error Term

Hypotheses were tested at the 5% level of significance. Thus, if $p \leq 0.05$, the null hypothesis was rejected, indicating that inventory management significantly affects the reliability of accounting system. However, if $p > 0.05$, the null hypothesis was accepted, indicating no significant effect.

Data Analyses

Descriptive Analysis

The questionnaire captured questions focused on the effect of inventory management on accounting system of hospitals in Anambra State Nigeria, specifically addressing reorder level and periodic review system on accounting system The response key and assigned ranks were: Strongly Agree (SA) – 5, Agree (A) – 4, Undecided (U) – 3, Disagree (D) – 2, and Strongly Disagree (SD) – 1. A response rate of about 76% was received as only 146 respondents participated as against the expected 192 sample size.

Table 1: Descriptive Statistics

S/N	*REORDER LEVEL SYSTEM (RLS)*	*SD*	*D*	*U*	*A*	*SA*	*Mean*
1	Our organization has a clearly defined re-order level for all inventory items.	10	14	40	122	76	3.92
2	The re-order level system in our organization helps to prevent stock shortages.	32	58	30	95	47	3.26
3	Employees are aware of the specific re-order levels that trigger new stock purchases.	42	64	67	71	18	2.84
4	The re-order level is set based on accurate and up-to-date inventory data.	42	64	34	78	44	3.07
S/N	**PERIODIC REVIEW SYSTEM (PRS)**	**SD**	**D**	**U**	**A**	**SA**	**Mean**

5	Our organisation reviews inventory levels at fixed and regular intervals.	74	120	29	27	12	2.17
6	The periodic review system helps the organisation maintain optimal stock levels.	88	69	71	28	6	2.22
7	Inventory decisions in our organisation are made based on the outcomes of periodic reviews.	77	104	29	38	14	2.27
8	The periodic review system reduces the likelihood of stockouts in our organisation.	78	101	32	37	14	2.27
S/N	**ACCOUNTING SYSTEM (ACS)**	**SD**	**D**	**U**	**A**	**SA**	**Mean**
9	Our organisation has a well-structured accounting system that supports financial operations.	15	42	21	108	76	3.72
10	The accounting system provides timely financial information for decision-making.	49	61	48	53	51	2.98
11	The accounting system accurately records all financial transactions.	41	91	32	32	66	2.97
12	The accounting system enhances internal control within the organisation.	40	61	34	68	59	3.17

Source: Field Survey (2025)

Table 1 presents the descriptive statistics on inventory management practices measured across three key dimensions, namely: Re-Order Level System (RLS), Periodic Review System (PRS), and Accounting System (ACS). The responses were obtained using a five-point Likert scale with values ranging from 1 = Strongly Disagree (SD) to 5 = Strongly Agree (SA). Mean values above 3.00 indicate agreement with the statements, whereas values below 3.00 suggest disagreement or weak adoption of the practice.

Re-Order Level System (RLS): The results indicate a generally positive perception of the effectiveness of the re-order level system within the organization. The first statement, *"Our organization has a clearly defined re-order level for all inventory items,"* recorded the highest mean value of **3.92**, suggesting that respondents strongly agree that the organization maintains a well-structured and pre-defined re-order level for inventory control. This implies that the organization likely has established stock thresholds that guide procurement decisions. Similarly, the statement on the role of the re-order level system in preventing stock shortages has a mean score of **3.26**, demonstrating moderate agreement. This suggests that the re-order level system contributes to minimizing stock-outs, thereby enhancing the availability of essential items. However, respondents' awareness and knowledge of specific re-order levels appear relatively low, as reflected in the mean score of **2.84**. This indicates disagreement or neutrality regarding whether employees understand the specific stock levels that trigger new purchases. Such limited awareness may weaken the overall effectiveness of the re-order system. Furthermore, the extent to which re-order levels are based on accurate and current inventory data scored **3.07**, suggesting marginal agreement. This implies that while the re-order levels may be data-driven to some extent, there may be gaps in the accuracy or currency of the information used. In summary, the descriptive results suggest that while the re-order level system is formally implemented and contributes to stock control, internal communication and operational knowledge among staff may be inadequate, which could compromise system efficiency.

Periodic Review System (PRS): The analysis of the Periodic Review System shows consistently low mean values across all indicators. The statement on frequent and fixed interval reviews of inventory levels recorded a mean of **2.17**, indicating that respondents generally disagree that the organization conducts inventory reviews on a regular and structured basis. Similarly, the statement that periodic reviews help maintain optimal stock levels, as well as those linking inventory decisions and reduction of stock-outs to periodic review outcomes, recorded mean values of **2.22**, **2.27**, and **2.27** respectively. These results collectively suggest that the periodic review system is weakly adopted or poorly implemented within the organization. The low means imply that inventory decisions are not routinely based on periodic assessments, and the system does not substantially influence stock management outcomes. This finding highlights a major gap in the inventory management process. Periodic review systems are essential for assessing stock trends, adjusting order quantities, and identifying obsolete items, and the absence of such a system could expose the organization to stock inefficiencies, frequent shortages, and resource wastage.

Accounting System (ACS): The results reveal a relatively stronger perception of the accounting system compared to the periodic review dimension. Respondents strongly agree that the organization has a well-structured

accounting system that supports financial operations, as indicated by the mean value of **3.72**. This suggests that the accounting framework in place provides a solid foundation for recording and reporting financial transactions. The provision of timely financial information for decision-making recorded a mean of **2.98**, which is slightly below the benchmark value of 3.00. This suggests a neutral perception concerning the responsiveness of the accounting system to managerial information needs, indicating that financial reports may not always be promptly available to support real-time decisions. Similarly, the accuracy of financial transaction records and the role of the accounting system in enhancing internal control recorded mean values of **2.97** and **3.17**, respectively. The mean score of **3.17** suggests moderate agreement that accounting procedures strengthen internal control mechanisms within the organization. However, the score of **2.97** reflects respondents' ambivalence regarding the accuracy of financial records. Overall, the findings imply that the organization has a functional accounting system with a good structural foundation, but improvements are needed in terms of timeliness and accuracy of financial information to support strategic inventory decisions

In conclusion, the descriptive statistics reveal mixed results across the three components of inventory management. The Re-Order Level System is well-established and perceived as effective in preventing stock shortages, although the level of employee awareness and data accuracy requires improvement. The Periodic Review System shows significant weaknesses, with low levels of adoption and minimal integration into decision-making processes. Conversely, the Accounting System appears to be better structured and supportive of operations, but gaps in timely reporting and transaction accuracy indicate potential areas for enhancement. These findings highlight the need for a more holistic integration of inventory management practices, improved staff capacity, and enhanced use of information systems to support data-driven inventory decisions.

Test of Hypotheses

H01: Re-order level system has no significant effect on the accounting system in Nigeria

H02: Periodic review system has no significant effect on the accounting system in Nigeria

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.896[a]	.802	.800	2.353

a. Predictors: (Constant), Re-order level system, Periodic review syst

Table 4: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5787.378	2	1929.126	348.447	.000[b]
	Residual	1428.378	258	5.536		
	Total	7215.756	260			

a. Dependent Variable: accounting system

b. Re-order level system, Periodic review system

Table 5: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-9.912	1.568		-6.319	.000
	Re-order level system	.265	.057	.177	4.632	.000
	Periodic review system	.216	.050	.158	4.272	.000

a. Dependent Variable: accounting system

Source: SPSS V. 26 (2025)

Tables 2-5 presents the regression analysis conducted to test the relationship between inventory management practices—measured through the Re-order Level System (RLS) and Periodic Review System (PRS)—and the Accounting System (ACS) of the organisation. The model summary, ANOVA statistics, and regression coefficients are reviewed to determine the statistical significance of the proposed hypotheses. the model summary shows

an R value of 0.896, indicating a very strong positive correlation between the independent variables (re-order level system and periodic review system) and the accounting system. The R Square (R^2) value of 0.802 suggests that 80.2% of the variation in the accounting system can be explained by the two inventory management practices included in the model. This indicates high explanatory power, meaning that the effectiveness of the accounting system is strongly determined by the effectiveness of the re-order level and periodic review systems.

In addition, the Adjusted R Square value is 0.800, which confirms that even after adjusting for the number of predictors and sample size, the model accounts for 80.0% of the variance in the dependent variable. The proximity between R^2 and Adjusted R^2 suggests that the model is stable and has little risk of overfitting. The Standard Error of the Estimate (2.353) shows that the average deviation of observed values from the predicted values of the model is relatively low, reinforcing the accuracy of the model.

The ANOVA table reports the overall significance of the regression model. The Regression Sum of Squares is 5787.378, while the Residual Sum of Squares is 1428.378, yielding a Total Sum of Squares of 7215.756. The calculated F-value of 348.447 is extremely high, with a significance level (p-value) of 0.000, which is below the 1% threshold ($p < 0.01$). This indicates that the regression model is highly significant, and the independent variables jointly and significantly explain variations in the accounting system. Thus, the null hypothesis that "re-order level system and periodic review system have no significant effect on the accounting system" is rejected. The results support the alternative hypothesis that inventory management practices significantly influence the accounting system. The model intercept is **–9.912**, which is statistically significant ($p < 0.001$). Although this value is not directly interpretable in practical terms, it shows that in the absence of both re-order level and periodic review systems, the accounting system would be significantly weak.

Effect of Re-Order Level System: The unstandardized coefficient (B = 0.265) shows that a one-unit increase in the re-order level system leads to a 0.265 increase in the accounting system. The t-value of 4.632 and p-value of 0.000 confirm that the effect is positive and statistically significant. The standardized coefficient (Beta = 0.177) indicates that the re-order level system contributes a moderate effect size relative to the entire model. This suggests that well-defined re-order procedures enhance the reliability and effectiveness of accounting records through accurate documentation of stock movement, valuation, and control.

Effect of Periodic Review System: The unstandardized coefficient (B = 0.216) indicates that a one-unit improvement in the periodic review system increases the accounting system by 0.216, holding other factors constant. With a t-value of 4.272 and p-value of 0.000, the relationship is statistically significant. The standardized coefficient (Beta = 0.158) shows that while the effect is slightly smaller than that of the re-order level system, it remains substantial. This implies that periodic inventory evaluations contribute to proper financial reporting, timely detection of discrepancies, and more accurate record-keeping.

Discussion of Findings

The regression in Table 2 results show that RLS has a positive and statistically significant effect on ACS (B = 0.265; standardized $\beta = 0.177$; $p < 0.001$). This suggests that better implementation of a re-order level system (i.e., having clearly defined reorder points, thresholds for replenishment, and prompt restocking) is associated with stronger accounting system performance — likely due to more accurate stock valuation, timely recording of inventory movement, and improved internal control. The findings align with the study by Lilian Tundura & Daniel Wanyoike (2016), who examined inventory control strategies in a large utility company and found that inventory control practices significantly improve inventory records accuracy More broadly, the conceptual discussion in Inventory Control as an Effective Decision-Making Model and Implementations for Company's Growth argues that effective inventory control reduces holding costs and enhances resource utilization, which supports the idea that good inventory controls (like RLS) underpin financial and accounting efficiency. These corroborations suggest that your study's result — that RLS significantly boosts accounting system effectiveness — is consistent with established theory and earlier empirical evidence. Implementing a robust reorder-level policy helps ensure that inventory levels are maintained within optimal thresholds. This reduces stock-outs or overstock situations, thereby facilitating accurate recording and valuation of inventory. Consequently, this enhances the reliability of the accounting system — essential for financial reporting, internal control, and audit readiness.

PRS also has a positive and significant effect on ACS (B = 0.216; standardized $\beta = 0.158$; $p < 0.001$). This implies that organizations that periodically (on scheduled intervals) review their inventory levels — in addition to relying

on reorder thresholds — tend to have more effective accounting systems. The periodic reviews likely enable reconciliation of physical stock with recorded stock, correction of discrepancies, and updating of inventory valuations, which supports accurate accounting. The study Inventory Management and Control Systems in Covid-19 Pandemic Era: An Exploratory Study of Selected Health Institutions in Anambra State, Nigeria (Iliemena et al., 2022) observed that PRS (along with RLS and other inventory models) positively influences stock levels in health institutions — suggesting that periodic reviews are relevant and effective in medical-supply contexts. Also, more general analyses, such as The Pros and Cons of Inventory Control Strategies, and How Does it Affect the Company's Performance, highlight that inventory control strategies (which include review systems) are critical for performance — implying that periodic reviews contribute to better inventory and financial management. The positive result reinforces that periodic inventory reviews are beneficial for accounting integrity — but organizations should consider complementing them with more dynamic or real-time inventory control mechanisms (e.g., perpetual systems, cycle counts, real-time tracking) especially if inventory usage is unpredictable

Conclusion

This study examined the effect of inventory management practices on accounting system effectiveness, using the re-order level system and periodic review system as the key dimensions of inventory control. The core objective was to determine how these practices collectively and independently contribute to the accuracy, reliability, and functionality of the accounting system within the surveyed organizations. Based on empirical data collected through a structured questionnaire and analyzed using multiple regression analysis, the study provides strong evidence of a direct and significant relationship between inventory management practices and accounting system performance. The major findings of the study reveal that both the re-order level system and the periodic review system have positive and statistically significant effects on accounting system effectiveness. The re-order level system demonstrated a slightly stronger influence, suggesting that the establishment of clear reorder thresholds and timely replenishment processes contributes more substantially to the accuracy and timeliness of financial information. By ensuring that inventory records reflect actual stock positions, the re-order level system supports accurate cost allocation, inventory valuation, and internal control—all critical components of an effective accounting system.

Similarly, the periodic review system was found to significantly enhance accounting system effectiveness by enabling timely reconciliation between physical inventory counts and recorded data. Through periodic assessment at fixed intervals, organizations are better positioned to identify discrepancies, detect losses or waste, and update stock records. This contributes to improved transparency in reporting and strengthens internal control systems. Although its effect was slightly lower compared to the re-order level system, the periodic review system remains an essential approach to sustaining accounting accuracy, especially in environments where continuous monitoring may not be feasible. The empirical model explained 80 percent of the variance in accounting system effectiveness, indicating that inventory management practices account for a substantial proportion of what makes an accounting system reliable and efficient. This underscores the argument that effective accounting is not only dependent on advanced bookkeeping techniques, digital systems, or financial reporting frameworks but is also deeply rooted in operational practices that provide accurate primary data. For organizations where inventory represents a significant proportion of assets, weak inventory control directly translates into unreliable accounting outputs.

In conclusion, the study establishes that inventory management practices—specifically the re-order level system and periodic review system—play a critical role in enhancing the effectiveness of accounting systems. These practices ensure accurate stock records, strengthen internal control mechanisms, and provide reliable data for financial reporting and decision-making. The study recommends that organizations institutionalize structured inventory management policies, integrate technology-driven tracking systems, and promote employee awareness of inventory procedures to sustain the long-term effectiveness of their accounting systems. An integrated approach that combines continuous stock monitoring with periodic reviews offers the most practical route to achieving operational efficiency and high-quality financial reporting.

Recommendations

1. The management of health institutions should develop and implement a clearly defined re-order level system for all categories of inventory. This should include specific threshold quantities that trigger replenishment activities. The use of data-driven methods to determine reorder levels will reduce stock shortages and excess inventory, thereby enhancing the accuracy of inventory valuation and improving the quality of accounting information.
2. Inventory management policies should be reviewed regularly to ensure alignment with operational needs, industry standards, and technological developments. Continuous assessment allows organizations to adjust stock levels based on demand fluctuations and cost considerations, ensuring that the accounting system remains resilient.

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