

# Inventory Control And Financial Performance Of Private Health Institutions. A Case Study Of Nakasero Hospital, Central Division Kampala, Uganda.

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**Abstract:** *The main objective of the study was to examine the relationship between inventory management and the financial performance of private healthcare facilities in Uganda, using Nakasero Hospital in the Central Division of the Kampala District as a case study. As recommended by other scholars, the literature was compiled from various journals, Google magazines, and books. A convenience sampling method was used to select a sample of 208 respondents for the study, that had a cross-sectional survey research design. The hospital staff members completed self-administered questionnaires that served as the investigation's data collection tools and instruments. The STATA and SPSS software packages were utilized in the study's analysis of the field data. A dummy variable model also aided in analyzing data. The findings at the correlation level show that material handling and purchase orders were significant, indicating that they had a positive effect on the financial performance of private healthcare providers. Material handling and reverse logistics, however, have a significant influence on the financial performance of private health institutions at a regression level. The study recommended that more focus be placed on using purchase orders because it was found that they significantly increase private hospitals' performance. It also suggested that the management improve proper disposal of spent materials and storage of items at the appropriate temperature.*

**Keywords:** Inventory Control, Financial Performance And Private Health Institutions

## Background of the study

Inventory is characterized as the raw materials, work-in-progress, finished goods, and supplies needed to produce a company's goods and services by Coyle et al. Furthermore, it refers to the size and/or cost of the commodities that a company has on hand. In this study, inventory control refers to the process of making sure that a business keeps the right amount of stock on hand to quickly meet customer demands while incurring the fewest costs related to stock holding.

Globally, inventory control is actually recommended. Effective stock leadership is essential for any company operating a health institution because, in the absence of sufficient stock, private health institutions' financial performance will suffer (UN, 2016). Poor inventory control, defined in Africa as the uncertainty and variability of the timing and substance of information flow and goods circulation, is thought to negatively impact an institution's financial performance through uncertain planning, increased costs, stock outs, and delays. Therefore, actions must be taken, specifically focusing on inventory, to address the risks and dynamics that affect each healthcare institution's financial performance. However, in order for this to be effective, tactics at the tactical and strategic levels of financial performance must be used. Important inventory control must be developed to increase high levels of financial success (Gudum, 2012).

In Uganda, it is impossible to overlook the effects of inventory in an endeavor to find good health and thus its control is very vital. It is for this reason that the Ministry of Health (MOH) has a motto that states 'your health is our concern'. Again the theme for the national health policy in the year 2018 was 'creating wealth through health' (Mwebesa, 2020). It is becoming imperative for managers of inventories in the private health institutions to design and implement a flawless system of managing their stock of raw materials to assure quality of supply to the operating points to improve health care delivery in hospitals

The best private hospital in Kampala, Nakasero hospital, sees and over 80 patients each day and is relatively inexpensive (.Musenero, 2020). Due to this, the hospital now needs to purchase and store both medical and non-medical supplies in order to accommodate the patients (patients). Hospitals commonly experience problems with stock management such as item shortages, holding too much inventory, a significant amount of obsolete inventory, and stock losses that have an impact on productivity.

Financial performance, according to Dalvin (2015), relates to a company's capacity for earning money or profits. Financial performance of private health facilities in this study refers to the effectiveness and efficiency of service delivery as well as general quality financial reporting.

The study was performed at Nakasero Hospital in the central Kampala district because it had recently come to light that private health institutions, particularly those in central Uganda, had overlooked inventory control and as a result, were not supplying individuals with strong health insurance (MOH, 2018). The location was chosen by the researcher since it has been there for a while and serves hundreds of customers every day—roughly 300. Therefore, inventory control must be implemented to support efficient operation of such an organization, ensuring the researcher will gather pertinent data for this study.

### **Problem statement**

Numbers of health institutions have been challenged by inventory control over time. The resources at Nakasero hospital are inadequate for all the population that tend to access the services. This has been due to several factors for example corrupt officials, poor storage facilities, high cost of inventory, selection of suppliers, delivery problems, stock obsolescence, inadequate funds and among others. In Uganda, inventory control and management has garnered a lot of attention in most of health institutions. This has also contributed to low levels of financial performance in both private health institutions and government health institutions like Nakasero hospital. Inadequate resources like drugs in private hospitals have caused many deaths of Ugandans in Kampala and the world at large. The government of Uganda has encouraged the use of inventory control in both public and private health institutions in order to improve service delivery and financial performance in general. Private health institutions have recruited qualified staff in inventory department units (MOH, 2017). Despite all the efforts by the government and owners of private health institutions still the inventories are not well controlled. This research therefore, will aid in the exploration of the unique relationships between the many criteria discussed previously in this research.

### **Specific objectives**

1. To examine the effect of material handling on financial performance of Nakasero hospital, Central division.
2. To establish the effect of purchase orders on the financial performance of Nakasero hospital, Central division.
3. To determine the effect of reverse logistics on the financial performance of Nakasero Hospital, Central division.

### **Hypothesis**

Ho: There is no significant relationship between the material handling and financial performance of Nakasero hospital, Central division.

Ha: There is a significant relationship between the material handling and financial performance of Nakasero hospital, Central division.

Ho: There is no relationship between purchase orders and the financial performance of Nakasero hospital, Central division.

Ha: There is a relationship between purchase orders and the financial performance of Nakasero hospital, Central division.

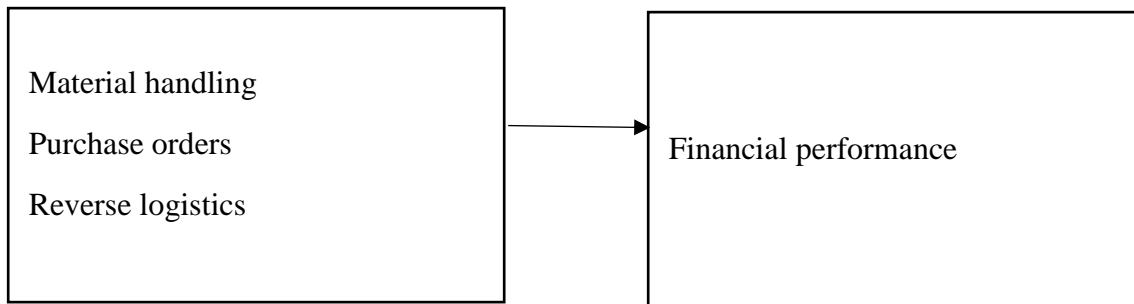
Ho: There is no significant relationship between reverse logistics and financial performance of Nakasero Hospital, Central division.

Ha: There is a significant relationship between reverse logistics and financial performance of Nakasero Hospital, Central division.

**Conceptual frame work.**

Inventory control (independent variable)

financial performance (dependent variable)



**Source: Developed by the researcher Adopted from (Anichebe, 2013)**

The above figure explains how the dependent variable, explained the independent variable and it shows how each variable was being measured.

The independent variable (inventory control) was measured in terms material handling, reverse logistics and purchasing orders.

**Operational definitions**

There are no sources in the current document.

**Inventory**

Inventory refers stock is the accumulation of all kinds of incoming consignment needed for production which can be in the form of solid, liquid, gaseous, semi-finished or components parts from outside suppliers, stored, and issue out as and when they are needed.

**Inventory Control**

Inventory control is simply keeping materials in good condition so that it is not stolen or pilfered and that it is supplied when it is needed.

**Inventory management**

Inventory management is the prudent management of raw materials, parts, works in progress, and finished goods, that is necessary to ensure capital investment returns and the visible availability of stock levels to prevent opportunity cost'.

**Financial performance**

Financial performance refers the ability of the business to earn revenue or profits through practicing the necessary record keeping accounting and management of the financial transactions.

**Material handling**

Material handling can be defined as a discipline that integrates scientific principles of management to determine the most efficient and optimal methods of keeping stock in good conditions.

**Purchase orders**

Purchase orders are documents from a customer to a supplier indicating items and quantities to be purchased. They play a significant role in a supply chain's ability to support a firm's competitive strategy and that the firm's competitive strategy requires very high level of responsiveness, a company can achieve this responsiveness by locating large amounts of inventory close to the customer.

### **Financial reporting**

Financial reporting is largely an effort to assess financial performance, that is, how well or how poorly an entity performed with money entrusted to it. Financial decisions include computerized accounting and spending money as well as making promises that have financial consequences. Financial reporting is considered a part of accountability for financial decisions. Exactly, the quality of financial reporting depends upon how the financial data is handled right from the point of data collection to the processing stage that leads to the production of meaningful financial information in terms of reports. Major models are considered in this context, manual or computerized accounting.

### **Quality**

According to the Health Policy (2017), quality is the level of excellence of a particular system. It is becoming imperative for managers of inventories in the private health institutions to design and implement a flawless system of managing their stock of raw materials to assure quality of supply to the operating points to improve health care delivery in hospitals

## **METHODOLOGY**

### **Research Design**

The plan and arrangement of an investigation established to find the answers to the research questions is known as the research design. We employed a descriptive survey design. A survey is used to gather initial information on a population that is too vast to be seen in person (Mount, 1996). In a survey, a sample of people are asked to provide information about themselves by responding to a series of questions that the researcher has prepared. In this study, information was gathered through a self-administered questionnaire that the researcher individually gave to the participants in the study. A descriptive survey was chosen because it adequately depicts or accounts for the traits of a particular individual, situation, or group, such as their behavior, opinions, abilities, beliefs, and knowledge. This design was chosen to meet the objectives of the study.

### **Data source**

The study applied primary and secondary data. Primary data was provided by respondents in the study whereas secondary data which was obtained from previous reports at the hospital, internet searches and journal paper would be used to backup secondary data.

### **Population of the study**

According to Burns and Grove (1993), a population is defined as all elements (individuals, objects and events) that meet the sample criteria for inclusion in a study. The target population of the study consisted of staff from the Finance and Administration Department, Records Department, Stores Department and Pharmacy from Nakasero Hospital.

### **Sample Size**

The researcher used scientific procedure in determining the sample size by considering the formula given by (Cochran Yamane, 1967)

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

Where n= sample size,

N= population,

e = margin of error (0.05)

$$n = \frac{430}{1+430(0.05^2)}$$

$$n = 207.2289$$

$$n = 208$$

### Data collection

Data was collected using questionnaires and interview guides that were administered to the respondents. The survey used these particular data collection tools to collect personal information, including demographic background, inventory control level and their financial performance level.

### Data Quality Control.

Validity of data collection instruments, the researcher constructed questionnaires and submitted them to the supervisor who examined and approved them for validity. Reliability of data collection instruments, the questions were pilot tested in the study area which ensured the reliability and consistence of data collected by the researcher.

### Dependent and independent variables

Inventory control the independent variables, while financial performance is the dependent variable.

### Data analysis and presentation

SPSS and MS Excel were used to analyze the data. Charts and informative tables were used to illustrate the presentation. Regression model was used in the analysis.

### Model specification

The study was guided by the regression model below;

$$FP = B_0 + B_1 D_{MH} + B_2 D_{RL} + B_3 D_{PO} + \varepsilon$$

Financial performance (FP), Materials Handling (HM) and Purchase Orders (PO),  $B_0$ ,  $B_1$ ,  $B_2$ ,  $B_3$  are the parameters.

Where;

FP; 1 represents Improved, 0 Otherwise

$D_{MH}$ ; 1 represents good, 0 other

$D_{RL}$ ; 1 represents yes, 0 Otherwise

$D_{PO}$ ; 1 represents yes, 0 Otherwise.

**DATA ANALYSIS**

**Demographic Characteristics.**

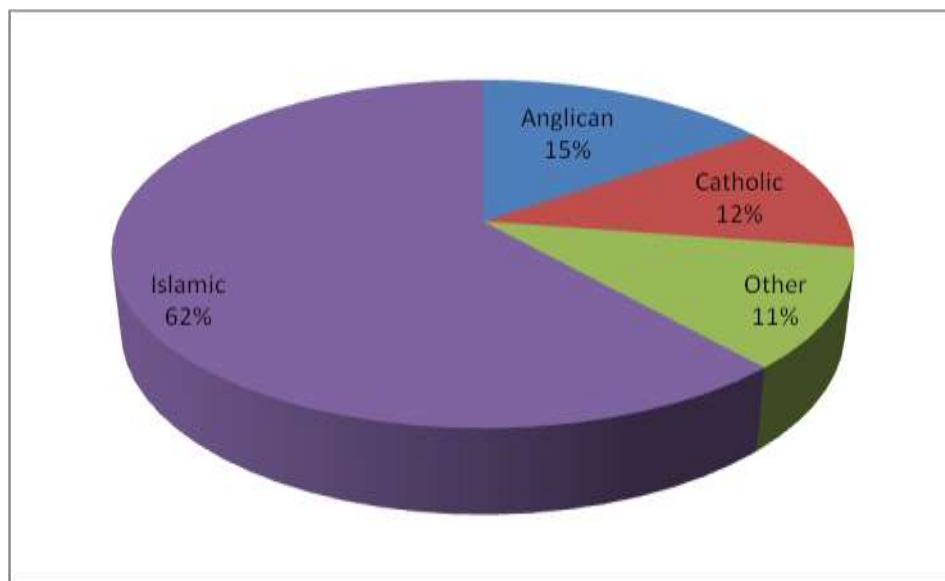
**Table 1: Sex of the respondents**

Gender	Frequency	percentage
Male	98	47%
Female	110	53%
Total	208	100%

**Source; primary data (2022)**

Table 1 shows that women engage at a higher rate than men, who are their equivalents. In the study, 110 female respondents—53% of the total—and 98 male respondents—47% of the combined amount in evaluating the relationship between inventory control and the financial performance of healthcare institutions. The study's findings also suggest that during the experiment, male participants were a little bit closer to the females. However, the researcher made an effort to ensure that both genders participated equally in the study in order to prevent discrimination.

**Religion of the respondents.**



**Figure 1: Religion of respondents**

From the above, Figure 1 displays the various religious connections of the study participants. The majority of responders (62%), who were Muslims due to their morals and candor in disclosing information crucial to the study's performance. The other religions, which made up 11% of respondents, provided less information since they were very committed and hence had less time to complete the questionnaires that were given to them. The findings further suggest that there was no religious discrimination because every respondent, regardless of religion, took part in the study.

**Education Level of the respondents.**

**Table 2: Education Level of respondents**

Education Levels	Secondary	Tertiary	Other	Total
Frequency	55	106	47	208
Percent	26%	51%	23%	100%

Source Primary (2022)

The table 2 shows that 51% of the workers attained tertiary level of education, 26% of the workers attained secondary level and 23% of the workers attained other levels of education. This implies that most of the respondents were educated and could give the right and reliable information about this study.

**Analysis of the objectives.**

A regression model was used to analyze the goals and figure out how inventory control relates to the financial performance of private healthcare facilities. In this example, the control variables were material handling (1-improved, 0 -Otherwise), purchase orders (1-Yes, 0-No), and reverse logistics (1-Yes, 0-No), which were analyzed to determine their effects on the financial performance of private hospitals. The dependent variable was financial performance (1-improved, 0-Otherwise) of the private health institutions. The analysis of the objectives is shown in Table 3 below, with the interpretations that follow.

**Table 3: Regression**

```
. regress FP MH RL Po
```

Source	SS	df	MS	Number of obs	=	208
Model	4.12109316	3	1.37369772	F(3, 204)	=	7.92
Residual	35.3740991	204	.173402447	Prob > F	=	0.0001
Total	39.4951923	207	.19079803	R-squared	=	0.1043
				Adj R-squared	=	0.0912
				Root MSE	=	.41642

FP	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
MH	.2169855	.0736552	2.95	0.004	.0717624 .3622086
RL	.2516393	.0705409	3.57	0.000	.1125566 .3907221
Po	.0644686	.1154193	0.56	0.577	-.1630991 .2920363
_cons	.3126073	.1388587	2.25	0.025	.038825 .5863896

$$FP = B_0 + B_1 D_{MH} + B_2 D_{RL} + B_3 D_{PO} + \varepsilon$$

$$FP=0.312 + 0.217D_{MH} + 0.252D_{RL} + 0.0644D_{PO} + \varepsilon$$

From Table 3 , other factors held constant, on average the financial performance of the private health institutions is 0.2169855 .This is statistically significant since the p-value (0.004) is less than 0.05, say,( $P_0 > |t|=0.04 < 0.05$ ).

**Effect of material handling on financial performance of the hospital.**

Holding reverse logistics and purchase orders constant, a unit increase in material handling at private health facilities enhances financial performance by 0.5295928. Since the p-value (0.004) is smaller than 0.05, as in  $(P0 > |t|=0.0040.05)$ , this is statistically significant. As a result, material handling substantially improves the financial performance of private healthcare facilities. This is in reference to Gillingham's 2007 study, which showed that inventory control and overall financial performance are strongly influenced by proper material handling of consumables.

**Effect of reverse logistics on financial performance of the hospital.**

An increase of one unit Holding material handling and purchase orders constant, reverse logistics increases the financial performance of private healthcare facilities by 0.5642466. Given that the p-value (0.000) is less than 0.05, i.e.,  $(P0 > |t|=0.0000.05)$ , this is statistically significant. According to Burns (2012), this indicates that reverse logistics have a significant effect on the financial performance of private health institutions. Purchase orders restrict overbudgeting and underbudgeting, ensuring the efficient use of funds and the availability of stock. The full assurance of service delivery that emerges from this improves the financial success of private healthcare organizations.

**Effect of purchase orders on financial performance of the hospital.**

A unit increase purchase orders improves the financial performance of private health institutions by 0.3770759 holding material handling and reverse logistics constant. This is statistically insignificant since the p-value (0.577) is great than 0.05, say,  $(P0 > |t|=0.577 > 0.05)$ . Therefore, this implies that purchase orders less impact on the financial performance of private health institutions.

**The correlation analysis between the dependent variable and the independent variables**

**Table 4: showing the relationship between the dependent and the independent variables**

```
. pwcorr FP MH RL Po, sig
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	FP	MH	RL	Po
FP	1.0000			
MH	0.2013 0.0014	1.0000		
RL	0.0624 0.3256	0.0423 0.5051	1.0000	
Po	0.3577 0.0000	0.1022 0.1068	0.1242 0.0498	1.0000

The correlation coefficient of 0.2013 indicates a ponderously good association between material management and the financial success of private healthcare facilities. This indicates that although the two variables are related, their mutual influence is not great. Since the p-value (0.0014) is less than 0.05, the link is significant at the 5% level of significance.

The weakly significant positive relationship between reverse logistics and the financial success of for-profit healthcare organizations



is indicated by the correlation coefficient of 0.0624. This shows that although the two variables are related, their mutual influence is not great. Since the p-value (0.3526) is greater than 0.05, the link is not significant at the 5% level of significance.

The weak positive association between purchase orders and the financial success of private healthcare facilities is indicated by the correlation coefficient of 0.3577. This shows a relationship between the two variables, however

### **Conclusions of the study**

The latest results regarding the effects of material handling on financial performance revealed an improvement in the financial performance of private healthcare facilities. This is comparable with (Gillingham, 2007), who held that effective material handling in terms of hospital distribution is essential for inventory control and overall financial success.

According to the report, there has been an improvement in the financial performance of private health institutions as a result of reverse logistics. Stock and co. The study indicated that the financial performance of private health institutions improved to a lesser extent when purchase orders were used, and this was related to a lack of internal communication, bad supplier relationships, and trouble obtaining funding.

### **Recommendations of the study**

1. The hospital should set a minimum stock level and understand the supply chain to reduce on poor supplier relationships and thus enhance financial performance of hospital.
2. More emphasis should be put on through use of the purchase orders as it was revealed they enhance the performance of private hospitals greatly.
3. The management should ensure that there is an improvement in proper disposal of the used materials.
4. The management should ensure that materials are well stored under the right temperature.

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