

# Effect of Investment Management Practices on Sustainability of Private Hospitals in Nairobi, Kenya

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**Abstract:** *Private hospitals in Kenya provide over 47% of the healthcare services to the general population of over 51 Million people in Kenya. Despite their importance, their sustainability has been at risk, threatening provision of health services of Kenyans, achievement of social pillar under Kenya's vision 2030. The study investigated the effect of investment management practices on the sustainability of private hospitals in Nairobi County, Kenya. The study was guided by agency theory. The study used positivism approach and employed descriptive and explanatory research design. The target population was all the tier 3 and 4 licensed private hospitals in Kenya which were 68. Census was adopted. Primary data was collected using standardized closed questionnaires as the main research instruments. Data analysis was done using SPSS. Descriptive and inferential statistics used to analyse were simple means; standard deviations, frequency tables, and correlations. Model R- Square, ANOVA Statistics and regression coefficients R were used to test the hypothesis of bivariate model. Results showed that investment management practices, had a positive and significant effect on sustainability of private hospitals in Kenya. The study concluded that investment management practices had a statistically significant relationship with sustainability. Investment management practices had an R<sup>2</sup> of 39.3% explaining sustainability. The study recommends that first, private hospitals should continuously build capacity of the investment management functions as they have a significant relationship with sustainability of hospitals.*

**Keywords:** Investment management practices, sustainability, private hospital

## 1. Introduction

### 1.1 Background of the Study

Globally, statistics shows that sustainability of the Healthcare systems is a global problem as it affects an estimated number of 100 billion people in the world than any other industry (World Economic Forum, 2012; World Health Organization, 2014). A publication of PricewaterhouseCoopers (PWC) (2018), on a report on health cast 2020, in creating a sustainable future, shows growing evidence that the current health systems around the nations in the world will be unsustainable in the next 15 years if they remained unchanged. Global healthcare is threatened by a confluence of powerful trends including increasing demands, rising cost, uneven quality and misaligned incentives (PWC, 2018). In the recent years many countries have committed to the universal healthcare coverage as a national policy priority and concern. Sustaining progress towards Universal Health Coverage (UHC) systems requires a country's health care financing system to generate sufficient and largely domestic resources that can be used in expanding and sustaining high quality health services with financial protection (WHO, 2014). In addition to improving quality of life, the healthcare sector has fostered considerable economic growth worldwide; healthcare is estimated to be US\$ 7 trillion industries, hence necessitating the importance of these sectors to GDP (WEF, 2012).

Sustainability of private hospitals has therefore been a global concern threatening the survival of the private hospitals. Specifically, the provision of high cost services that increases expenditures without due assurance of repayments and limited source of funds. Most of this private hospitals provider rely on out of pocket expenditure from their customers in order to fund their operations (KAPH, 2015). Investment in private hospitals sector only keep on coming when there is a surety of returns that are satisfactory to the private investors thus the concern of sustainability. To this end business concerns are under constant pressure to continuously develop and revise their financial management practices such as investment management practices to ensure they manage their risks and improve their performance and sustainability (Shah, 2009)

According to Ojong, Owui and Effiong (2013) investment involves the decision of allocation of capital or commitment of funds to long term assets that would yield benefits in the future. Investment management is also known as capital budgeting that is designed as the firm make decision on how to invest the funds that are available in an effective long term asset hoping to get high levels of returns (Shantatus, 2015). Capital budgeting refers to an investment analysis done by managers to determine which proposal has the best return in future cash flows. Investments are always put into various classifications; replacement investments,

modernization investments, expansion investments (Burger & Hawkesworth, 2013).

## 1.2 Problem Statement

The public health infrastructure has grown to tremendous levels since the achievement of independence, however this has not been replicated in the parallel increase in the budgetary allocations of the public healthcare thus creating a significant gap in the level of service delivery by the public health sector. Consequently, this has led to the growth of the private sector which provides services and facilities to at least 60 % of patients who seek treatment in Kenyan hospitals. The Kenya health sector contributes an estimate of 6% to the Country's GDP. However, there have been records of low financial sustainability of private hospitals. Mater Hospital recorded 40 per cent decline in the revenue in the year 2020 from the year 2019. Over 15 health workers were also sent home due to financial constraint. Faced with stiff competition and financial constraining challenges among private hospitals competing with the funded government hospitals in conditions with minimal disposable income and in the face of rising inflation. Prudent investment management practices thus become critical for the sustainability of Private hospitals. Failure to prudently manage this hospital well limits the accomplishment of Kenya vision 2030 and sustainable development goals (SDGs) and the Big Four Agenda (KEPSA, 2017).

## 1.3 General Objective

The general objective of the study was to investigate the effect of investment management practices on the sustainability of private hospitals in Nairobi County, Kenya

## 2. Literature Review

### 2.1 Theories

#### 2.1.1 Agency Theory

This theory was originally constructed by Jensen and Meckling in 1976. The authors view an agency in terms of the association that exists between principles. Such principles include agents as the company executives, stakeholders and managers. The theory has it that company principles (shareholders), recruits agents to carry out the business operations on their behalf. The running of the business in this, is a delegated arrangement between the principles and the agents. The expectation is that the interests of the principles are well represented by the agents each time a decision has to be made. The managers and shareholders' interests may not always converge and most managers tend to focus on activities that tend to benefit their interests like securing assets, job security and additional incentives. The founders of the theory Jensen and Meckling (1976) argued that the absolute monitoring of the managers was implausible and that such mechanisms resulted into reduction into the revenue of the firm as a result of increased costs that are related to monitoring and supervision.

The agency theory is vital in the management of the firm's finances as it depends on the ability and ethical concerns of

the managers entrusted with the running of the organization. Managers acting as agents of the shareholders tend to pursue courses of action that are inconsistent with the interest of the owners thus their decisions may affect the companies level of investment that could adversely affect the sustainability of the organization operations. Thus this theory is relevant to this study on the basis that managers tend to invest in securities that are cheaper and less risky for them to secure their jobs, however their returns may not be ideal for revenue generation and thus affecting sustainability.

### 2.2 Balanced scorecard

This study used a balanced scorecard to measure sustainability. The scorecard developed over several years to support different organizational missions, from profit maximization, to service delivery in public, private, and not for profit, it played a role of realizing and integrating the contributions of all the relevant organizational value drivers that promote alignment between the non-financial and financial measures. Also, the scorecard helps in identifying and measuring the specific value drivers that underpin sustainability both externally and internally (Chartered Institute of Management Accountants, 2005).

In their analysis, Kaplan & Norton (1992), aimed at adding leading measures that represented indicators of future financial performance to the traditional financial measures. According to Kaplan & Norton (1992), the traditional measures were based on past performance and therefore lacked the aspects of the other non-financial measures. This view was also shared by Asiedu (2015), who affirmed that the tool was excellent in measuring and monitoring performance values with drivers originating from customer value, internal business, and employee performance. The BSC tool utilizes a four balanced perspective dimension as organizations are required to think in terms of all the four perspectives together to enhance inclusivity as all the individual contributions of the perspectives are key to the holistic sustainability of an institution (Gawankar et al., 2015).

### 2.3 Empirical Studies

Farah and Atinkaya (2018) in their study on capital management decisions and profitability in manufacturing firms in Turkey, used dimensions of acquisition, replacement, investment appraisal techniques, outsourcing expenditure and working capital decisions, the study employed multiple regression analysis. The study concluded there were significant positive correlation between the acquisition, replacement, investment appraisal techniques, outsourcing expenditure and working capital decisions and profitability. Mweresa and Muturi (2018) did a study on effects of investment decisions on the financial performance of Public Sugar Firms in Western Kenya. The study was informed by acceleration theory of investment, behavioral finance theory and Tobin's Q theory of investment. The study adopted a survey design. The study used both primary and secondary data. The study found that investment in production has a strong effect on the financial performance of sugar companies at magnitude strength. The investment in

the distribution chain decision has a moderate effect on the financial performance of sugar companies.

Morwabe and Muturi (2019) did a study on effect of investment decisions on financial performance of deposit-taking savings and credit cooperative societies in Nairobi County, Kenya. Secondary data was used. Descriptive research design for a quantitative time series data was adopted using a census technique. Results indicated that FOSA have positive significant association with financial performance of DT-SACCOs. Secondly, Government securities indicated a positive significant and moderate relationship on financial performance of DT-SACCOs. Fixed deposit account had a significantly positive but low influence on financial performance of DT-SACCOs. Shares had a positive significance and substantial influence on financial performance of DT-SACCOs. The study found out that the model containing FOSA Activities, government securities, fixed deposit account and shares as investment decisions had a strong influence on changes in DT-SACCOs profitability.

Musa, Songoro and Euna (2017) did a study on effect of investment decision techniques on financial performance of medium enterprises in Kenya in Kisii town. The study employed descriptive research design. The study found that profitability index decisions improve financial performance. Findings also established that investment decision techniques have a positive impact on financial performance.

Kebiro (2019) did a study on effect of investment decisions on efficiency of deposit taking savings and credit cooperative societies in Nairobi County, Kenya. A descriptive cross-sectional design together with the multiple linear regression model were used for the analysis of the variables. The results showed that investment in real estate, investment in government securities and investment in shares produced positive and statistically substantial values for this study while investment in fixed deposits, liquidity, firm size and age were found to be statistically insignificant determiners of efficiency.

### 2.4 Conceptual Framework

The Conceptual framework is based on the Investment management practices as the stimulus variable and sustainability (financial perspective, customer perspective, internal business process and learning and growth perspective) as the measure of response variable.

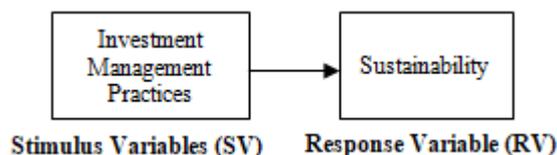


Figure 1: Conceptual Framework

### 2.5 Research Gaps

The studies reviewed in the literature as done by Babar, Hunjira, and Kashif (2010) on FMP on the performance in Pakista, Waweru and Ngugi (2014), Erambo *et al.* (2016),

Muthama, Muturi and Abuga (2017), Chepkemoi and Njeru (2015) were all done in SMEs and public hospitals. The studies reviewed selected financial management practices, unlike the current study whose focus addresses is private hospitals. The conceptual gap arises with the scope of studies and the introduction of a moderating variable for firm characteristics which acts as a nexus between FMP and Sustainability in the current study.

## 3. Research Methodology

### 3.1. Research Design

A descriptive research design was adopted to guide this study. Muthuva (2016) described the descriptive design as an enabler in which information is obtained about the status of phenomena and the relationship with the variables in the study under consideration. The study used positivism approach and employed descriptive and explanatory research design. The target population was all the tier 3 and 4 licensed private hospitals in Kenya which were 68. The specific respondents included staffs in the finance department who were; hospital finance manager, accountant payables, inventory accountant, assets accountant and internal auditor. These respondents were included since they work in the finance management and thus have information on financial management practices and sustainability of the hospitals. Census was adopted. Primary data was collected using standardized closed questionnaires as the main research instruments. The statements items used to construct the questionnaire were Likert-type scale that ranged from 1 to 5 . Data analysis was done using SPSS. Descriptive and inferential statistics used to analyse were simple means; standard deviations, frequency tables, and correlations.

### 3.2 Test of Reliability

Cooper and Scheduler (2011) view that data collection instrument reliability is critical before it application in data collection. They posit that reliability can be tested through teste –retest method, split half and internal

Table 1: Assessment of Reliability

Variable	Number of Items	Cronbach Alpha Coefficient
Investment Management Practices	18	0.803

The results of reliability test are presented in TABLE 1. The results in this Table show that reliability of this construct using Cronbach was 0. 803. Bryman (2009), Cooper and Schindler (2011); Gay, Mills & Airasian (2009), Charandrakandan, Venkatapirabu, Sekar & Anandakumar (2011) suggest that Cronbach’s coefficients of 0.8 should be employed as a rule of thumb to denote an acceptable level of internal reliability. These findings indicate that construct measures that were retained had high internal consistency. This level of construct measure reliability of 0.803 is well above threshold set by Bryman (2012) and Cooper & Schindler (2011); Zikmund, Babin, Carr & Griffin (2010) and Koshy (2010).

### 3.3 Data Analysis and Presentation of Results

Data analysis was carried in a sequential process and systematic manner; data coding, data entry and then data analysis. The descriptive analysis was first done generating the mean and standard deviation for preliminary evaluation. Secondly, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used to assess the items constructs suitable for factor analysis. Thirdly, principle component analysis (PCA) was carried out using varimax, orthogonal rotation and Total Variance Explained, Scree Plot and Rotated Component matrixes were generated and interpreted. Further, the data was then subjected to test of regression assumptions of Normality using Q-Q plots, Test of independence using Durbin Watson *d* statistic, Test of linearity using correlation coefficient (*r*). Finally, hypothesis testing was done using Bivariate Linear Regression model. Model  $R^2$ , ANOVA statistics (F Statistic and associated p-value) and regression coefficients (Beta and associated p-value) were generated and interpreted. The simple ordinary (bivariate) equation adopted by the study was in the form;  $Y/\text{Sustainability} = \alpha + \beta_1 X + \epsilon$  where Sustainability is (dependent variable) and  $\beta_1$  is investment management practices (IMP) (independent variable). This equation is supported by Montgomery, Peck, & Vining, 2001; Garson, 2012; Argyrous, 2011).

## 4. Findings & Discussions

### 4.1 Response Rate

**Table 1:** Response Rate of the Respondents in Tie 3 and Tie 4 Private Hospitals

Hospital size	Questionnaires Distributed	Questionnaires Received	Response (%)
Tier 3	245	146	42.94
Tier 4	95	60	17.65
Total	340	206	60.59

A total of 245 questionnaires were distributed to the tier 3 hospitals. A total of 146 (42.94%) questionnaires were totally filled and returned. In addition, 95 questionnaires were distributed to the tier 4 hospitals. A total of 60 (17.65%) questionnaires were totally filled and returned. Therefore, the total response rate was 60.59% which implies a successful response rate. Babbie (2004) assert that a rate above 60% is a good response in a descriptive study.

### 4.2 Factor Analysis

Factor analysis was conducted on nine (9) statements regarding investment management practices after successful testing of sampling adequacy and reliability as opined by KMO Coefficient and Cronbach alpha findings.

#### 4.2.1 Test of Sampling Adequacy

In order to check if the nine (9) statements used to measure investment management practices were correlated or factorable, test of sampling adequacy was done and the results are presented in Table 2.

**Table 2:** Results for Test of Sampling Adequacy for Investment Management Practices

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.50
Bartlett's Test of Sphericity	446.28
	36
	<b>0.000</b>

The results in Table 2 show KMO value for investment management practices was 0.50 and hence equivalent to the recommended minimum threshold of 0.5. This statistic implies that the statements used to measure investment management practices were factorable. Further the results show that the Bartlett's Test of Sphericity show a Chi-square 446.28 with 36 degree of freedom and an associated p-value of  $p=0.00$ . This statistic implies that the statements measuring investment management practices are highly related and hence suitable for structure detection in Principle Component Analysis. Based on test results of factorability, this study confirmed that further analysis could be conducted on factor analysis on the response investment management practices (Malhotra, 2004; Tabachnick & Fidell, 2014; Brett, Ted & Andrys, 2010; Costello & Osborne, 2005)

#### 4.2.2 Total Variance Explained for Investment Management Practices

The next characteristic of interest was to evaluate how strong the nine (9) statements measuring investment management practices were in measurement of the study predictor. As a result, the next factor analysis output generation for investment management practices was Total Variance Explained (TVE) using the rotation sums of squared Loadings values. The results are presented in the Table 3. Table 3 represents the distribution of the variance after the varimax orthogonal rotation of the statements measuring the variable.

**Table 3:** Total Variance Explained for Investment Management Practices

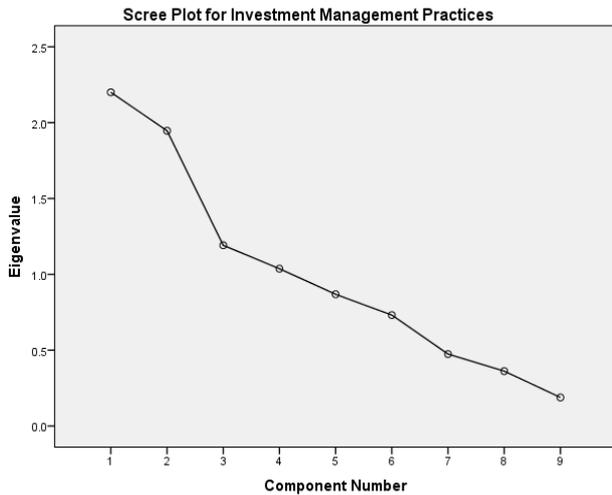
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	
1	2.2	24.447	24.447	2.2	24.447	24.447
2	1.947	21.628	46.075	1.947	21.628	46.075
3	1.192	13.24	59.314	1.192	13.24	59.314
4	1.037	11.524	70.838	1.037	11.524	70.838
5	0.868	9.649	80.487			
6	0.731	8.127	88.614			
7	0.474	5.269	93.884			
8	0.362	4.022	97.906			
9	0.188	2.094	100			

Table 3 shows that component one (1) to component four (4) had Eigen values of 2.2, 1.947, 1.192 and 1.037 respectively and in total accounting for a total variance of 70.838%. The variance explained is a way above the recommended minimum threshold (TVE) is 50%. These results imply that the four (4) components are adequate for measurement of investment management practices variable as the total variance explained (TVE) is above the recommended 50%

threshold (Tabachnick & Fidel,2012). This means that the 4 extracted factors out of the 9 components explained 70.838% of the total variations.

**4.2.3 Scree Plot**

In order to visually evaluate the number of factors to retain for investment management practices for further analysis, a scree plot was generated for the nine (9) investment management practices. The results are presented in Figure 1



**Figure 1:** Scree Plot for Investment Management Practices

Figure 1 shows a downward curve with a levelling – off (elbow) between component three (3) and component four (4). Further the plot shows that beyond component four (4) all the other components, that is component five (5) to component nine (9) had Eigen values less than 1.00. These results show that only four (4) components should be generated by the analysis for the variable investment management practices (Tabanich & Fidel,2012). Figure 1. show that out of the nine (9) statements used to measure investment management practices all could be reduced to four (4) components.

**4.2.4 Rotated Component Matrix**

In order to evaluate the constructs for the investment management practices, three components were generated. The results of varimax orthogonal rotation are presented and in Table 4.

**Table 4:** Results of Rotated Component Matrix for Investment Management component

Statement	Investment Component
The hospital has expanded its facilities to accommodate more customers	0.809
The hospital has invested in new product line (diversification) thus boosting its financial strength	0.769
Acquiring new facilities has enhanced growth of the hospital	0.641
The hospitals does replacement of long term assets often	0.856
The hospital has greatly invested on cost reduction investments thus boosting its financial strength	0.865
The hospitals has invested on modernization of assets which has enhanced the hospital internal operation efficiency	0.675
The hospital ensures that its license is up to date thus enhancing its sustainability	0.906
Investing in registered health professions enhances customer service	0.762
Our hospital has paid all the relevant legal fees	0.678

The results in Table 4 show that, all drivers of expansion and diversification investment (first component) had factor loadings between 0.809 and 0.641, similarly replacement and modernization measures (second component) had a three (3) statement with a loading between 0.856 and 0.675. Finally, mandatory investment measures (third component) had a factor loading between 0.906 and 0.678. This study used statements with factor loadings above 0.4 which is recommended (Tabachnick & Fidell, 2012; Montgomery, Peck and Vining, 2001). Based on this analysis, investment management practices were measured using the three constructs and nine (9) statements. Based on these analyses all statements selected for measurement of investment management practices were retained.

**4.3 Regression Analysis**

In order to assess the combined effect of investment management practices on sustainability of private hospitals in Nairobi County, Kenya. The following null hypothesis was tested by the study.

*H<sub>01</sub>: Investment management practices do not have a statistically significant effect on sustainability of private hospitals in Nairobi County, Kenya.*

In order to test the hypothesis H<sub>01</sub> the weighted mean of each of the investment management practices measures were regressed on the weighted scores of sustainability of private hospitals measures.

In order to assess the model appropriateness, the overall model level of significance and investment management practices significance in the model: Model summary, ANOVA and regression model coefficients output were

generated and the results presented in Table 5, Table 6 and Table 7.

The regression output was generated and the results presented in Table 5.

**Table 5: Model fitness for Investment Management Practices**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.627a	0.393	0.39	0.42647

a. Predictors: (Constant), Investment management practices  
 b. Dependent Variable: Sustainability

Table 5 shows that the R was 0.627 implying that investment management practice have a strong correlation with sustainability of private hospitals. In addition, the R square was 0.393. This implies that investment management practices accounts for approximately 39.3% of the variation in sustainability of private hospitals ( $R^2 = 0.393$ ).

The model was further examined for its significance in predicting investment management practice on sustainability of private hospitals in Nairobi County, Kenya using ANOVA. The results for ANOVA for investment management practices and sustainability are presented in Table 6.

**Table 6: ANOVA for Investment Management Practices**

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	23.975	1	23.975	131.822	.000b
Residual	37.102	204	0.182		
Total	61.077	205			

a. Predictors: (Constant), Investment management practices  
 b. Dependent Variable: Sustainability

Table 6 shows that F statistic of 131.822 and the associated P-value of 0.000. This imply that investment management practices have statistically significant effect on sustainability. Based on these results the study rejected the  $H_0$  hypothesis that stated that investment management practices do not have statistically significant effect on sustainability of private hospitals in Nairobi County, Kenya and concluded that investment management practices have statistically significant effect on sustainability of private hospitals in Nairobi County, Kenya on 95% confidence interval. Regression of Coefficient for investment management practices was presented in Table 7.

**Table 7: Regression of Coefficient for Investment Management Practices**

Variable	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.169	0.266		4.403	0.000
Investment management practices	0.719	0.063	0.627	11.481	0.000

a. Dependent Variable: Sustainability

Table 7 shows that investment management practices have beta coefficient of 0.719 and associated p value of 0.000.

This implied investment management practices explains 0.719 of the variation in sustainability of private hospitals.  
 Sustainability = 1.169 + 0.719 IMP

## 5. Conclusions and Recommendations

### 5.1 Conclusions

The study concluded that investment management practices had a positive and statistically significant effect on sustainability of private hospitals. The ANOVA statistics for investing practices had an associated p-value of  $p = .000 < p$ -value of .05. Based on this, the associated objective's null hypothesis was rejected. This study therefore concludes that indeed, at 95% degrees of confidence, there is a positive and statistically significant relationship between investing management practices and sustainability of private hospitals in Kenya.

### 5.2 Recommendations

The study recommends that first; private hospitals should continuously build capacity of the investment management functions as they have a significant relationship with sustainability of hospitals. This could be done by investing more on diversification and acquiring of new facilities so as to enhance the growth of the hospitals. In addition, replacement of long term asset should be done oftenly. The hospital should also explore the cost reduction investments that will enhance their sustainability.

Secondly, that management of the private hospitals should consider development and review of policies, that investments management practices are more elastic to. This could encourage more hospitals to adopt the investment management practices. Additionally, there should be creation of avenues through which the hospitals may be able to source more external help in enhancing their investment management capabilities

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