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# Project Appraisal and Financial Performance in Public Universities, Kenya

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***Abstract:***
*Kenya's public institutions have had poor financial performance for a number of years, which has resulted in campus closures and an ever-increasing backlog of unpaid debts. Universities have had difficulty recruiting enough faculty members to meet the demand for their programs. The study aimed to determine the relationship between project appraisal and financial performance of the Public Universities in Kenya. The study adopted a correlational research design, and the target population was the public universities in Kenya with a purposive sample of 155 managers selected from three categories of universities according to their age and when they were chartered. The primary data was collected using questionnaires, and secondary data was collected using an Excel schedule and analyzed using descriptive and inferential statistics. The correlation findings indicated that project appraisal had a positive and significant relationship with financial performance (r = .626, p = .000<.05). The R-square value of 0.392 indicated that project appraisal explains 39.2% of variations in the financial performance of public universities. Further, regression results showed that project appraisal had a positive and significant influence on financial performance (β = 0.585, p=.000<.05), implying that project appraisal significantly enhances the financial performance of public universities in Kenya. The study concluded that project appraisal contributes significantly to the enhanced financial performance of public universities. The study recommended that the management of public universities should strengthen aspects relating to project appraisal. There is a need to ensure that projects are implemented as per the contract schedule. Projects should be diligently monitored to ensure quality. Further, projects should be appraised using scientific methods to ensure that there is a constant flow of cash to finance projects according to budget.*

***Keywords:*** *Project appraisal, financial performance, public universities*

## 1. Introduction

APLU (2023) stated that the goal of public universities' founding was to promote the growth and development of the general population. In addition to conducting research to save lives, they are expected to drive innovation, raise living standards, and give students life-changing instruction that will help society overcome any obstacles that may arise on a daily basis. According to A. Valero and J. Van Reenen (2018) state that public universities in Kenya significantly stimulate economic growth on a national and worldwide scale. Graduates from these universities have the skills necessary to support both new and existing business endeavors, identify new job development efforts, and raise the general standard of living for humans through research, knowledge, and creativity. In the past several years, Kenyan public colleges have underperformed, reporting deficits and rising debt loads. Some institutions have closed their campuses as a result of this in an effort to lessen the financial load on their already thin financial resources.

According to the Statement of Financial Performance, Pintea et al. (2014) calculated financial performance using total income and total expenses. In assessing the financial status, ROA, return on equity, and total assets were utilized. Financial performance was assessed by Kyere and Ausloos (2019) using Tobin's Q (Q ratio) and return on assets (ROA). The market value of the company divided by the total asset value yields the Q ratio. Total assets multiplied by 100 are equal to net income (ROA).

Financial success is determined by profitability ratios, which are computed using information from the firm's publicly available financial accounts, according to Galant and Cadez (2017). Return on Earnings, Earnings per Share, and Net Profit Margin were the three ratios used by Kamatra and Kartikaningdyah (2015) to assess financial performance. The ability to fulfill research and training as a university's primary purpose is a key indicator of that institution's performance. The necessary infrastructure and human resources must be in place for this to be accomplished. Lecture halls, workshops, and labs will all be part of the infrastructure. ROA and asset growth can be used to gauge these. Current assets ratio, financial performance deficit or surplus, and return on assets (ROA) can be used to gauge an organization's capacity to meet day-to-day operations. In the past several years, Kenyan public colleges have underperformed, reporting deficits and

rising debt loads. Some institutions have closed their campuses as a result of this in an effort to lessen the financial load on their already thin financial resources.

Project appraisal is a well multi-staged process whereby new projects are earmarked, evaluated, profits projected, costs forecasted, and the returns projected to determine the most viable project to be undertaken, Kipkurui & Kimungunyi, (2022). If the process is followed to the letter, then the value to the procuring entity is maximized. Since there are capital projects, they usually involve large sums of money. Therefore, the process needs to be handled with a lot of diligence and care of duty to avoid the loss of huge amounts of money. According to the Project appraisal manual, Kenya (2021), the project appraisal identifies projects that have maximum social returns, a project that increases the country's wealth, stop bad projects, estimate the fiscal impact, enter into partnerships for cost recovery and assess the impact on the environment, development and poverty levels. Evaluation of projects to be undertaken is important to ensure that the project is feasible both economically and socially. Unevaluated investment may lead to unproductivity and cash crunch. This may lead to a slowdown in operations due to a lack of working capital. This may result in unpaid salaries, pensions, loan repayment, tax remittances, and other issues like NHIF and NSSF.

### *1.1. Problem Statement*

Universities in Kenya are no exception, but they contribute to the economic growth around the areas where they are situated and beyond through the procurement of goods and services for operations and expansion. Further, students also spur economic growth by consuming from local businesses and going far for their own upkeep while pursuing their education. Public universities in Kenya are over forty in number, including colleges, Commission of University Education (2022), and this sizeable number contribution to our economy cannot be over-emphasized due to the benefits of the existence of universities that accrue to the economy. The liquidity challenge in Kenyan Public Universities persists, given the latest report by the Universities Funding Board (UFB, 2023). According to the report, the universities owe over fifty-six (56) billion to various creditors. This poses a great danger to the sustainability of these Universities. Due to the importance of universities in economic growth, the search for solutions to their financial problem is inevitable. Research on Financial risk has been done (Wenbin & Liying, 2018). Most universities are overburdened by debts, exposing them to financial risk. Wangari and Muturi (2018) conducted research on budget compliance, finance planning, investments and monitoring. These had a significant effect on the financial operations of universities. The financial stability of public universities in Kenya has continually weakened (KIPPRA, 2022). This is so despite the fact that the student population has continued to grow from 546,669 in 2021 to 562,066 in the 2022 academic year. Public universities in Kenya continue to perform dismally financially. Jomo Kenyatta University recorded non-remittance of statutory deductions of over 4billions, an operation loss of over 1.3 billion (Auditor Report, 2021), and a Multimedia University operational loss of over 200 million in the same year. Stalling of projects in these universities has also been raised in the audit report. Considering the research that has been done, some of the causes of poor financial performance have been studied. For example, Kithinji et al. (2023) found out that cash management is key to the success of public university financial performance. This study sought to assess the relationship between project appraisal and financial performance of the Public Universities in Kenya.

### *1.2. Research Objective*

To assess the relationship between project appraisal and financial performance of the Public Universities in Kenya

### *1.3. Research Hypothesis*

- H0: Project appraisal does not have a significant statistical influence on financial performance in public universities in Kenya.

### *1.4. Significance and Scope of the Study*

The findings of this research may be used by the university management and other stakeholders, not limited to the Ministry of Education and the National Treasury, to enhance the prudent use of financial resources in public universities in Kenya. Further, researchers can build on the findings of this research for further accumulation of knowledge.

The scope of the research was all the Public Universities in Kenya, CUE (2023). The Research covered the last 5 audited years from 2018/2019 to 2022/2023. The research focused on technology adoption and financial performance.

## 2. Literature Review

Investment, irrespective of size, has an effect on how an entity performs financially. This involves the prudent use of financial and other resources by the managers who are agents of the principals or shareholders. It is, therefore, the responsibility of the managers to put up structures that ensure checks and balances on the other players in the entire investment decision-making process. To some extent, other departments, including the human resource department, have a stake in the investment appraisal for skills and procurement department officers for professional advice.

Investment appraisal decisions are interchangeably used with capital budgeting by different scholars in the world of financial management. Batra and Varma (2017) carried out research on capital budgeting practices in Indian companies. They based their research on 77 Indian companies registered in the Bombay Stock Exchange. The study revealed that most corporations rely on theoretical investment practices. The internal rate of return (IRR) and net present value (NPV under discounted cash flow methods and probability (risk) adjusted sensitivity are mostly used for the evaluation of projects and their selection. Weighted average cost of capital was found to be the most popular measure of cost of capital. Simulation, real options and modified internal rate of return (MIRR) were found to be less applicable. The results also affirm that non-financial factors also come into play in the determination of the investment or project to undertake. A report by Hulbert &

Vammalle, C. (2014) on effective public investment across levels of government made recommendations on enhancing investment appraisal decision-making. The Organization for Economic Co-operation and Development (OECD) is based in Paris and is an international organization of 38 countries that deal with market economy and democracy. Their recommendations were to coordinate public investment, strengthen the ability to invest, and enhance the investment framework. A test on the existence of such recommendations in the set-up of public universities would assist in improving investment decisions in universities.

Glenday et al. (2014), in their paper on approaches to better project appraisal, listed a number of bottlenecks to the investment process, such as high capital projects and negative rates of return, delayed completion of projects, several inflated budgeted investments, poor operationalization phase, lack of appraisal models, incapacity, and weak project appraisal. Marcin P & Dariusz Z (2020), in their research on investment appraisal practices in European Union countries, found out that even the largest corporations do not apply investment appraisal techniques in the evaluation of which projects to undertake. These studies, in their findings, add knowledge on project appraisal and financial performance. However, they did include the relationships in public universities in Kenya and thus the relationship was evaluated.

## 3. Methodology

### *3.1. Research Design*

Sileyew (2020) defined research design as the framework that would best guide a research study to yield the best results. The decision on the research design process to be adopted is quite fundamental as it determines the type of information that was gathered and consequently impacts the quality of findings and conclusions of the particular study. This research was carried out using the correlational approach, whereby a multiple regression analysis was conducted. The central measures of tendency were also used. The multiple regression analysis assisted in the determination of relationships between the independent and dependent variables.

### *3.2. Target Population*

The target population was public universities in Kenya. These were classified into three categories based on age, CUE (2023), which has a subjective relationship with the size of the universities in terms of student population and the financial worth of the universities. The first category was the so-called seven old universities and largest universities, which were represented by the University of Nairobi, Kenyatta University and Jomo Kenyatta University of Agriculture and Technology. The second category was the ones established in 2012/2013, numbering fifteen, and presented by Multimedia University, Technical University of Kenya, Dedan Kimathi University, Chuka University and Karatina University. The third and final category was the public universities established in 2016 and represented by Co-operative University, Kirinyaga University, Embu University, and Machakos University. Considering that the universities have a common major source of financing from the Kenyan government, are on the same terms, and are subject to the same regulatory framework, the selected universities represented a true and fair reflection of reality on the ground. Therefore, the universities selected were randomly selected in each category as they share the same characteristics in terms of age and size, population and finances.

### *3.3. Sample Size*

Purposive sampling was used to ensure that the data collected was of high quality. Thirty (30) universities were targeted for the study. These are classified using the strata method according to the year of establishment. The first category was the universities that were established between 1984 and 2007 and are seven (7) in number. The other category was the universities established in 2012 and 2013, which are 15 in number. The third category was universities established in 2016, which are eight (8) in number. Using Yamane's (1967) formula with a standard error of 5%, we get a sample of 155.

$n= N/(1+N(e)2)$

| The Period of University Establishment | No. of Universities | The Population of Management Staff | Sample Size |
|---|---|---|---|
| 1984-2007 | 7 | 42 | 38 |
| 2012-2013 | 15 | 90 | 74 |
| 2016 | 8 | 48 | 43 |
| Total | 30 | 180 | 155 |

*Table 1: Sample Size*

### *3.4. Data Collection Instruments*

The collection of data instruments enables the researcher to collect data for the intended study. Canals (2017) asserted that the methods of data collection employed largely depend on the research questions and objectives of the study. The data collection was administered using a questionnaire given to respondents. To ensure quality information, three sets of questionnaires were used:

- The first one for the human resource department,
- The second one for the finance department, and
- The third one for the procurement department.

*3.5. Data Analysis Methods*

Hamed (2022) defines data analysis as the process through which the data which has been collected is transformed into usable information. Some of the data collected may not have a meaning due to the qualitative nature and would need to be coded to have a meaning. The data was therefore worked on to ensure that conclusions were made that were devoid of ambiguity and meaning. SPSS software was used to convert the data and compute the statistical inferences as required. The regression model was used to test the relationships between the independent and dependent variables.

## 4. Results and Discussion

*4.1. Descriptive Analysis*

4.1.1. Project Appraisal

The respondents were asked to state their level of agreement with statements measuring project appraisal, and the results are presented in table 2. The results are presented in percentages, means and standard deviations. The following scale was used: strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5).

| Statement | SD | D | N | A | SA | Mean | Std. Dev |
|---|---|---|---|---|---|---|---|
| Projects to be undertaken are appraised using scientific methods. | 3.5% | 8.8% | 32.7% | 47.8% | 7.1% | 3.46 | 0.89 |
| Projects are implemented as per the contract schedule. | 0.0% | 10.6% | 31.9% | 47.8% | 9.7% | 3.57 | 0.81 |
| Projects are diligently monitored to ensure quality is observed. | 0.0% | 7.1% | 17.7% | 50.4% | 24.8% | 3.93 | 0.84 |
| There is a constant flow of cash to finance projects according to the budget. | 8.8% | 34.5% | 30.1% | 19.5% | 7.1% | 2.81 | 1.07 |
| Aggregate score | | | | | | 3.44 | 0.90 |

*Table 2: Descriptive Results on Project Appraisal*

Findings indicate that the majority of respondents agreed with the statement that projects are implemented as per schedule in the contract (mean=3.57, SD=0.81), and Projects are diligently monitored to ensure quality is observed (mean=3.93, SD=0.84). Respondents moderately agreed that projects to be undertaken are appraised using scientific methods (mean=3.46, SD=0.89). Further, the respondents moderately agreed that there is a constant flow of cash to finance projects according to budget (mean=2.81, SD=1.07). The results denote that project appraisal is important in enhancing the financial performance of the university. Glenday et al. (2014), in their paper on approaches to better project appraisal, listed a number of bottlenecks to the investment process as high capital projects, negative rates of return, delayed completion of projects and weak project appraisal. Marcin and Dariusz (2020) established that project appraisal was critical in enhancing financial performance.

The respondents were further asked to explain how else project appraisal influences the financial performance of the university. Based on the results, project appraisal enhances resource allocation and financial returns of organizations. The results imply that project appraisal plays a critical role in enhancing financial performance.

4.1.2. Financial Performance of Public Universities in Kenya

The respondents were asked to state their level of agreement with statements measuring financial performance, and the results are presented in table 3. The results are presented in percentages, means and standard deviations. The following scale was used: strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5).

| Statement | SD | D | N | A | SA | Mean | Std. Dev |
|---|---|---|---|---|---|---|---|
| Growth of assets in your University has been on the rise in the last 5 years | 14.2% | 14.2% | 38.1% | 17.7% | 15.9% | 3.07 | 1.24 |
| The university has been able to meet her daily obligations with ease in the last 5 years | 13.3% | 37.2% | 22.1% | 21.2% | 6.2% | 2.70 | 1.13 |
| The university has been posting surpluses in the last 5 years | 36.3% | 35.4% | 18.6% | 7.1% | 2.7% | 2.04 | 1.04 |
| Amount of pending bills in your university has been growing for the last 5 years | 9.7% | 10.6% | 22.1% | 26.5% | 31.0% | 3.58 | 1.29 |
| Aggregate score | | | | | | 2.85 | 1.18 |

*Table 3: Descriptive Results on Financial Performance*

The results reveal that the majority of respondents agreed with the statement that the amount of pending bills in the university has been growing for the last 5 years (mean=3.58, SD=1.29). The respondents moderately agreed that the growth of assets in the university has been on the rise in the last 5 years. Conversely, the majority of respondents

disagreed that the university has been able to meet her daily obligations with ease in the last 5 years (mean=2.7, SD=1.13), and the university has been posting surpluses in the last 5 years (mean=2.04, SD=1.04). The results imply that the financial performance of public universities has not been good.

*4.2. Correlation Analysis*

The study used correlation analysis results to test the null hypothesis ($H_0$): Project appraisal has no significant statistical influence on the financial performance of public Universities in Kenya. The findings are shown in table 4.

| | | Financial Performance | Project Appraisal |
|---|---|---|---|
| Financial performance | Pearson Correlation | 1 | |
| | Sig. (2-tailed) | | |
| Project appraisal | Pearson Correlation | .626** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 113 | 113 |
| ** Correlation is significant at the 0.01 level (2-tailed). | | | |

*Table 4: Correlation between Project Appraisal and Financial Performance*

The findings indicate that project appraisal had a positive and significant relationship with financial performance (r = .626, p = .000<.05). This implies that a change in project appraisal is associated with a significant change in the financial performance of public universities in a similar direction. From the findings, the null hypothesis was rejected, denoting that project appraisal has a significant statistical influence on the financial performance of public Universities in Kenya. The findings are similar to those of Marcin and Dariusz (2020), who established that project appraisal is critical in enhancing financial performance. Hulbert & Vammalle (2014) supported enhancing investment appraisal decision-making. Batra and Varma (2017) linked capital budgeting practices to firm profitability.

*4.3. Regression Analysis*

A linear regression was conducted to investigate the influence of project appraisal on the financial performance of Public Universities in Kenya. Table 5 indicates the model summary results.

| Model | R | R-Square | Adjusted R-Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .626a | 0.392 | 0.386 | 0.51052 |
| a Predictors: (Constant), Project appraisal | | | | |

*Table 5: Model Summary: Project Appraisal and Financial Performance*

Table 5 presents R-square values for extent of variation. The R-square value of 0.392 indicates that project appraisal explains 39.2% of variations in financial performance of public universities. The remaining 60.8% could be attributed to other factors not included in this study model.

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 18.638 | 1 | 18.638 | 71.51 | .000b |
| | Residual | 28.93 | 111 | 0.261 | | |
| | Total | 47.567 | 112 | | | |
| a Dependent Variable: Financial performance | | | | | | |
| b Predictors: (Constant), Project appraisal | | | | | | |

*Table 6: ANOVA: Project Appraisal and Financial Performance*

The results indicate an F-statistic of 71.51 and a p-value of 0.000 less than .05. This implies that the study model was statistically significant (excellent fit) in predicting the outcome variable. Therefore, project appraisal is a satisfactory influencer of financial performance.

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 0.834 | 0.243 | | 3.431 | 0.001 |
| | Project appraisal | 0.585 | 0.069 | 0.626 | 8.456 | 0.000 |
| a Dependent Variable: Financial performance | | | | | | |

*Table 7: Regression Coefficients: Project Appraisal and Financial Performance*

Findings in table 7 show that project appraisal had a positive and significant influence on financial performance (β = 0.585, p=.000<.05), implying that project appraisal significantly enhances the financial performance of public universities in Kenya. The findings agree with those of Batra and Varma (2017), who linked capital budgeting practices to firm profitability.

## 5. Conclusion

The study concluded that project appraisal had a positive and significant relationship with financial performance. The implication is that project appraisal contributes significantly to enhancing the financial performance of public universities. Specifically, projects are implemented as per the schedule in the contract, and projects are diligently monitored to ensure quality. Further, projects are appraised using scientific methods, and there is a constant flow of cash to finance projects according to budget. The null hypothesis that project appraisal has no significant statistical influence on the financial performance of public Universities in Kenya was rejected.

## 6. Recommendations

The study findings demonstrated that project appraisal had a positive and significant relationship with financial performance. The study recommended that the management of public universities should strengthen aspects relating to project appraisal. There is a need to ensure that projects are implemented as per the contract schedule. Projects should be diligently monitored to ensure quality. Further, projects should be appraised using scientific methods to ensure that there is a constant flow of cash to finance projects according to budget.

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