

Influence of Project Appraisal Approaches on Project Performance. A Case of Franchise Model Project at Jibu Rwanda

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Abstract

Project appraisal approaches play a big role when it comes to selecting projects the organization is interested to implement because they help to determine whether a project is worthy to be implemented. There is a relationship between performance of an organization and project appraisal approaches applied. Project appraisal approaches strongly help to establish viability of a given project considering its financial value in the organization. The study intended to determine influence of financial appraisal approaches on performance of a project focusing on Jibu Rwanda. The study based and applied project cycle and project appraisal theories. Descriptive survey design was used as a model of research design and forty respondents were the study's target population from different management levels with a census sampling method. The study used questionnaires to collect data from respondents and drop and pick later technique was applied. Reliability of the research instrument was tested using the Cronbach alpha and Cronbach's Alpha of 0.8104 was obtained from the pilot results and the study's instruments were considered to be reliable. Frequency distribution, tables and inferential analysis using SPSS were the descriptive statistics used to analyze data collected. The study determined the relationship between dependent and independent variables using coefficient of correlation, coefficient of determination and multiple regression analysis. After analyzing data, results obtained indicate that 89.1% of the project performance is directly affected by the use of financial appraisal approaches. The study's results obtained indicate that financial appraisal approaches and project performance have a strong positive relationship. $X1: \beta_1 = 0$, since $t = 8.246$, $p = 0.000$ is less than 0.05, $X1$ of financial appraisal approaches has significant influence on project performance. The study draws a conclusion that the organization should continue using financial appraisal approaches to identify and assess a

potential project it is implementing. In addition, the study concludes that a project's leadership team should identify the specific elements contributing to the project performance in regard to how the organization determines a project's success. The study recommends Jibu to continue applying financial appraisal approaches to assess projects before they are implemented. Project leadership team at Jibu should identify specific elements contributing to the project performance in regard to how the organization determines a project's success before resources are allocated to that project. The study recommends future researchers to conduct research on the influence of financial availability on project performance, assess impact of investment policies on project performance, and assess contribution of monitoring and evaluation on the project's success.

I. Introduction

In the global outlook today, organizations are increasingly understanding of their existence with regards to their mission, vision, and objectives. Developmental projects impose different costs and benefits on recipient communities that are either environmental, or economical in nature but in certain cases, they may involve all two. Good investment happens when there is a proper selection, design, and implementation of specific projects to achieve certain desired outcomes. Projects implemented by any organization are assessed to determine the progress made and see whether the projects are aligned to the vision, mission, and project objectives (Memory, 2020). This implies any organization would like to receive good value for the funds invested hence doing all the best to achieve the project's objectives. Organizations are able to meet and achieve their desired goals by identifying right project appraisal techniques and this makes project appraisal a tool for implementing business strategy of any project. This means, for any project in an organization to be

considered, it has to contribute to the project's strategic plan and set mission and vision (Ribeiro, 2011). Therefore, organizations do project appraisal to determine which projects to be selected and implemented.

Ribeiro (2011) stated that "Inadequate assessment of potential investment commitment is one of the main causes of investment failure" This implies, most projects have failed because project managers have not properly done the right project appraisal or applied the wrong techniques. Project appraisal is appropriate in all types of investment projects and is done in both the public and private sectors. Therefore, different project appraisal approaches to assist organizations to make decisions when allocating resources. Malcolm (2011) explains that project appraisal happens when one calculates feasibility of the project before resources available are allocated. Different organizations use project appraisals to choose projects that would help them to attain desired goals in a specific period. Project appraisal process helps managers to compare various options by the use of different decision techniques (Ribeiro, 2011). Project appraisal helps decision makers in an organization to determine whether the investment should be undertaken. In addition, organizations use project appraisal to determine the effect of each project on the organization. Therefore, project appraisal is considered as the central element of a project's lifespan.

In Rwanda, poor water and sanitation conditions in the country cause over 80% of illnesses and this is the same issue affecting other developing countries in the world. Children are in most cases the victims of these illnesses caused by poor water and sanitation and expose them to diseases especially the water borne diseases. 57% of the Rwandan population has access to safe drinking water in their respective homes (UNICEF, 2019). Children from places with no access to clean water drop out of school because they spend their school time collecting water from far places. The government is putting more efforts to help citizens access clean water and sanitation. The government has put in place different measures and strategies to distribute safe and clean water by 2024 (World Vision Rwanda, 2020). The Rwandan Government's plans require the support of other bodies and organizations such as World Vision and the private sector work hand-in-hand to ensure clear and accessible water to the country. The government received grants from different institutions to finance water supply projects in the country. WASAC Rwanda (2021) in their report shows that various water supply projects have been

implemented to provide and help the country have access to clean water and sanitation.

Jibu works hand in hand with emerging entrepreneurs in the country to establish affordable access to clean and safe drinking water to the citizens (Jibu, 2020). Jibu combines available resources both from private and public sectors only choosing new ideas and good practices. The organization has greatly contributed to the growth of the economy through providing citizens with safe drinking water and various other life improving products. With success in Rwanda and Uganda and expansion in Kenya, Jibu believes in their powerful model transforming communities, helping them to have access to clean and safe drinking water (Jibu, 2020). The company plans to capitalize on its strategic retail locations by selling impactful products alongside the water. Jibu has invested in various projects but its performance still faces shortfalls. The organization seems to use the project appraisal approaches to determine the projects selected. The level at which company managers and their respective departments employ project appraisal approaches need to be established to ascertain how it affects project performance. Like any other organization, Jibu intends to use all appraisal techniques in the determination of the projects to be selected for implementation.

II. Review of Literature

A. Theoretical literature

Charles (2018) in his theory says that project appraisal is about predicting a project's financial analysis of overall objectives for the feasibility study. The feasibility study of a project is always concerned about the cash flow operations and funds positions. Financial managers are therefore responsible to keep and monitor project's operations of marketing, engineering, costing, procurement, duty payment and many others to mention that have a direct impact on cash operations and fund position of the project. This analysis helps the finance manager to derive some conclusion at certain cash flows that can be streamlined in a given period of time. The main and crucial purpose of project appraisal is to achieve better practices of capital spending decisions and ensure less expenditures. A given company is able to grow only when it properly invites the available capital in projects that are in a better position to generate future revenues greater than the initial investment.

Sarah (2020) observed that organizations should take and treat investment decisions with care

because of their financial implications on project's general performance. She continued to say that, the effects of decisions concerned with capital budgeting extends into the future of the organization than it would look into the consequences of operating expenditure. An organization should avoid purchasing unwanted fixed assets that could result in misusing resources and hence poor resource allocation.

B. Financial appraisal approaches

Financial appraisal is a method project manager use to assess viability of a proposed project determining net cash flows as a result of the project's implementation (Sinha, 2014). Shraddha (2016) on the other side said that financial appraisal is different from economic appraisal. He said economic appraisal considers the project's costs and benefits expressed in monetary value. On the other-hand, financial appraisal takes into consideration decisions of the organization undertaking the investment considering only direct effects on cash-flows of an investment. This financial analysis assesses if the project was profitable or not. Companies such as Jibu undertake financial analysis to determine the investment's impact on the firm. Public and international agencies on the other hand undertake financial analysis to assess the impact and meaning of public funds. Financial analysis of a project is very important and is undertaken to assess the project's profitability. Firms are interested in assessing the financial analysis of a given project being considered and fewer times it considers the economic analysis.

Financial benefits of a project differ from financial. Financial benefits are revenues received as a result of implementing the project while financial costs are expenditures as a result of implementing the project. Shraddha (2016) says that if a project produces goods for sale, the revenues expected from sales each year are regarded as the benefits of that project. Expenditures are costs that incurred the same year to establish and operate the project said by Sinha (2014). Project managers pay market prices (prices in the local economy) for inputs to be used and receive market prices for the output produced, and then a project's financial benefits and costs are measured in terms of market prices. Financial appraisal depends on the size of the project and time duration it would take the project to be completed and a project's cost and benefits are calculated based on this. A project's costs and benefits can be calculated using the payback period, net present value and internal rate of return as discussed in details below.

Payback Period Analysis: Time required for an organization to return its initial investment. During the PBP analysis, cash inflows of a given project are compared with the overall costs incurred (Sinha, 2014). Payback period is expressed in years or yearly fractions such as months. Payback does not take into consideration the value of money in that particular period. Time value of money follows a principle that cash at hand as of today is worth more in the future. This is because cash at hand today when invested, it would immediately generate some earnings.

Net Present Value: Capital budgeting is a tool that calculates discounted cash flows of an investment. NPV is defined as the present value (PV) of net benefit of that specific project. NPV is calculated by discounting net benefits of a project to its value in the present. Discount rate is commonly used by firms especially the private as their cost of capital (Baker & Powell, 2009). Banks use treasury bill rates as the discount rate since this is the risk-free rate of putting their funds. Adoption of capital budgeting practices like NPV by organizations enhances financial performance.

Internal Rate of Return: When NPV is zero, then Internal rate of return of a project is determined. This implies that during the IRR calculations, the discount rate of cash inflows is equal to initial investment (Dhwani, 2016). IRR is the most commonly used tool in project appraisal because it easily compares the profit rate of a project and is very easy to understand. When IRR is used to discount costs and benefits of a given project it makes the project's net present value zero (Dayananda, 2002). IRR of a project is the discount rate at which the management is convinced and determines the worth of implementing the project. Project managers are much more interested at the maximum interest rate that helps the project pay off its initial investment and be able to recover all its operating costs (David & Terry, 2009). A project is worthwhile when the IRR of the same project is greater than the test discount rate. With this in mind, projects with the highest IRR are then considered as the first option for investment. (Dayananda, 2002).

C. Project appraisal theory

Magda (1960) in his appraisal theory stated that appraisal methodologies are methods put in place by the organization to assess the project's viability and success (Scherer, 2013). Organizations apply project appraisal approaches to check appropriateness of a given project by putting things like available funds and economic climate into consideration. In most cases, projects are meant to

achieve and maximize shareholders' wealth. It involves comparison of different available options and chooses the best possible to be implemented. Little and Mirrles (2014), in their theory, says that a financial project appraisal approach is the most renowned approach that focuses on the financial viability of a given project any organization intends to implement. Financial appraisal technique is considered to be the only appraisal technique that helps organizations to connect factors of production leading to production of goods and services (JohnWard et al., 2016). However, appraising any project, the financial appraisal approach has to go hand in hand with other project appraisal approaches.

III. Research Design and Methods

According to Kassum (2019), descriptive survey design of research used to obtain data to be analyzed and helps the study determine specific characteristics of a given group the study intends to conduct a research on. The study used and applied descriptive research design where both open and closed-ended questions were used to understand respondents' point of view. The target population of this study was 40 staff management personnel made of senior executives, middle managers, team leaders in different departments of the organization. Census sampling technique was used and it considered the entire target population. Census sampling technique is used by studies when the target population is less than hundred (100) and the entire population is taken to be the sample size (Kabiru, 2017). Primary data of the study was collected using "Questionnaire". Questionnaires were made of various questions that were both closed-ended and open-ended and this helped the study collect relevant data from respondents to respond to the research problem.

The study analyzed quantitative using inferential statistics, regression analysis and correlation analysis respectively. Correction analysis was also used to determine whether there is a relationship

between financial appraisals approaches and the performance of the project. Regression study was used to determine whether there exists a significant connection between financial appraisal approaches of projects undertaken by an organization and its performance. The study's correlation and relationship were tested at a significant level of 0.05. Data presentation was then done through the use of frequency distribution tables, percentages, standard deviation and correlation regression. Statistics were used to analyze "Influence of project appraisal approaches on project performance. According to John (2020), SPSS was used to provide accurate analysis resulting in reasonable conclusions and this made the study use SPSS as a data collection tool to analyze data collected. Regression analysis formula; $Y = \beta_0 + \beta_1 X_1 + \epsilon$, where, Y is the dependent variable - project performance, β_0 = regression coefficient, slopes of regression = β_1 , X_1 = financial appraisal approaches ϵ is an error mean of 0 and ϵ is assumed to be 0.

IV. Results And Discussion

A. Demographic data

Of all the 40 questionnaires sent to respondents, 38 questionnaires were fully completed and collected leading to response rate of 95%. Response rate obtained to be considered adequate, it should at least be 50%, 60% to be considered good, 70% and above is considered to be excellent for analysis and generalize findings (Mugenda & Mugenda, 2003). The 2 respondents who didn't complete the questionnaire might have resulted from their busy schedule.

B. Distribution by gender

Distribution and data collection based on gender was meant to help the study compare demographics in relations to the entire population. Table 4.1 shows the respondent's gender distribution.

Table 4.1: Respondents' gender

| Respondents' gender | Frequency | Percentage (%) |
|---------------------|-----------|----------------|
| Male | 18 | 47.4 |
| Female | 20 | 52.6 |
| Total | 38 | 100.0 |

Source: Jibu Rwanda (2021)

Table 4.1 indicates that 18 respondents were males (47.4%) and 20 respondents were females (52.6%). Therefore, conclusions and recommendations generated by the study are generalizable. The study wanted to understand gender distribution in the organization and results indicate that there is almost equal gender distribution. Influence of Financial Appraisal Approach on Project Performance: The study wanted to determine if respondents used financial appraisal approaches to

identify and select projects before it was implemented in the organization. This helped the study to understand and know whether Jibu selected and implemented the project using this project appraisal approach. Table 4.2 shows whether respondents have used a financial appraisal approach to select projects before they are implemented in the organization.

Table 4.2: Financial appraisal approaches used

| Financial Appraisal Approaches Used | Frequency | Percentage (%) |
|-------------------------------------|-----------|----------------|
| Yes | 35 | 92.1 |
| No | 3 | 7.9 |
| Total | 38 | 100.0 |

Source: Primary data (2021)

Table 4.2 shows that 35 respondents representing 92.1% used and applied financial appraisal approach to select a given project to be implemented. Only 3 respondents representing 7.9% have not been using financial appraisal approaches to select projects for implementation. Results from data collected also reflect that a number of respondents used financial appraisal approaches to select projects for implementation all times. Table 4.3 show that 15 respondents

representing 39.5% applied financial appraisal approach all times when determining and selecting projects to be implemented, 11 respondents representing 28.9% commonly used financial appraisal approach to select projects, 8 respondents representing 21.1% often used financial appraisal approach to select projects and 4 respondents representing 10.5% not used financial appraisal approach at all to select projects.

Table 4.3: Level of using financial appraisal approach

| Level of Using Financial Appraisal | Frequency | Percentage (%) |
|------------------------------------|-----------|----------------|
| Not used at all | 4 | 10.5 |
| Often Used | 8 | 21.1 |
| Commonly used | 11 | 28.9 |
| Used all times | 15 | 39.5 |
| Total | 38 | 100.0 |

Source: Primary data (2021)

Table 4.3 shows the different financial appraisal methods used by the organization when selecting projects to be implemented. It shows the extent at which the respondents used these financial methods in selecting projects for implementation. The study

wanted to know to what extent respondents use the different financial methods to determine projects for implementation as in Table 4.4.

Table 4.4: Extent of using financial appraisal methods

| Financial Appraisal Approaches | No | Small | Moderate | Large | Very Large |
|--------------------------------|----|-------|----------|-------|------------|
|--------------------------------|----|-------|----------|-------|------------|

| | Extent | Extent | Extent | Extent | Extent |
|-------------------------|--------|--------|--------|--------|--------|
| Payback Period | 4 | 2 | 9 | 10 | 13 |
| Net Present Value | 4 | 2 | 13 | 10 | 9 |
| Internal Rate of Return | 3 | 2 | 14 | 5 | 14 |

Source: Primary data (2021)

Table 4.4 illustrates how different financial appraisal methods have been used by the organization in determining which projects to be selected and implemented. The study asked respondents to what extent they use these methods and their responses were as indicated in Table 4.4. When asked about the use of payback period method, 4 respondents said to have not used it to any extent, 2 used it to a small extent, 9 used it to a moderate extent, 10 used it to a large extent and 13 used it to a very large extent. This indicated that a large number of respondents used the payback period method to determine and select projects to be implemented in the organization. When asked about the use of the NPV method, 4 respondents claimed to have not used it to any extent, 2 used it to a small extent, 13 used it to a moderate extent, 10 used it to a large extent and 9 used it at a very large extent. This indicated that respondents also used the NPV method to determine and select projects to be implemented in the organization.

When asked about the use of the IRR method, 3 respondents claimed to have not used it to any extent, 2 used it to a small extent, 14 used it to a moderate extent, 5 used it at a large extent and 14 used it to a very large extent. This indicated that a large number of respondents used the IRR method at a moderate extent to determine and select projects to be implemented in the organization. Many organizations apply and use IRR to determine projects to be implemented because it puts into consideration time value of money (Baker & English, 2011).

For the study to be able to determine the influence of financial appraisal approach on the project's performance, respondents were asked to show the extent at which financial appraisal approach influenced the performance and success of projects implemented.

Table 4.5: Influence of financial appraisal approach on project's performance

| Influence of Financial Appraisal | Frequency | Percentage (%) |
|----------------------------------|-----------|----------------|
| No influence | 3 | 7.9 |
| Low influence | 0 | 0.0 |
| Moderate influence | 5 | 13.2 |
| High influence | 10 | 26.3 |
| Very high influence | 20 | 52.6 |
| Total | 38 | 100.0 |

Source: Primary data (2021)

Table 4.5 shows the level at which the financial appraisal approach influenced the project's performance. Respondents when asked about the influence of financial appraisal approach, 3 respondents representing 7.9% said no influence, no respondent said low influence, 5 respondents representing 13.2% said moderate influence, 10 respondents representing 26.3% said high influence, and 20 respondents representing 52.6% said a very high influence. Based on these results it is clear that the financial appraisal approach has a

direct influence on the performance and success of the projects being implemented.

C. Regression and Correlation Coefficient Analysis

For the study to determine a relationship between dependent and independent variables, regression analysis was used to determine the co-variation of the variables towards their direction and change. Mugenda and Mugenda (2003) said that for every measurement in each variable (y), there is a corresponding value for the other variable (x). Correlation analysis on the other hand was

conducted to determine the level of relation between the dependent and independent variables. Therefore, correlation analysis illustrates the cause and effect, strength and direction of the two variables. The study used both regression analysis and correlation analysis to come to conclusions based on the data collected from the respondents. The study used SPSS to code, tabulate and compute measurement of multiple regressions. Regression

analysis was used to determine the influence of the predictor (Independent variable). On the other hand, correlation analysis was also used to determine the relationship between the project appraisal approaches and project performance. Coefficient of determination (R squared) was computed to determine variation of the dependent variable caused by the independent variable.

Table 4.6: Model summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|--------------------|----------|-------------------|----------------------------|
| | 0.944 ^a | 0.891 | 0.881 | 0.14852 |

Source: Primary data (2021)

b. Predictors: (Constant), financial appraisal approaches. The R-squared assumes independent variable justifies variation on dependent variable (project performance). On the other hand, the Adjusted R square expresses the variation justified by independent variable expressed in percentages. From Table 4.6, R-square is 0.891 showing that independent variable explains 89.1% of the influencers of project performance. Furthermore, the adjusted R-square indicates that independent variable influence project performance at 88.1%.

This shows that there was variation of 88.1% on the project's performance by using financial project appraisal approaches at a confidence interval of 95%. This reflected that 88.1% of the entire project's performance resulted from the use of financial project appraisal approaches. Therefore, results obtained reflected a positive relationship between the dependent and independent variable.

Table 4.7: Regression coefficients

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---------------------|-----------------------------|------------|---------------------------|-------|-------|
| | B | Std. Error | Beta | | |
| (Constant) | 1.001 | 0.81 | | 0.000 | 1.000 |
| Financial Appraisal | 0.750 | 0.091 | 0.719 | 8.246 | 0.000 |

Source: Primary data (2021)

The study used multiple regression so as to be able to predict project performance from financial appraisal approaches. From Table 4.7, unstandardized coefficients reflect the level at which dependent variable changes in relation to each independent variable when other factors of the independent variables remain constant. Based on the beta values, these multiple linear regressions were developed in the equation.

$$Y = 1.001 + 0.750X_1$$

Where, Constant = 1.001

Financial appraisal approaches $\beta_1 = 0.750$

The unstandardized beta for financial appraisal approaches which is $\beta_1 = 0.750$ implies that if all other independent variables were held constant a unit increase in financial appraisal approaches would increase project performance by 0.750.

For X_1 : $\beta_1 = 0$, since $t = 8.246$, $p = 0.000$ is less than 0.05, thus X_1 (Financial appraisal approaches) has significant influence on Y (project performance).

Presentation of findings

V. Financial Appraisal Approaches And Project Performance

Data collected regarding the influence of financial appraisal approaches on project performance when analyzed, the study came to find out that 35 (92.1%) out of the 38 respondents indicated that they used financial appraisal approaches before when selecting projects to be implemented in the organization. Results also showed that a number of respondents applied and used financial appraisal approaches to determine which project to be implemented. Results also indicated 15 (39.5%) out of 38 respondents stated to have used financial appraisal approaches all times, 11 (28.9%) out of 38 said they commonly used financial appraisal approaches, 8 (21.1%) out of 38 respondents often used financial appraisal approaches and only 4 (10.5%) out of 38 respondents did not use financial appraisal approach at all. Responses towards how respondents think is the level at which financial appraisal approaches influenced the project's performance, 3 (7.9%) respondents said no influence, 5 (13.2%) respondents said moderate influence, 10 (26.3%) respondents said high influence, and 20 (52.6%) respondents said a very high influence. Therefore, a big number of respondents confirmed that financial appraisal approaches have an influence on project performance.

VI. Conclusion

From the findings, 35 (92.1%) respondents indicated the project used financial appraisal approaches to

assess the project before it was implemented. The unstandardized beta for financial appraisal approaches ($\beta_1 = 0.750$) reflected that if all other independent variables were held constant a unit increase in financial appraisal approaches would increase project performance by 0.750. Therefore, based on the findings, the study concludes that for any organization before it implements or invests in any project, financial approaches of payback period, NPV and IRR should be considered and put into consideration before the organization decides to implement the project. First hypothesis of the study was "Financial appraisal approach has no statistically significant influence on project performance"

VII. Recommendations

Results obtained indicated that 35 (92.1%) of the Jibu's project team used financial appraisal approaches to assess the project before it was implemented. Beta for financial appraisal approaches ($\beta_1 = 0.750$) reflected that if all other independent variables were held constant a unit increase in financial appraisal approaches would increase project performance by 0.750. Therefore, the study recommends Jibu to continue using financial approaches of payback period, NPV and IRR before the organization decides on which project to implement.

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