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## **Effect of Financial Resources Management on Project Success in Rwanda, Case of Green Gicumbi Project**

**Mugabo Patrick**

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# Effect of Financial Resources Management on Project Success in Rwanda; Case of Green Gicumbi Project

Mugabo Patrick

Master of Business Administration in Project Management, University of Kigali,  
Rwanda

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## Abstract

The main objective of this study was to assess the effect of financial control on success of Green Gicumbi Project, to assess the effect of assets management on success of Green Gicumbi Project, and to assess the effect of financial planning on success of Green Gicumbi Project in Gicumbi District. Descriptive research design was used within this study, and the study population comprised 142 various stakeholders working on the Climate resilient settlements components of the GGP in different categories from the community, public sector and private sector. Using universal sampling technique, a sample size of 142 respondents was established. The researcher used a closed end questionnaire for data collection, and a response rate of 87.2% (124 respondents) was obtained. Correlation analysis and multiple regression was utilized to assess the data and results generalized for the entire population. To compute and analyze the data in this study, the SPSS version 27 will be used. The results of correlation analysis showed that there is a positive high and significant relationship between Financial control and project success ( $r=0.756$  and  $sig=.000<0.01$ ). The results of correlation analysis proved that there is a positive moderate and significant relationship between financial implementation and project success ( $r=0.672$  and  $sig=0.00<0.01$ ). Correlation analysis revealed that there is a positive and significant relationship between Financial control and project success ( $r=0.698$  and  $sig=0.00<0.01$ ). The multiple regressions proved that 73.3% of variation in project success in GGP was due to changes in financial resource management. The overall model was significant shown by F statistic of 128.521 and p-value calculated =0.000 is less than Critical p-value =0.01 level of significant. The study concluded that there is significant and positive relationship between financial resource management and project success. All null hypotheses were rejected at 0.5 level of significance due to the fact that the results indicated that there is positive and significant effect between variables. The study recommends that GGP may determine a clear calendar which determine when assets are acquired and used in order to allow all stakeholders to be aware of the availability of assets.

**Keywords:** *Financial Control, Assets Management, Financial Planning, and Success.*

## 1. Introduction

Project success remains a prominent issue in project delivery all over the world. Financial resources management practices have been shown to be essential in improving transparency, efficiency, accuracy and accountability resulting in the projects achieving their objectives (Gregory & Haugan, 2019). Increasing the chances of performance among projects would have huge implications for the growth and socio-economic wellbeing of a country (Kamwana & Muturi, 2018). Thus, understanding predictors of performance in projects is critical. The creation of more performing project could potentially create new jobs, increase trade and consequently the Gross Domestic Product (GDP) of the country. Although it has been difficult to ascertain why in similar situations some projects fail while others succeed, several studies worldwide focuses on the relationship between financial resource management and project success to offer a practical means of addressing the phenomenon.

According to Schwindt (2015), there is substantial positive evidence for statistical associations between project resource management, such as financial resource practices and human resource practices, contributing to improved project success. The author add that for organizations to survive in a global economy in the new millennium, they need to exploit and use all the needed and available resources efficiently as a factor of achieving competitive advantages. Heumann (2017) asserted that the adoption of good financial management policies tends to be critical for the success of projects in today's environment which is dynamic and result oriented. Stakeholders in organizations such as financiers, recipient of services, regulators among others demand for accountability on the use of financial resources and better success from the management of these organizations. Organizations that have the ability to implement strong financial management policies are almost guaranteed of success because without financial resources, projects cannot be developed.

In Turkey, Alam and Gühl (2016) stipulated that proper approaches of planning of cost planning that comprise of cost budgeting and cost estimating practices have an impact on the overall performance on projects. They stated that proper approaches on planning of cost are vital when it comes to finishing a particular project within the set budget. The author concluded that financial resource management is therefore a key component in every organization since it controls one of the most valuable asset of an organization which financial resource.

In Nigeria, Ogunmakin *et al.* (2022) contended that financial resource management support organizations in prioritizing and selecting the right projects to meet strategic objectives and improve project success rates. Management has changed because of technology progress, because customers are demanding more, and because globalization has increased. This change has left executives struggling to find new management practices (Itegi, 2015). In today's competitive global market, it is imperative that enterprises not only compete with local businesses but with the worldwide competition as well.

In Somalia, Yusuf (2022) suggested that approximation of project expenses and costs should be done on the basis of coverage of the project, work breakdown structure should be linked to the initial design of that project. It also discovered that a correct estimation of the entire project needs to be done cautiously for that project to attain its objective. Estimation of each activity is important since each activity can be affected differently by circumstances. Because of different environmental aspects that are uncertain in software projects, a contingency budget need to be devoted to events with greater threat and with insufficient information.

Regionally, in Kenya Cheluget and Morogo (2017) found that the success of the project depends on the variety of resources such as physical and financial capital, technology and human resource. However, the element of human resource is not given much importance at the time of project designing which is a wrong practice on the part of the project designers.

Mutula (2020) asserted that a proper financial control system contributes greatly towards ensuring that stakeholder's investments are safeguarded together with the organization's assets. Strong financial controls improve on the data being issued to the management and help safeguard the assets of the organization.

In Rwanda, Gashuga *et al.* (2016) found that effective funds management requires project manager to estimate and plan for liquidity demands over various periods and to consider how funding requirements may evolve under various scenarios, including adverse conditions. According to Ndayisaba and Mulyungi (2018), a project is a success if it delivers what it said it would, on schedule and within the agreed budget.

The achievement of Rwandan projects is until today facing many challenges due to the weaknesses found in procuring entities' procurement systems. The main challenges are related to the projects planning which are illustrated by different problems that arise during the projects implementation and their related contracts management, among which the financing problems come on the first place. The poor planning results from badly done projects studies especially construction projects which use the biggest portion of the national budget. There have been projects which were abandoned without being completed and others took longer execution period than the planned ones (Nyakarengo & Wanjiku, 2023). Thus the need felt by the researcher to carry an evaluation of project finance of the Green Gicumbi Project as case study.

In 2019, the Government of Rwanda through the Ministry of Environment secured a funding of USD32 Million from the Green Climate Fund (GCF) to implement the project entitled "Strengthening climate resilience of rural communities in Northern Rwanda". The project is locally referred to as the 'Green Gicumbi Project'. It is currently implemented by the National Fund for Environment-FONERWA while the Ministry of Environment is the Accredited Entity.

The 6-year project mainly focuses on reducing vulnerability to climate change by enhancing the adaptive capacity of the targeted groups in the project intervention area as well as reducing their exposure to climate risks. The project intervention area covers 9 Sectors that fall within Muvumba B sub-catchment comprise around 252 villages and targeting 150,000 and 380,000 direct and indirect beneficiaries, respectively. The sectors covered by the project are Rubaya, Cyumba, Kaniga, Mukarange, Rushaki and Shangasha, Manyagi, Byumba, and Bwisige. The high dependency of the local population in the targeted areas on agriculture as a source of food and income makes them highly vulnerable to the degradation processes occurring within the catchment. Particularly at risk are tea and coffee farmers as both crops are highly sensitive to climate change and adverse losses in productions are already evident.

The estimated annual loss of production from climate variability at the Mulindi tea plantation (2300 ha) in Gicumbi over the last six years ranges from 2.0 to 3.3 million tonnes of green leaf per year, with an equivalent market loss of 2.5 to 4.1 million dollars. The Green Gicumbi project has therefore broadly been tailored to address the specific issues related to watershed protection through land husbandry practices including agroforestry as a land and soil protection measure among other benefits.

### **Problem statement**

The World Bank Group's Country Climate and Development Report (CCDR, 2022) calls for the sustainability of climate change projects to reduce Rwanda's vulnerability to climate change, as climate change factors could reduce Rwanda's GDP from expected levels by as much as 5–7 percent in some years and push the economy away from reaching goals set in Vision 2050, the National Strategies for Transformation and the Green Growth and Climate Resilience Strategy. The CCDR (2022) finds that even if Rwanda is well ahead of many other countries in responding to challenges from climate change, however sustainability of climate projects is a great challenge in Rwanda where huge money and time is invested during implementation but expected impact is not realized. In the same line, the IFAD (2020) indicated that the trend for climate change projects implementation indicate improvement, however, sustainability of the same is disappointing as very few projects are successful.

In Rwanda there is an extensive number of projects that have inappropriate project management practices such as over budgeting, lack of engagement of all stakeholders in project activities (Nyakarengo & Wanjiku, 2023), low level of education of project team members like farmers, inadequate of financial resources (Andinda, 2023), and lack of day to day proper tracking on use of physical materials that belongs to the project and lack of proper monitoring of project activities (Ndaisaba & Mulyungi, 2018). Consequently, in Rwanda, more than a half of projects implemented never meet their expected results, due to lack of sustainability of the projects, community had no ownership on those projects and are not engaged in the projects, lack of economic and financial sustainability and also poor maintenance of projects (Andinda, 2023). According to the Auditor General's Office (2018), also many government projects in Rwanda have continuous time and budget overruns, unmet product specifications, and failure to fulfill customer expectations and satisfaction standards despite efforts to ensure project success.

Despite the fact that there are number of studies which have been done on the success of development projects in Rwanda (Habumuremyi & Tarus, 2019; Umubyeyi, 2021; Uwamariya *et al.*, 2021), few have emphasized specifically on the financial resource management or on climate change projects. This study aimed at filling that gap by assessing the effect of financial resource management on the success of projects in Rwanda, with evidence from the Green-Gicumbi Project.

### **Research objectives**

The main objective of this study was to assess the effect of financial resources management on project success in Rwanda. Specifically, the study aimed to:

- To assess the effect of financial planning management on project success in Rwanda.
- To assess the effect of financial plans implementations on project success in Rwanda.
- To assess the effect of financial control on project success in Rwanda.
- To assess the effect of financial resources management on project success in Rwanda.

### **Research Hypotheses**

**H01:** Financial planning doesn't significantly affect the success of project success in Rwanda.

**H02:** Financial implementation doesn't significantly affect the success of project success in Rwanda.

**H03:** Financial control doesn't significantly affect the success of project success in Rwanda.

**H04:** Financial resources management has no significant influence on project success in Rwanda.

## 2. Literature Review

### Financial control and project success

Agbo and Nwankwo (2022) aimed to determine the effect of project portfolio management on project success, using Aqua Rapha Investment Nigeria Limited as a case study. The study adopted a descriptive survey method to generate primary data through the use of questionnaire among 23 distributed to and collected from the management staff and major distributors of the company. The hypotheses of the study were tested with analysis of variance using the Statistical Package for Social Sciences version 24. The result of the study revealed that project portfolio management affects the product quality and product costing in Aqua Rapha Investment Nigeria Limited positively and significantly. The result also indicated that project portfolio management has a positive and significant effect on the stakeholder satisfaction with the products of Aqua Rapha Investment Nigeria Limited.

Aftab (2018) studied how time management affected how well large building projects performed in Malaysia. This study's objective was to determine how time management practices affected the success of a significant building project. In Malaysia's major building projects, the study has identified the most often used time management tools and software programs as well as the effectiveness of each. There is a gap in the methodology in the study done by Aftab *et al.*, (2018) where they focused on face to face interview but ignore closed ended questionnaire which will allow research to quantify the variable under the study and also which will allow research to compute statistics such as mean, standard deviation and inferential statistics in order to generalize the sample size to the whole population.

Alaswad and Stanisic (2016) examined the effect of internal audit on financial reporting of 26 financial companies in Libyan Stock Market. Four internal audit characteristics were examined, including: audit committee size, independence of the audit committee, auditor's qualification and experience. The findings indicated a statistically insignificant relationship between internal audit committee size and performance. But there was a statistically significant relationship with respect to other variables.

Gashuga *et al.* (2016) aimed to assess the effect of funds management on project performance in Rwanda. Specific objectives were to analyse relationship between budgeting and project performance in Rwanda; to determine the influence of fundraising on project performance in Rwanda; to determine the effect of funds allocation on project performance in Rwanda; and to analyse the effect of funds control on project Performance in Rwanda. This research was a descriptive-correlational design and used both qualitative and quantitative research approaches. The population of this study was 91 employees. Questionnaires were used in this study as data collection instruments. Descriptive statistics were used to determine frequencies and percentages of respondents, while regression analysis and Pearson correlation coefficient were used to establish relationship between variables under study. The Statistical Packaging for Social Sciences version 16 was used in this study. Based from the discussion, it is concluded that, budgeting, fundraising, funds control and funds allocation plays a big role towards performance of the project. The techniques used during this process of budgeting are supposed to make sure that effective management of funds is done. The management of the project should always make sure that, budgets systems, funds control, funds allocation and fundraising are clear and following the principles of project management to avoid audit queries all the time which may affect the implementation of the project activities.

Mutesi, (2016) conducted a study on the relationship between internal control systems and financial performance in public institution in Rwanda. The research was conducted using the entire population because the finance department, audit, coordination of projects & finance department of the Single Project Implementation Unit (SPIU) is composed by a small number of staff which is ten. The study found that the internal audit doesn't conduct regular audit activities and doesn't produce regular audit reports. This current study aimed to ascertain

whether financial control mechanism affect the performance of income generating units in selected public universities in Kenya.

### **Financial planning and performance**

Ogunmakin *et al.* (2022) examined the impact that sound financial planning practices have on the overall performance of manufacturing companies in Nigeria. In this study, an ex-post-facto research strategy was used, and secondary data was collected so that the researchers could investigate the link between the variables. The population of the research was made up of five samples that were randomly chosen from the population as a whole. The information was taken from the company's annual financial report, which covered a period of ten (10) years (2010-2020). Ordinary Least Square (OLS) regression analysis was used in order to make sense of the gathered information. It was discovered that financial management practices have a positive significant effect on Profit after tax (PAT) ( $p < 0.0021$ ); financial management practice has a positive significant effect on retained earnings ( $p < 0.0415$ ); however, financial management practice has no significant effect on debt-to-equity ( $p > 0.7350$ ).

Cheluget and Morogo (2017) sought to establish effect financial management practices on project performance in Uasin Gishu County, Kenya. The study was guided by the Theory of Planned behavior. Stratified and simple random sampling techniques were used to select a sample size of 87 top management employees from 31 projects in Uasin Gishu County. Data was collected using structured questionnaires. Test-retest technique was employed to test reliability of the data collection instruments at  $\text{Alpha} > 0.7$ . The study adopted ex post facto research design. Descriptive and inferential statistics were used to analyze the data. Regression analysis was used to test the hypotheses at  $p \leq 0.05$ . Findings revealed a positive influence of budgeting and financial reporting on project performance.

Sitienei and Memba (2015) evaluated the effects of inventory management on the profitability of the Cement manufacturing firms in Kenya. A cross sectional data from 1999 to 2014 was gathered for the analysis of the annual reports for the three sampled firms listed at Nairobi Securities Exchange (NSE). The ordinary least squares (OLS) stated in the form of a multiple regression model was applied in the data analysis to establish the relationship between inventory management and firm's profitability. The variables used include inventory turnover, inventory conversion period, Inventory levels, storage cost, size of firm, gross profit margin, Return on assets and growth of firm. The results provide a negative relationship between inventory turnover, inventory conversion period and storage cost with profitability of the company. In addition, inventory level was found to be directly related to firm's size and storage cost. The study recommends that the Cement-manufacturing firms in Kenya should strive to ensure that the right stock is kept in their warehouses to hedge against excessive holding cost and stock-outs.

Andinda (2023) investigated the effects of resource planning practices on performance of projects in Rwanda a case of the upgrade of Kigali international airport (UKIA) project of Rwanda civil aviation authority. Target population for the study was 82 project members within RCAA. There was no sampling since the number of respondents was small. Questionnaires were used to collect primary data, which was later analysed using SPSS. The study revealed Correlation analysis between human resource planning practices and project performance indicated positive and yet significant relationship between teamwork, training of the project team members and project performance. The study revealed that there existed teamwork in the project and that project members were trained. Financial resource planning practices were found to influence the project performance. Practices such as budgeting, forecasting, and having plans for money generation were found to exist in the project. Correlation analysis between financial resource planning practices and project performance indicated that there was a positive and significant relationship between budgeting, forecasting, plans for money generation and project performance. Order placement,

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monitoring of placed orders, and planned procurement practices were found to exist within the project. Correlation between material resource planning practices namely; order placement, monitoring of placed orders, planned procurement and project performance gave evidence that this practices had influence on the project performance. Procurement of required material was found to be done within the project budget. Project members were provided with the right quantity of material in the right time.

### **Financial plans implementation and success**

Mutula (2020) examined impact of human resource management on project plans implementation in Nairobi, Kenya, using the case of a few chosen Westland's organizations. goal of the study was to determine how well the Westland's organization used its human resources in connection to the success of their projects. This study used a descriptive survey as its research strategy. A statistical tool for social sciences was used to code, arrange, and analyze the filled-out surveys (SPSS). In order to interpret data, descriptive statistics are employed to communicate data's key characteristics. The existence of a relationship between these practices and implementation was determined using regression and correlation analysis. To look for response variation, cross-tabulation and one X2 were used. The research found that management and planning both have varied effects on organizational performance, depending on the practice's effectiveness ( $R=0.745$  and  $R^2=0.713$ , respectively).

According to Kanyua and Omwenga (2016) the pastoralist integrated support programme (PISP), Marsabit county, is a case study on impact of financial planning on project deliverables of nonprofit organizations in Kenya (2016). primary goal of the study was to assess how financial planning affected non-governmental organizations' project outputs. In the office, 40 employees in total were questioned. Since the target population was less than 100, the researcher used the census approach. information was collected by questionnaires, and analysis was done using descriptive statistics. The study also discovered that financial resources had an impact on project deliverables in PISP, as meeting project goals required proper financial planning resources. The study also discovered that project outputs in PISP were impacted by financial efficiency.

Lapteş and Sofian (2016) sought to develop a study regarding the theory of integrated reporting based on a research documentary published by the International Integrated Reporting Council and other related organizations. The integrated report explains the journey towards achieving its vision and it also provides information about the past and future performance. Most of these studies however were not conducted in Kenya but in other advanced countries hence creating a research gap.

Nyakarengo and Wanjiku (2023) examined the influence of project resources management on the performance of the Sustainable Agricultural Intensification and Food Security Project (SAIP) in Rwanda. The study was grounded in the theories of resource dependence and resource-based theory, providing a solid foundation for the investigation into the relationship between project resources management and SAIP performance. The study utilized both descriptive and inferential research designs. Descriptive research was employed while inferential statistics, including correlation and multiple linear regressions, were used to analyze the relationship between project resources management and SAIP project performance. The target population consisted of 1124 employees of the SAIP project, with a sample size of approximately 92 employees determined using Yamane's formula. Convenience sampling was used to select the sample. Data collection involved self-administered questionnaires and an interview with the project manager. Qualitative data were subjected to content analysis, and the results were presented in a narrative format. The results revealed a significant positive effect of human resources on SAIP project performance, with

$\beta_1 = 0.404$ ,  $p\text{-value} = 0.000 < 0.05$ ,  $t = 7.127$ . Similarly, financial resources were found to have a significant positive effect on SAIP project performance. Additionally, physical resources were found to have a significant positive effect on SAIP project performance. The study concluded that efficient management of project resources, including human, financial, and physical resources, greatly influences project performance in terms of timely completion, reduced costs, satisfaction of project beneficiaries, and improved project deliverables.

Ndayisaba and Mulyungi (2018) assessed the effect of resources management on project success implementation in Rwanda, a case study of strengthening livelihoods in rural Rwanda project. The target population involved all project participants include Urwego staff, Muhanga district officers, project beneficiaries and local community key informants. The data were analyzed quantitatively using percentages, frequencies, regression analysis were used to extract a systemic relationship between the independent and dependent variables and the results revealed that resources management has an influence of 83,7% on project success implementation of strengthening livelihoods in rural Rwanda project Muhanga district.

### **Theoretical review**

This study was guided by the theory of financial control and the Resource-Based View (RBV).

### **Theory of Financial Control**

The theory of financial control was advanced by Schwindt (2015). The theory takes into account the personal functions of humans, both in present day and future, as its underlying point of reference. This theory holds that an organizations existing and possible functions of financial tools for organizations are most essential. It also states that, payments, financial instruments, accounting, control models, economic calculations, and related considerations, both within and outside of the organization, ought to be discussed with regard to inner characteristics but also considering possible effects. It is noted that determining the relationships between various activities and financial processes, from a financial control point of view, is a general and basic issue.

The theory of financial controls places a natural focus on the organizations such that they are looked at from a number of latitudinal areas. The first relate to the human beings functions of what is accomplished through organizations, their activities and output. The second area involves the structure of the organization and activities, and of transactions and relations that various parties hold with each other. The third latitudinal area covers the control systems being the recurring procedures and methods that are employed to relate present and future functions to resources both externally and internally. The aforementioned financial control tools are argued to be critical from an individual organization's perspective and also for larger economic systems. The fourth and final latitudinal area shows the specific processes of individual organizations for certain issues. The theory further states that structure and financial control system works together (Kamwana & Muturi, 2018).

The financial control theory is very relevant to the present study in that it gives a better ways to follow for effective use of financial resources.

### **Resource-Based View (RBV)**

The Resource-based View (RBV) as a strategic management theory that is used to examine how resources can drive competitive advantage (Almarri & Gardiner, 2018). If one company succeeds in creating and delivering more value than its competitors do (such as higher project success rate), it is said that the company has competitive advantage (Kotler & Armstrong, 2014). According to Killen *et al.* (2012), companies can build their sustainable competitive advantage on the resources that are hard to imitate. The main concept on which the RBV is

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based on is that resources are homogeneous crosswise with other organizations. By utilizing this concept different success rates among organizations might be described.

Yusuf (2022) also commented on competitive advantage by claiming that “if a firm is to achieve a sustained competitive advantage state, it must acquire and control valuable, rare, inimitable, and non-substitutable (VRIN) resources. It is not easy for one company to imitate resources that are customized to specific settings and advanced over time. This is exactly a factor where a company can build competitive advantage and rely on its resources to capture benefits and value in return. Based on the Resource-based View of the firm concept, intangible resources are more likely to be rare and hardly imitable.

Killen *et al.* (2012) mentioned examples of tangible and intangible PM resources. The first include “methodologies and practices (know what)”; while second include “tacit knowledge sharing process” and facilitation (know how)”. Therefore, for the purpose of this study, the following definition is adopted: - The resource-based view (RBV) is a model that sees resources as key to superior firm performance. If a resource exhibits VRIO attributes, the resource enables the firm to gain and sustain competitive advantage (Schwindt, 2015).

The RBV has become one of the most influential strategic management theories cited in strategic management literature due to its immediate face validity, appealing core message, and ease to grasp and teach (Kraaijenbrink *et al.* 2010). As Kraaijenbrink *et al.* (2010) stated, what makes the RBV one of the significant strategic management theories in strategic management literature is its “immediate face validity”, “appealing core message”, and “ease to grasp and teach”. This assumption can support the overall aim of the present study because such a model can support scholars and practitioners to easily investigate an organization’s profile of resources in order to improve project success.

### 3. Research methodology

The study adopted Inferential statistics Analysis design in order to interpret data. Therefore, both quantitative (questionnaire) and qualitative (interview) research techniques were used by the researcher in order to collect data (information) related to the objectives of the study and for data analysis..

A total of 142 within the 3 categories of stakeholders within the Climate resilient settlements project were taken as the target population. The sample size was 142 people. The reason is because the population is small; therefore, take the entire population as a sample size.

Both primary and secondary data sources were utilized, with primary data collected through questionnaires and key informant interviews. Secondary data were obtained through a documentary review process.

The research instruments were tested for validity and reliability. Questionnaires, as a primary data collection method, were designed to align with the research objectives, utilizing a mix of close-ended and open-ended questions, primarily based on a Likert scale. Documentary review supplemented the primary data collection process, enhancing the depth of information acquired. For reliability, the Cronbach's alpha values for various variables were calculated, all surpassing the acceptable threshold of 0.7, indicating strong internal consistency. Editing, coding, and tabulation processes were employed to ensure data quality, consistency, and organization.

Data analysis involved Statistical Package for Social Science (SPSS V 21.0) for quantitative analysis. Inferential statistics, including Pearson correlation analysis and multiple regression analysis, were conducted to establish relationships between Financial Resources Management and Project Success in Rwanda. Ethical considerations were a priority, ensuring confidentiality by avoiding the disclosure of respondents' identities and maintaining strict confidentiality of sensitive information throughout the study.

#### 4. Findings

This chapter delves into the study's findings and provide their interpretation, drawing from the analysis of the data gathered through questionnaires. The study scrutinizes the Effect of Financial Resources Management on Project Success in Rwanda, Case of Green Gicumbi Project, employing correlation analysis to unveil the associations. Additionally, regression analysis is leveraged to elucidate both the individual and collective effect of Financial Resources Management on Project Success in Rwanda.

##### Correlation analysis Results

The correlation is one of the most common and most useful statistics. Linear correlation coefficient, measures the strength and the direction of association between the study variables was assessed using Pearson coefficient of correlation. The Pearson’s coefficient of correlation ranges between +1 to -1. A zero (0) coefficient indicates that there is no association between the two variables. A coefficient value of greater than 0 indicates a positive relationship between the variables and hence an increase in the value of one variable leads to an increase in the other values of the other variable and the converse is true. A value less than 0 indicate a negative association between the variables that is as the values of one variable increases the values of the other variable decreases (Lohrey, 2014).

The study sought to determine the correlation between the independent variables (Financial control, financial planning, and Financial plans implementation) and the dependent variable (project success measured by Quality, Timeliness and Cost effectiveness). To calculate the correlation (strength) between the study variables and their findings the Survey Data used the Pearson’s coefficient of correlation (r). The findings are presented in tables below.

**Table 1: Correlation analysis between Financial Resource Management and project success**

		FC	FP	FP I	Project I
Financial control	Pearson correlation	1			
	Sig. (2-tailed)	.000			
Financial planning	Pearson correlation	0.713*	1		
	Sig. (2-tailed)	.000			
Financial plans implementation	Pearson correlation	0.284*	0.273**	1	
	Sig. (2-tailed)	.000	.000	.000	
Project Success	Pearson correlation	.672*	.698**	1	1
	Sig. (2-tailed)	.756**	.000	.000	.000
	N	124	124	124	

**\*\*.** Correlation is significant at the 0.01 level (2-tailed).

The results in Table 1 show that there is a positive and significant relationship between Financial control and project success because the calculated Pearson correlation and significance level between Financial control and project success is positive high and significant ( $r=0.756$  and  $\text{sig}=0.000<0.01$ ) level of significance.

Thus, this implies that financial control plays a positive and significant effect on project success in GGP.

Based also on the findings in Table 4.6, the results proved that there is a positive and significant relationship between Asset management and project success because the calculated Pearson correlation and significance level between Asset management and project success is Positive moderate correlation and significant ( $r=0.672$  and  $\text{sig}=0.00<0.01$ ) level of significance. Thus, this implies that Asset management have a positive and significant effect in project success in GGP.

The results of the study in Table 1 revealed finally that there is a positive and significant relationship between Financial information management and project success because the calculated Pearson correlation and significance level between Financial information management and Quality is positive moderate and significant ( $r=0.698$  and  $\text{sig}=0.00<0.01$ ) level of significance. Thus, this implies that financial information management plays a positive and significant effect on project success in GGP..

### Regression model

Regression statistics analysis had to be done for statistical tests to determine whether there is enough evidence to accept or reject the null hypothesis.

### Multiple linear regression on effect of financial resource management on project success

The study sought to identify the effect of financial resource management on project success in GGPs in Rwanda by using multiple linear regression model to determine the effect of independent sub-variables on each dependent variable in GGP. The regression models were run to test whether the model is significant or not. The statistical significance was verified by the Coefficient ( $\beta$ ), t-statistic and Prob. In additional, statistically significant relationship between the dependent variable and independent variable from the model were accepted at 5% significance level. The analysis applied the Statistical Product & Service Solutions (SPSS) version .27 to compute the measurements of the multiple regressions for the study. Model relationship with financial resource management these variables can be arranged in a function or equation as follows:

$$\text{Project success} = Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon, \text{ Model 1}$$

$X_1$  = Financial control (FC),  $X_2$ = Asset management (AM),  $X_3$ = Financial information management (FIM),  $\varepsilon$  = error term

**Table 2: Model summary on effect of financial control on project success**

Model	R	R Square	Adjusted Square	R Std Error of the estimate
1	.856a	.733	.732	1.96168

**a. Predictors: (Constant): FC, AM, and FIM**

The results from the above table 2, the value of coefficient of determination (R-Square) was 733 (73.3%) an indication that 73.3% of variation in project success in GGP was due to changes in Financial resource management. This means that other factors not included in this model influence the project success of GGP at only 27.7% level, and financial resource management influence it at 73.3%.

**Table 3: ANOVA between Financial resource management and project success**

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	8.869	3	2.956	128.521	.000b
	Residual	2.492	120	.023		
	<b>Total</b>	<b>45.999</b>	<b>123</b>			

**a. Predictors: (Constant): FC, AM, and FIM**

**b. Dependent variable: Project success**

The findings in the table 3, indicate that the overall model was significant shown by F statistic of 128.521 and p-value calculated =0.000 is less than Critical p-value =0.01 level of significant. Therefore, this implies that jointly the variables financial control, Asset management, and financial information management had significant effect to the variation of project success in GGP. Therefore, it can be concluded that the R and R2 between financial resource management and project success in GGP is statistically significant, and financial resource management significantly affect the success of GGP.

**Table 4: Regression coefficients between financial resource management and project success**

Model	Unstandardized Coefficients		Standardized coefficients	T	Sig.	
	B	Std. Error	Beta			
	(Constant)	.928	0.274		2.167	.867
	FC	.287	0.093	.231	3.098	.002
1	AM	.414	0.096	.385	4.317	.000
	FIM	.321	0.091	.330	3.526	.001

a. Dependent Variable: Project success

Table 4 provides the summary of results of regression analysis for the effect of financial resource management on success of GGP in Rwanda. The resulting regression equation is:

$$Y = -0.928 + 0.231 \text{ FC} + 0.385 \text{ AM} + 0.330 \text{ FIM}$$

The constant .928 is the predicted value for the dependent variables (project success of GGP) if all independent variables, Financial control=0, Asset management =0 and Financial information management =0.

The results in Table 4 indicate that financial control ( $\beta_1 = .231$ ;  $t = 3.098$ ,  $p\text{-value} = 0.002 < 0.05$ ) has positive and significant effect on success of GGP. This shows that 1

unit increase in financial control will lead to 0.231 units increase in success of GGP. Thus, this implies that financial control has a positive and significant effect on project success in GGP. Basing on that, the null hypothesis stating that financial control doesn't significantly affect the success of Green Gicumbi Project is rejected at 5% level of significance. The results of this current research are supported by the results of the study of Cheluget and Morogo (2017) who sought to establish effect financial management practices on project performance in Uasin Gishu County, Kenya, and whose findings revealed a positive influence of budgeting and financial reporting on project performance.

The results in Table 4 also reveal that asset management ( $\beta_2 = .385$ ;  $t=4.317$ ,  $p\text{-value}=0.000<0.05$ ) has positive and significant effect on success of GGP. This shows that 1 unit increase in assets management will lead to 0.385 units increase in success of GGP. Thus, this implies that Asset management have a positive and significant effect on project success in GGP. Basing on these results, the null hypothesis stating that Asset management doesn't significantly affect the success of Green Gicumbi Project is rejected at 5% level of significance. This is supported by the research of Nyakarengo and Wanjiku (2023) who examined the influence of project resources management on the performance of the Sustainable Agricultural Intensification and Food Security Project (SAIP) in Rwanda. The study concluded that efficient management of project resources, including human, financial, and physical resources, greatly influences project performance in terms of timely completion, reduced costs, satisfaction of project beneficiaries, and improved project deliverables.

The results in Table 4 finally revealed that financial information management ( $\beta_3 = .330$ ;  $t=3.526$ ,  $p\text{-value}=0.001<0.05$ ) has positive and significant effect on success of GGP. This shows that 1 unit increase in financial information management will lead to 0.330 units increase in success of GGP. Thus, this implies that financial information management plays a positive and significant effect on project success in GGP. Basing on these results, the null hypothesis stating that financial information management doesn't significantly affect the success of Green Gicumbi Project is rejected, because the results of the research revealed that financial information management has a positive and significant effect on project success of the GGP. The findings are in agreement with Ndayisaba and Mulyungi (2018) who assessed the effect of resources management on project success implementation in Rwanda, a case study of strengthening livelihoods in rural Rwanda project, and whose results revealed that proper information management has an influence of 83,7% on project success implementation of strengthening livelihoods in rural Rwanda project Muhanga district.

## 5. Conclusion

On the basis of findings, the study concluded that there is significant and positive relationship between Financial resource management and project success of GGP where there is greater variation of 73.3% in project success of GGP was due to changes in Financial resource management measured in terms of Financial control, financial planning and Financial plans implementation. The findings also implied that the project success of GGP has been measured in terms of Quality, Timeliness and Cost effectiveness. Also, based on the result showed from the test of hypotheses, all null hypotheses were rejected at 0.1 level of significance due to the fact that the results indicated that there is positive and significant effect between variables. Therefore, objectives of this research were so achieved very well.

## 6. Recommendations

In line with some weaknesses found within the research, the following recommendation are proposed to improve the success of GGP in Rwanda:

- The study recommends that GGP may determine a clear calendar which determine when assets are acquired and used in order to allow all stakeholders to be aware of the availability of assets.
- The study recommends the GPP to ensure that project activities are implemented according to the cost pre-determined in the project planning.

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