

LOCAL FINANCIAL RESOURCES PLANNING AND CONSTRUCTION PROJECT PERFORMANCE IN RWANDA: A SURVEY OF LOCAL CONTRACTION PROJECTS OF NYARUGENGE DISTRICT

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Abstract: The work entitled “Local Financial Resources Planning and Construction Projects Performance in Rwanda. A Survey of Local Contraction Projects of Nyarugenge.” was conducted, to examine the effect of external Financial Resource Planning on the project performance and to analyze the coping strategies toward effective financial resource planning and the project performance. This study is survey, descriptive, qualitative, and quantitative design. The study was used both primary data and secondary data. 190 respondents from 360 total employees working in any Nyarugenge district construction projects from various stakeholders were attended the questionnaire. Analysis of data was performed using SPSS (Statistical Package for Social Scientists version 20) and results obtained were presented in form of descriptive statistics and inferential statistics. The results were presented as follows: The study results show that the model had an F ratio of 10.635 and the P value was $0.000 < 0.05$, signifying that the F ratio was statistically significant, therefore the overall regression model for all the variables tested were statistically significant and can be used for prediction at 5% significant level. This further indicate that the predictors variables (Internal Financial Resource Planning (X1), External Financial Resource Planning (X2), Coping strategies (X3)) used in this study are statistically significant toward construction projects performance (Y: Project meet scope, time, quality and costs/budget). Therefore, it is concluded that there is a significant and positive correlation of financial resource planning by local contractors on the performance of public construction projects at Nyarugenge district, Kigali Rwanda.

Keywords: Local Financial Resources Planning; Construction Projects; Performance; Survey; Local Contraction Projects.

I. INTRODUCTION

Financial resource planning in project management is the foundation of every project or company. It might range from people to machines to infrastructure. Whatever project need to provide services is referred to as a resource. Project financial resource planning is the activity or process of assigning tasks to human and non-human resources in a manner that improves outcomes while maximizing the efficiency of existing resources (David, 2021). Humans need food, drink, and shelter to

survive. Similarly, projects require a plan for financial resources to sustain and achieve project objectives. The main benefit of creating a project financial plan is to meet project and customer exit deadlines. Financial planning in project management helps project stakeholders: increase project budget spending, improve project workflow processes through reporting and forecasting, create detailed project budgets, and We guarantee that it will be completed on time (Kebenei, 2023). Stakeholder budgets for projects are limited and project management operating costs are increasing. Therefore, it is important to ensure that financial planning in project management is not wasted. It's easy to complete a project with a big budget. Still, most of us have to complete tasks with limited resources, which is virtually difficult. Resource availability is an important aspect of project planning and management. This refers to the knowledge of which resources can be used, when and under what conditions. To know resource availability, you need to identify not only each employee's current assignments, but also gaps where they were assigned days, weeks, or months ago and time has not been filled. (Patrick, 2022).

If resources are available, you can use that time for the duration of the project. Therefore, a typical resource availability matrix includes workload, vacation, and personal time off for all employees. Sometimes that may be straightforward, but other times it may require more in depth planning. For example, your resource may be pre-booked to doing something that is within a higher priority area of the business. Think if it's possible to adjust your schedule of work to focus on other aspects of your project in order to utilize your current resources while you wait (Patrick, 2022).

Financial resource planning is a common process critical to the success of all Projects. It is supported by well-developed methods, processes and tools. However, Projects continue to fail due to poor planning effort or when there has been insufficient planning during project initiation (Pountney, 2023). Pountney (2023) sets out to look at the difficulties and challenges of the human resource element in Financial resource planning and whether there are lessons to be learned by the project manager through a closer understanding of contemporary Human Resource Management theories and practices. First, describes the importance of the initiation stage (as defined by two of the most widely recognized project management methods) of a Project. Second, it describes the importance of Project planning. Finally, it describes resources typically required to complete a Project (Pountney, 2023).

Financial resource planning is a very important part of a project regarding project performance and project success. It is a continuous process throughout the delivery of a project (Daniel, 2022). Project Financial resource planning involves an arrangement of stages, duties, and tasks hierarchically arranged to be executed in projects as explained by (Idoro, 2022) on project Financial resource planning techniques and systematic approach on projects Financial resource planning. Thus, Project Financial resource planning involves the implementation of skills, practices, and comprehension of tools to the activities of a project to outlive the expectations and needs of the stakeholders in a project and ensure sustainability. Project Financial resource planning involves setting goals, deciding what the project entails (Idoro, 2022). According to (Jabareen, 2022) people who get what they want do so because they have clear goals and develop plans and schedules to achieve the goals. They assume personal responsibility for implementing these plans. Goals give directions to what one is involved in goals promote enthusiasm (Jabareen, 2022).m

Inherent in any goal setting is some level of effort required to achieve it. Globally project Financial resource planning is widely thought to be an important contributor to project success. Project Financial resource planning entails scheduling of the various activities comprising the project activities and how they interrelate (Daniel, 2022). The activities include those that are required by law or regulation, procurement procedures that involve obtaining approvals from funding institutions and development projects, funding institution actions that result in credit awards, and the actual site work. The Financial resource planning aims at optimizing time, cost and procurement of human capacity for development projects within the legal, regulatory and policy framework existing for each specific project (Pountney, 2023). The project environment of developing countries on the African continent is fraught with many difficulties; these difficulties impair several of their success (Lim, 2023).

Project Financial resource planning is a crucial aspect for sustainably and responsibly growth conservation of projects. A sequence of processes including several techniques and methods of project Financial resource planning management are essential in project management. Globally, project failures have often been reported more than project success. (Idoro, 2022) published that in the USA, only 32% of projects succeed, 44% were challenged and 24% of projects failed (Jabareen,

2022) further claimed that only 25% of projects remain successful. In Kenya, about 30% of organizations experience failure in their projects (Lim, 2023). (Pountney, 2023) observed that projects may fail to achieve targets and objectives due to low morale, demotivation, poorly managed project team relations and commitment. Thus, transformational top management support and behaviors is a very critical factor for better performance of various projects (Idoro, 2022).

(Daniel, 2022) argue that for every project to be successful, senior management support is required to mobilize resources for project goals. (Jabareen, 2022), the level of management support is mostly determined by management commitment. Well, performing projects start with organizational culture, a vision of what to be achieved (Lim, 2023). Projects succeed due to proper project design, realistic budget estimates, realistic time frames, effective communication; secure funding, institutional strengths. Costs, time and quality parameters need to be specified and contracted for performance assessment (Idoro, 2022).

Nyarugenge District is one among Rwandan 30 Districts and one among 3 districts of Kigali City. It is one containing big projects of Kigali city, main buildings are located in Nyarugenge, city center, big building of banks and other big business. It is well developed with different infrastructures. But some places need development with road access, electricity and water infrastructures, buildings and many others (Nyarugenge District, 2019). As the nation's economic hub, Nyarugenge District supports a variety of economic potentialities, including strong market demand for infrastructure, the development of manufacturing and services, an abundance of human capital for education and skill development, burgeoning tourism, the development of arts and crafts for manufacturing, suitable land, and large marshlands for agribusiness (Nyarugenge District, 2019). This study intends to assess the extent to which Nyarugenge district and its development partners effectively ensure financial resource planning toward construction projects performance.

II. MAIN BODY OF THIS ARTICLE

This part is consisted by the statement of the problem, objectives of the study, literature review, materials and methods, findings and discussions.

II.1 Problem statement of the study

The analysis made by Ufitamahoro (2022), project failures are increasingly reported around the globe and achieving success of construction project is becoming extremely difficult in today's turbulent environment. Performances of construction project are affected by different factors which lead the project to run over budget, behind schedule and fail to meet the intended needs. Ufitamahoro (2022) assessed factors affecting project performance in Bugesera airport construction, Rwanda. The study was guided by theory of constraints and closed ended questionnaire was use to collect data. The findings revealed that the shortage of skills of manpower, poor financial planning, poor monitoring, poor supervision and poor site management, unsuitable leadership, shortage and breakdown of equipment as some of major causes of delay in construction projects (Ufitamahoro, 2022). In other case contractor's competence and stakeholders' participation positively and significantly affects project performance ($\beta = 0.782, p < 0.05$; $\beta = 0.629, p < 0.05$) (Ufitamahoro, 2022). The study concludes that contractor's competence and stakeholder's participation affected project success. The study recommends that there should be continuous coordination and proper relationship management between all stakeholders involved in the project and proper channels should be used to solve problems during the project life (Ufitamahoro, 2022).

In Rwanda most construction projects in local administration are used to failure to the insufficient ownership capacity and poor planning as inefficiency in financial resources planning and allocation (Daniel, 2022). Here different projects are used to delay, to be suspended and also destructed after few years of completion as an outcome of the above mentioned projects, the mainly are districts planned and implemented projects compared to the national projects. Here the current study intends to assess whether inefficient local financial resources is among major reasons for construction project failure and at which level it can affect construction project performance (Ufitamahoro, 2022).

The construction industry plays a crucial role in the economic development of countries, contributing to job creation and GDP growth. However, the performance of public construction projects can be significantly affected by Financial Resource Planning practices ensured by local contractors. This research seeks to assess the impact of Financial Resource Planning on project performance, with a focus on internal and external financial resource planning (Idoro, 2022).

Inefficient financial resource planning has been identified as a significant factor influencing project performance in the construction sector (Idoro, 2022). Previous research has highlighted the concept of financial resource planning; where external financing costs are higher than internal financing costs due to imperfect capital markets (Jabareen, 2022). The severity of Financial Resource Planning varies across regions and countries, posing a more significant challenge for African countries, including Rwanda, compared to other developing nations (Daniel, 2022). In Rwanda, the growth of the construction industry was affected by the global economic recession, leading to reduced foreign investments and impacting the overall growth rate of the industrial sector and GDP (NISR, 2023).

Both developing and developed countries face inefficient Financial Resource Planning that not only hinder firm growth but also affect the overall economy (Kebenei, 2023). Although developed countries have utilized project performance models to monitor and control projects, they have not fully overcome the issue of Financial Resource Planning, leading to the need for specific assessments in different regions and countries. However, limited research has been conducted in developing countries, including Rwanda, to promote improvements in project performance through assessment (Kebenei, 2023).

Considering the inefficient financial Resource Planning as a primary challenge in the Rwandan construction industry, particularly in Nyarugenge District, there is a lack of empirical studies assessing the determinants of Financial Resource Planning that influence construction projects in this specific region. Therefore, this research aims to identify and analyze coping strategies employed by local contractors to ensure effective financial resource planning on project performance (Idoro, 2022). By exploring the unique functions of Financial Resource Planning in Nyarugenge District, the study intends to contribute to the existing knowledge on how effective financial resources planning affect construction projects in Rwanda and assess the applicability of project performance models in ensuring improved performance. Thus, this study intends to assess the significance of Financial Resource Planning by local contractors on project performance. A survey of construction projects in Nyarugenge district, Kigali-Rwanda.

II.2 Objectives of the study

The study objectives are into two folds, such as general and specific objectives. Here below are details:

II.2.1 The General Objective

The general objective of the study is to assess the significance of Local financial resource planning by local contractors on the performance of public construction projects at Nyarugenge district, Kigali Rwanda.

II.2.2 The Specific Objectives

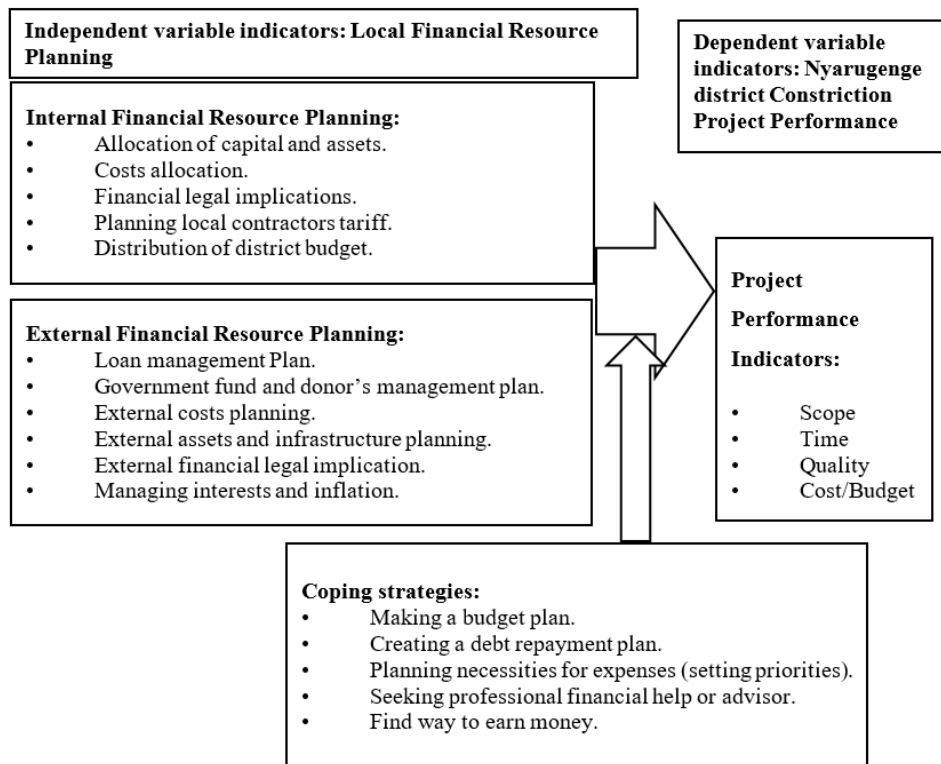
The study was guided by the following specific objectives:

1. To evaluate the level at which Nyarugenge construction projects performed since 2019 to 2022.
2. To examine the effect of local Financial Resource Planning on Nyarugenge construction project performance.
3. To analyze the coping strategies toward effective financial resource planning and the project performance.

II.3 Literature review

In order to conduct out this study the Resource dependence, Liquidity constraint and Moral hazard theories are considered and was discussed in the following sections. Resource dependency theory was adopted due to the fact that external resources availability and use determine project performance. This is similar to the current study as define the use of government budget in district located construction projects and national financial resources should be well managed to achieve project goals. Liquidity constraints theory gives in details the extent to which investments can be resourced from the internal sources and external sources like bank borrowings to finance a project, the main concern is how the liquidity was managed toward project objectives. Moral hazard theory explains that, financial resources use should be proportional to the activities performed or made under the implementation of construction projects. This very important mainly to the local financial resources where any financial resources utilized should bring clear achievement under construction project.

Figure 1: Conceptual framework of the study



Source: Compiled by the Researcher (2023)

II.4 Materials and Methods

This section focuses on detailing the methodologies employed to conduct the research on how financial resource planning affect the performance of public construction projects. This chapter comprises seven primary sections: an introductory section that outlines the chapter's contents, the rationale behind opting for a case study approach, an overview of the target population process, the sample design employed, the data collection methods utilized, a description of the data analysis procedures, and an exploration of the ethical considerations involved in this research.

II.4.1 Research Design

The descriptive survey design is commonly favored when conducting research on a large population, as the results obtained from the sample can be generalized to the larger target population. In this study, the descriptive survey design was employed to explore the associations or relationships between Financial Resource Planning made by contractors and the dependent variable, which is the performance of public construction projects. This design enables the collection of quantifiable information that were subjected to data analysis for statistical inference (Kombo & Tromp, 2006).

II.4.2 Target Population

This research was focused on the target population in Nyarugenge District, Kigali city, Rwanda. The choice of location is based on the convenience of accessing respondents and the availability of the targeted population. The target population is 360 populations (made with 123 district engineers, 31 relevant public agencies, 159 construction companies, 29 district inspectors and 20 district project managers). As population seems to be large the sampling methods were applied to determine a sample size.

II.4.3 Sampling Design and Sampling procedure

As stated by Paul J. Lavrakas (2008), a sample design acts as a framework or road map for selecting a survey sample and influences various crucial aspects of the survey. Survey researchers aim to gather specific information through a survey for a particular population or universe of interest.

Sampling involves the technique of selecting a smaller subset of the population that effectively represents the patterns found within the larger target population. Yamane (1967) proposed a simplified formula to determine the sample size, which is applicable when dealing with a population of 362. The formula is expressed as follows:

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

In this equation, "n" represents the sample size, "N" denotes the population size, and "e" represents the desired precision level. For this study, a 95% confidence level was considered with a p-value of 0.5. This translates to an alpha level of 0.05, indicating a margin of error of ±5%, and a standard deviation of 0.5, representing the expected variance in the responses.

Upon applying the formula with the provided values, the sample size was calculated as follows:

$$n = 362 / (1 + 362 * 0.05 * 0.05) = 190$$

As a result, data was collected from 190 respondents associated with the Financial Resource Planning ensured by contractors and the performance of public construction projects in Nyarugenge Sector, Rwanda.

II.4.4 Sample size

The population was stratified into three categories: District staff, Staff from relevant public agencies, and Construction companies. The sample size was determined using the formula proposed by Yamane (1967). The distribution of the sample size across the categories is as follows:

Table 1: Distribution of population and sample size

s/n	Category	Target Population	Sample Size	Percentage	Location
1	District Engineers	123	65	34.2	Nyarugenge
2	Relevant public agency	31	16	8.4	RTDA
3	Construction companies	159	84	44.2	Nyarugenge
4	District Inspectors	29	15	7.9	Nyarugenge District
5	District Project Managers	20	10	5.3	Nyarugenge District
Total		362	190	100	Kigali City

Source: Nyarugenge District, 2023

II.4.5 Sampling technique

In this research, the stratified sampling technique was employed. Many populations can be divided into distinct and non-overlapping sub-populations, known as strata. The process of selecting a sample that includes elements from each of these segments is called stratified random sampling. In this study, the researcher will randomly select a sample from the total employees at the district and sector level, as well as from the number of construction companies related to the study.

There are three primary reasons for using a stratified sample: first, to increase the statistical efficiency of the sample; second, to provide sufficient data for analyzing various subpopulations; and third, to enable the use of different research methods and procedures in different strata. Ideally, each stratum should be internally homogenous and heterogeneous with the other strata. Top of Form

II.4.6 Data Collection Procedure

Saunders, Lewis & Thornhill (2009) propose that a questionnaire is a data collection technique that involves presenting a set of similar questions to individual interviewees using the same methodology and conditions. It encompasses structured interviews and telephone questionnaires that are designed based on the study's objectives, which are as follows:

To identify the factors/determinants of Financial Resource Planning ensured by local contractors that significantly impact the performance of construction projects in Nyarugenge District, Kigali, Rwanda. To assess the categories of local contractors that can influence the performance of construction projects in Nyarugenge District, Kigali, Rwanda. To determine how government policies, influence the performance of local contractors in construction projects in Nyarugenge District, Kigali, Rwanda.

For this research, a questionnaire survey was developed to gather opinions and insights from experienced respondents regarding the performance of construction projects. Additionally, the research will incorporate a documentary review process, which involves reading, summarizing, interpreting, and integrating information from existing documents to enhance the current study.

This study has adopted a combination of various types of questionnaires, which include dichotomous questionnaire, Likert scale questionnaire, closed questions and open questions. A questionnaire is an instrument comprising of a series of questions that are filled in by respondent. The questionnaire is dichotomous as it intends to collect quantitative information from respondents, and to also eliminate unnecessary complexities in data collection. It is also Likert scale as used scales to access perception of respondents on each item assessed or statement from each indicator evaluated (Strongly Agree: 5; Agree: 4; Not Sure: 3; Disagree: 2 and Strongly Disagree: 1). The questionnaire again is made with both types of questions such as open-ended questions and closed ended questions. Open-ended questions were collected for verifying the validity of closed ended questions and all form a single questionnaire which used and attached on this study in the appendices.

Secondary data were collected from different papers published online, dissertation published in UoK's library and online platforms of different universities like University of Rwanda. Here also for study complementary Nyarugenge districts reports were consulted such as district development strategy, Nyarugenge district thematic report from general population and housing census, and Nyarugenge district Imihigo report 2019-2023.

II.4.7 Validity and Reliability of Research Instrument

The research aims to present a comprehensive and accurate depiction of the study's subject matter, drawing reliable and sound conclusions while maintaining consistent data collection locations. To enhance the research instrument's effectiveness and data acceptance, the researcher seeks feedback and guidance from experts in the field of study, particularly the researcher's supervisor and lecturers. The received comments were used to revise and refine the instrument. As emphasized by Shanghverzy (2003), reliability refers to the extent to which an assessment tool yields consistent and stable results.

Table 2: Reliability test results: Pre-test study results

S/N	Dimensions of variables	Number of items Assessed	Cronbach's Alpha
Independent variable 1: Internal financial resource Planning			
1	Allocation of capital and assets.	3	0.73233
2	Costs allocation.	3	0.75705
3	Financial legal implications.	3	0.83842
4	Planning local contractors tariff.	3	0.7328
5	Distribution of district budget	3	0.71585
Independent variable 2: External financial resource Planning			
1	Loan management Plan.	3	0.73233
2	Government fund and donor's management plan.	3	0.75705
3	External costs planning.	3	0.83842
4	External assets and infrastructure planning.	3	0.71585
5	External financial legal implication.	3	0.9843
6	Managing interests and inflation	3	0.8221
Independent variable 3: Coping Strategies for financial resource planning sustainability			
1	Making a budget plan.	3	0.86108
2	Creating a debt repayment plan.	3	0.82915
3	Planning necessities for expenses (setting priorities).	3	0.93318
4	Seeking professional financial help or advisor.	3	0.81782
5	Find way to earn money	3	0.79933
Dependent variable: Construction project performance			
1	Scope	3	0.86108
2	Time	3	0.82915
3	Quality	3	0.93318
4	Cost/Budget	3	0.81782
Total	Overall reliability	60	0.81529

Source: Researcher (2023)

The Cronbach alpha remain greater than 70% for all items assessed, which gives grant to the study instruments of sufficient validity as presented sufficient level of consistency.

II.4.8 Analysis Model

To estimate the analysis for the research objectives and questions, a multiple regression model can be formulated. The model can be represented as follows: The effect of Internal and External Financial Resource Planning together with the common coping strategies on Project Performance:

$$\text{Project Performance} = \beta_0 + \beta_1 \times \text{Internal Financial Resource Planning} + \beta_2 \times \text{External Financial Resource Planning} + \beta_3 \times \text{Coping strategies} + \epsilon_3$$

This equation can be written like:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Where:

Y= Project Performance represents the dependents variables, which is the performance of the project.

X1= Internal Financial Resource Planning represent the independents variables for the effect of internal Financial Resource Planning on performance project.

X2= External Financial Resource Planning represent the independents variables for the effect of external Financial Resource Planning on performance project

X3= Coping strategies represent the independents variables for the common coping strategies utilized in the project

β_0 represents the intercept

β_1, β_2 and β_3 represent the coefficients of the respective independent variables

ϵ_3 represents the error

The multiple regression analysis help estimate the relationship between the variables and determine the extent to which internal and external Financial Resource Planning, as well as coping strategies, influence project performance.

II.5 Results and discussions

This section deals with data presentation, interpretation, and analysis of study results with follow respect of study objectives. Primary data were collected from a sample of 65 district construction projects engineers, 16 staff from RTDA which is the most agency of most construction projects in Nyarugenge district, 84 staff or engineers from construction companies or contractors in Nyarugenge district, 15 district inspectors which include even auditors and M&E staff of donors and 10 district project managers. All 190 or 100% targeted sample were attended the assessment. This chapter gives all findings in details and was presented in form of descriptive and inferential statistics.

II.5.1 Effective internal Financial Resource Planning ensured by local contractors in Nyarugenge district toward construction projects performance

The assessment on the extent to which local contractors and district effectively apply internal financial resource planning was made via the evaluation whether capital and assets are well allocated in planning, cost allocation, financial legal implication planned, planning local contractors tariff and distribution of district budget. Here below are findings:

Table 3: Effective internal Financial Resource Planning ensured by local contractors in Nyarugenge district toward construction projects performance

Items assessed	N	Min	Max	Mean	Stdv.	Comment
Allocation of capital and assets						
Nyarugenge districts has clear assets management plan and which disaggregate assets by needs or use.	190	4	5	4.21	.409	Strong Homogeneity
Nyarugenge district include in the annual action plan the needed assets to support construction projects.	190	4	5	4.12	.327	Strong Homogeneity

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Items assessed	N	Min	Max	Mean	Stdv.	Comment
Nyarugenge district annually ensure a plan for capital needed to finance construction projects and ensure that the allocation by project and activities is well planned.	190	4	5	4.37	.484	Strong Homogeneity
Costs allocation						
Nyarugenge district ensure costs planning for all internal expense and explain clearly in the annual plan the reasons behind each one unit of money planned as cost.	190	4	5	4.27	.444	Strong Homogeneity
Nyarugenge district conduct an assessment before defining the future needed costs for construction project and count from previous experience or quotations from contractors.	190	4	5	4.24	.429	Strong Homogeneity
Nyarugenge district define plan for internal costs risk management and ensure that the plan is communicated to the team in charge of costs management.	190	1	5	3.84	.912	Strong Heterogeneity
Financial legal implications						
Nyarugenge district has clear financial risk plan for internal financial resource management.	190	4	5	4.18	.389	Strong Homogeneity
Over last four years (2019-2022) Nyarugenge district was found clean audit report from internal auditors on financial resource use and this is referral for financial resource planning.	190	4	5	4.09	.294	Strong Homogeneity
Nyarugenge district consult legal specialist while ensuring financial resource planning, to ensure that financial legal implications are captured in the entire plan.	190	1	5	3.88	.974	Strong Heterogeneity
Planning local contractors tariff						
Nyarugenge district ensure planning for future value of money and price changes.	190	4	5	4.18	.389	Strong Homogeneity
Nyarugenge district planning include the rate of inflation as procurement and payments for costs will be covered in the future.	190	4	5	4.15	.361	Strong Homogeneity
As national ambition, Nyarugenge district promote use of local contractors and plan based on the local contractors tariffs.	190	1	5	3.87	.931	Strong Heterogeneity
Distribution of district budget						
Nyarugenge district ensure district budget distribution based on the existing projects.	190	4	5	4.18	.389	Strong Homogeneity
Nyarugenge district ensure budget distribution based on the priorities and priorities are known as an outcome of stakeholders consultation.	190	4	5	4.09	.294	Strong Homogeneity
Nyarugenge district ensure proper planning for budget distribution under each project activity and planned costs.	190	4	5	4.21	.409	Strong Homogeneity
Valid N (listwise)	190	1	5	4.13	.496	Strong Homogeneity

Source: Primary data, 2023

Keys: Strongly agree (SA) was coded 5, Agree (A) coded 4, Not Sure (NS) coded 3, Disagree (D) coded 2, and Strongly Disagree (SD) coded 1. The mean classification was into 3 categories such as weak (1.00-2.49), moderate (2.50-3.49) and strong (3.50-5.00) and standard deviation was into two categories such as homogeneity (Stdv. <0.5) and heterogeneity (Stdv. >0.5). N: Total population (respondents: total sample size), mean: Average of perception from all 190 perceptions as coded in numbers and Stdv: Standard deviation which signify gap between individual perception from the general perception or mean. Min: is the minimum choice on item assessed and Max is the maximum choice. The comment column signifies a textual combination of mean category and standard deviation category.

By extent to which Nyarugenge district construction projects financial resource planning ensures distribution of district budget, the findings from 190 sampled respondents confirm that Nyarugenge district ensure district budget distribution

based on the existing projects (4 Min, 5 Max, 4.18 Mean, 0.389 Standard Deviation and Strong Homogeneity), Nyarugenge district ensure budget distribution based on the priorities and priorities are known as an outcome of stakeholders consultation (4 Min, 5 Max, 4.09 Mean, 0.294 Standard Deviation and Strong Homogeneity) and Nyarugenge district ensure proper planning for budget distribution under each project activity and planned costs (4 Min, 5 Max, 4.21 Mean, 0.409 Standard Deviation and Strong Homogeneity).

II.5.2 Effective external Financial Resource Planning ensured by local contractors in Nyarugenge district toward construction projects performance.

In this section, the researcher has assessed the perception of respondents on the extent to which Nyarugenge district construction projects financial resource planning ensures effective loan management plan, government fund and donors funds management plan, external costs planning, external assets and infrastructure planning, external financial legal implication and managing interests and inflation. Here below is the perception of respondents to each item assessed:

Table 4: Effective external Financial Resource Planning ensured by local contractors in Nyarugenge district toward construction projects performance

Items assessed	N	Min	Max	Mean	Stdv.	Comment
Loan management Plan						
Nyarugenge district plan the loan use from government or other government institutions through commitments and purchasing order as well as other procurement plans.	190	4	5	4.12	.327	Strong Homogeneity
Nyarugenge district plan for budget allocation necessary for loan repayment and other fees additional to the loan terms and conditions.	190	4	5	4.37	.484	Strong Homogeneity
Nyarugenge district ensure that, the loan is paid on time due and plan meet the implementation.	190	4	5	4.27	.444	Strong Homogeneity
Government fund and donor’s management plan						
Nyarugenge district ensure annual plan which clear explain which funds from government and donors needed for financing district expenses.	190	4	5	4.24	.429	Strong Homogeneity
Nyarugenge district ensure annual plan which clear explain which funds from government and donors received for financing district expenses and modify the district activities based on the available funds.	190	1	5	3.84	.912	Strong Heterogeneity
Nyarugenge district ensure risk management plan toward proper use of government fund and donors fund management.	190	4	5	4.18	.389	Strong Homogeneity
External costs planning						
Nyarugenge District plan for unexpected costs which may be caused by the collaborative institutions during the budget year.	190	4	5	4.09	.294	Strong Homogeneity
Nyarugenge District ensure that, costs for external side are planned vis a vis the source.	190	1	5	3.88	.974	Strong Heterogeneity
Nyarugenge District plan explain clearly the reason why district spend money for external institution’s needs.	190	4	5	4.18	.389	Strong Homogeneity
External assets and infrastructure planning						
Nyarugenge District plan explain which assets not owned by the district will be needed to support construction projects execution and at which extent these assets will be used.	190	4	5	4.15	.361	Strong Homogeneity
Nyarugenge District plan allocate infrastructure need by each project and by each project activity.	190	1	5	3.87	.931	Strong Heterogeneity

Items assessed	N	Min	Max	Mean	Stdv.	Comment
Nyarugenge District plan explain about infrastructure management (mainly infrastructures on the land of the district but not owned by the district) and report accordingly.	190	4	5	4.18	.389	Strong Homogeneity
External financial legal implication						
Nyarugenge District plan explain the terms and conditions for the failure to comply with external payment for costs used or poor utilized asset and infrastructure.	190	4	5	4.09	.294	Strong Homogeneity
Nyarugenge District plan explain the terms and conditions for contractors management.	190	4	5	4.21	.409	Strong Homogeneity
Nyarugenge District plan has risk mitigation plan for external financial risks.	190	4	5	4.12	.327	Strong Homogeneity
Managing interests and inflation						
Nyarugenge District plan explain the expected costs or contract value in the future based on the terms and conditions and nature of the activity as different construction projects took more than one year.	190	4	5	4.37	.484	Strong Homogeneity
Nyarugenge District financial resource plan include the value of the inflation.	190	4	5	4.27	.444	Strong Homogeneity
Nyarugenge District plan show clearly how much interests rate as penalties or as required once contract terms and conditions are not well respected from contractor and district side (any or both).	190	4	5	4.24	.429	Strong Homogeneity
Valid N (listwise)	190	1	5	4.15	0.48	Strong Homogeneity

Source: Primary data, 2023

By the extent to which Nyarugenge construction projects financial resource planning ensures effectively management of interests and inflation, findings from 190 respondents confirm that Nyarugenge District plan explain the expected costs or contract value in the future based on the terms and conditions and nature of the activity as different construction projects took more than one year (4 Min, 5 Max, 4.37 Mean, 0.484 Standard Deviation and Strong Homogeneity), Nyarugenge District financial resource plan include the value of the inflation (4 Min, 5 Max, 4.27 Mean, 0.444 Standard Deviation and Strong Homogeneity) and Nyarugenge District plan show clearly how much interests rate as penalties or as required once contract terms and conditions are not well respected from contractor and district side (any or both) (4 Min, 5 Max, 4.24 Mean, 0.429 Standard Deviation and Strong Homogeneity).

II.5.3 Effective coping strategies toward Financial Resource Planning ensured by local contractors in Nyarugenge district toward construction projects performance.

In this section, the researcher has assessed the perception of respondents on the extent to which Nyarugenge district construction projects financial resource planning ensures effectively coping strategies such as making a budget plan, creating debt repayment plan, planning necessities for expenses (setting priorities), seeking professional help or advisor and find way to earn money. Here below is the perception of respondents to each item assessed:

Table 5: Effective coping strategies toward Financial Resource Planning ensured by local contractors in Nyarugenge district toward construction projects performance

Items assessed	N	Min	Max	Mean	Stdv.	Comment
Making a budget plan						
Learning from the previous experience Nyarugenge District ensure regularly the budget plan.	190	1	5	3.84	.912	Strong Heterogeneity
Nyarugenge District always publish the budget plan on the website or other dissemination tools used.	190	4	5	4.18	.389	Strong Homogeneity

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Items assessed	N	Min	Max	Mean	Stdv.	Comment
Nyarugenge District have a plan for budget plan review over the year.	190	4	5	4.09	.294	Strong Homogeneity
Creating a debt repayment plan						
Nyarugenge District has a plan for loan management.	190	1	5	3.88	.974	Strong Heterogeneity
Nyarugenge District has a clear report on the loan owned or pending payment obligations and plan for compliance.	190	4	5	4.18	.389	Strong Homogeneity
Nyarugenge District plan ensure regular updates and dissemination of the budget use progress and end year report.	190	4	5	4.15	.361	Strong Homogeneity
Planning necessities for expenses (setting priorities)						
Nyarugenge District plan define the priorities.	190	1	5	3.87	.931	Strong Heterogeneity
Nyarugenge District priorities are defined as an outcome of stakeholders assessment.	190	4	5	4.18	.389	Strong Homogeneity
Nyarugenge District ensure priorities based on the national targets and allocate resources and communicate the project management and stakeholders.	190	4	5	4.09	.294	Strong Homogeneity
Seeking professional financial help or advisor						
Nyarugenge District engineers for construction projects are skilled and sufficiently experienced for engineering activities financial planning.	190	1	5	3.84	1.079	Strong Heterogeneity
Nyarugenge District plan and use contractors experts for proper financial resource allocation for construction projects.	190	1	5	3.64	.948	Strong Heterogeneity
Nyarugenge District via national liaison, collaborate and use international experts for financial resources planning and execution of construction projects.	190	2	5	4.03	.465	Strong Homogeneity
Find way to earn money						
Nyarugenge District plan to collect money from donors and stakeholders for future projects investments.	190	2	5	3.97	.470	Strong Homogeneity
Nyarugenge District has a clear plan for domestic revenues collection (local or district taxes).	190	2	5	4.18	.805	Strong Heterogeneity
Nyarugenge district has clear plan for services based revenues management (example services received from marriage fees or irembo services as well as different penalties from noncompliance to the terms and conditions.	190	2	5	4.06	.889	Strong Heterogeneity
Valid N (listwise)	190	1	5	4.01	0.64	Strong Heterogeneity

Source: Primary data, 2023

By the extent to which Nyarugenge construction projects financial resource planning ensures effectively coping strategies by find way to earn money, findings from 190 respondents confirm that Nyarugenge District plan to collect money from donors and stakeholders for future projects investments (2 Min, 5 Max, 3.97 Mean, 0.470 Standard Deviation and Strong Homogeneity), Nyarugenge District has a clear plan for domestic revenues collection (local or district taxes) (2 Min, 5 Max, 4.18 Mean, 0.805 Standard Deviation and Strong Heterogeneity) and Nyarugenge district has clear plan for services based revenues management (example services received from marriage fees or irembo services as well as different penalties from noncompliance to the terms and conditions (2 Min, 5 Max, 4.06 Mean, 0.889 Standard Deviation and Strong Heterogeneity).

II.5.4 Efficient construction projects performance as an outcome of proper financial resource planning ensured by local contractors.

The evaluation of construction project performance as an outcome of financial resources planning ensured by local contractors in Nyarugenge district was made on assessing the extent to which the projects meet scope, time, quality, costs and budget. Here below is the perception of respondents to each item assessed:

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Table 6(a): Efficient construction projects performance as an outcome of proper financial resource planning ensured by local contractors

Items assessed	N	Min	Max	Mean	Stdv.	Comment
Scope						
As an outcome of effective financial resource planning construction projects in Nyarugenge district has meet planned size (planned km of road, houses, classrooms, and other constructions outcomes).	190	2	5	4.07	.957	Strong Heterogeneity
As an outcome of effective financial resource planning construction projects in Nyarugenge district has achieved objectives.	190	2	5	4	.436	Strong Homogeneity
As an outcome of effective financial resource planning construction projects in Nyarugenge district has meet the environmental needs.	190	2	5	4.34	.771	Strong Heterogeneity
Time						
As an outcome of effective financial resource planning construction projects in Nyarugenge district has timely paid completed as planned and no delayed activity.	190	2	5	4.36	.649	Strong Heterogeneity
As an outcome of effective financial resource planning construction projects in Nyarugenge district has timely paid contractors.	190	2	5	3.92	.994	Strong Heterogeneity
As an outcome of effective financial resource planning construction projects in Nyarugenge district has timely reported.	190	2	5	4.08	.518	Strong Heterogeneity
Quality						
Due to effective financial resource planning, construction projects in Nyarugenge district has meet the customer satisfaction.	190	2	5	4.00	.436	Strong Homogeneity
Due to effective financial resource planning, construction projects in Nyarugenge district did not change the specifications.	190	2	5	4.34	.771	Strong Heterogeneity
Due to effective financial resource planning, construction projects in Nyarugenge district has meet the internal team satisfaction.	190	2	5	4.08	.803	Strong Heterogeneity
Cost/Budget						
Due to effective financial resource planning, construction projects in Nyarugenge district has meet the cost planning.	190	2	5	3.81	1.006	Strong Heterogeneity
Due to effective financial resource planning, construction projects in Nyarugenge district has meet the budget planned.	190	3	5	4.05	.337	Strong Homogeneity
Due to effective financial resource planning, construction projects in Nyarugenge district has created option for income generation and social integration.	190	3	5	4.42	.699	Strong Heterogeneity
Valid N (listwise)	190	2	5	4.12	0.70	Strong Heterogeneity

Source: Primary data, 2023

By the extent to which construction projects in Nyarugenge district meet cost and budget, 190 respondents confirm that due to effective financial resource planning, construction projects in Nyarugenge district has meet the cost planning (2 Min, 5 Max, 3.81 Mean, 1.006 Standard Deviation and Strong Heterogeneity), due to effective financial resource planning, construction projects in Nyarugenge district has meet the budget planned (3 Min, 5 Max, 4.05 Mean, 0.337 Standard Deviation and Strong Homogeneity) and due to effective financial resource planning, construction projects in Nyarugenge district has created option for income generation and social integration (3 Min, 5 Max, 4.42 Mean, 0.699 Standard Deviation and Strong Heterogeneity).

As explained in the section of materials and methods, the inferential statistics was made via linear regression model. The linear regression model was made using codes attributed to respondents' perceptions and these codes were used to calculate mean which represent the indicator assessed and the mean of the mean to present the variable assessed (both dependent and independent variable).

Table 7(b): Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.383 ^a	0.146	0.133	0.39995

a. Predictors: (Constant), Coping strategies, External Financial Resource Planning, Internal Financial Resource Planning

Source: Primary data, 2023

As seen from table 7(b), the model had Adjusted R of 0.383, implies that effective financial resource planning by local contractors (Internal Financial Resource Planning (X1), External Financial Resource Planning (X2), Coping strategies (X3), explain 38.3% of construction project performance (Y=Y1 (Scope) + Y2 (Time) + Y3 (Quality) + Y4 (Costs/Budget)). While the remaining 61.7% (determinant) of construction project performance (Y) are resulted from other factors that have not been captured in the model or in this study.

Table 8: Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.103	3	1.701	10.635	.000 ^b
	Residual	29.753	186	0.16		
	Total	34.856	189			

a. Dependent Variable: Construction Projects Performance

b. Predictors: (Constant), Coping strategies, External Financial Resource Planning, Internal Financial Resource Planning

Source: Primary data, 2023

As seen from table 8, the results show that the model had an F ratio of 10.635 and the P value was 0.000<0.05, signifying that the F ratio was statistically significant, therefore the overall regression model for all the variables tested were statistically significant and can be used for prediction at 5% significant level. This further indicate that the predictors variables (Internal Financial Resource Planning (X1), External Financial Resource Planning (X2), Coping strategies (X3)) used in this study are statistically significant toward construction projects performance (Y: Project meet scope, time, quality and costs/budget). Therefore, it is confirmed that there is a significant and positive correlation of financial resource planning by local contractors on the performance of public construction projects at Nyarugenge district, Kigali Rwanda.

Table 9: Summary of coefficients

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.544	0.687		6.612	0
	Internal Financial Resource Planning (X1)	1.538	0.573	0.67	2.686	0.008
	External Financial Resource Planning (X2)	0.693	0.601	0.287	1.152	0.251
	Coping strategies (X3)	0.76	0.152	0.426	4.997	0

a. Dependent Variable: Construction Projects Performance

Source: Primary data, 2023

As seen from table 9, the beta (β) sign shows the positive significance of the independent variable's coefficients over the dependent variable. Table above shows that, beta values for all independent variables indicators are positive meaning positive role on the predicted dependent variable. β1=1.538, t=2.686, p=0.008<0.05; β2=0.693, t=1.152, p=0.251>0.05 and β3=0.760, t=4.997, p=0.000<0.05. That means, any increase in the independent variables lead to increase in the dependent variable and vice versa. The regression model become as follows:

Y or Performance of construction projects = 4.544 + 1.538X1 + 0.693X2 + 0.760X3. Thus, the researcher concluded that Respect of employees promises by employer (Internal Financial Resource Planning (X1), External Financial Resource

Planning (X2), Coping strategies (X3) have positive significance on performance of construction projects (Y) within Nyarugenge district. Note that, the positive correlation between external financial resource planning and construction projects performance is not statistically significant as p-value remain greater than the level of significance.

II.5.5 General views of respondents and discussion of findings

As reported by (Daniel, 2022) a project to register great performance need to ensure great plan and the plan which can lead project to a good level of performance is that exhaustively defining the financial resources and which allocate resources to the project activities. This meet the current study findings where the construction projects in Nyarugenge district effectively ensured internal financial resources planning, external financial resources planning and coping strategies to meet project scope, time, quality and costs/budget.

Through annual reports and strategic plan, Nyarugenge district has clearly defined the targets, goals and strategies to achieve its mission. For each defined target, a clear brainstorm of activities required and time of achievement as well as required financial resources to arrive to the target. Per each quantity of financial resources defined, the breakdown of sources of financial resources also was defined clearly. Thus, in the mid-term of the projects, evaluation is done to ensure that, the plan was meet or plan review is required. This is one among reasons, Nyarugenge district always remain in 10 best performing districts in Rwanda according to Imirimo evaluation by the National Institute of Statistics which later change the scope after COVID-19 Pandemic (NISR, 2018).

Evaluation of local contractors and construction project performance in Nyarugenge district is not an easy task, but it follows the independent authorization received and general terms and conditions guiding construction in Kigali city based on the type of activity and sector it belong too. In some areas, contactors failure to respect requirements 100% and other faces financial resources risks which delay the projects or makes failed projects, and this rate remain less than 5% as reported by Nyarugenge district officials in open discussion and this mark good measures of construction projects performance.

In general, the construction projects in Nyarugenge has made good performance level over the years as an outcome of various factors which include financial resource planning. This is because finance is the heart of each construction project, here it's about finance availability and finance planning is broad scope which cover finance planning, mobilization and allocation as well as monitoring use of financial resources and limitation of financial risks. All these process are being respected by local contractors of Nyarugenge district however not 100% achieved but the performance level can be rated good.

III. CONCLUSION

The study on the local financial resources planning on Nyarugenge construction project performance. The study relay on the three specific objectives. The findings have revealed that for all construction projects implemented or ongoing were effectively ensured local internal financial resources (all mean from statements assessed has obtained an average strong mean between 4 to 5 or agree to strongly agree). The second objective assessment also has revealed an average mean of 4.13 and an average standard deviation of 0.497 which show that there evidence to confirm that, local external financial resources for the Nyarugenge construction projects was effectively ensured.

Analysis on the extent to which coping strategies was ensured toward effective financial resource planning and the project performance, the findings revealed that there is an average mean of 4.01 to 0.639 average standard deviation, meaning that, there is evidence to confirm that the coping strategies are well ensured but not sufficiently as the standard deviation remain heterogeneity.

The study mainly was conducted to assess whether it is valid or not to state that "there is significant correlation between financial resource planning by local contractors and project performance based on the survey of construction projects in Nyarugenge district). The study results show that the model had an F ratio of 10.635 and the P value was $0.000 < 0.05$, signifying that the F ratio was statistically significant, therefore the overall regression model for all the variables tested were statistically significant and can be used for prediction at 5% significant level. This further indicate that the predictors variables (Internal Financial Resource Planning (X1), External Financial Resource Planning (X2), Coping strategies (X3)) used in this study are statistically significant toward construction projects performance (Y: Project meet scope, time, quality

and costs/budget). Therefore, it is concluded that there is a significant and positive correlation of financial resource planning by local contractors on the performance of public construction projects at Nyarugenge district, Kigali Rwanda.

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