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COLLEGE OF BUSINESS AND ECONOMICS

MASTER OF BUSINESS ADMINISTRATION

OPTION: PROJECT MANAGEMENT

**SCHEDULING PRACTICES AND PERFORMANCE OF PUBLIC SECTOR
PROJECTS IN RWANDA**

CASE STUDY OF ROAD CONSTRUCTION PROJECTS IN KICUKIRO DISTRICT

A Thesis submitted in partial fulfillment of the requirement for the award of the Master's Degree in Business Administration at the University of Rwanda.

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DECLARATION

The research herein is my personal work and has never been presented to any other Institution.

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Signature..... Date September 16, 2019

DEDICATION

It is with a great pleasure that I dedicate this work to Almighty God for His protection during this journey.

ACKNOWLEDGEMENT

My sincere gratitude goes to Almighty God for his good hand that has been upon me through this academic journey.

I am very grateful to my supervisor Dr. Eugene RUTUNGWA, PhD for the wise and collaborative supervisor that he has given me. I also thank the University of Rwanda's lecturers notably those of the department of business and admiration project management and the entire administration and management for their co-operation and knowledge transfer. I am deeply grateful to my mentor Gen. JK, my handsome son IMENA Bayes Wise, my family, colleagues and many others whom I have consulted during this research project. I thank them for being supportive and co-operative in way or another.

ABSTRACT

The purpose of this study is to assess the influence of scheduling on project success in public projects. The specific objectives of the study are: to examine the scheduling practices of the District; to examine the level of project performance of the project and to find out the effect of scheduling on project performance. Descriptive research design was adopted due to the nature and size of target population. The target population for this study is 133 composed of 45 Kicukiro District staff, 48 people from the 4 highly populated sectors in Kicukiro district which are Gatenga, Kanombe, Kigarama, and Nyarugunga respectively and 30 site managers on behalf to contractor company (NPD). Stratified sampling technique was used; simple random sampling was also used to select individuals. Correlation coefficient approach was used and analysis of variance was used. Data collection was processed and analyzed using Statistical Package for Social Science (SPSS) version 21 and STATA version 15 were used where applicable to come up with conclusion and recommendations.

Findings shows that 100% respondents replied that all practices were used in scheduling practices because were positively related to in road construction project performance in Kicukiro District and 65.4% of respondents mentioned both budgeting and time scheduling were most used. Results shows that 90.2% of respondents agreed that the project budgets are well facilitated; and 38.6% of respondents agreed with the statement that project were timelines specified. 12.9% of respondents strongly agreed with the statement that road construction projects meet the forecasted budgets and 68.3% of respondents agreed to the statement while only 10.9% of respondents were neutral.

Findings shows that 72.4% of respondents agreed that timelines is influenced by the scheduling practices while 11.9% of respondents strongly agreed. 55.4% agreed that HR forecasting influences the quality of the project. 76.3% of respondents show that they agreed to a very great extent that organizations with an efficient time scheduling have a high competence level in quality project, 18.8% of respondents was strongly agreed with the response; and 92.2% of respondents show that they agree that budgeting influences the quality of the project; respondents with a strong agree said that budgeting ensures a high quality of project, from the study only 1.9% of respondents.

Key words: Performance, Practices, Projects, Scheduling.

Word Count =369

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LIST OF ABBREVIATIONS AND ACRONYMS

ANN	Artificial Neural Networks
ANOVA	Analysis of Variance
HRP	Human Resources Planning
KPI	Key Performance Indicators
MBA	Master of Business Administration
MININFRA	Ministry of Infrastructure
NPD	Nyarutarama Property Developers
PCM	Project Cycle Management
PMBOK	Project Management Body of Knowledge
PNA	Planning Needs Assessment
RBM	Results-Based Management
RMF	Road Maintenance Fund
UR - CBE	University of Rwanda - College of Business and Economics
WBS	Work Breakdown Structure

CHAPTER ONE: INTRODUCTION

This chapter focused on the concepts of the study from the background of the study, the problem statement, objectives of the study, research questions, and significance of the study and limitations of the study, scope of the study and organization of the study.

1.1 Background to the Study

According to Crawford (2002), project performance is an important project management issue; it is one of the most frequently discussed topics and there is a lack of agreement concerning the criteria by which success is judged. While understanding the causes of project failure is important, without a common definition of “success”, there is no clear basis for differentiating a success from a failure. Clearly none of the projects in the Catalogue of Catastrophe can be regarded as great successes some resulted in bankruptcies, many were cancelled before completion and some caused significant damage to public relations. However, those examples represent the extreme of project failure and in practice; there is a sliding scale between total failure and absolute success. Given that our definition of success should be the guiding light towards which projects are focused, I think it is important to have a clear definition of what constitutes “success”. On the surface might think that defining success would be relatively simply, but in practice different people define success in different ways.

Badiru (2002) differentiated perspectives mean that a project’s relative degree of performance or failure may change over time. By any measure that was a severely troubled project and at the time, the press savaged the project for its many missed deadlines and projections. In retrospect, now that we can look back many years later, it is clear that the project created something of enormous value.

According to Burke (1999), when in the 1960s and 1970s many project management tools and techniques focused on the implementation phase of the project life cycle. By the 80s the emphasis started to shift to focus more on the initial front end of the project which has the greatest opportunity to add value. Many project planning tools are available to help organize and execute project planning. Project planning tools allow teams to focus on the project and align their efforts toward the same objectives. Some of the tools that can help improve alignment are:

risk analysis, quality control techniques, and scope definition checklists. In particular, the three tools discussed in this paper have a significant effect on team alignment and scope definition.

The project schedule is one of the most important tools in creating a successful project (usually after building a good team). However, the true value of the schedule is only achieved if several other tools are implemented and integrated. To develop a schedule, the team must establish a Work Breakdown Structure (WBS) and an Execution Plan for the work. This is usually an iterative process: the development of each element influences the others. Stated simply, the schedule places detailed activities from the WBS dictionary into their proper sequence, with appropriate relationships defined, consistent with the execution plan. The schedule is an integral part of the project management system required on move projects. It is integrated with budget, resources, WBS, scope, and quality requirements to produce a virtual model of the project execution plan to guide the work and reflect progress and performance through the life of the project. Initial development of the execution plan, WBS, and detailed activities of the WBS dictionary usually precede initial development of the project schedule and budget. However, the integrated nature of these components makes the development of each piece an iterative and interdependent process, except on very simple projects. The schedule serves as a management reporting tool as well as an implementation tool to help get the work done on time. The schedule contains activity durations and interdependencies.

The Road Maintenance Fund (RMF) is an institution established by the law No.49/2013 of 28/06/2013 and published in the official gazette of the Republic of Rwanda, to ensure collection and funding for the maintenance of road networks in Rwanda. Ever since its establishment in 1998, the Road Maintenance Fund has achieved significant progress with regards to funding road maintenance, in spite of limited resources currently available.

From the time of its creation until now, RMF has recorded significant achievements in terms of road maintenance and bridge rehabilitation. Road Maintenance Fund has always undertaken various projects that are all accomplished successfully. This study intended to find out whether the success of pre-scheduling was a result of good scheduling and performance of the project in contention (RMF, 2016).

Kicukiro District is one of the three districts of Kigali town, this district was established by Organic Law n°29/2005 organizing the administrative entities of the Republic of Rwanda, at the start of the second phase of decentralization in January 2006 (Consolidated report EDPRS) . It is bordered by Nyarugenge District, Gasabo District t. According to Aiken at el, (1990) and World

Bank data (2015), the population of Kicukiro is approximately 2 million. Going forward, the public sector, which is the only still largely formal, continue to play a bigger role in ensuring economic growth. Poor infrastructure and lack of access to electricity are some of the major constraints and priority to the District and Country investment in general.

1.2 Problem Statement

The research show that construction is persistently becoming more complex phenomena that should be studied and more research have been carried out to overcome the industrial problem. However there is big gap in project management context specifically for infrastructure development in public sector few literature are available in road construction as this study focused on the continuous problem of delays and other scheduling problem which occur in Rwanda (Bryde & Robinson, 2015).

The entire project management has to prepare a solid project schedule and follow this schedule all the way to success (Pinto & Slevin, 1988). Rwanda, as a developing country, is faced with many project management challenges both technical and non-technical. Whereas projects in general have their challenges regarding implementation and consequently success, most projects are plagued by a unique set of problems and challenges.

(Salunkhe & Patil, 2018) Strongly demonstrated that the project scheduling problems in the construction project is worldwide phenomena, and regarding to Rwandan context many projects especially in road construction have experienced such delays issues caused by scheduling practices as we have marked the lack of manpower in the construction phases, procurement constraints of budgeting during project construction and also over dependence on external sources either be funds or external supervision of the construction.

Thus, Rwanda is dependent on its road transport system for the economic development of the country and all the major towns are connected by the road network however improper scheduling and delays in this project hinder development and raises citizen concern and it has been noted that it affect negatively the planned budget (MUGABO, 2019) (Lapage, 2017).

Though the scheduling has been an issue for the success of construction projects, the road transport in Rwanda has greatly improved through rehabilitation and upgrading of various roads which has resulted in faster economic development of the country. The country has a total road network of 14,008 kilometers broken down as paved roads 2,662 kilometers and unpaved 11,346 kilometers.

Kicukiro District - Road Network Plan Year 2025, is an extensive city road network for the district as well as the city. It caters to the projected economic development while integrating the Land Use for a projected population.

The plan proposes to utilize and upgrade the existing roads and alignments to expand the existing system and create a hierarchy of road network. A clear hierarchy of the City Road Network ensures smooth distribution of traffic and efficient connectivity.

Kicukiro District achievements in transport are twofold, i.e. road network and public transport. The walking distance to the nearest weather is at 98.2% as shown by EICV3 survey results. In as far as the quality of all-weather roads is concerned 6.3% have found that the quality of roads is declining and 23.3% found that there is an improvement in the quality of roads (DISTRICT DEVELOPMENT PLAN (2013-2018). The study therefore seeks to identify and assess deeply the impact of scheduling on construction projects performance in Kicukiro district.

1.3 Objectives of Study

The study assessed the influence of project scheduling on project performance in kicukiro Road construction project. Through the applicable review of different studies, reports and books on research topic, the following were settled as specific objectives:

- (i) To determine the level Scheduling Practices (HR forecasting, budgeting, time-scheduling) affect quality of the product.

1.4 Research Questions

The study answered the following questions in accordance to the settled objectives:

- (i) To what extent do Scheduling Practices (HR forecasting, budgeting, time-scheduling) affect quality of the product?

1.5 Research Hypothesis

H0: Scheduling Practices determine Performance of Public Sector Projects in Rwanda.

H1: Scheduling Practices do not determine Performance of Public Sector Projects in Rwanda.

1.6 Significance of the Study

The study findings will help public institutions to understand the importance of scheduling program; future researchers and practitioners to seek more deeply how the success of any scheduling can be improved through planning practices; the community were aware of the benefits of effective scheduling on project success in Rwanda further, public institutions will get more opportunities from it because the findings of this research may be used to assess and evaluate the contribution of project scheduling and its success in public organization in Rwanda. It will be also of much significance to University of Rwanda CBE future researchers because a copy is left at the University library as a material not only for the administration but also to the entire students and the community as well.

Again it will tremendous importance to the Kicukiro district, as it has been the case study in a way of improving on their daily planning as well as proper application of the project scheduling into their organizations. And finally was benefit much to the dear lecturers especially those in project management having been a way of boosting their recognition, capacity and importance of scheduling to students who are at the level of exploiting such knowledge through the research. It will be of significance to the nation of Rwanda in a sense of widening its public sector knowledge base and this lead to their high probability of survival and prosperity. It will be benefited by the reader immensely to have an understanding of at least the basic planning processes before undertaking the more detailed process of project management.

1.7 Limitations of the Study

Some of respondents were very suspicious of status, security, thinking that the information was linked and cause them a problem. It was difficult to find more authors wrote about road construction in particular as most of books were talked about the construction in general.

1.8 Scope of the Study

The researcher study intended to find out the impact of scheduling on project performance in public sector. The requirements to assess how scheduling helped project performance in Road construction project, it is also sought information on whether scheduling have positive impact on project performance in public sector in Rwanda. The study considered Road construction project

in Kicukiro District located in Kigali city, this study assessed the scheduling on project success in Road construction project.

The study considered the period of 2017 up to 2019, wishing that after 2 years the researcher should get the result or more information about the impact of scheduling and project success in project like Road construction project in Kicukiro District as a case study.

1.9 Organization of the study

The structure of the research project started by an introduction as first chapter, the second chapter tackled the review of related literature by developing both theoretical and empirical literatures. This study helped to identify the research gaps that require bridging and therefore justifying the study. Chapter three discussed the methodologies that were used by the researcher to achieve the stated objectives. Chapter four focuses on discussion of research findings, presentations, analysis and interpretation from data collected to the research objectives. In chapter five, the study summarizes the findings based on respondents' opinions and applicability of scheduling and project performance in Kicukiro district.

1.10 Key Definitions

A project it is a temporary endeavor undertaken to create a unique product, service or result.

Scheduling it is the process of arranging, controlling and optimizing work and workloads in a production process or manufacturing process. Scheduling is used to allocate plant and machinery resources, plan human resources, plan production processes and purchase materials.

Performance it is a completion of a task with application of knowledge, skills and abilities.

Public Sector (also called the **state sector**) is the part of the economy composed of both public services and public enterprises.

Organization it is a social unit of people that is structured and managed to meet a need or to

CHAPTER TWO: REVIEW OF LITERATURE

In this chapter the researcher focused on review of literature which constitutes the essential theory that demonstrate the effect of employee planning on project success, empirical literature, and critical review analyzed works of other people related to variables under study and research gap identification to the study.

2.1 Conceptual review

In this sub title, the research focused on Human Resource forecasting, time scheduling, budgeting, and quality of a product and stakeholder's satisfaction as follow.

2.1.1 Human Resource Forecasting

There are three important elements to consider in order to successfully forecasting labor demand and supply: identifying stakeholders who will be involved, determining the appropriate planning horizon, and defining the internal and external labor force.

The HRP team should include all relevant stakeholders across multiple functional areas and organizational levels. Explicitly developing a team for the HRP process helps ensure success of the strategies within the plan and holds those who are not meeting the goals accountable. Also, the diversity in the team will reduce groupthink, the tendency for group members to avoid introducing novel ideas that are outside of the group's normal mode of thinking for fear that they will disrupt the group consensus process (Haynes & Fryer, 2000).

According to Hall (1993), HRP team should include all relevant stakeholders across multiple functional areas and organizational levels. Explicitly developing a team for the HRP process helps ensure success of the strategies within the plan and holds those who are not meeting the goals accountable. Also, the diversity in the team will reduce groupthink, the tendency for group members to avoid introducing novel ideas that are outside of the group's normal mode of thinking for fear that they will disrupt the group consensus process.

Identifying current workforce dynamics is a critical step in the development of an HR plan. A skills inventory is a computerized or manual system designed to take stock of information about current employees' experience, education, compensation history, and/or unique abilities. A skills inventory can be useful in revealing what skills are immediately available in an organization by providing a snapshot view of the existing talent in an organization.

As an alternative or complement to the skills inventory, a human resource audit is a systematic examination and analysis of an organizational workforce in an effort to create an understanding of the current staffing situation. The HR audit compares the past with the present labor specifications to identify trends and patterns in multiple aspects, including turnover, training, absence, and diversity. An HR audit can identify key information about HR operations, including how well they work, and where improvement may be needed. It is an extremely useful tool in HR planning (Bradley, 2008).

The external labor force refers to potential sources of human resources outside of an organization that can affect the future supply of employees. Evaluation of the external labor force relies on labor market estimates based on regional and global economic, environmental, and demographic changes. Economic and environment factors include interest rates, unionization, economic growth, unemployment rates, and political climate. Demographic factors include population-based information such as retirement rates, birth/mortality rates, educational attainment, primary language, and labor shifts (Dilip, 2005).

According to Haworth et al (2003) an organization's strategic plan leads the overall HR strategic plan. The strategic plan is a macro level set of directives that identifies how the organization will achieve its mission and move toward its vision. Workforce planning offers a means of systematically aligning organizational and program priorities with the budgetary and human resources needed to accomplish them. By beginning the planning process with identified strategic objectives, managers and their organizations can develop workforce plans that will help them accomplish those objectives. At the same time, these plans provide a sound basis for justifying budget and staffing requests, since there is a clear connection between objectives, the budget, and the human resources needed to accomplish them. The strategic plan for human resources should follow organizational goals, including the types of projects and activities that the organization aims to execute. For example, if the organization aims to grow its market and expand sales by 25 percent, HR planning should align itself to grow the organization. Likewise, if the strategic plan is for maximizing efficiencies and lowering overhead costs, the HR plan should have the same goals (Hendry, et al., (1990).

2.1.2 Time Scheduling

Many times we are gone from the task level to the resources level of scheduling, but there's no law that says you are not working on a portfolio of projects. The project dashboard is your best friend, whether you're working on one or many projects. The dashboard is collecting all the real-time data collected by you and your teams, and then it's organizing it according to any number of metrics to show you a picture of where you stand in real-time on the project or many projects (Wray, 1998).

With a project dashboard you can note where tasks are being blocked and immediately adjust your schedule to resolve delays before they become a problem. You can also use the graphs and charts the dashboard automatically generates to drill down deeper and filter or customize the results to get the information you need, when you need it (Wray, 1998)..

According to Bell and Opie (2002), a fraction of what we could say about project scheduling is ongoing series explaining and explores new and relevant terms in project management, focusing on a specific definition and summarizing what it means for anyone leading a project. But to really get to know scheduling, it's best to dive in with a project tool, your tasks and your team and create a new project schedule today.

Scheduling is one of the more difficult jobs in project management, but coordinating delivery dates on your estimates can be streamlined and made more efficient when you employ the tools in Project management. From interactive Gantt charts, resource and workload management that can be easily integrated to a real-time reporting dashboard, you've never had a tighter hand on your project schedule. Ranked #1 by Gartner's Get App in project management, ProjectManager.com offers a free 30-day trial by clicking the link below (Bell & Opie, 2002).

According to Eshna (2012), planning is life because nothing in this universe is not possible without planning, funders have less funding available than they once did and they receive more funding requests than they can approve. In this competitive environment, a strong project plan will make your application stand out from the crowd. The information in your project plan can also be used in funding applications, so creating a strong project plan also saves you time on preparing applications. Project planning helps you look at where you are, where you want to go

and how you will get there. This evaluation process will help you set up projects which are needed in your community and help your group be successful.

2.1.3 Budgeting

According to Veit-Wilson (1998), Budgeting is the process of creating a plan to spend your money. This spending plan is called a budget. Creating this spending plan allows you to determine in advance whether you will have enough money to do the things you need to do or would like to do. If you don't have enough money to do everything you would like to do, then you can use this planning process to prioritize your spending and focus your money on the things that are most important to you. Since budgeting allows you to create a spending plan for your money, it ensures that you will always have enough money for the things you need and the things that are important to you. Following a budget or spending plan will also keep you out of debt or help you work your way out of debt if you are currently in debt. Budgeting is simply balancing your expenses with your income. If they don't balance and you spend more than you make, you will have a problem. Many people don't realize that they spend more than they earn and slowly sink deeper into debt every year (Dubnoff, 1985).

Once you create your first budget, begin to use it and get a good feel for how it can keep your finances on track, you may want to map out your spending plan or budget for 6 months to a year down the road. By doing this you can easily forecast which months your finances may be tight and which ones you'll have extra money. You can then look for ways to even out the highs and lows in your finances so that things can be more manageable and pleasant (Veit-Wilson, 1998).

Extending your budget out into the future also allows you to forecast how much money you will be able to save for important things like your vacation, a new vehicle, your first home or home renovations, an emergency savings account or your retirement. Using a realistic budget to forecast your spending for the year can really help you with your long term financial planning. You can then make realistic assumptions about your annual income and expense and plan for long term financial goals like starting your own business, buying an investment or recreation property or retiring.

According to Hirsch (2009), there are several elements of the definition referred to above that merit a more detailed explanation, the first of which is the issue of wellbeing. In most applications a type of minimum standard of living is used. Indeed, Nibud has reference budgets that are related to a minimum income level, whereas others use terms such as basic needs or

modest but adequate. Yet, Nibud also has reference budgets for higher levels of income. These may be used for the construction of credit scores (loan-to-income ratios) or as a benchmark for non-minimum incomes. Therefore, it must be made clear from the description of the specific budget what level of income is being used in particular circumstances. For example, we could be speaking about a “reference budget for a household with a minimum income”.

A project is made up of many tasks, and each task is given a start and end (or due date), so it can be completed on time. Likewise, people have different schedules, and their availability and vacation or leave dates need to be documented in order to successfully plan those tasks.

Whereas people in the past might have printed calendars on a shared wall in the water-cooler room, or shared spreadsheets via email, today most teams use online project scheduling tools. Typically, project scheduling is just one feature within a larger project management software solution, and there are many different places in the software where scheduling takes place (Peter, 2013).

Peter continued to argue that projects have so many moving parts, and are frequently changing; project scheduling software automatically updates tasks that are dependent on one another, when one scheduled task is not completed on time. It also generates automated email alerts, so team members know when their scheduled tasks are due or overdue, and to let the manager know when someone’s availability has changed. Project scheduling is simple when managed online, thankfully, especially since the software does all the hard part for you.

2.1.4 Quality of Product

According to Samasundaram and Adedeji (1992), they develop a framework for studying trade in horizontally and vertically differentiated products. In their model, consumers with heterogeneous incomes and tastes purchase a homogeneous good and make a discrete choice of quality and variety of a differentiated product. The distribution of preferences generates a nested-logit demand structure such that the fraction of consumers who buy a higher-quality product rises with income. The model features a home-market effect that helps to explain why richer countries export higher-quality goods. It provides a tractable tool for studying the welfare consequences of trade and trade policy for different income groups in an economy (Samasundaram & Adedeji, 1992).

According to Crawford (2002), project performance is an important project management issue; it is one of the most frequently discussed topics and there is a lack of agreement concerning the criteria by which success is judged. While understanding the causes of project failure is important, without a common definition of “success”, there is no clear basis for differentiating a success from a failure. Clearly none of the projects in the Catalogue of Catastrophe can be regarded as great successes some resulted in bankruptcies, many were cancelled before completion and some caused significant damage to non-governmental relations. However, those examples represent the extreme of project failure and in practice; there is a sliding scale between total failure and absolute success. Given that our definition of success should be the guiding light towards which projects are focused, I think it important to have a clear definition of what constitutes “success”. On the surface might think that defining success would be relatively simply, but in practice different people define success in different ways.

Based on discussions with a wide variety of project participants and observation of people’s actual behaviors in real-life projects, project success is classified at different definitions about five tiers: the project was a success if it delivers all or most of what it said it would (the scope), regardless of schedule or budget success; the project was a success if it delivers what it said it would, on schedule and/or within the agreed budget; the project was a success if it delivers what it said it would, on schedule, within the agreed budget and to the expected quality standards; the project was a success it delivers on all agreed project objectives, be they scope, schedule, budget, quality or outcomes based (i.e. goals to be achieved or strategic positions to be attained); and the project was a success if the product produced by the project creates significant net value for the organization after the project is completed (Greenley, 1986).

Clarke (1999) said that a project is a performance if it achieves all of the agreed project objectives. However, perhaps because schedule and budget is the most visible dimension, in the midst of a project many people behave as if either tier two or three where the definitive answer. This way will be able to capture the change the project made possible. Collecting accurate, relevant data is a key to monitoring and evaluation success. Without data, it won’t be able to keep track of the project’s impacts. Some types of data collection are more suitable for a project than others. For each output it may choose a different way to collect data. The most popular types of data collection include: Questionnaires, Surveys, Interviews, Observations, Case Studies, Attendance registers and Tests / self-assessments (Parast, 2010).

2.1.5 Stakeholder satisfaction

Kloppenborg and Petrick (1999) suggest that project leadership requires more than just technical competence and encompasses the ability to manage a team. Skills in managing relationships are critical to achieve stakeholder satisfaction through all stages of the project. Relationship skills complement the effectiveness of hard (technical) skills because project outcomes are achieved through people, using their knowledge and creativity not through the mere use of techniques or hardware. Creating the right relationships with team members and other stakeholders is one of the biggest challenges that face project managers.

In his research on Canadian project-driven organizations, Loo (2002) found an almost even split in top-rated internal best practices between technical and people practices. The people skills set that emerged included high caliber project teams, stakeholder participation, and effective team and external communication, customer satisfaction, conflict management, and staff management and motivation. Other studies have also highlighted the significance of people skills for project success. Realizing the importance of people management skills, Turner has reframed his definition of “project” to recognize its human aspects. He defines a project as an endeavor in which human, financial and material resources are organized in a novel way to undertake a unique scope of work, of given specification, within constraints of cost and time, so as to achieve beneficial change defined by quantitative and qualitative objectives.

Managers do not find it difficult to understand the concepts and models of stakeholder management. They recognize that important issues of concern to groups of stakeholders may be identified as stakeholder issues as well as social issues. For example, occupational health and safety or employment equity and discrimination are issues of sufficient concern to society as a whole to result in legislation and regulation, but they are also issues of concern for all corporations in terms of their relationships with employee stakeholder groups and government. Similarly, the social issues of product safety or truth in advertising have also led to legislation and regulation, but from a corporate perspective, these are stakeholder issues involving obligations and responsibilities to both customers and governments. Social issues concerning environmental pollution are of concern to a variety of government regulatory agencies, as well as to the communities in which corporations have their operations, employees, and customers (Clarkson, 1991).

2.1.6 Measurement of effective project performance

Project success in terms of effectiveness measures revealed five principal element factors: Learning and exploitation, Client satisfaction, Stakeholder objectives, Operational assurance and User satisfaction. Specified that effectiveness measures of project success are related to the project results, factors like learning from projects, meeting the customer and users' satisfaction, meeting pre-determined objectives of project stakeholders (achieving core business and project objectives) and supported by a well-organized commissioning programs are the anticipated project outcomes. Supporting project outcomes with customer needs and expectations is the most perfect situation in measuring project success in terms of effectiveness measures (Lauri & Gregory, 2002).

Even if in reality the ideal situation is hard to accomplish, the empirical findings has discovered that these are the significant variables that need to be measured in road construction organization for project success from the effectiveness position (Lisa Ahn, 2013).

2.2 Empirical Review

Whittaker (1999) indicated that poor project planning, specifically inadequate risk management and a weak project plan are the common reasons for project failure. Project scheduling has a mediating effect on the link between project uncertainty and IT project performance (Aladwani, 2002). Poor scheduling and planning in general in Vietnam was the most important cause of project failure (Nguyen, 2003). Scheduling is definitely affected by human, technical and management factors.

Bryde & Robinson (2005) conducted an empirical study in order to identify the most important success criteria according to client and contractor organizations. The results of the survey showed that contractors put more emphasis on time and cost criteria while the clients put more emphasis on satisfying the needs of other stakeholders. Moreover, the study is a proof that there is lack of agreement in organizations about the priority of success measurement due to problematic client contractor working relationships.

Agarwal and Rathod (2006) conducted a research on new success criteria on successful software development project; they investigated the issue of project success by examining the different views of internal stakeholders such as Programmers, Project Managers and Customer Account

Managers. The significant findings here are basically three. Firstly, cost, time and quality seems to be very important criteria for assessing the success of projects according to the survey results. Secondly, they found that the scope criterion is considered to be of utmost importance for project success. The writers named scope the combination of quality and functionality for a software project. The most interesting finding for our research is the two new additional criteria mentioned by a computable number of responders. These are namely the customer satisfaction and the project priorities, always in addition to the three core parameters.

Laufer & Tucker (1987) find several troubling phenomena from planning in construction projects. First, the motivation for planning may come from outside sources: legal consideration and owner's requirement. Secondly, the primary internal motivation for planning is often control, rather than execution. Thirdly, the significance of control is corrupted by the separation of execution from planning and in practice planning becomes a way of explaining after the fact of what was happened. Thus there is almost total degeneration of the role of planning.

The essence of relationship between planning factors (scheduling and others), planning performance and project outcomes can differ between projects with different characteristics (Bryde & Robinson, 2005; Agarwal & Rathod, 2006; Laufer & Turker, 1987). Scheduling characteristics were commonly considered in previous studies including project type, sectors, size and target user.

2.3 Critical Review and Research Gap identification

According to Agarwal & Rathod (2006), on his research entitled "new success criteria on successful software development project" they investigated the issue of project performance by examining the different views of internal stakeholders such as Programmers, Project Managers and Customer Account Managers. The significant findings here are basically three. Firstly, cost, time and quality seems to be very important criteria for assessing the success of projects according to the survey results, the researcher also argued that for any project to be considered successfully it has to meet the estimated time, budget and other requirements.

As suggested by Crawford (2002), that project performance is an important project management issue; it is one of the most frequently discussed topics and there is a lack of agreement concerning the criteria by which success is judged. While understanding the causes of project failure is important, without a common definition of "success", there is no clear basis for

differentiating a success from a failure, the researcher continued to urge that failure can be seen when project scheduling is ignored.

2.4 Theoretical Framework

A theoretical framework consisted of concepts, together with their definitions, and existing theories that are used for the study. It demonstrated the understanding of theories and concepts that are relevant to the topic of the research paper.

2.4.1 Management Theory of Frederick Taylor

As consultants with knowledge and experience in the management theory of Frederick Taylor can guide you in maximizing the benefit of his scientific management principles in your own company's unique environment.

Based on a systematic study of people, tasks and work behavior, Taylor's theory broke the work process down into the smallest possible units, or sub-tasks, in an effort to determine the most efficient method possible for completing a particular job for improving the efficiency of the work process. Taylor's method consisted of testing the completion of various tasks to determine the optimal amount of work that could be accomplished within a certain time period. Taylor's management theory asserts that organizations should identify the best way to do a job, train workers to handle each element in a pre-determined manner (instead of basing their work on their own personal discretion) and set up an equitable system of rewards for improved productivity.

Also Taylor's theory brought numerous improvements to organizational management during a period when an autocratic management style was the norm like significantly improved productivity; increased employee incentive; widespread improvements in quality control; better personnel practices; and others.

2.4.2 Management Theory of Frank and Lillian Gilbreth

Frank & Lillian Gilbreth were a husband-and-wife team who worked as engineers in the early part of the 20th century. Lillian carried on this work after the death of Frank in 1924. Their main focus was on the fields of motion study and time study, combined with an interest on the

psychology of efficiency and work. The Gilbreth theory held that there was a “one best way” to do any task. Efficiency, according to the Gilbreth business management theory, could therefore be improved by finding this “one best way” and replicating it throughout the manufacturing process. The Gilbreths used new technologies such as film to break motions down into incremental parts, which they called “therbligs.” By reducing the number of “therbligs” for any task, one could increase the efficiency of the worker. Other management theory of Frank and Lillian Gilbreth developed are reduce the number of motions in a task to increase efficiency, focus on the incremental study of motions and time to understand an entire task and the goal of increased efficiency is both increased profit and greater worker satisfaction.

2.4.3 Management Theory of Henri Fayol

Fayol's management theory covers concepts in a broad way, so almost any business can apply his theory of management. Today the business community considers Fayol's classical management theory as a relevant guide to productively managing staff. The management theory of Henri Fayol includes 14 principles of management. From these principles, Fayol concluded that management should interact with personnel in five basic ways in order to control and plan production. Those ways include: Planning, Organizing, Commanding, Coordinating and Controlling. According to Fayol's theory, management must plan and schedule every part of industrial processes; he argued that in addition to planning a manufacturing process, management must also make certain all of the necessary resources (raw materials, personnel, etc.) came together at the appropriate time of production; and states that management must encourage and direct personnel activity; then according to him, management must make certain that personnel works together in a cooperative fashion; The final management activity, according to Henri Fayol, is for the manager to evaluate and ensure that personnel follow management's commands.

2.5 Conceptual Framework

To implement the research following dependent and independent variables are shown in the theoretical framework. The scheduling with its elements resources, Human Resource forecasting, time scheduling and budgeting is the independent variable and project performance in its elements quality of product and stakeholder satisfaction is the dependent variable. These two

variables have been chosen to see the relationship between these variables i.e to see the impact of scheduling on the project performance as shown from the following diagram below.

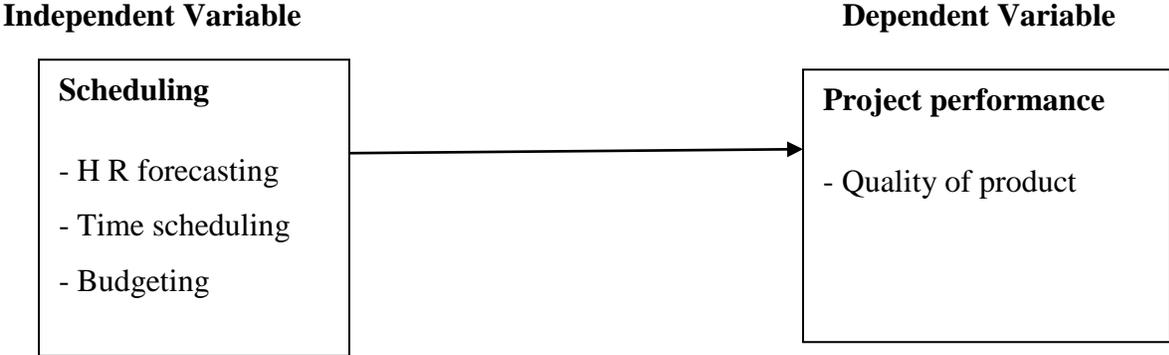


Figure 1: Conceptual Framework

Source: Researcher, 2019

CHAPTER THREE: METHODOLOGY

This chapter presents the methodological approaches that were used in carrying out this study and specifically describes the research design, target population, sample size and sampling techniques, data collection instruments and procedures and data analysis procedures, reliability and validity of the research instruments and ethical considerations.

3.1 Research design

The study used a survey research design in order to collect detailed information. This design enabled the researcher to describe existing phenomena, identify problems or justify current conditions and practices, determine what others are doing with similar problems or situations and benefit from their experience in making future plan and decisions.

3.2 Target Population

Target population is that aggregation of elements from which the sample was selected (Babbie, 2008; Kumar, 2005). The target population was 133 composed of 45 Kicukiro District staff, 48 people from the 4 highly populated sectors in Kicukiro district which are Gatenga, Kanombe, Kigarama, and Nyarugunga respectively as it was been mentioned by the district officials and 30 site managers on behalf to contractor company (NPD).

Table 1: Population by categories

Description	Population
District Staff (Kicukiro)	45
Gatenga Sector	12
Kanombe Sector	12
Kigarama Sector	12
Nyarugunga Sector	12
Site Managers of Contractor (NPD)	30
Total	133

Source: Researcher in Kicukiro District, (2019)

3.3 Sample Design

According to Kothari (2004), sample design is the preparation of how many items are selected and in which way.

3.3.1 Sample Size

To determine the sample size, the study used Solven's formula. The sampling error has 5% in order to attain a desired or a recognizable level of accuracy.

$$\text{Formulae: } n = N / (1 + N * e^2)$$

Whereby

n is Sample size;

N is Total Population;

e is the acceptable sampling error;

95% confidence level and

e assumed to be equal 0.5

$$= 133 / (1 + 133 * 0.05 * 0.05)$$

$$= 133 / 1 + 0.32$$

$$= 133 / 1.32$$

$$= \mathbf{101}$$

Respondent's numbers then will be determined proportionately from each sub group.

3.3.2 Sampling Technique

This study used stratified sampling technique in order to have all the various parts of population equally covered in data collection. Then simple random technique was used of select individuals from each sub group of the population.

3.4 Data Collection Methods

This study relied on primary and secondly data collected using a questionnaire as it was appropriate for studies since they collect information that is not directly observable (Mellenberg, 2008). The questionnaire consisted of two sections: Section A for questions on the respondents' background information and Section B the questions focusing on scheduling and project performance. To collect the information, documentary review and questionnaire were used to do the effective research. The questionnaires used as technique of collecting primary data from PIR' staff and will be organized into two sections using open ended questions.

3.4.1 Administration of Data Collection Instruments

Two types of instruments for data collection and administration were used; those are questionnaire's distribution and face to face interviews in case of some clarifications or lack of concentration. The questionnaire shall be personally administered by the researcher through drop and pick method and the interview was used ask question to respondent and write the response given on their behalf considering the order number given for being treated.

3.4.2 Reliability and validity

For the study to be of real meaning should apply valid and reliable instruments (Creswell, 2000). Before actual research was done the researcher shall ensure that the instruments are pretested for the purpose of achieving validity and reliability. To ensure validity of the instrument, the questionnaire was checked the researcher for the consistency of the items, conciseness, intelligibility and clarity to make necessary adjustments so that the instruments measure adequately what they are intended to measure. To ensure the reliability and consistency of the instruments used to measure planning practices was tested using Cronbach's alpha criterion value of 0.7 as an indicator of true reliability and consistency of the instruments used to measure a particular variable. To this end , the pilot test was carried out by administering the questionnaire to five respondents of Kagugu road (Gasabo District) which is not the part of the population of the researcher and Cronbach's Alpha Coefficient was computed to determine how the collected data relate to one other, with respect to different items.

3.5 Data analysis Procedure

The research questions was be coded by using SPSS version 21 and STATA version 15 to produce results which were presented, analyzed and interpreted in chapter IV. Statistical treatment was summarized in tables and graphics moreover descriptive statistics were also used where frequencies, percentages and mean were drawn in responses to the study of the research questions. Person's coefficient of correlation, coefficient of determination, ANOVA was used to establish the level of project success and a multiple regression to come up with the influence and link the variables under study.

The regression equation was as follows:

$$Qly = \beta_0 + \beta_1 HRF + \beta_2 BUD + \beta_3 TSC + e$$

Where: **Qly** is the dependent variable (Quality of Product),

β_0 is the regression coefficient/constant/intercept,

β_1 , β_2 and β_3 are the slopes of the regression equation, and **HRF**, **BUD** and **TSC** are independent variables, where:

HRF is HR forecasting

BUD is Budgeting,

TSC is time scheduling

e is an error term normally distributed about a mean of 0 and for purpose of computation, the **e** is assumed to be 0.317.

3.6 Ethical Considerations

For this study, the aims and objectives was informed to all staff during the process of getting permission to do research, without discrimination either to employees and managers involved during the data collection phase. The respondents were asked to tick their response to each statement by checking one of the categories of agreement or disagreement using five scale exceptions on section (a) question three and four. The researcher avoided any forms of bias and kept respondents' views confidential to avoid any diverse effect that may result from the information given.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND DISCUSSIONS OF FINDINGS

This chapter has the objective of describing the data and interpreting them. The purpose of this study was to show how scheduling practices and performance of public sector projects in Rwanda. In this chapter, data were analyzed, interpreted, and collected from the field. It therefore, includes the presentation and discussion of data, which is with the conceptual part of this study.

The responses were collected to be tabulated and shown in form of statistical tables, frequency distributions and percentages. In this study, data were analyzed systematically and collected so as to draw conclusions on whether really the scheduling practices contributes on the performance of public sector projects in Rwanda.

4.1 Demographic characteristics of respondents

This section consists of the demographic information of respondents. Demographic information presented in this section includes the gender, age, current position and experience to ensure that selected respondents have the ability to provide reliable information for the purpose of this study.

4.1.1 Gender of Respondents

Gender was analyzed in order to get information from both males and female and these individuals were offered an equal chance of being included in the sample. Hence, respondents were asked to indicate their gender. Table below presents the gender of respondents.

Table 2: Distribution of respondents by gender

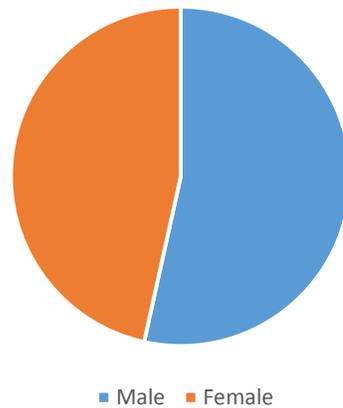
Gender	Frequency (N=101)	Percentage (%)
Male	54	53.5
Female	47	46.5
Total	101	100

Source: Field survey, 2019

Table 2 illustrates that 53.5% were male while 46.5% of respondents were female. This implies that both male and female are included in the sample size. The findings indicate that road

construction projects employ both male and female. However, the study was not gender sensitive; hence information gathered was equally important in this research.

Distribution of respondents
by gender



4.1.2 Age of Respondents

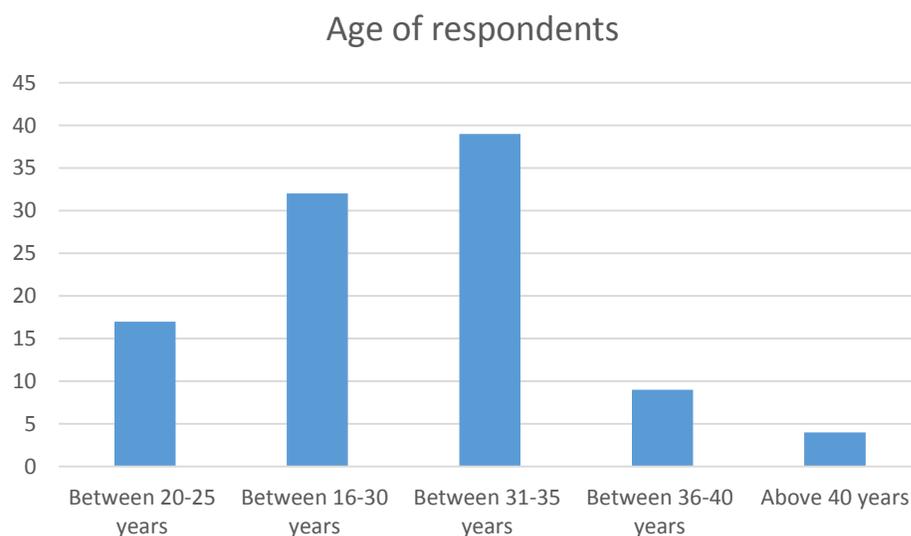
Age was considered important in this study because age has influence on the ability to work and ability to conduct business which it influences ability to work. Hence, respondents were asked to indicate their age to associate the age with the motivation technique employed by the company. The following table depicts the age of respondents.

Table 3: Distribution of Respondents by Age

Age categories	Frequency (N=101)	Percentage (%)
Between 20-25 years	17	16.8
Between 26-30 years	32	31.7
Between 31-35 years	39	38.6
Between 36-40 years	9	8.9
Above 40 years	4	4.0
Total	101	100

Source: Field survey, 2019

Table 3 depicts that 16.8% of respondents have 20-25 years, 31.7% of respondents have 26-30 years while 38.6% of respondents have 31-35 years, 8.9% of respondents have 36-40 years and 4.0% of the respondents have above 40 years. This implies that the majority of employees are individuals between 31 and 35 years. This indicates that majority of respondents are young and ambitious hence they would be money wise to achieve their ambitions and future plans. However, these findings show that the sample is dominated by people who are more motivated to work because most of them are young and so they are excited to work, which is the indicates why the road construction projects employees are in this age.



4.1.3 Occupation of Respondents

Occupation is very important in a daily life of many people in the world. The occupation occupied by individuals often can determine their income and revenue which affects the regularity of their revenue and the stable occupation.

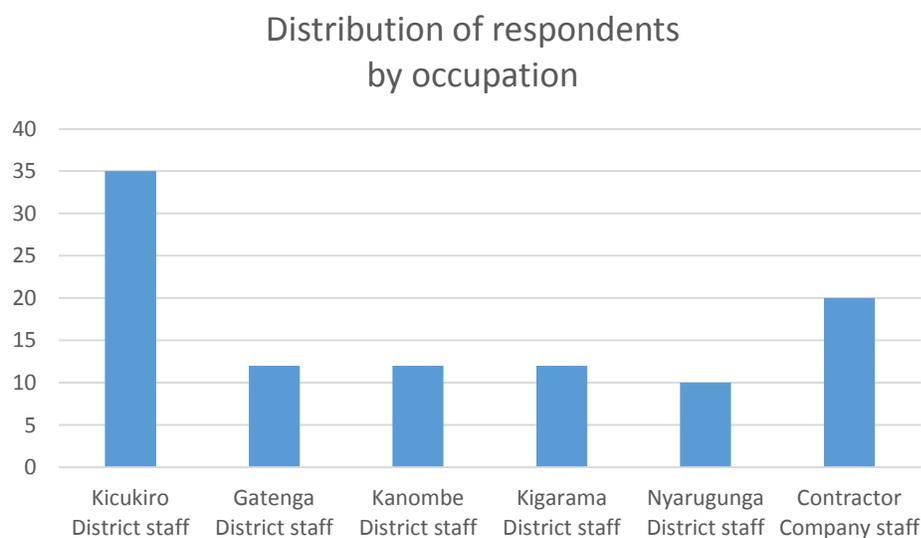
Table 4: Distribution of Respondents by Occupation

	Frequency (N=101)	Percentage (%)
Kicukiro District staff	35	34.6
Gatenga Sector staff	12	11.9
Kanombe Sector staff	12	11.9

Kigarama Sector staff	12	11.9
Nyarugunga Sector staff	10	10.0
Contractor company staff	20	19.7
Total	101	100

Source: Field survey, 2019

Findings in Table 4 show that majority of the respondents are grouped in Kicukiro District staff which represent 34.6% of total respondents and 19.7% are in contractor company staff, 11.9% in Gatenga Sector staff, Kanombe Sector staff equal to 11.9%, 11.9% are in Kigarama Sector staff where 10.0% are in Nyarugunga Sector staff.



4.1.4 Years of Experience

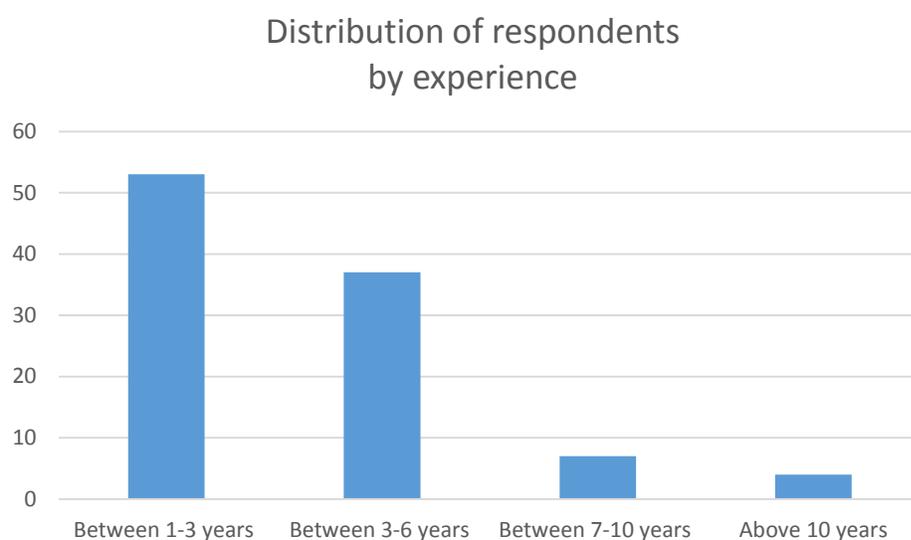
The study was interested to use experience of respondents working in Road Construction Projects in Kicukiro District because the longevity of employees to stay in the job will determine their satisfied with the motivating factors given to them, hence performing well in the organization. Respondents were asked the period they had worked in Road Construction Projects in Kicukiro District. Table below displays their views.

Table 5: Distribution of Respondents by Experience

Years	Frequency (N=101)	Percentage (%)
Between 1-3 years	53	52.4
Between 4-6 years	37	36.6
Between 7-10 years	7	7.0
Above 10	3	3.0
Total	101	100

Source: Field survey, 2019

Table 5 shows that 52.4% of respondents have between 1-3 years of working experience within the Road Construction Projects while 36.6% of respondents worked for road construction Projects for a period of 4-6 years and 7.0% of respondents worked for the road construction Projects for 7-10 years and 3.0% is above 10 years of experience. This may imply that the study participants had been at the organization for a significant length of time, therefore they are in a comfortable situation to present reliable information related to the study. This adds credibility to the study in the sense that the views expressed by the respondents are based on their actual experience associated with the road construction in general and construction projects in particular.



4.2. Assessing scheduling practices in road construction project in Kicukiro District

Scheduling practices in road construction projects is crucial to the projects execution. The study sought to examine the scheduling practices adopted in road construction in Kicukiro district and respondents were asked on specific scheduling practices in road construction projects and the following information was obtained.

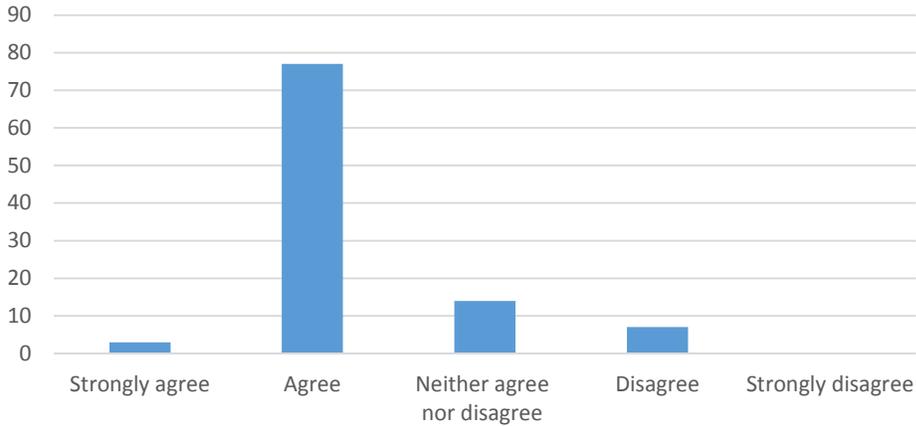
Table 6: Respondents' views on specific scheduling practices in road construction projects

Responses	Frequency (N=101)	Percentage (%)
Strongly agree	3	2.9
Agree	77	76.3
Neither agree nor disagree	14	13.9
Disagree	7	6.9
Strongly disagree	0	0
Total	101	100

Source: Field survey, 2019

Table 6 shows that 76.3% respondents agreed, 2.9% of respondents strongly agree while 13.9% of respondents neither agree nor disagree to the statement while 6.9% of respondents disagreed about the statement. Based on these views, this implies that many projects had specific scheduling practices in road construction but 6.9% of the projects were started without scheduling practices which would affect the performance of constructions projects. The numbers of frequencies were putted in % to facilitate good understanding of statistics.

Respondents views on specific scheduling practices in road construction projects



4.2.1. Scheduling practices used in road construction projects in Kicukiro district

Respondents were asked to identify the scheduling practices adopted in the construction project in Kicukiro district. Table below presents the findings.

Table 7: Respondents' views on the most used Scheduling Practices

Responses	Frequency (N=101)	Percentage (%)
HR forecasting	0	0
Time scheduling	0	0
Budgeting	0	0
All	101	100
None	0	0
Total	101	100

Source: Field survey, 2019

Table 7 shows that 100% respondents replied that all practices were used in scheduling practices. All the three project scheduling practices were positively related to in road construction project performance in Kicukiro District and results indicated that an increase in each of them would result in an increase in project performance. It is hence, important to impress serious budgeting methods, time scheduling, forecasting in management of projects to enhance performance (Afande, 2013). These imply that there is need for practice all project scheduling practices.

4.2.2. Most used Scheduling Practices

Respondents were asked to indicate the most used scheduling practices adopted in the construction project in Kicukiro district. Table below presents the findings.

Table 8: Respondents' views on the most used Scheduling Practices

Responses	Frequency	Percentage
HR forecasting	2	1.9
Time scheduling	9	8.9
Budgeting	24	23.8
All	66	65.4
None	0	0
Total	101	100

Source: Field survey, 2019

Table 8 illustrates the scheduling practice most used to ensure quality of project. From the study findings, respondents provided the following alternatives: 65.4% of respondents mentioned both budgeting and time scheduling were most used, 23.8% of respondents showed budgeting while 8.9% of respondents showed time scheduling and 1.9% of respondents showed HR forecasting as scheduling practices most used.

From these findings, it was deduced that as many schedules as possible for specific projects at a particular set of workplace; several methods can be used to generate schedules. One way to generate schedules in projects is by using priority sequencing rules, which allows the schedule for a workplace to evolve over a period of time. The decision about which job to practice next is made with simple priority rules whenever the workplace becomes available for further allowance (Nthenge, 2014).

4.2.3. Frequency of Scheduling Practices

The study then sought to examine the frequency and how often scheduling practices are being followed in road construction projects in Kicukiro district. Respondents were asked to indicate how often the scheduling practices adopted are being followed and the findings are presented in table below.

Table 9: Respondents' views on least used practice

Responses	Frequency	Percentage
HR forecasting	37	36.6
Time scheduling	0	0
Budgeting	0	0
Both	5	4.9
None	59	58.5
Total	101	100

Source: Field survey, 2019

Table 9 shows that 58.5% of the respondents indicated that none scheduling practice were least used, 36.6% indicated that HR forecasting were rarely used, 4.9% specified that there were two practice least used.

This is an indication that the practices are employed carefully in the projects scheduling. This might be due to the expertise skills required to make use of them and the availability of other practices (Clarke, 1999). Most of these practices are used in determining the durations of the various activities involved in the project.

4.2.4. Effectiveness of Scheduled Project Activities

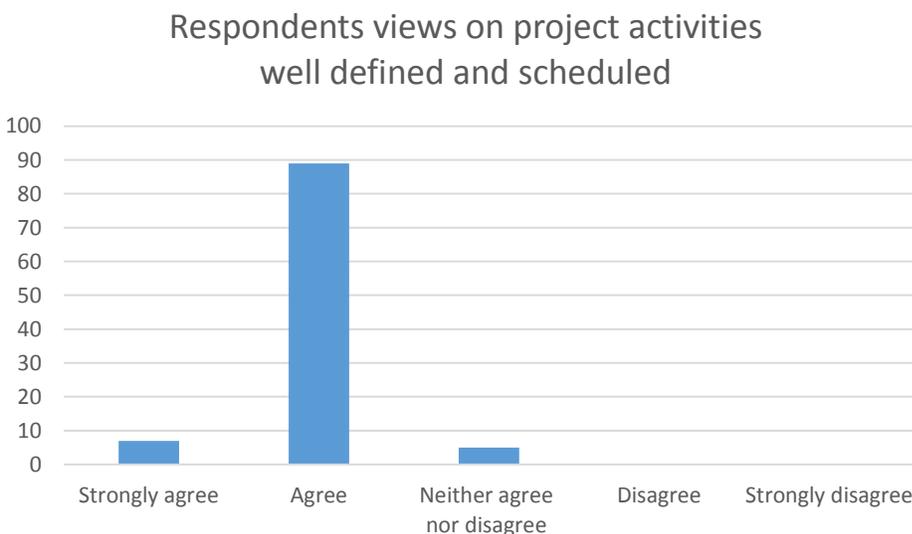
The study sought to check the effectiveness of scheduled project activities by including a general question to the respondents. The percentage responses are indicated in table below.

Table 10: Respondents' views on project activities well defined and scheduled

Responses	Frequency (N=101)	Percentage (%)
Strongly agree	7	6.9
Agree	89	88.2
Neither agree nor disagree	5	4.9
Disagree	0	0
Strongly disagree	0	0
Total	101	100

Source: Field survey, 2019

Table 10 shows that a devastating majority of 88.2% of respondents agreed that project activities were well defined and scheduled in the project in dealing with operations, whereas 6.9% strongly agreed. Tasks in these projects are thus scheduled in meeting population needs. This implies that instead of scheduling labor, service firms frequently try to facilitate their operations by scheduling activities. This is done through the use of appointment systems and doubts (Nguyen *et al.*, 2009).



4.3. Assessing the project performance of road construction project in Kicukiro District

The study sought to assess the project performance of road construction projects in Kicukiro district. The researcher kept in mind that the influence of scheduling practices on the performance of the corresponding projects executed becomes highly necessary to determine. Respondents were asked to indicate their level of agreement on related statements to highlight their views on project performance measures. Hence, the following section presents the findings.

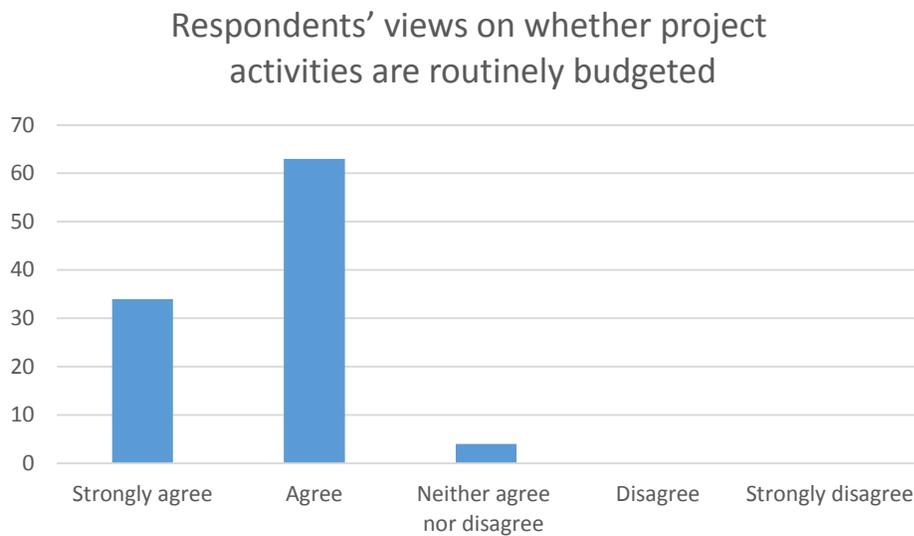
Table 11: Respondents' views on whether project activities are routinely budgeted

Responses	Frequency (N=101)	Percentage (%)
Strongly agree	34	33.7
Agree	63	62.4
Neither agree nor disagree	4	3.9
Disagree	0	0
Strongly disagree	0	0

Total	101	100
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Source: Field survey, 2019

Table 11 shows the respondents' views on whether the projects' activities are routinely budgeted for and the findings shows that 62.4% of respondents agreed with the statement and 33.7% strongly agreed to the statement while 3.9% of respondents were Neither agree nor disagree to the statement and one of the respondents replied otherwise. This is an indication that projects activities are routinely budgeted and implies that projects should preserve a reasonable balance between economic aspirations and their sustainable development priorities and that they promote employment and investment prospects, together with transfer of skills which is a crucial social benefit, as that is what regeneration projects are meant to deliver. Projects activities budgeting is supported by Olsen (2013) who identified that based on historical record and future projections, this assessment helps plan and predict the future, allowing you to gain much better control over your organization's financial performance.



4.3.1 Budgeted projects activities facilitation

The research sought to reveal whether project budgets are well facilitated. Results from data relating to the factor are analyzed in table 12.

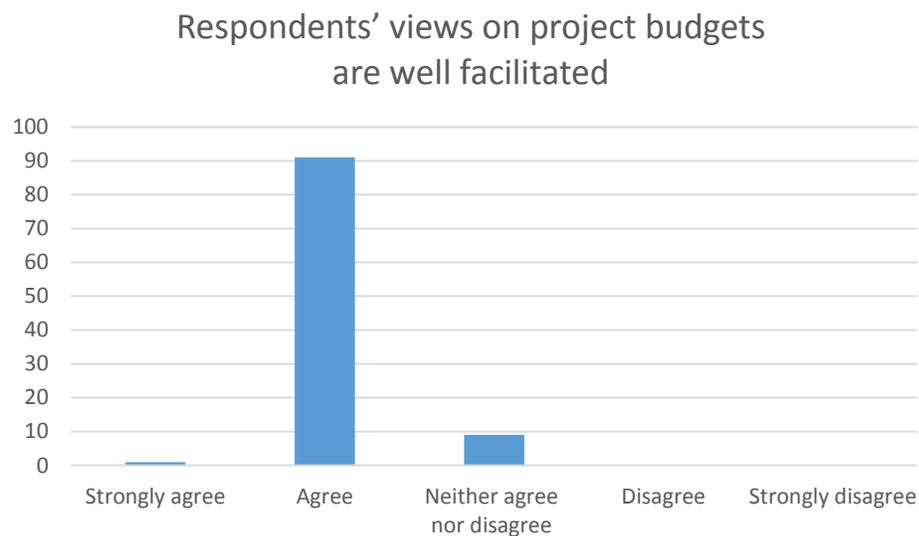
Table 12: Respondents' views on project budgets are well facilitated

Responses	Frequency (N=101)	Percentage (%)
------------------	--------------------------	-----------------------

Strongly agree	1	0.9
Agree	91	90.2
Neither agree nor disagree	9	8.9
Disagree	0	0
Strongly disagree	0	0
Total	101	100

Source: Field survey, 2019

Results in table 12 shows that 90.2% of respondents agreed that the project budgets are well facilitated, 0.9% were strongly agreed while only 8.9% were neither agree nor disagree with the statement. This implies that projects delivered within budget are an indicator of project performance. With good planning, project can make an informed prediction of time and resource needs that will sufficiently complete the project. Koglin (2009) also stressed that inadequate planning, inadequate experiences between the executing teams, scope, and change in project plan, project difficulty and false practices may results in budget.



4.3.2 Time Efficiency in the Scheduling Practices

Construction project performance is usually affected by the construction delays as the construction team several times dedicates less time to quality control while the main concern is the completion of the project on time. Hence, the study sought to understand the level of time efficiency in the road construction projects in Kicukiro district. Respondents were asked to

present their views on whether the projects are completed within the efficient timeframe. Findings are presented in table 13 below.

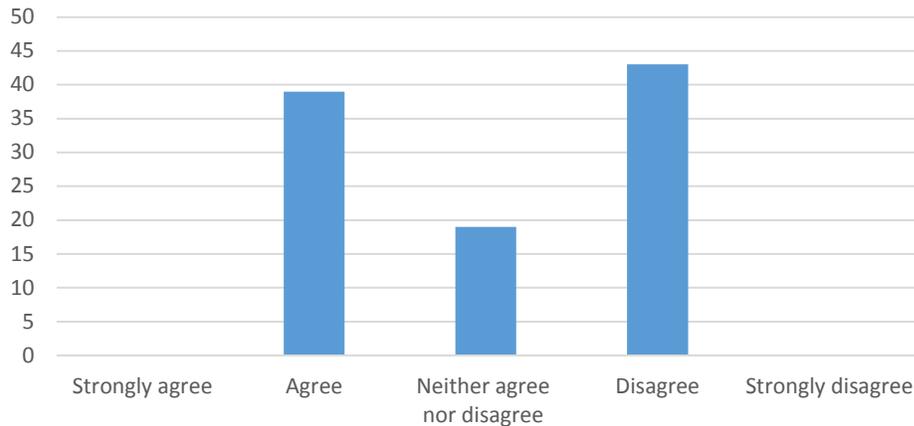
Table 13: Respondents' views on Project Timelines are specified

Responses	Frequency (N=101)	Percentage (%)
Strongly agree	0	0
Agree	39	38.6
Neither agree nor disagree	19	18.8
Disagree	43	42.6
Strongly disagree	0	0
Total	101	100

Source: Field survey, 2019

Table 13 shows that 38.6% of respondents agreed with the statement that project timelines specified, 18.8% of respondents were neither agree nor disagree to the statement while 42.6% of respondents were disagreed with the statement and none of the respondents replied otherwise. The findings of this study show that time efficiency as a component of the evaluation criteria was achieved slightly. These results could indicate that the projects could have experienced time delay. This could have led to the project completion time exceeding the planned time. This implies that time exceed could have a great impact on project delivery process and usually suspend project activities. Hence, this is unfortunate. These results supported by Chan & Chan (2004) who stressed that delays during the construction of public assets, such as schools, could also result in social harm given the fact that this kind of infrastructure is usually urgently needed. Therefore, the sooner those projects are completed, the better for satisfying the social needs in those countries.

Respondents views on project timelines are specified



4.3.3 Respect of the Project Timelines

Respondents were asked to present their views on project timelines. Findings are presented in table14 below.

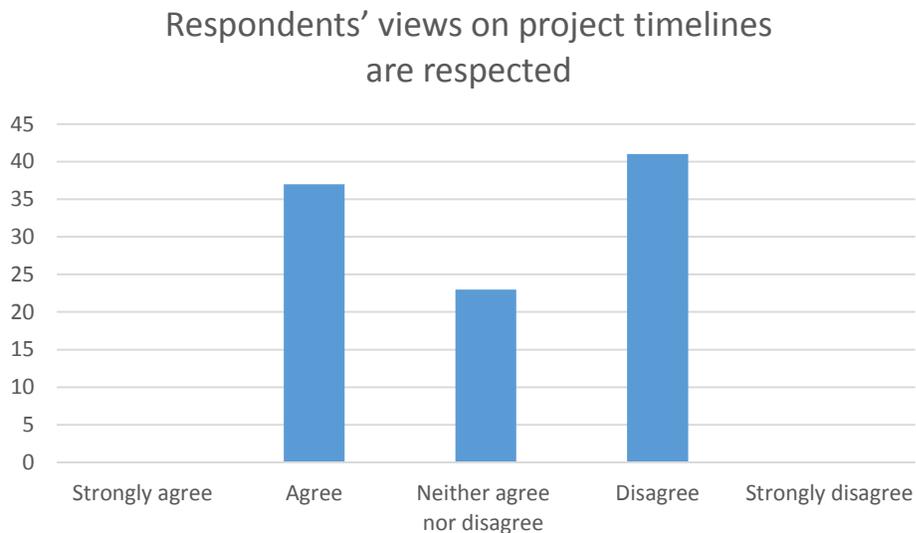
Table 14: Respondents’ views on project timelines are respected

Responses	Frequency (N=101)	Percentage (%)
Strongly agree	0	0
Agree	37	36.6
Neither agree nor disagree	23	22.8
Disagree	41	40.6
Strongly disagree	0	0
Total	101	100

Source: Field survey, 2019

Table 14 shows the sentiments from the respondents running the projects. From the findings, only 36.6% of the respondents agreed that project timelines was respected in road construction projects, 40% of respondents disagreed while 22.8% were neither agree nor disagree that project timelines respected. The study found that there was a probability of timely completion of projects. Most of the respondents also strongly agreed that time management is significant in ensuring successful completion of projects. This implies that the completion of project in time is

therefore well managed. This supported by Khalid *et al.* (2012) who said that the involvement among effectiveness of project schedules, plans and their usefulness in meeting project deadline was must be analyzed.



4.3.4 Cost Efficiency in road construction in Kicukiro district

The study sought to understand cost efficiency scheduling and human resource forecasting in road projects in Rwanda. The respondents were asked questions that were rated on their views and the responses are shown in table 15 below.

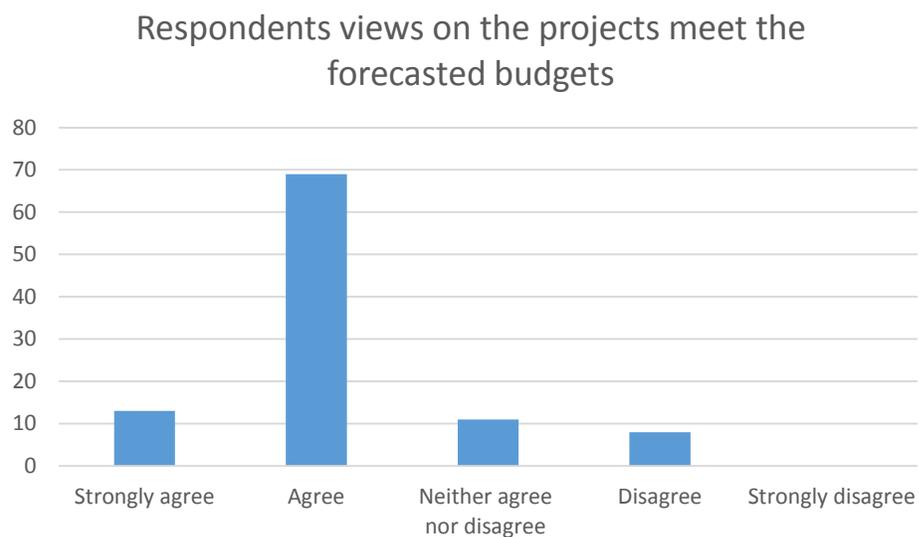
Table 15: Respondents' views on the projects meet the forecasted budgets

Responses	Frequency (N=101)	Percentage (%)
Strongly agree	13	12.9
Agree	69	68.3
Neither agree nor disagree	11	10.9
Disagree	8	7.9
Strongly disagree	0	0
Total	101	100

Source: Field survey, 2019

Table 15 shows the findings on the response on whether road construction projects meet the forecasted budget. Table shows that 12.9% of respondents strongly agreed with the statement

that road construction projects meet the forecasted budgets and 68.3% of respondents agreed to the statement while only 10.9% of respondents were neither agree nor disagree to the statement and 7.9% of respondents disagreed and replied otherwise. The findings reveal that efficiency in road projects is not satisfactory. Issues like procurement procedures, change of extent, incomplete designs, flow of funds and payment procedures negatively affect projects' time thus delaying projects start dates, timely payments and final projects completion dates. Findings are in line with Magnussen & Samset (2005) who stressed that the forecasted might not be attained thus creating difficulties and bottlenecks in the planned debt service arrangement etc.



4.3.5 Lessons learnt from this projects

The study sought to check the lessons that related projects can learn from this projects by including a general question whose response was their views. The percentage responses are indicated on table 17 below

Table 16: Respondents' views on lessons that related projects can learn from this projects

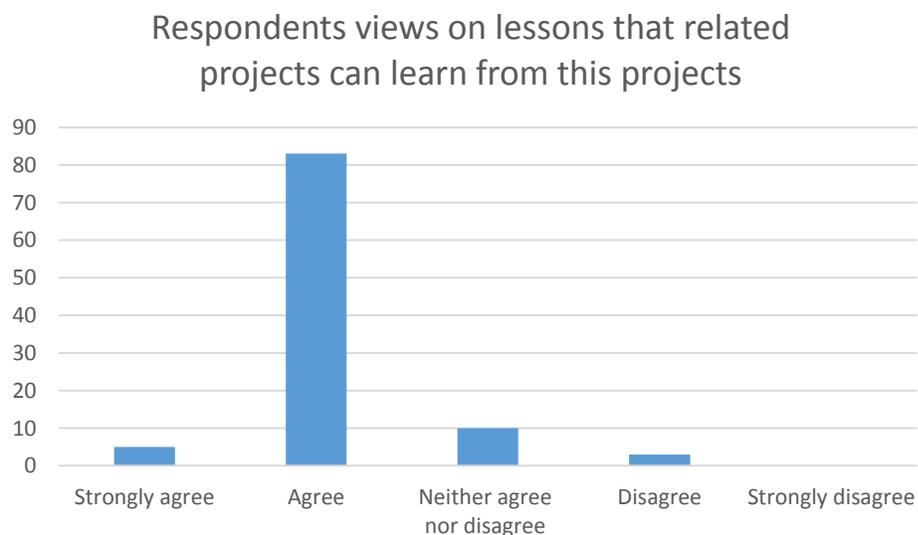
Responses	Frequency	Percentage
Strongly agree	5	4.9
Agree	83	82.2
Neither agree nor disagree	10	9.9
Disagree	3	3.0
Strongly disagree	0	0

Total	101	100
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Source: Field survey, 2019

In general, as per table 16 above, 82.2% agreed with the statement that lessons were realized while 4.9% strongly agreed. This is perhaps accredited the implementing bodies such as the government by involving stakeholders from the initial stage of project identification to the implementation stage. In fact, the successes of road projects are determined by both technical and managerial capacity of the human resources of the implementing agencies and fitting helpful infrastructure.

Before any project is designed, there is an evaluation of several aspects such as the extent to which the objectives of the program are valid, whether the activities and outputs of the program are consistent with the largely goal and the attainment of its objectives and whether the activities and outputs of the program are reliable with the expected impacts and effects (Chianca, 2008). It was important to understand the view of different bodies on the relevance of these projects. The responsible organizations should make a first assessment of the relevance of the objectives of the involvement (Nguyen *et al.*, 2009).



4.4. Effect of Scheduling Practices on Project Performance

The study sought to assess the Effect of scheduling practices on project performance. Hence, the following section presents the findings.

4.4.1 Effect of Scheduling Practices in Project Performance

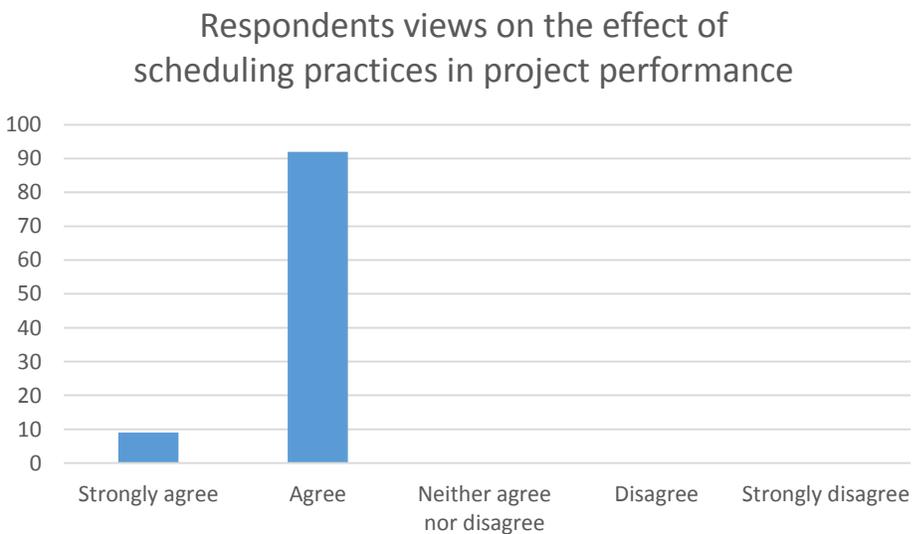
In order to assess the effect of scheduling practices on road construction project performance, respondents were asked to rate the importance of engaging in project scheduling practices to realize increased road construction project performance. Table 18 below presents the results.

Table 17: Respondents view’s on the effect of scheduling practices in project performance

Responses	Frequency (N=101)	Percentage (%)
Strongly agree	9	8.9
Agree	92	91.1
Neither agree nor disagree	0	0
Disagree	0	0
Strongly disagree	0	0
Total	101	100

Source: Field survey, 2019

Table 17 shows that 8.9% of the respondents strongly agreed to the statement and 91.1% agreed that there is importance of scheduling practices in project performance. This implies that indicated that the respondents were in strong agreement that engaging in project scheduling practices increases road construction project performance.



4.4.2 Benefits of Effective Project Scheduling Practices

Respondents were also asked to indicate the benefits of engaging in effective project scheduling practices. Table below presents the mean and standard deviations of the responses provided.

Table 18: Respondents' views on benefits of effective project scheduling practices

Statements	Frequency (N=101)	Percentage (%)
Reduce project delivery costs and ensures increased profits	32	31.7
Scheduling practices enhance project successes, competitive advantage and market share	47	46.5
Better understanding of project requirement leading to motivated staff	22	21.8
Total	101	100

Source: Field survey, 2019

According to table 18, 31.7% of respondents shows that there were benefits accruing from engaging in effective project scheduling practices leading to reduce project delivery costs and ensures increased profits, 46.5% of respondents replied that scheduling practices enhance project successes, competitive advantage and market share while 21.8% replied that effective project scheduling practices enhance a better understanding of project requirement leading to motivated staff. This is in line with Van de Walle (2009) who stressed that by cutting down on transport costs, roads are expected to generate market activity, affect input and output prices and cultivate economic connections.

4.4.3. Timelines and Scheduling Practices

Timeliness is essential for any project quality assessment. Hence, respondents were asked to give the extent to which timelines influenced by the scheduling practices. Table 19 below presents the findings.

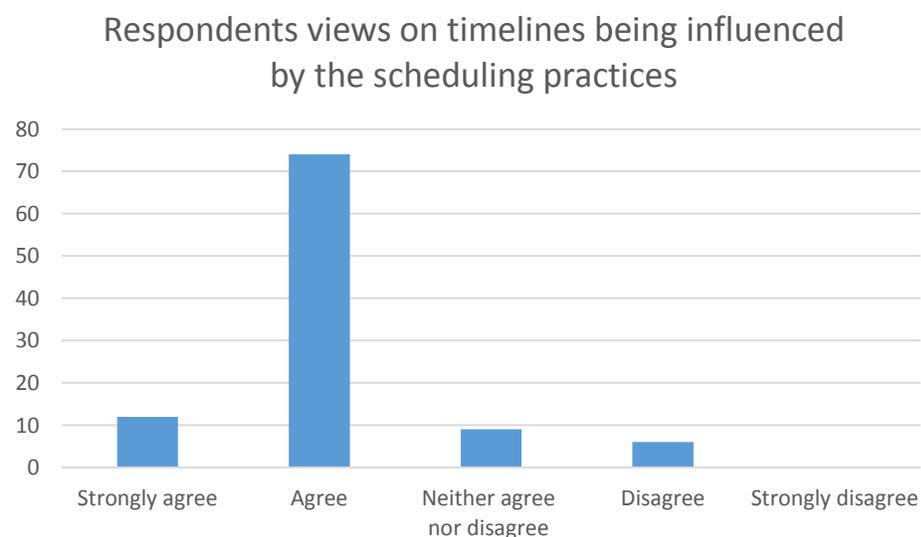
Table 19: Respondents' views on timelines being influenced by the scheduling practices

Responses	Frequency	Percentage
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Strongly agree	12	11.9
Agree	74	72.4
Neither agree nor disagree	9	8.9
Disagree	6	5.9
Strongly disagree	0	0
Total	101	100

Source: Field survey, 2019

Table 19 shows that 72.4% of respondents agreed with the statement that timelines is influenced by the scheduling practices while 11.9% of respondents strongly agreed and only 5.9% were neither agreed nor disagreed; timelines represents a shareholder’s assessment of the overall level of service offered by the organization while none of the respondents replied otherwise. The use of timelines is an effective system for ensuring that all the activities are run according to planned sequence and set limits. This agrees with Chan and Chan (2004) who stressed that a timelines facilitates the identification of daily activities, general activities, and special events of the project.



4.4.4. HR Forecasting and road construct Project Quality

The study sought to understand influence of HR forecasting on quality of the project. The respondents were asked questions and the responses are shown in table 21 below.

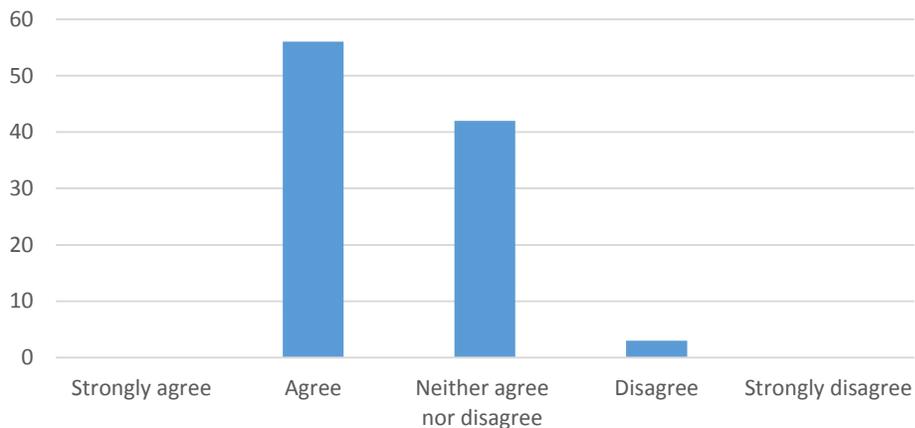
Table 20: Respondents' views on HR forecasting influences the quality of the project

Responses	Frequency (N=101)	Percentage (%)
Strongly agree	0	0
Agree	56	55.4
Neither agree nor disagree	42	41.7
Disagree	3	2.9
Strongly disagree	0	0
Total	101	100

Source: Field survey, 2019

Findings in table 20 show that 55.4% agreed while 41.7% were neither agree nor disagree with the statement that HR forecasting influences the quality of the project. So, HR forecasting may be interpreted as engaging employees in discretionary behavior that is translated to improve the quality of the project. In the HR forecasting fundamental chain may exist a serial causation, from employee skills/technical knowledge, to attitudes as a result of welfare issues such as compensation and then to behaviors that finally affect the quality of the project. Only when all HR outcomes, such as skills/technical skills, staff welfare issues, and efficient HR planning, are achieved can we expect higher quality of the project (Afande, 2013). HR forecasting influence the quality of the project by creating employees that is skilled and has the right attitudes and behavior as a result of well implemented staff benefit issues.

Respondents views on HR forecasting influences the quality of the project



4.4.5. Time Scheduling and road construction Project Quality

There is a force driving the organization towards an efficient scheduling. Respondents were asked influences of time scheduling on the quality of the project. The table 21 presents their views.

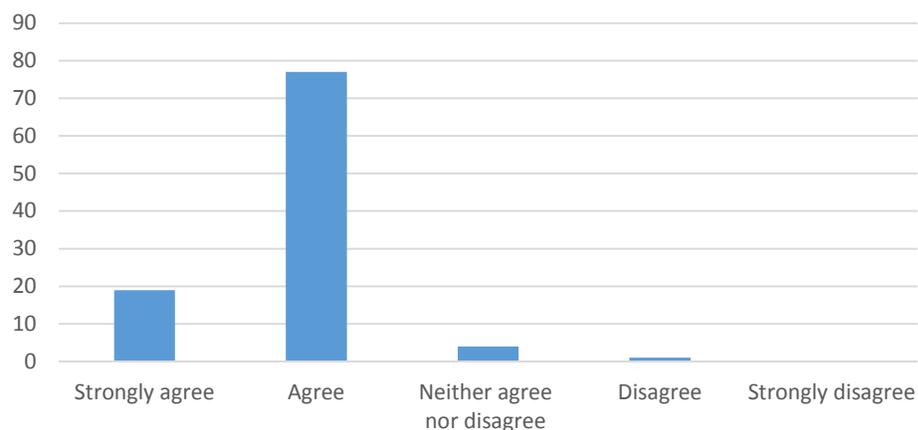
Table 21: Respondents' views on Time scheduling influences the quality of the project

Responses	Frequency (N=101)	Percentage (%)
Strongly agree	19	18.8
Agree	77	76.3
Neither agree nor disagree	4	3.9
Disagree	1	0.9
Strongly disagree	0	0
Total	101	100

Source: Field survey, 2019

Table 21 shows that 76.3% of respondents show that they agreed to a very great extent that organizations with an efficient time scheduling have a high competence level in quality project, 18.8% of respondents was strongly agreed with the response. Thus, by given experiences, loyal shareholders are excited to share their experience with others, supervision have the great venture in ensuring that time scheduling on service offering succeed and it should be understood that organizations with an efficient time scheduling program have a high capability level in quality of project. This finding agrees with Chan & Chan (2004) who opined that time scheduling could have a great impact on project delivery process and usually delay project activities.

Respondents views on Time scheduling influences the quality of the project



4.4.6. Project Budgeting and road construction Project Quality

The quality of the project outcome ensures that there is a high customer turn up rate. Hence, respondents were asked the influence of budgeting on the quality of the project. Table 22 below presents the findings.

Table 22: Respondents’ views on budgeting influences the quality of the project

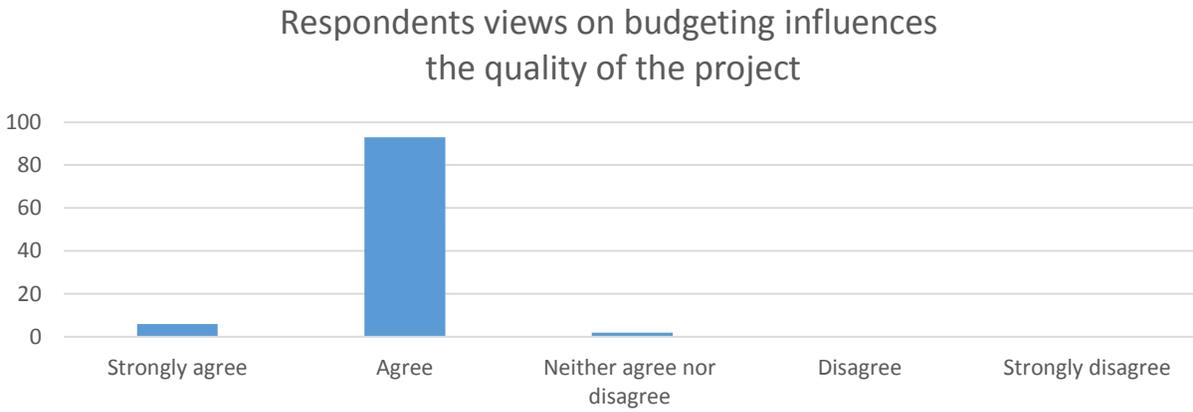
Responses	Frequency (N=101)	Percentage (%)
Strongly agree	6	5.9
Agree	93	92.2
Neither agree nor disagree	2	1.9
Disagree	0	0
Strongly disagree	0	15.4
Total	101	100

Source: Field survey, 2019

Table 22 shows that 92.2% of respondents show that they agree that budgeting influences the quality of the project; respondents with a strong agree said that budgeting ensures a high quality of project, from the study only 1.9% of respondents, none respondents replies otherwise.

Therefore, budgeting empowered and participates in the development of quality of projects; Customers’ expectations of public service are changing, with an increasing comparison to

service delivery by the public sector. People judge the quality of public sector they receive with each contact and will compare the ease of access and the level of service offered by the private sector. A key determining factor of the assurance that people place in governments is the level to which government projects delivered meet their own desired quality (Skinner *et al.*, 2010).



4.5 Inferential statistics

Pearson’s product instant correlation analysis was applied to establish the relationship between the variables whereas multiple regressions were applied to establish the predictive power of the factors influencing the performance of projects.

4.5.1 Model summary

In this study, a multiple regression analysis was performed to test the influence among predictor variables. The research used SPSS version 21 and STATA version 15 to code, enter and compute the measurements of the multiple regressions. The model summary is presented in the table 24 below

Table 24: Model Summary

Model	R	R square	Adjusted R Square	STDV. Error of the Estimate
1	.810	0.656	0.632	0.84564

a. predictors: HR forecasting, budgeting, time scheduling

b. dependent variable: project performance

Coefficient of determination was applied to evaluate the model fit. The adjusted R2, referred to as the coefficient of multiple determinations, represents a percentage of variance in the dependent variable clarified differently or together by the independent variables. From model fit, we got an average adjusted coefficient of determination (R2) of 0.632 suggesting that 63.2% of the variations in projects performance could be explainable by the independent variables under the study. The difference of 36.8% is attributable to other factors that are not the subject of this study.

4.5.3 ANOVA (Analysis of Variance)

This research study also tested the significance of the model using the ANOVA method (Analysis of variance) . Results findings are presented in table 25 below.

Table 25: ANOVA results

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	19.528	4.000	4.882	8.219	.000b
	Residual	88.506	149.000	0.594		
	Total	108.034	153.000			

Critical value =2.50

a. predictors: HR forecasting, budgeting, time scheduling

b. dependent variable: project performance

The ANOVA statistics resulting from the data have helped the study create that the regression model had a significance level of 0.00% which indicates the data was suitable in reaching a conclusion on the population parameters as the value of significance (p-value) was less than 5%. The value calculated was more than the critical value ($8.219 > 2.50$) indicating that HR forecasting, budgeting, time scheduling, stakeholder satisfaction all have a significant effect on project performance. Known that we have a significance value which was lower than 0.05 we can conclude that the model was significant.

4.5.4 Coefficients of determination

The study applied the coefficient Table to determine the study model. The resulting findings are presented in the table 26 below.

Table 26: Coefficients

Model	Unstandardized coefficients		Standardized Coefficients	t	Sig.
	B	STDV Error	Beta		
1 (Constant)	1.176	0.317			
HR forecasting	0.417	0.096	0.397	4.344	0.000
Budgeting	0.596	0.143	0.670	4.168	0.001
Time scheduling	0.569	0.118	0.394	4.822	0.000

a. predictors: HR forecasting, budgeting, time scheduling

b. dependent variable: project performance

The SPSS generated output as presented in table 26 above, the equation

$(Qly = \beta_0 + \beta_1HRF + \beta_2BUD + \beta_3TSC + e)$ becomes:

$$Qly = 1.176 + 0.397HRF + 0.670BUD + 0.394TSC + 0.317$$

$$Qly = 0.397HRF + 0.670BUD + 0.394TSC + 1.493$$

There is positive and significant effect of HR Forecasting on quality of project ($\beta_1=0.397$, $t=4.344$, $Sig=0.000$), of Budgeting on quality of project ($\beta_2=0.670$, $t=4.168$, $Sig=0.001$) and of Time Scheduling on quality of project ($\beta_3=0.394$, $t=4.822$, $Sig=0.000$). The findings further agree with Ika (2012) that budgeting was the key to achieving and realizing best project performance.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

This study evaluated the influence of scheduling practices and performance of public sector projects in Rwanda, a case of Road construction projects in Kicukiro district. The scheduling practices studied include: HR forecasting, time scheduling, and budgeting and their effects on the performance of road construction projects. Performance indicators that were studied are quality of product and stakeholders satisfaction. This chapter makes conclusions upon which recommendations are drawn. Recommendations for further study are also given as a way of filling gaps identified in this study. The study pursued three objectives upon which conclusions are based on.

5.1 Summary of Findings

The study entitled “Scheduling practices and performance of public sector projects in Rwanda. A case study of Road construction Projects in Kicukiro District” had the main purpose to assess the influence scheduling practices on project performance in Road construction particularly in Kicukiro district.

The specific objectives were the following: to assess the scheduling practices, to assess the level of project performance and to establish the effect of scheduling practices on project performance of Road construction project in Kicukiro District. A sampling technical used were stratified sampling in order to have all various parts of the population equally covered in data collection; simple random sampling was also used to select individuals from each sub group of the population. Correlation coefficient approaches were used to explain and interpret the relationship between scheduling and project performance and analysis of variance were used to establish the level of performance of public organizations. Questionnaires was used as instruments of data collection and data was analyzed using Statistical Package for Social Science (SPSS) version 21, Spreadsheets, tables, percentages were used where applicable to come up with conclusion and recommendations.

The descriptive approach was undertaken to find out the characteristics of variables of interest in a situation and analytical based on qualitative and quantitative data both from primary and a secondary sources were also considered. The target population of this study was 133 where 101 were enough for sample size using stratified sampling technique. Descriptive statistics methods

which include frequencies counts and percentages were used where applicable. The data processing tools such as Excel and SPSS version 21 and STATA version 15 were used and editing, coding and tabulation were done for analysis of data collected.

5.1.1 The implication the level Scheduling Practices (HR forecasting, budgeting, time-scheduling) affect quality of the product in Road construction project in Kicukiro District.

According to the first research objective, the implication the level Scheduling Practices (HR forecasting, budgeting, time-scheduling) affect quality of the product in Road construction project in Kicukiro District, the research found that 1.9%, 8.9%, 23.8% confirmed that Kicukiro District uses HR forecasting, Time Scheduling, Budgeting all respectively as scheduling practices its projects to perform. Based on majority of respondents, scheduling practices have a significant role in project performance of public sector in general and Kicukiro District in particular.

5.1.2 Conclusions of findings

This study indicates the contribution of scheduling practices in achieving objectives set and signed by Kicukiro District officials. The findings of the study reveal that the management of public sector particularly Kicukiro District entrusted with public resources and loaded with the responsibility of managing these resources effectively and efficiently. It is expected that the Kicukiro District officials entrusted with the management of public resources at public sector level was given account of how these resources are being managed under their care in order to ensure proper utilization/accountability of these resources and expenditures.

5.2 Conclusion

Based on the findings of the study, it can be concluded that HR forecasting, budgeting and time scheduling all affect the performance of road construction projects. The adoption of better mechanisms in the management of these projects could however enhance performance levels. Monitoring of road construction projects is essential in order to qualify and evaluate its social and economic contribution in society and also help in determining successful completion of projects within set budgetary and time constraints. In addition, referring to the results, the researcher accepted the H₀ (null Hypothesis) as Scheduling Practices determine Performance of

Public Sector Projects in Rwanda and rejected its alternative which is Scheduling Practices do not determine Performance of Public Sector Projects in Rwanda.

Generally, stakeholders' participation is crucial during classification and implementation of projects in order for projects to meet their expectations, with minimum displacements and conflicts with the project implementers. Road construction projects come with plenty of benefits for the recipient countries. They bring added value that enables communities to react positively to economic transformation and effectively tackle issues of scarcity. According to the results of this study, if the sustainability mechanisms were unsatisfactory, this could have been brought about by poor engagement of the stakeholders, inadequate feasibility studies, and other factors that influence the communities socially and economically. In general, from the results, the performance level of road construction project could be said to be reasonable.

5.2 Recommendations

The objective of this section is to emphasize recommendations related to the scope of this research, to improve the effectiveness of project scheduling practices on project performance. It is recommended that project scheduling practices should be applied systematically to the project cycle from start to the close out stage of projects, to recognize greater benefits.

It is recommended that more attention be placed on budgeting according to their impact and influence as key performance indicators. Financial resources needed should be considered to finish the project and match this with the project design and work plans, this will help eliminate the potential of discontinuing of project for lack of resources. Government also should ensure that payment is set aside to minimize interest claims on delayed payments. It is recommended that there should be a periodic project budget monitoring as a measure of successful implementation, this is one of the main ways of early identification of any implementation problems and seeking solutions before the project ends.

This recommends that HR forecasting practices should receive immediate priority due to their great influence on project and subsequently project performance. The personnel handling projects should be knowledgeable and as such capacity building should be continuously done in all government bodies as well for all the staff involved in the projects. Implementing agencies should work closely with the leadership of local communities for project success by having personnel from the local community, assess stakeholder interests; it is also recommended that

stakeholders should be included in all pre-implementation and their views being incorporated in planning and execution.

The study recommends that since time scheduling has a positive impact on project quality, more importance should be put on time management by risk handling when carrying out projects; this will help eliminate delay in project execution. Proper time management has also been confirmed to contribute greatly towards effective implementation of the projects ensuring project objectives and customer satisfaction are achieved.

5.3 For further research

In this chapter, the study summarizes the findings based on respondents' opinions and applicability of scheduling and project performance in Kicukiro District. The summary of the study are presented in line with the objectives of the research. The study also presents the conclusions of findings also recommendations of the researcher and suggestions of the possible areas for the future researchers have been outlined.

5.4 Recommendations

The recommendations related to public sector (Kicukiro District), the donors/partners and staff as they play important roles for the achievement of government goals/ public purposes.

5.4.1 To the Public Sector (Kicukiro District)

The public sector (Kicukiro District) should set laws and regulations that facilitate easily the capacity building of staff as they are the human capital read to be developed in a wished manner for better performance. They should always increase the budget for training as one source of production expected, and staff should be serious and take their opportunities of trainings given and others planning activities to improve their capacity in general and the country in particular.

5.4.2 To Contractor and Shareholder

Kicukiro District should use efficiently the resource allocated to train their staff about scheduling and planning in general so that its mandate is executed in excellence manner as it is now and be

promoted to further stage so that our country Rwanda continue in countries with excellent service delivery among the whole Africa in general and East Africa countries in particular.

5.4.3 To Donor and Partners

The donors/partners should recommend more funds based on the efficiency use of the allocated means for training of employees for the capacity building. They should advertise Rwanda all over the world for efficient use of the given fund among other planning activities more especially scheduling.

5.4.4 Suggestions for Further Study

Due to time constraints, this research was conducted using only one public institution, it is therefore suggested that further research can be conducted in more and different public and private institutions in order to give broader view on the research topic.

Again the current study was based in public sector perception so for further studies should focus in private sector perception for more harmonization into all sectors.

Budgeting and HR forecasting are among areas for further development and all are closely associated with planning orientation in any of the sector. Further research should be conducted to see the relationship between those said independent variables to project performance or failure.

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APPENDICES



**COLLEGE OF BUSINESS AND ECONOMICS
MASTERS OF BUSINESS AND ADMINISTRATION
PROJECT MANAGEMENT**

**“SCHEDULING PRACTICES AND
PERFORMANCE OF PUBLIC SECTOR
PROJECTS IN RWANDA”**

115

**A Case Study of Road Construction Projects in
KICUKIRO District**

Presented by: NYIRABAZIGA BYUSA Aline

Reg №: 218014101

Supervisor: Dr. RUTUNGWA Eugene, PhD

August 30, 2019



Directorate of Research and Innovation

10th July 2019

TO WHOM IT MAY CONCERN

This is to certify that **Ms. NYIRABAZIGA BYUSA Aline** bearing Reg No 218014101 is a student in Master of Business Administration program (MBA-Project Management), at the University of Rwanda-College of Business and Economics. She is currently in the process of gathering data for research work entitled "**Scheduling Practices and Performance of Public Sector Projects in Rwanda Public Sector: A case study of Road Projects in KICUKIRO District**".

She will approach you with the aim of collecting relevant information to complete her study. We request you to kindly extend the necessary cooperation in providing the needed data.

Do not hesitate to contact the Directorate of Research and Innovation should you need further information.

Sincerely



Prof. Bideri Ishuheri Nyamulinda
Ag Director of Research and Innovation
University of Rwanda-College of Business and Economics
Mob Tel 0738407631 or 0788716140

QUESTIONNAIRE

Dear respondent,

My name is NYIRABAZIGA BYUSA Aline, a student who is completing Master of Business Administration (Option: Project Management) at University of Rwanda, College of Business and Economics (UR-CBE).

Currently, I am doing my research and your respective institution was selected to help its completion.

It is my pleasure to present to you a questionnaire of my study titled “Scheduling practices and performance of public sector projects in Rwanda” A case study of Road construction projects in Kicukiro District”.

You are kindly requested to allow some time and respond on the questions by filling the questionnaire.

The information provided will exclusively be for academic purpose and henceforth will be kept in confidential manner.

Best regards,

NYIRABAZIGA BYUSA Aline

Reg No: 218014101

Section A: Demographic Information

1) Gender: (tick one)

Male	Female
<input type="checkbox"/>	<input type="checkbox"/>

2) Age: (tick one)

20 - 25	26 - 30	31 - 35	36 - 40	Above 40
<input type="checkbox"/>				

3) What is your current position?

Kicukiro District staff Gatenga Sector staff Kanombe Sector staff

Kigarama Sector staff Nyarugunga Sector staff Contractor company staff

4) For how many years have you occupied that position? (tick one)

1 - 3	4 - 6	7 - 10	Above 10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section B:

Questions assessing scheduling practices in road construction project in Kicukiro District.

1) Do you agree that there were specific scheduling practices in road construction projects?

- a) Strongly agree b) Agree c) Neither agree nor disagree d) Disagree
e) Strongly disagree

2) If agreed, which of these practices were used?

- a) HR forecasting b) Time scheduling c) Budgeting d) Both e) None

3) Which of the above practice is most used in the project?

- a) HR forecasting b) Time scheduling c) Budgeting d) Both e) None

4) Which is the least used practice?

- a) HR forecasting b) Time scheduling c) Budgeting d) Both e) None

5) Project activities well defined and scheduled?

- a) Strongly agree b) Agree c) Neither agree nor disagree d) Disagree
e) Strongly disagree

Questions assessing the performance of road construction project in Kicukiro District.

1) The project activities are routinely budgeted?

- a) Strongly agree b) Agree c) Neither agree nor disagree d) Disagree
e) Strongly disagree

2) Project budgets are well facilitated?

- a) Strongly agree b) Agree c) Neither agree nor disagree d) Disagree
e) Strongly disagree

3) Project timelines are specified?

- a) Strongly agree b) Agree c) Neither agree nor disagree d) Disagree
e) Strongly disagree

4) The timelines are respected?

- a) Strongly agree b) Agree c) Neither agree nor disagree d) Disagree
e) Strongly disagree

5) Do road construction Projects meet the budgeting, time scheduling and human resource forecasting?

- a) Strongly agree b) Agree c) Neither agree nor disagree d) Disagree
e) Strongly disagree

6) Are there lessons that related projects can learn from this projects?

- a) Strongly agree b) Agree c) Neither agree nor disagree d) Disagree
e) Strongly disagree

Questions establishing the difference between scheduling and performance in road construction project in Kicukiro District.

1) Which of the following scheduling practices have an effect on the performance of the project?

HR forecasting Time scheduling Budgeting All None

2) The timelines are influenced by the scheduling practices?

- a) Strongly agree b) Agree c) Neither agree nor disagree d) Disagree
e) Strongly disagree

3) The HR forecasting influences the quality of the project?

- a) Strongly agree b) Agree c) Neither agree nor disagree d) Disagree
e) Strongly disagree

4) The Time scheduling influences the quality of the project?

- a) Strongly agree b) Agree c) Neither agree nor disagree d) Disagree
e) Strongly disagree

5) The budgeting influences the quality of the project?

- a) Strongly agree b) Agree c) Neither agree nor disagree d) Disagree
e) Strongly disagree

Thank you for participating in this research.

NYIRABAZIGA BYUSA Aline
Master degree Candidate
Reg №: 218014101
UR- CBE
Tel: +250 788 30 65 49

Date: 30 July 2019



TO THE MAYOR
KICUKIRO DISTRICT

Dear Madam,

Re: Request for data access to conduct a research on **Scheduling Practices and Performance of Public Sector Projects in Rwanda**

I hereby to request for a data access that will help me in my Thesis, as I am a student of University of Rwanda, College of Business and Economics and I am conducting a research on **Road Construction and choose Kicukiro District as my case study.**

Attached is a recommendation letter (TO WHOM IT MAY CONCERN) from UR-CBE

I thank you very much for your kind support.

Best regards,

NYIRABAZIGA BYUSA Aline

REPUBLIC OF RWANDA



Kicukiro, August 1st, 2019

Ref. n° 9110 / 07.0103.05/19

CITY OF KIGALI
KICUKIRO DISTRICT
P.o Box: 657 Kigali

NYIRABAZIGA BYUSA Aline
University of Rwanda
College of Business and Economics
Tel: +250 788306549

RE: Data Collection Approval

Dear Madam,

Reference is made to your letter dated July 30th, 2019 requesting the authorization to conduct a research on «**Scheduling Practices and Performance of Public Sector Projects in Rwanda**» Case study of Road projects in Kicukiro District.

After examining your request and according to the Law N° 45/2013 of 16/06/2013, starting on statistical activities organization in Rwanda, we have the pleasure to inform you that you are authorized to conduct your research in Kicukiro District.

In order to assure the accuracy of collected data you should submit your research draft to the District before submission of the final report to your University.

Thank you.


Dr. NYIRAHABIMANA Jeanne

Mayor of Kicukiro District



Cc:

- **Vice Mayor of the District in Charge of Social Affairs**
- **Executive Secretary of the District**
- **Statistics Service**