INFLUENCE OF PROJECT SCHEDULE CONTROL ON PERFORMANCE OF PROJECT IMPLEMENTATION IN RWANDA: A CASE OF NATIONAL AGRICULTURE AND LIVESTOCK EXTENSION PROJECT IN KICUKIRO DISTRICT

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Abstract: Every project creates a unique product, service, or result. Although repetitive elements may be present in some project deliverables, this repetition does not change the fundamental uniqueness of the project work. Effectiveness of project implementation can be thought of as incorporating four basic facets: time criterion, budget criterion, effectiveness criterion, and client satisfaction criterion, it is successful. Implementing a project typically includes identifying requirements, addressing the various needs, concerns, and expectations of the stakeholders as the project is planned and carried out, and balancing the competing project constraints which include, but are not limited to scope, quality, schedule, budget, resources, and risk. The general objective of this study was to determine the influence of project schedule control on performance of project implementation during implementation of NALEP project in Rwanda, but more specifically, the study investigated the influence the following project schedule control variables play in implementation of projects; communication; planning; financing; monitoring and controlling. This study was conducted against a backdrop of various studies and theories that have previously been done and which support our assumptions regarding the independent variables and dependent variables. Highlights of these studies included; the magic triangle of project management that visualizes the three objectives that the project manager should monitor all the time. If one is jeopardized, it affected the two other objectives. These were performance, cost, and time. The study adopted descriptive survey research. The data were sampled from a population of one hundred and fifty employees in NALEP project. Primary data was collected through a survey questionnaire. Findings were represented in tables and analyzed through frequencies, percentages, mean scores, and standard deviations. The five-point Likert Scale were used to undertake the various analyses of implementation of NALEP projects, and the magnitude of their impact and usage. Given all the predictor variables constant at zero (0), project implementation will be 3.783. The regression coefficient for communication is 0.739. The study found that poor communication minimizes chances of creating an understanding, an approval of the implementation and sharing information between the project team and communicating to the whole organization thus resulting in ineffective project implementation. The study found that there was enough financial support for project implementation at NALEP thus effective project implementation since finances are essential in the running of a project initiative in terms of facilitating execution of implementation tasks. It found that making allowances for adequate monitoring and evaluation gives the project manager and field officials the ability to anticipate problems, to oversee corrective measures, and to ensure that no deficiencies are overlooked thus resulting in effective project implementation. The study recommends that NALEP should improve integrated communications plan to improve project implementation. The organization should allocate sufficient funds to projects and ensure there is independency in utilization of the funds.

Keywords: Communication, Project implementation, NALEP projects.
1. INTRODUCTION

1.1 Background:

Globally, effective project implementation is looked at in many ways to include a large variety of criteria (Mamer, 2010). However, in its simplest terms, effectiveness of project implementation can be thought of as incorporating four basic facets (Al-Kharashi (2009). A project is generally considered to be successfully implemented if it comes on-schedule (time criterion), comes in on-budget (monetary criterion), achieves basically all the goals originally set for it (effectiveness criterion), and is accepted and used by the clients for whom the project was intended (client satisfaction criterion). By its basic definition, a project comprises a defined time frame to completion, a limited budget, and a specified set of performance characteristics (Schultz & Slevin, 2009). Further, the project is usually targeted for use by some client, either internal or external to the organization and its project team. It seems reasonable therefore, that any assessment of project implementation effectiveness should at least include these four measures among others.

At its most fundamental, project management is about people getting things done, ‘(Mamer, 2010). Project management is the way of managing change. Everything from the Olympics to organizing a wedding can be considered a project. It describes the activities that meet specific objectives and can be used to introduce or improve new or existing products and services. Projects are separate to business-as-usual activities, requiring people to come together temporarily to focus on specific project objectives. As a result, effective teamwork is central to successful projects. Project management focuses on controlling the introduction of the desired change. A project is a temporary endeavor undertaken to create a unique product, service, or result. The temporary nature of projects indicates a definite beginning and end (Horine, 2015). The end is reached when the project ‘s objectives have been achieved or when the project is terminated because its objectives will not or cannot be met, or when the need for the project no longer exists. Temporary does not necessarily mean short in duration. Temporary does not generally apply to the product, service, or result created by the project; most projects are undertaken to create a lasting outcome.

In America, project management is about changing from the known to unknown, because the future is uncertain and may highly affect people’s positions in organizations (Cummings & Worley, 2015). In many instances organization employees do not support change unless compelling reasons convince them to do so. In order to manage change, it’s good to guide change efforts, it is useful to assess organization’s readiness for project implementation. Readiness for change involves an assessment of the discrepancies that exist as well as the efficacy of the proposed change targets. Armenakis (2013) defines readiness for change as “the cognitive precursor to the behaviors of either resistance to or support for a change effort”. Employees become concerned and act to what is happening in their environment and make assumptions based on how they perceive that change. The assumptions made end up being obstacles of an organization’s readiness for projects (Wheatly, 2012). People naturally fear uncertainty; thus, resistance is common. Understanding obstacles of an organization’s readiness for project implementation is required to understand change process.

Every project creates a unique product, service, or result. Although repetitive elements may be present in some project deliverables, this repetition does not change the fundamental uniqueness of the project work. For example, office buildings are constructed with the same or similar materials or by the same team, but each location is unique - with a different design, different circumstances, different contractors, and so on (Project Management Body of Knowledge, 2008). Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. Project management is accomplished through the appropriate application and integration of the 42 logically grouped project management processes comprising the 5 Process Groups. These 5 Process Groups are: Initiating, Planning, Executing, Monitoring & Controlling, and Closing (PMBOK 2008). Communication is the process of sharing information, thoughts and feelings between people through speaking, writing or body language. Effective communication extends the concept to require that transmitted content is received and understood by someone in the way it was intended. The goals of effective communication include creating a common perception, changing behaviors and acquiring information (Brown 2011). In his article Dealing with project communication’, Ruuska (2007) lists five important roles of communication in project management which are; project communication is a supporting activity, with which it is made possible to create an end product from the project, and transfer it to both customers and end users; in order to create a positive and reliable service profile, communication is needed for both profiling and being profiled; project communication is an informative tool, which communicates to all relative groups what is happening in the project; orientation activities rely strongly on communication. This is important when different specialists working with project
are given proper orientation; by the social nature of people, interaction with each other is needed in order to satisfy the social needs of human nature (Ruukska 2007). Planning consists of those processes performed to establish the total scope of the effort, define and refine the objectives, and develop the course of action required to attain those objectives. 3 The planning processes develop the project management plan and the project documents that will be used to carry out the project. The multi-dimensional nature of project management creates repeated feedback loops for additional analysis. As more project information or characteristics are gathered and understood, additional planning may be required. Significant changes occurring throughout the project life cycle trigger a need to revisit one or more of the planning processes and, possibly, some of the initiating processes. This progressive detailing of the project management plan is often called rolling wave planning, indicating that planning and documentation are iterative and ongoing processes (PMBOK, 2008). One of the factors that influence the implementation of projects is financing. Adequate financing accelerates the rate at which implementation is executed. It ensures that the project execution team and the project management office are well-resourced to carry out the project work. Lack of funds actually grinds to a halt the project work because every activity costs money in terms of human resource, material costs, and many other categories of costs. Monitoring and Controlling consists of those processes required to track, review, and regulate the progress and performance of the project; identify any areas in which changes to the plan are required; and initiate the corresponding changes. The key benefit of this process is that project performance is observed and measured regularly and consistently to identify variances from the project management plan. Continuous monitoring provides the project team insight into the health of the project and identifies any areas requiring additional attention. The Monitoring and Controlling Process not only monitors and controls the work being done within a Process Group, but also monitors and controls the entire project effort. In multi-phase projects, the Monitoring and Controlling Process Group coordinates project phases in order to implement corrective or preventive actions to bring the project into compliance with the project management plan. This review can result in recommended and approved updates to the project management plan. For example, a missed activity finish date may require adjustments to the current staffing plan, reliance on overtime, or trade-offs between budget and schedule objectives, (Cynthia, 2008). Project implementation consists of those processes performed to complete the work defined in the project management plan to satisfy the project specifications. This involves coordinating people and resources, as well as integrating and performing the activities of the project in accordance with the project management plan. During project execution, results may require planning updates and rebaselining. This can include changes to expected activity durations, changes in resource productivity and availability, and unanticipated risks. Such variances may affect the project management plan or project documents and may require detailed analysis and development of appropriate project management responses. The results of the analysis can trigger change requests that, if approved, may modify the project management plan or other project documents and possibly require establishing new baselines. A large portion of the project’s budget will be expended during project implementation (PMBOK, 2008).

Effective project implementation is looked at in many ways to include a large variety of criteria. However, in its simplest terms, effectiveness of project implementation can be thought of as incorporating four basic facets. A project is generally considered to be successfully implemented if it comes in on-schedule (time criterion), comes in on-budget (monetary criterion), achieves basically all the goals originally set for it (effectiveness criterion), and is accepted and used by the clients for whom the project was intended (client satisfaction criterion). By its basic definition, a project comprises a defined time frame to completion, a limited budget, and a specified set of performance characteristics. Further, the project is usually targeted for use by 5 some client, either internal or external to the organization and its project team. It seems reasonable therefore, that any assessment of project implementation effectiveness should at least include these four measures among others. As noted by Schultz and Slevin (2009), management support for projects, or indeed for any implementation, has long been considered of great importance in distinguishing between their ultimate success or failure. Beck (2013) sees project management as not only dependent on top management for authority, direction, and support, but as ultimately the conduit for implementing top management’s plans, or goals, for the organization. Further, Scott-Young & Samson (2008), shows that the degree of management support for a project will lead to significant variations in the clients’ degree of ultimate acceptance or resistance to that project or product. For the purposes of classification, the factor Top Management Support refers to both the nature and amount of support the project manager can expect from management both for himself as leader and for the project. Management’s support of the project may involve aspects such as allocation of sufficient resources (financial, manpower, time, etc.) as well as the project manager’s confidence in their support in the event of crises. The famous Project Implementation Profile (PIP) is a set of factors developed by Pinto et al.
(2010). They came up with 10 CSFs to assist in identifying and measuring successfully implemented projects. These are project mission (clarity of goals and general direction), top management support (ability and willingness to provide resources, authority and influence), project schedule (a detailed specification and schedules for project implementation), client consultation (adequate communication, consultation and active listening to and with the client), personnel (recruitment, selection and training), technical tasks (availability of required technology and expertise), client acceptance (final project was sold to end-users), monitoring and feedback (provision of comprehensive information at each implementation stage), communication and trouble-shooting (ability to handle crisis and deviation from plan). In a later study Pinto et al (2010) showed that the relative importance of the several CSFs changes significantly based on the life cycle stages. Pinto et al (2010) highlighted that CSFs identification will help the project teams minimize firefighting, intuitive and ad-hoc approach in managing uncertainties and changes encountered during project implementation.

To address the problem of food insecurity in Rwanda, the Government of Rwanda (GOR) has designed policies and programmes to improve food security in the country through improving agricultural productivity. In 2000, the Government through the Ministry of Agriculture (MINAGRI) came up with an intervention known as National Livestock and Extension Programme (NALEP) to address food insecurity. Implementation of projects. The main purpose of the NALEP was to spearhead the fulfillment of Millennium Development Goal Number One (MDG-1). The goal of the program was to contribute to reduction of poverty, hunger and food insecurity in Rwanda. The strategies used by NALEP include training and empowerment, community driven agricultural development initiatives (through community participation in project planning and implementation) and agricultural productivity through purchase and utilization of technology/farm inputs. Despite the implementation of the NALEP from 2000 project implementation remains a problem in Kicukiro district hence the need for this study

1.2 Statement of the Problem:

Project implementation consisted of those processes performed to complete the work defined in the project management plan to satisfy the project specifications. This involves coordinating people and resources, as well as integrating and performing the activities of the project in accordance with the project management plan (PMBOK, 2008). Implementing a project typically includes identifying requirements, addressing the various needs, concerns, and expectations of the stakeholders as the project is planned and carried out, and balancing the competing project constraints which included, but are not limited to scope, quality, schedule, budget, resources, and risk. The specific project were influenced the constraints on which the project manager needs to focus. The relationship among these factors is such that if any one factor changes, at least one other factor is likely to be affected. Because of the potential for change, the project management plan is iterative and goes through progressive elaboration throughout the project’s life cycle. Progressive elaboration involves continuously improving and detailing a plan as more-detailed and specific information and more accurate estimates become available. Progressive elaboration allows a project management team to manage to a greater level of detail as the project evolves (PMBOK, 2008). On long projects the pace of change can outstrip the original objectives of the project. For example, IT and computer software develops so quickly that within two years the technology is almost obsolete. It can happen in broader circumstances, like the economic climate rapidly changing. Without managing and reacting to change, or at least building in flexibility into a project to allow for regular updates and reviews, it will end up being extremely costly to fix at the end. Planning and hedging goes some way to help, but really, it’s how nimbly the project can adapt its aims and take into account the new set of conditions.

1.3 Objectives of the study:

1.3.1 General objective:

The general objective of this study was to determine the influence of project schedule control on performance of project implementation of NALEP project in Rwanda; examining the project schedule control determinants of communication, planning, financing and monitoring and controlling.

1.3.2 Specific objectives:

The following specific objectives were guided the study:

1. To investigate the influence of communication in project implementation of NALEP project in Rwanda.
2. CONCEPTUAL FRAMEWORK

Independent variables

<table>
<thead>
<tr>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Information Exchange</td>
</tr>
<tr>
<td>• Faster feedback</td>
</tr>
<tr>
<td>• Quick decision-making</td>
</tr>
<tr>
<td>• Easy use of PM tools</td>
</tr>
</tbody>
</table>

Dependent variable

| Project product delivery        |
|• Sustainable project benefits   |
|• Delivery within budget         |
|• Delivery within timeline       |
|• Superior project quality       |

Figure 2.1: Conceptual framework

3. TARGET POPULATION

According to Mugenda and Mugenda, (2013), a population can be defined as an entire set of relevant units of analysis or data. The target population of this study was 150 staff from the involved in NALEP project. The target population was drawn from a group of individuals who are actively involved in the implementation of NALEP project.

Table 3.1: Target population

<table>
<thead>
<tr>
<th>Area of Operation</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top level managers</td>
<td>9</td>
</tr>
<tr>
<td>Crops &amp; horticulture managers</td>
<td>46</td>
</tr>
<tr>
<td>Customer Care</td>
<td>15</td>
</tr>
<tr>
<td>Home Economics manager</td>
<td>24</td>
</tr>
<tr>
<td>Finance and Environment manager</td>
<td>22</td>
</tr>
<tr>
<td>Business market</td>
<td>34</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
</tr>
</tbody>
</table>

4. RESEARCH FINDINGS AND DISCUSSION

4.1 Communication on project implementation:

The subsection presented analyzed and interpreted. The study aimed on investigating the influence of communication in project implementation of NALEP project in Rwanda. Project implementation as important as it can help the firm managers with their short-term problems in critical areas like costing expenditure and cash flow, by providing information to support monitoring and control national agriculture and livestock. is also useful for firms operating in a dynamic and competitive environment as it can help those integrated operational initiatives within long-term strategic plan. A liker scale of 1-5 was used where 5-Great Extent 4-Moderate Extent 3-Neutral 2-Low Extent 1-No Extent

Table 4.2: Communication on project implementation

<table>
<thead>
<tr>
<th>Exchange of information among stakeholders</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feedback to/from project staff to/from users</td>
<td>3.20</td>
<td>6.50</td>
<td>16.12%</td>
<td>54.64%</td>
<td>0%</td>
</tr>
<tr>
<td>Availability of information for decision-making</td>
<td>3.00%</td>
<td>14.35%</td>
<td>40.20%</td>
<td>0%</td>
<td>37.48%</td>
</tr>
<tr>
<td>Application of project management tools</td>
<td>4.80</td>
<td>19.45%</td>
<td>38.67%</td>
<td>35.87%</td>
<td>98.12%</td>
</tr>
</tbody>
</table>

The study finding as indicated by Table 4.2 shows that out of the 97 respondents, 92% had great extent with the statement Exchange of information among stakeholders, 50% had neutral extent with the statement Exchange of information among stakeholders, 44% were low extent with the statement Exchange of information among stakeholders 29% had low extent with the statement that Exchange of information among stakeholders 26% had no extent with the statement Exchange of information among stakeholders.

Furthermore the table indicates that out of the 97 respondents, 0% had great extent with the statement Feedback to/from project staff to/from users, 54.64% had neutral extent with the statement Feedback to/from project staff to/from users, 16.12% were low extent with the statement Feedback to/from project staff to/from users, 6.50% had low extent with the statement that Feedback to/from project staff to/from users, 3.20% had no extent with the statement Feedback to/from project staff to/from users.

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Moreover, the table indicates that out of the 97 respondents, 37.48% had great extent with the statement Availability of information for decision-making, 0% had neutral extent with the statement Availability of information for decision-making, 40.20% were low extent with the statement Availability of information for decision-making, 14.35% had low extent with the Availability of information for decision-making, 3.00% had no extent with the statement Availability of information for decision-making.

Lastly the table indicates that out of the 110 respondents, 98.12% had great extent with the statement Application of project management tools, 35.87% had neutral extent with the statement Application of project management tools, 38.67% were low extent with the Application of project management tools, 19.45% had low extent with Application of project management tools, 4.80% had no extent with Application of project management tools.

Table 4.3: Correlation between communication and implementation of projects

<table>
<thead>
<tr>
<th></th>
<th>Communication</th>
<th>Implementation of projects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td><strong>Implementation of projects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.347**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>97</td>
<td>97</td>
</tr>
</tbody>
</table>

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

Table 4.3 indicate that Communication is significantly correlated to Implementation of projects ($r=0.347$, $p<0.01$). This implies that Communication would result to Implementation of projects.

5. CONCLUSIONS

Regarding the first objective, the researcher sought to determine the influence of communication to project implementation. The study found out that the level of communication in the organization determines to a great extent the effectiveness of project implementation. The study found that poor or lack of communication result to difficulty in finishing projects. According to Souder et al. (2011), the need for adequate communication channels is extremely important in creating an atmosphere for successful project implementation. Communication is not only essential within the project team itself, but between the team and the rest of the organization as well as with the client. Souder et al. (2011) further noted that communication also helps not only to feedback mechanisms, but the necessity of exchanging information with both clients and the rest of the organization concerning project goals, changes in policies and procedures and status reports.

5.1 Recommendations:

The study recommends that NALEP should improve integrated communications plan to improve project implementation. The content of such communications plan should include clear explanation of what new responsibilities, tasks and duties need to be performed by the affected implementers.

1. It also includes the why behind changed job activities and more fundamentally the reasons why the new project decision was made firstly. This will enhance communication of change during and after an organizational change on organizational developments to all levels in the appropriate manner.

2. The organization should allocate sufficient funds to projects and ensure there is independency in utilization of the funds.

3. NALEP should implement approaches such as effective reward management systems meant to enhance manager’s commitment to performing their roles as well as incorporating lower ranks of employees in project design and implementation. The study also recommends that NALEP should embark on staff improvement through training and offering conducive environment for their work to improve their productivity which in turn will win support from the staff and thus make project implementation a reality.

4. The study recommends that management in NALEP should ensure that they employ and deploy qualified and competent individuals for M&E process. In addition, they should employ monitoring/supervision mechanism, to allow efficiency in project implementation.
## 5.2 Areas for further research:

This study was conducted to investigate the influence of project schedule control on performance of implementation in NALEP project in Rwanda, examining the project schedule control determinants of communication, planning, financing and monitoring & evaluation. In this regard there is still room for further investigation in this area, more studies should be carried out in other organizations.

## REFERENCES


