The Effect of Resource Management Planning on the Performance of Government-Funded Projects in Rwanda; A Case Study of Project for Environment And Natural Resources of Rwanda

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Abstract: Project managers are obliged to plan and prudently use resources for the intended purposes and bring about satisfaction (Lent, 2004). Resources utilization is on many occasions diverted to serve other interests of top managers which are usually outside the initial project scope and work plans leading to inefficiencies. Effective corporate performance of projects can be ascertained through proper and efficient resource management planning, and is a guaranteed measure for successful project implementation. The purpose of the study was to determine the effect of resource management planning on the Performance of government-funded projects in Rwanda, using a case study of Project for Environment and Natural Resources of Rwanda (PONERWA). The research adopted a cross-sectional study design covering a sample of 50 respondents drawn from a target population of 500 employees of PONERWA. The study used both questionnaires and interview guides to collect data. Both descriptive and inferential statistics were used to analyze data. Multiple regression and correlation analysis were used to determine and examine the relationship between the study variables. The study established that taking all factors constant at zero, project performance will be 3.757. Further, according to the findings, taking all other independent variables at zero, a unit increase in human resource management planning will lead to a 0.754 increase in project performance; a unit increase in financial resource management planning will lead to a 0.879 increase in project performance practices and a unit increase in material requirements planning practices will lead to a 0.568 increase in project performance. At 5% level of significance and 95% level of confidence, human resource management planning had a 0.002 level of significance; financial management planning showed a 0.005 level of significance, material requirements planning showed a 0.013 level of significance. Therefore, the most significant factor was financial resources planning. Following thereof, there should be regular interface between management and staff to discuss the futuristic goal and plans of the organization and the top management should communicate and ensure adequate resource management adoption in the entire organization to create awareness, interest, desire and action. Policy and practice for resource management planning should be carefully evaluated and the results of that evaluation fed back into improved approaches. It is also important that the assessment considers the full range of project costs and benefit analysis.

Keywords: Resource management planning, Financial resource management planning, Human resource management planning, Material requirements planning, Project performance

1. Introduction

Despite the fact that Project Managers are obliged to plan and prudently use resources for the intended purposes and bring about satisfaction (Lent, 2004), resources utilization is on many occasions diverted to serve other interests of top managers which are usually outside the initial project scope and work plans (Anthony and Young, 2003), mainly due to improper and inefficient resource management planning, leading to poor project performance or even failure. The measure for project performance is based on tenets of quality, progress of the project and evaluation of the critical elements for project success and assists in assessing current project performance against the set goals to detect any potential deviation and give room for future improvement (Ramirez, 2002).

According to Ecorys and MINECOFIN (2013), Rwanda was ranked highly among the best countries on the African continent to put into meaningful use donor funds (IMF, WB and AIDB) loans and grants, reasons being the grant or loan is mainstreamed into the main budget, planned and managed along with other state resources under the national treasury with stricter monitoring and resource management planning practices. Whereas there’s an optimum usage for mainstreamed grants/loans, the success of government funded initiatives in Rwanda has in the near past been so difficult to achieve due to the fact that these projects have autonomous structures and resources there are not controlled by the state apparatus where vigilance and caution is exercised during resource management planning.

Consequently, since project managers of these initiatives hardly undertake the requisite resource management planning practices and neither do they apprehend the underlying effects of the same to sound project performance, a lot of resources are inadvertently used leading to project failure accruing from low levels of the required capital investment, uneven employee engagement, lack of top management support and ownership, untimely delivery of materials (improper material requirements planning) among other consequences, befalling many government-funded initiatives in Rwanda

2. Purpose of the Study

The purpose of the study was to determine the effect of resource management planning on the Performance of government-funded projects in Rwanda, using a case study of Project for Environment and Natural Resources of Rwanda (PONERWA). Specifically, the study sought to examine how human resource management planning
practices, financial resource management planning, material requirements management planning influences performance of government-funded projects in Rwanda.

3. Research Methods

The study adopted a cross-sectional research design covering a simple random sample of 50 respondents drawn from a target population of 500 employees of Project for Environment and Natural Resources of Rwanda. Data collection was done using both questionnaire and interview guides.

4. Results and Analysis

Objective One: The Influence of Human Resource Management Planning on Project Performance

The study sought to establish the extent to which HRM Planning influences project performance in government funded projects in Rwanda, and from the findings the study revealed that majority (83%) of the respondents affirmed that HRM planning greatly influences project performance in Rwanda through staff performance appraisals, trainings and better remunerations among others, while 17% of the respondents maintained that HRM Planning practices literally influences performance of government funded projects in Rwanda, but rather availability of funds.

Accordingly, team appraisal influenced the project performance as was indicated by 77.5% of the respondents. Averagely, 83% stated that Human Resource Planning Practices influences PONERWA project performance. 60% of the respondents stated that PONERWA project members are provided with training on climate change. Majority of the respondents, 83% felt that team work greatly influenced the project performance while 17% felt otherwise.


The study also sought to establish how financial resource management planning contributes to project performance practices in Rwanda government funded initiatives, a case of PONERWA, and according to the findings in Figure 4.5, 36% of the respondents indicated that FRM Planning to a moderate extent affects project performance, 33% of the respondents indicated that financial resource management planning affects project performance in Rwanda to a great extent, 9% of the respondents indicated that financial resource management planning affects project performance to a little extent, while 7% of the respondents indicated that FRM planning did not contribute to project performance at all. This is supported by Lawson and Squire (2006) who found that in the project implementation context, project implementation professionals must take Financial management planning into account, along with other considerations, such as ‘value for money’ and low cost sourcing, as well as consumer expectations of low prices. However, this means that business leaders face tough decisions, including how to balance the interests of shareholders, and their expectations of high returns, with financial resource management planning practices (and their focus on the roader good of the community).

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Majority of the respondents, 96% felt that financial planning influenced project performance. However, 4% of the respondents felt that it didn’t in any way affect project performance. While 56% of the respondents stated that there was an approved budget for the project, 44% stated that was not the case.

Objective Three: The Effect of Material Requirements Management Planning on Project Performance

The study sought to determine whether material requirements management planning (in terms of timely availability of the required materials) in any way contributed to project performance in PONERWA.
According to the findings, 80% of the respondents indicated that MRP greatly affects project performance in PONERWA in terms of timely production, scheduling project operations, ensuring sustainable project control...etc., while 20% of them indicated that MRP does not contribute to project performance in the organization. Project developers often describe usability as fuzzy and ungraspable Shang et al. (2010). In order to reach a goal, you have to know what the goal is. In order to improve usability, you need a shared understanding of it (Walton et al., 2008). Project materials can be availed on time and used by rightful end users do achieve specified goals, with effectiveness, efficiency and satisfaction, in a specified context of use. Admittedly, due to its somewhat generic formulation this definition does need to be made more specific to be useful (Mudgal et al., 2009). Defining time and material monitoring is one approach, but creating shared understanding might not require establishing a formal, explicit definition (Wang, 2005).

Further, the study sought to establish the respondents’ opinion on RMP as a whole via a vis project performance in Rwanda. From the findings, respondents agreed that RMP leads to sound project performance by any business and industry, by a mean of 3.9; that HRM planning led to Sustainable project implementation as shown by a mean of 3.3; donor partners are more seriously involved in designing and implementing Sustainable financial control Policies focusing on how environmental issues and issues relating to other aspects of the sustainable project development pillars as shown by a mean of 2.5. Respondents were reluctant to concede that Project managers are in a better position to solely influence project performance, through for example product or service specification, evaluation and supplier selection, and evaluating performance of the provider either by developing the performance evaluation criteria or using that criteria to evaluate the providers fulfillment of the contract for which the provider was contracted as shown by a mean of 2.2. This can be supported by studies previously undertaken such as (Lember et al., 2011) on sustainable project controls and efficiency. Therefore, the adoption of resource management planning practices on project performance can be considered very key as these practices can be a measure of successful project implementation.

Regression Analysis
In addition, the study conducted a linear multiple regression analysis so as to test the relationship amongst the three independent variables on project performance. The value of R is the coefficient of determination and explains how project performance practices varied with HRM planning, FRM Planning and MRM Planning practices. As shown in Table 1, the three independent variables covered explain 89% of the project performance practices and project performance as represented by the R². This implies that other factors not studied in this research contribute 11% of the project performance giving room for further research to investigate the other factors (11%) that affect project performance in Rwanda government funded projects.

Table 1: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.896*</td>
<td>.881</td>
<td>.132</td>
<td>.3295</td>
</tr>
</tbody>
</table>

R² is the coefficient of determination and explains how project performance practices varied with human resource management planning, financial resource management planning and material requirements management planning. The three independent variables that were studied explain 89% of the project performance practices and project performance as represented by the R². This implies that other factors not studied in this research contribute 11% of the project performance giving room for further research to investigate the other factors (11%) that affect project performance in Rwanda government funded projects.

Table 2: ANOVA Tests

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>11.534</td>
<td>5</td>
<td>2.868</td>
<td>52.410</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>186.555</td>
<td>27</td>
<td>2.139</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>198.089</td>
<td>32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accoding to Mugenda and Mugenda (2003), ANOVA is a data analysis procedure that is used to determine whether there are significant differences between two or more groups or samples at a selected probability level. An independent variable is said to be a significant predictor of the dependent variable if the absolute t-value of the regression coefficient associated with that independent variable is greater than the absolute critical t-value. The regression analysis also yields an F-statistic where if the calculated F-value is greater than the critical or tabled F-value, the prediction will be rejected. As shown in Table 2, the significance value is .0072 which is less than 0.05 thus the model is statistically significant in predicting HRM planning, FRM Planning and MRM Planning. The F critical at 5% level of significance was 3.23. Since F calculated is greater than the F critical (value = 5.240); this shows that the overall model was significant.

Table 3: Coefficient of determination

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>3.757</td>
<td>1.033</td>
<td>0.787</td>
</tr>
<tr>
<td></td>
<td>HRM planning</td>
<td>0.554</td>
<td>0.107</td>
<td>0.159</td>
</tr>
<tr>
<td></td>
<td>FRM Planning</td>
<td>0.879</td>
<td>0.139</td>
<td>0.085</td>
</tr>
<tr>
<td></td>
<td>MRM Planning</td>
<td>0.568</td>
<td>0.097</td>
<td>0.145</td>
</tr>
</tbody>
</table>
The study conducted a multiple regression analysis so as to determine the relationship between project performance and the three independent variables (Table 3). The equation \( Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon \) becomes: As per the SPSS generated the established regression equation was:

\[ Y = 3.757 + 0.554 X_1 + 0.879 X_2 + 0.568 X_3 + \epsilon, \]

where:

- \( Y \) = Project performance
- \( X_1 \) = HRM planning
- \( X_2 \) = FRM Planning
- \( X_3 \) = MRM Planning
- \( \epsilon \) = the error

According to the regression equation, taking all factors into account (HRM planning, FRM Planning and MRM Planning practices) constant at zero, Project performance will be 3.757. The data findings analyzed also show that taking all other independent variables at zero, a unit increase in HRM planning will lead to a 0.754 increase in Project performance implementation; a unit increase in FRM Planning will lead to a 0.879 increase in Project performance practices and a unit increase in MRM Planning practices will lead to a 0.568 increase in Project performance. This infers that HRM Planning practices contribute more to the Project performance followed by the FRM planning. At 5% level of significance and 95% level of confidence; HRM planning had a 0.002 level of significance; FRM Planning showed a 0.005 level of significant, MRM Planning showed a 0.013 level of significant and hence the most significant factor is FRM Planning.

5. Conclusions

The study established that resource management planning contributes to project performance in Rwanda government-funded projects through proper management of planning process and meeting of the recommended standards in project implementation while some of the respondents were for the opinion that resource management planning doesn’t contribute to project performance in Rwanda government funded projects. Human resource planning practices have significant influence on project performance. Human resource planning practices such as teamwork and training of the project members on climate change effects and their management, influenced project performance. The positive relationship between teamwork, training of the project members and project performance was significant. This implies that increasing teamwork within the project and training project members would lead to an increase in project performance.

Based on the study findings, the study concludes that financial resource management planning practices have significant influence on project performance. Practices such as budgeting, forecasting and having plans for money generation existed in the PONERWA project. A positive and significant relationship between financial resource planning practices such as budgeting, forecasting and having plans for money generation and project performance existed. Budgeting, forecasting and having plans for money generation can lead to improved project performance. The project had approved budget and there was tracking of the performance of resources allocated to various project activities.

The study concludes that material requirements planning practices have a positive relationship with project performance at PONERWA. Order placement, monitoring of placed orders and planned procurement practices exist within the project. Material requirements and time resource planning practices namely order placement, monitoring of placed orders, planned procurement and project performance are significantly correlated. It is evident that the practices had influence on the project performance. Procurement of required material was done within the project budget and time, and project members were provided with the right quantity of material in the right time.

6. Recommendations

The study contends that the effectiveness of any government funded initiative should be measured by the level of interface with the stakeholder fraternity especially with regard to resource allocation, planning and management. This is because RMP is a critical component of sound project performance and if success is to be attained, there should be availability of adequate supply of people (human resource) who are educated in the philosophy and technical aspects of quality to improve project performance; adequate funding planned ahead of time and material requirements fulfilled for production.

The study recommends that there should be regular interface between management and staff to discuss the futuristic goal and plans of the organization and the top management should communicate RMP adoption to the entire organization to create awareness, interest, desire and action. Policy and practice for RMP should be carefully evaluated and the results of that evaluation fed back into improved approaches. It is important that the evaluation considers the full range of costs and benefits.

The organization should have sufficient special technical-economic knowledge and openness to new, effective methods when planning for human resource/staffing compliment, financial considerations and as well as material requirements. Staffs should be equipped with the specific skills and competencies needed to design and manage project plans (including the associated training, after-sales service and Employ human resources with specific training and equipment for performing functional tests in order to be able to accept the end product and ascertain project performance).

Resource management practices appear to be instrumental for improving project performance in government funded projects, by harmonizing plans for purchases, staffing, launching co-ordination initiatives, setting standards and building skills. As such, the management of the PONERWA should fully embrace the three best RMP practices. The government should create project supporting structures of expertise or mainstream project planning process into the established structures of mother ministries or parastatals that have R&D review as core business and introduce clear incentives to project implementation; where at least 1% of

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the total volume of funds should be allocated to R&D. In this manner, project performance can become a strategic issue for Rwanda government-funded projects and PONERWA in particular.

References


