

# Project management and financial risk analysis

[Engineering](#), [Project Management](#)



## **EXECUTIVE SUMMARY**

This proposal gives the background to the current state of project management and gives reasons for the setting up and operating a National Project Standards Bureau in Rwanda. The proposal makes the case for the need for a National Bureau that sets standards, regulates, advises and evaluates projects in the country so that the country can have successfully run projects that bring benefits to the country, nationals and investors/project initiators.

This proposal is in two parts: one part concerns the descriptive part of setting up standards, a National standards Bureau, its operations, management and sustainability while the second part analyses the sources of finance and operations of the Bureau that utilizes the Microsoft Project software.

The proposal defines the objectives of setting up the Project Standards Bureau and these are described as global objectives and specific objectives. The proposal makes clear what will be the objectives of setting up the reference bureau that will be useful for investors and project initiators.

The proposal shows the scope of the standards Bureau, the underlying assumptions, and possible constraints that may hinder the setting up of the Bureau. The proposal also highlights the expected deliverables by the Bureau, the stakeholders who will be involved or might take interest in its work. The proposal clearly shows the Work Breakdown Structure (WBS) in the implementation of the project works.

The proposal analyses the finances to run the Bureau without the contributions nor financial support from the Government and the underlying assumptions appraising the investments and its sustainability in the long run. It forecasts the budget and the payback period. The proposal shows the benefits and Key Performance indicators that will be associated with the standards Bureau.

The proposal analyses risk to the Bureau and how they can be managed. It highlights the operations of Standards Bureau and its impact including its reporting.

Finally the proposal makes a conclusion and makes recommendations that are considered to be useful to the Standards Bureau initiators, implementers, well-wishers and stakeholders. Finally there are references for further reading. It is hoped all people who have interest in projects in Rwanda will find the proposal useful and give it the support it deserves.

## **PREAMBLE**

The use of ICT still eludes many people in developing countries despite its many benefits and underlying opportunities to the people of these countries. Many governments in Sub-Saharan Africa are finding that more and more, projects are the key to developing their ICT capabilities. Processes and procedures are put in place which, although are not complete, is a good start to managing projects. There is need for developing countries to put in place standards that will guide the management of the different projects. This proposal is aimed at introducing National Project Standards Bureau for ICT project management in Rwanda.

## **BACKGROUND**

Rwanda is one of the poorest countries in the world with over 90% of its population engaged in subsistence agriculture. This is reflected in the country's Gross Domestic Product (GDP) which is small and the country depends on donor support to meet its budget. This poverty impacts negatively on the ability of Rwandans to use and access ICT. According to VISION 2020 documents, " Rwanda lags behind in professional training, with the most acute deficiency being apparent in the fields of applied and natural sciences and ICT. Although the country will continue to rely on imported technology from advanced countries, well-trained, specialised nationals will be essential to run as well as maintain technological systems ranging from medicine and agriculture to industry and telecommunications" (MINECOFIN 2000: 16). There is therefore need to invite more ICT Operators to invest in Rwanda so that more Rwandans can access and benefit from it.

Vision 2020 documents assert that, " Telecommunication coverage in Rwanda is very low. The communication policy will take advantage of the small size of the country, its high population density and the single local language to attract investors so that the sector can be liberalised. By 2020, Rwanda projects to have internet access at all administrative levels, for all secondary schools and for a large number of primary schools. Telephone services will be widespread in rural areas and efficiency of public services will have increased through the application of e-government principles" (MINECOFIN 2000: 20).

The foregoing indicates the risk to the nation and project initiators if there are no set guidelines for project management in Rwanda. The nation may

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lose potential investors if the ICT sector is not regulated while project initiators may lose their investments due to lack of guidance, skilled manpower and regulations.

This proposal makes the point for a national project standards bureau, its scope and sources of initial capacity to guide, plan and give advice to project initiators.

An initial budget of \$US 203060. 7 for a period of 230. 28 days is estimated to establish and operate the Standards Bureau. This is taking into consideration the facilities and resources available to the initiators of Bureau. The budget and period cover all activities to set up National Standards Bureau from the initial stage.

## **CHAPTER I: PROJECT MANAGEMENT DEFINITION**

### **1. 1. Project objectives**

The objective of the project is to put in place a National Project Standards Bureau that will help project initiators in Rwanda to regulate standards, guide, protect and ease the work investors in Rwanda

### **1. 2. Specific objectives**

While defining some specific, measurable, achievable and time limited targets, the National Project Standards Bureau will highlight the following:

- Explain the need for project management Standards in Rwanda.
- Introduce standards and oversee project implementation in the country.

- Propose guidelines that shall be put in place to sustain the standards bureau.
- Define the sources of finances to run the standards bureau.
- Show constraints that may arise during the operations of the standards bureau.
- Propose solutions to the constraints mentioned.
- Make a detailed budget for the standards bureau.

### **1. 3. Scope of the proposal**

#### **1. 3. 1. Proposal scope**

This Proposal defines what is needed for the country to have in place project Standards that regulate the Projects in terms of standards, their implementation and a bureau to oversee the investors' conformity. The scope of this Proposal will be limited to Rwanda, but the ideas expressed therein may be recognised internationally and may be borrowed by other countries. The standards may borrow elements from other countries where such standards have been put in place. The standards bureau will not use government resources.

#### **1. 3. 1. 1. Assumptions**

The Proposal to put in place a National Project Standards Bureau for Project Management is based on the following assumptions;

- Lawmakers will understand the proposal and enact laws that ease its implementation.
- That fundraising campaigns will be favourably responded to and money will be available for the standards bureau to function without government money.

- That project initiators will cooperate and follow the standards and even pay their dues for the smooth running of the bureau.
- The country will continue to enjoy peace and therefore remain attractive to investors.
- That Government departments and officials will be supportive even without monetary benefits to themselves.

### **1. 3. 1. 2. Constraints**

There are likely constraints to the setting up of a standards bureau and its work such as;

- Lawmakers may not understand and therefore not authorize the implementation of the proposal.
- Resistance from some organisations and stakeholders to the implementation of the proposals.
- Fundraising efforts may not yield the required funds.
- Skilled personnel to run the standards body may not be sufficient.

### **1. 3. 1. 3. Deliverables**

Deliverables include a standards bureau, project management standards, proposed source of initial operating funds, requirements for the bureau to operate, sustainability of the standards bureau and its relationship with government Agencies.

### **1. 3. 2. Stakeholders**

Stakeholders in setting up standards will be; lawmakers, government ministry concerned, operators in the ICT sector such as telephone companies, professionals in ICT sector, vendors of ICT equipment, members

of international agencies like ITU, consumers of ICT services and products and interested members of general public.

#### **1. 4. Work Breakdown Structure**

The work breakdown structure (WBS) of a project is a deliverable or product-oriented grouping of project work elements shown in graphical display to organise and subdivide the total work scope of a project.

A WBS is the important tool of effective project planning, execution, controlling and reporting. All the work contained within the WBS is to be identified, estimated, scheduled, and budgeted. The WBS is the structure and code that integrates and relates all project components (scope, schedule, and cost).

## **CHAPTER II: PROJECT BENEFITS AND KPIS**

### **2. 1. Standards benefits**

Setting standards for projects and a body to oversee their implementation in Rwanda will go a long way in fostering the economic development of Rwanda by increasing fair-play among the operators, protecting consumers, settling disputes, increasing positive competition and meeting basic expected requirements for the benefit of the consumers.

### **2. 2. Key Performance Indicators**

Using customised business metrics or key performance indicators (KPIs) also referred to as key success indicators (KSIs) the success of the implementation of the proposal will be measured. Such indicators will be;



- Members of the Parliament and Government positively support the implementation of the standards with the necessary laws enacted.
- Operators in the ICT industry have understood the importance of having standards, respect and subscribe to the services of the standards bureau.
- The fundraising drive is carried out and is successful.
- Skilled personnel are available to put in place and oversee the observance of the standards.
- People to serve as the advisory body are willing to volunteer their time and resourcefulness.

### **2. 3. Type of association**

The Project Standards Bureau will be financed through fundraisings and donations from corporations and individuals. The Advisory Board will be made up of senior and heads corporations, government Agencies and individuals and will not be paid salaries. Fulltime employees of the Bureau including the Chief Executive will be paid salaries at the end of each month. After taking off, the Bureau will start generating income from its services which will ensure its sustainability.

The Bureau will get funds from the following revenue streams:

- Revenue got from fund-raising drives through a friendly football match between the two most popular foot ball teams in Rwanda, a musical show by the popular musicians in Rwanda and a fundraising dinner for senior people in Rwanda

- Standards Bureau research and Publications (including knowledge base, newsletters, other books and CD-Rom,)
- Annual membership fees
- Membership, initial registration/application fees
- Standards Management trainings

### **CHAPTER III: FINANCIAL ANALYSIS**

The proposed financial analysis refers to an assessment of the availability, stability and sustainability of a project. There are three key parts of the financial propose that should be considered and these are:

- Initial cost of setting up the standards bureau
- The cost of running the business of the regulatory for the initial one year
- The sustainability of the standards bureau in the future.

Without any government funding, the initial costs of the proposed standards bureau and the cost for its business for one year shall be met through fundraising initiatives that will include a football match between two of the most popular football teams APR FC and Rayon Sport in the National stadium where the Head of state will be the guest of honour, the proceeds will be used to organise a musical gala with popular musicians performing to be attended by ministers and national leaders. The proceeds from the two fundraising functions will also be used supplemented by a fundraising dinner at which CEOs, Ministers and senior government, civil society, the NGO sector, Ambassadors and prominent businessmen will be invited.

In this section the initial commencement and sustainability of the project standards bureau is estimated, to measure if the project proposed will be financially viable in order to advise the sponsor about the return expectations.

### **3. 1. Appraisal of the investments on the Standards Bureau and its sustainability in the long run.**

The evaluation of the investment cost in the process of the management and the decision on a project is determined by the financial viability. The following elements to value the financial viability of our project are used:

- Estimating the cost of the project
- The profitability and come back period is generated
- The project financial output of the profit.

In the following section, the investment is shown while analyzing the Net Present Value (NPV) and the Internal Rate of Return (IRR) as well as the Payback period.

While referring to the GANNT chart, the approximate estimate is of US\$ 203060. 7. These funds will essentially come from the sponsors, fundraising and the generating activities of comeback that the office will exercise. The viability of the project will be studied on one period of 6 years.

### **3. 2. Net Present Value (NPV)**

The real value of an investment is determined by the NPV in a certain period of time. At a rate of discount of 12% of every year, we will establish a NPV in a period of 6 years.

### 3.3. Evaluation of Net Present Value

12%

Discount Rate:	Cost Amount	Present Value	Revenue Amount	Present Value
End Year 1	203060. 70	203 060. 70		
End Year 2	81224. 28	72 521. 68		
End Year 3	40612. 14	32 375. 75		
End Year 4	20306. 07	14 453. 46	203 060. 70	144 534. 60
End Year 5			304 591. 05	193 573. 12
End Year 6			406 121. 40	230 444. 19
Total	345 203. 19	322 411. 59	913 773. 15	568 551. 90

Figure 2: Net Present Value for the Project.

Net Present Value (NPV) = 568551. 90 - 322411. 59= US\$ 246140, 32

For one period of 6 years under assessment, the value of US\$ 246140, 32 indicates how the bureau will be sustained.

### 3. 4. Internal Rate of Return

The internal rate of return (IRR) is a capital budgeting metric used by firms to decide whether they should make investments. It is an indicator of the efficiency of an investment, as opposed to net present value (NPV), which indicates value or magnitude (HK REALTY 2009).

By a set of the rates of different discounts (10%, 12%, 15%, 20%, 25%, 30%, 31%, 34%, 35%), is used to determine the rate of profitability of sustainability of the bureau for one period of 6 years.

#### **Discount Rate NPV (US\$)**

10% 287 050. 77

12% 246 140. 32

15% 191 830. 05

20% 116 911. 36

25% 57 376. 83

30% 9 638. 05

31% 1 259. 18

34% - 21 867.

09

- 28 958.

35%

17

According to the period under assessment, the IRR indicates that at least, the project should have a rate of profitability of 31% to be sustainable.

### 3. 5. Project Payback Period

Payback period for a project is the time the time it takes to recover the money invested in the project and begins to make profits. Using Figure 5 shows us the value accumulated on investment.

12%

Discount Rate:	Cost		Revenue		Cumulative Cash Flows
	Amount	Present Value	Amount	Present Value	
End Year	203060.	203			-203 060,
1	70	060. 70			70
End Year	81224.	72 521.			-81 224, 28
2	28	68			
End Year	40612.	32 375.			- 40 612,
3	14	75			14
End Year	20306.	14 453.203	144		182 754, 63
4	07	46	060. 70	534. 60	
End Year			304	193	304 591, 05

5			591.05	573.12	
End Year		406	230		406 121, 40
6		121.40	444.19		
Total	345	322	913	568	568 569, 96
	203.19	411.59	773.15	551.90	

According to the Figure 6, the delay of return to investment is of 4 years, considering the accumulated value that becomes positive at the end of the fourth year.

#### **CHAPTER IV: PROJECT RISK ANALYSIS AND MANAGEMENT**

Project Risk Analysis and Management is a process which enables the analysis and management of the risks associated with a project. Properly undertaken it will increase the probability of successful completion of a project to cost, time and performance objectives (TechnologyProfessional.Org 2009)

Project risk management seeks to anticipate and address problems that threaten the goals and schedules of a project. The uncertainties may include questions of material and parts quality; delays in delivery of sufficient materials to meet project needs; budgetary and personnel changes; and, incomplete knowledge or research. These risks lead rapidly to delays in delivery dates and budget overages that can severely undermine confidence in the project and in the project manager (The Project Management survival team n. d.)

Surveying deeply and understanding the risks likely to impede a project, and will allow us to develop it better so that it reaches its objectives.

#### **4. 1. Risk Assessment and Analysis**

Risks are foreseeable dangers that can affect the implementation of the project. It may not be possible to eliminate all risks, because risk zero does not exist.

It is advisable to consider and guard against all inherent risks to the implementation of a project. It is imperative to conduct a complete survey of the potential risks in order to successfully implement the envisioned standards bureau. Analysis of possible risks is a good guarantee of the success of the project.

The technique of analyzing Strength, Weaknesses, Opportunities and Threat (SWOT) in forecasting is important in determining the strengths and the opportunities able to impact the project. It also permits to connect other functions of the project as the marketing and the development of the business of the project Standards Bureau.

The right management of these risks and their impacts will create an optimum achievement of the objectives of the project.

The following stages can be used to value and to propose solutions to the projectStandards Bureau:

- Establish the inventory of the risks
- Evaluate the risks
- Propose the solutions



- Identify critical risks
- Review the risks

#### 4. 1. 1. Establish the inventory of the risks

The following potential risks have been identified in the implementation of standards Bureau. They can be financial, organizational, technical or human.

- Risk n°1: Failure to understand the benefits of the Bureau.
- Risk n°2: Fewer financial resources at the time of the fundraising drives.
- Risk n°3: Failure to combine an adequate and qualified team.
- Risk n°4: Failure to find an office building.
- Risk n°5: Insufficient time for the execution of the tasks of the project.
- Risk n°6: Failure to get clients for the bureau.
- Risk n°7: Lack of the logistics.
- Risk n°8: The real cost of the Bureau can go beyond the budget in project
- Risk n°9: Failure to get sponsor
- Risk n°10: Failure to get Legal support.

#### 4. 2. 2. Evaluation of the risks

The possible critical risks identified in the project, according to their impact and their probability.

N	Risk(H: High, M: Medium, L: Probabili Impa	ty	ct	Gravity
°	Low)			
1	Failure to understand the	M	H	Very

	benefits of the Bureau.			Serious
	Fewer financial resources			Very
2	at the time of the fundraising drives.	H	M	Serious
	Failure to combine an			Quite
3	adequate and qualified team.	M	M	Serious
	Failure to find an office			Not
4	building.	L	L	Serious
	Insufficient time for the			Hardly
5	execution of the tasks of the project.	M	L	Serious
	Failure to get clients for			Hardly
6	the bureau.	L	M	Serious
	Lack of the logistics.			Not
7		L	L	Serious
	The real cost of the Bureau			Quite
8	can go beyond the budget in project	M	M	Serious
	Failure to get sponsorships			Very
9		M	H	

			Serious
1			Hardly
0	Failure to get legal backing L	M	Serious

According to the analysis of the risks, we have 4 categories of the risks that can affect the project: Very Serious, Quite Serious, Not Serious, and Hardly Serious (Capewell 2010)

Emphasis especially should be put on categories “very serious” and “Quite serious” in the list.

#### 4. 2. 3. Evaluate the possible risks to Project Bureau

Having identified the possible risks to the bureau according to their probability and their impact, there is needed to propose solutions to eliminate or minimize their impact. It is necessary to follow the project schedule in order to reduce their impact.

N <sup>o</sup>	Risk	Probability	Impact	Solution
1	Failure to understand the benefits of the Bureau.	M	H	Organise meetings with the decision-makers in order to explain to them the impact of the project better in the development of the

country

<p>Fewer financial resources at 2 the time of the fundraising drives.</p>	H	M	<p>Organise more fundraising functions</p>
<p>Failure to combine an 3 adequate and qualified team.</p>	M	M	<p>Increase the number of qualified staff</p>
<p>The real cost of the Bureau 5 can go beyond the budget in project</p>	M	M	<p>Carry out more advocacy, publicity and awareness campaigns</p>
<p>6 Failure to get sponsorships</p>	M	H	<p>Carryout more lobbying.</p>

#### **4. 2. Risk Management and Mitigation**

It is important that potential risks are managed and measures put in place to mitigate other risks by planning for factors that can be detrimental to project objectives and deliverables. This is very important to all project stakeholders and critical for project success. The following risk management audit techniques will be used to help:

- Verifying that a standards management process is well applied.
- Assessing the effectiveness of the risk management process.
- Evaluating the exposure of stakeholders to overall project risk
- External auditors come and audit the activities of the standards bureau.

#### **4. 3. Communication plan**

There is need to have clear and updated communication which builds credibility and trust between the projects sponsors and stakeholders. The standards bureau should create a communication plan early in its life cycle to establish expectations with the client and the general public, schedule standards review meetings, split time between focusing on the day to day activities and communicating with clients and management. The Standards bureau's status communication includes their schedule and budget progress against the set baseline. The progress is measured by finishing key deliverables on reported milestones and the progress reports should include issues and risks that threaten their success (information systems planning corp. 2007).

#### **4. 4. Value management**

The value management is a technique used in constraining project costs by focusing on function; it provides a systematic approach to imposing scope performance and bringing estimated costs into line with budget. The main objective is to obtain optimum value for every Franc spent on a given element of a project.

#### **4. 5. Value Management Application**

The primary challenge of project management is to accomplish all of the project goals and objectives while adhering to the project scope, quality, time and budget. The secondary and more ambitious challenge is to optimize the allocation and integration of inputs necessary to meet pre-defined objectives. A project is a carefully defined set of activities that use resources like money, people, materials, energy, space, provisions, communication,