

PROJECT EVALUATION USING THE PRINCE2 PROJECT MANAGEMENT FRAMEWORK: THE CASE STUDY OF AZAMBI HYDROPOWER PROJECT 11 MW , IN HAUT-UELE PROVINCE, DR. CONGO

By

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ABSTRACT

This study evaluates projects management performance focusing on the Azambi Hydropower project built by Inter Oriental Builders(IOB). Qualitative methodology based on documentary review and interviews questionnaire with key informants led to comparison-using descriptive and thematic analysis-between classic construction management methodologies and PRINCE2 framework, suggesting PRINCE2 could have improved role clarity, governance, risk management, and communication as well as overall project success. Findings shows that Project Was behind schedule and over budget, Stakeholders were moderately satisfied, still Project delivered benefit to stakeholders.

Keywords: *Project Management, SMEs, PRINCE 2, Business performance, Built Environment, Mining, Energy.*

RESUME

Cette étude évalue les performances de gestion de projets en se concentrant sur le projet hydroélectrique d'Azambi construit par Inter Oriental Builders(IOB). La méthodologie qualitative basée sur l'examen documentaire et les entretiens avec les informateurs clés a conduit à une comparaison grâce à l'analyse descriptive et thématique entre les méthodologies classiques de gestion des projets de construction et le cadre méthodologique de PRINCE2, suggérant que PRINCE2 aurait pu améliorer la clarté des rôles, la gouvernance, la gestion des risques et la communication ainsi que la réussite globale du projet. Les résultats montrent que le projet était en retard et a dépassait le budget, que les parties prenantes étaient modérément satisfaites mais le projet a apporté de la valeur aux parties prenantes.

Mots-clés : *Gestion de projet, PME, PRINCE 2, Performance des entreprises, Environnement bâti, Mines, Énergie.*

INTRODUCTION

Effective project and business management is crucial for the success of SMEs and any organization implementing projects especially in challenging environments like the DRC. The PRINCE2 framework, known for its structured approach to project management, offers a valuable benchmark for evaluating project success. This study aims to assess the construction performance of the Azambi Hydropower project which utilized classic construction management methods, by evaluating it against PRINCE2 principles.

Problem statement

Business survival over time of SMEs are dependent on project implementation performance. Van Scheers¹ illustrates that, South African SMEs which employ 47% of the workforce, contribute to more than 20% of GDP and pay about 6% of all corporate taxes, show signs of unsustainable business performance in their first year of existence and Valie report that a staggering 70-80% of SMEs in South Africa do not manage to survive the first year of business.²

Success of projects implementation are dependent of how better they are planned and run with competent people using project management tools and technics to overcome project challenges. However, its appears that many projects implemented by SMEs are conducted by non qualified Project Managers, some of them uses classical construction management methods others just follow their intuition and experiences to carry out project without considering the existence of methodology or project delivery methode that have proven to be appropriate.

Research Territory and Project Background

The Azambi Hydropower Dam is one of many hydropower stations owned by Kibali Gold mine, it is located in Haut-Uele region, precisely in Watsa territory, North-Est of DRC. Construction of the Azambi Hydropower Station in Haut-Uele province commenced on the 08th of December 2016, it received first water through the canal on 16th July 2018 for leaks test conduction follow by dry commissioning of the Powerhouse on 17th July 2018 and wet commissioning on 27th July 2018 upon initial practical completion of civil works.

¹ Van Scheers, L. (2011), SMEs marketing skills challenges in South Africa. *Afr. J. Bus. Manag.*, 5048--5056.

² Vallie, Z. (accessed on 1 March 2019), These Are the Do-Or-Die Priorities for SMEs Survival. 2017. Available online: <https://www.ioLco.za/business-report>

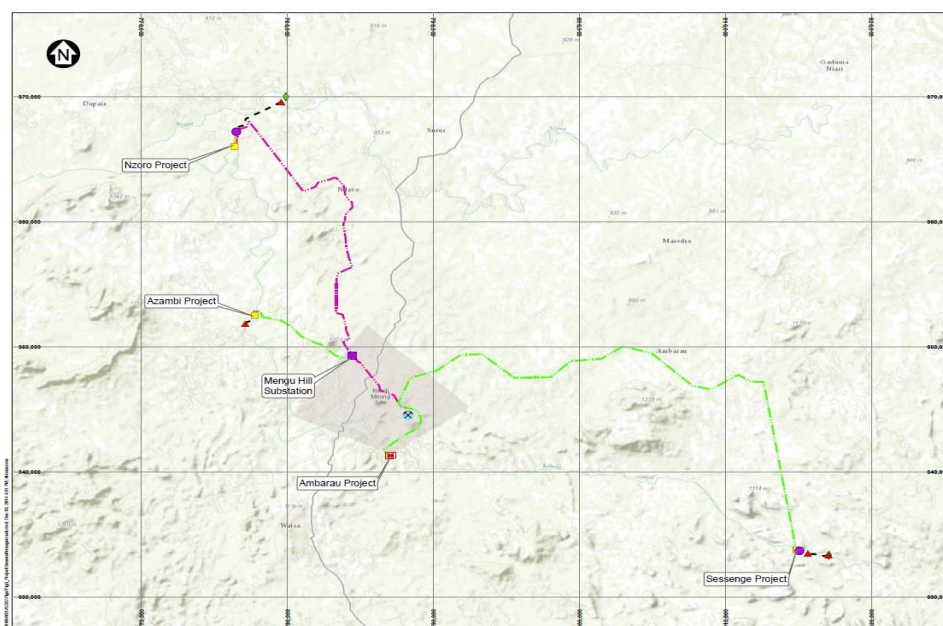


Figure 1 : Locality Plan of Kibali Gold Mine Hydropower Stations³

The Project goal was to supply 66KVA power from Azambi Hydro power to Kibali Gold Mines and reduce the usage of fuel by the generators thereby reducing environment pollution. Supply power to the communities, enhance education, health care, commercial activities that solely depend on power and job creation for the communities at pre and post construction.

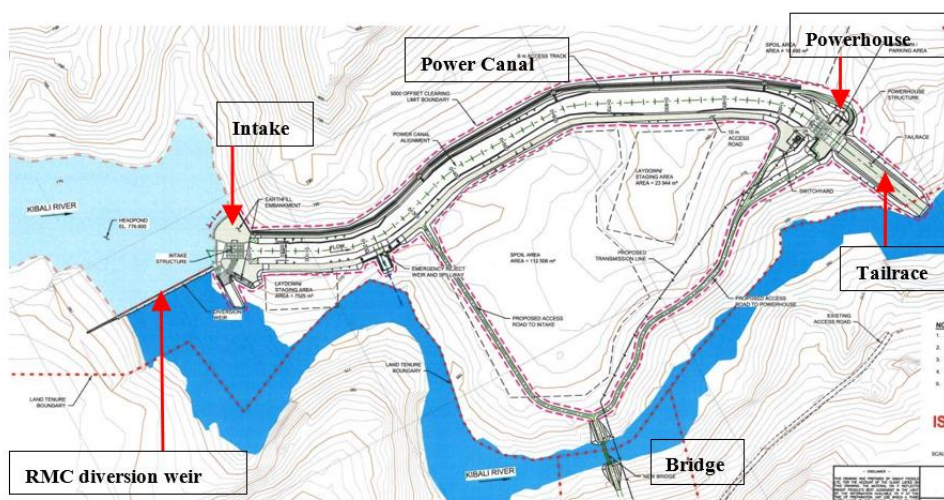


Figure 2 : Plan view of Azambi HEP on the Kibali River

³ John Steele at All, (2018), Azambi HPP – Private Hydropower Development in Africa

LITTERATURE REVIEW

Previous research

Project Management Frameworks in Developing Countries

Previous research has extensively studied the application and effectiveness of various project management frameworks, including PRINCE2, in developing countries. These studies have often highlighted the benefits of structured methodologies in managing projects within challenging environments characterized by political instability and infrastructural deficits⁴

Just to highlight the above, recently, in 2014, Bank of Uganda (BoU) adopted the PRINCE2 method and instituted a Project Management Office (PMO) to ensure that PRINCE2 was embedded in all projects carried out in the bank for successful projects execution.

Prior to the implementation of PRINCE2, the bank (BoU) faced challenges in the execution of its projects with regard to completion on time, within cost, and of high quality. The challenges with project implementation were on account of the lack of a formal project management method. The various business units were managing projects using a combination of methods and, for some, no method at all. Moreover, there was no dedicated office to ensure compliance and support good project management. These projects led to problems such as missed delivery dates, cost overruns, and dissatisfied users/customers. Therefore, the need for a better project management practice was essential⁵.

PRINCE2 Framework Benefits

Extensive literature exists on the benefits of adopting the PRINCE2 framework, such as improved clarity in project roles, better risk management, and enhanced control over project progress. Studies have documented success stories from various sectors, highlighting how PRINCE2 principles contribute to project success⁶.

For instance, following PRINCE2 framework adoption at BoU (Bank of Uganda) in 2014, Esther Gonza (2020) stresses on the bellow as achievements in terms of benefits on what she describes as a work in progress for 25 projects that were under implementation:

- All projects have the necessary documentation.
- 80% of the project managers have been trained and are now PRINCE2 practitioners.

⁴ Turner, J.R. (2016), Gower Handbook of Project Management.

⁵ Esther Gonza (2020), PRINCE2 implementation at the Central Bank of Uganda, Axelos.

⁶ Axelos. (2017). Managing Successful Projects with PRINCE2.

- Project board meetings are conducted at least every quarter for every project and the minutes are taken. This has improved the project board member control over the projects.
- 80% of the project board members are PRINCE2 qualified (foundation level). This has enabled them to take on their role of directing the project better.
- The project teams now appreciate the role of the PMO and more willing to seek guidance and consultation with the PMO staff.
- Risk and issue management have improved greatly.
- All closed project files are handed over to the PMO at the end of the project. Therefore, the central closed project repository is now functional.

Further more, it will be valuable to consider long term impact PRINCE2 framework adoption has generated for Bank of Uganda after 3 years of implementation as documented by Esther Gonza (2020):

- Collaborative culture within the organization;
- All projects have a risk management approach with risk registers regularly maintained enabling project to succeed;
- Projects have PID (Project Initiation Documentation) and approved projects Board.

Therefore, the research question of this study on Azambi Hydro Power Project (Azambi HPP) is:

“Could the use of PRINCE2 methodology during Azambi project implementation have led to efficient and effective project implementation compared to classical construction management methodology?”

By addressing research gap, the current study aims to contribute to the literature by evaluating the success of the Azambi Hydropower project using the PRINCE2 framework, thereby providing insights into its applicability on project implementation and benefits within the context of DRC-.

METHODOLOGY

Research Design

A case study approach is employed to gain in-depth insights into the classical project management practice of IOB during the Azambi Hydropower construction project. The evaluation will be based on PRINCE2 principles and project methodology framework, using documentary review as well as key informants interviews, etc.

The PRINCE2 Project Methodology Frame Work

The PRINCE2 (Projects in Controlled Environments) methodology is a structured project management framework widely recognized for its emphasis on organization, control, and process-based approach. Developed in the UK

and used internationally, PRINCE2 is applicable across various industries and types of projects.⁷

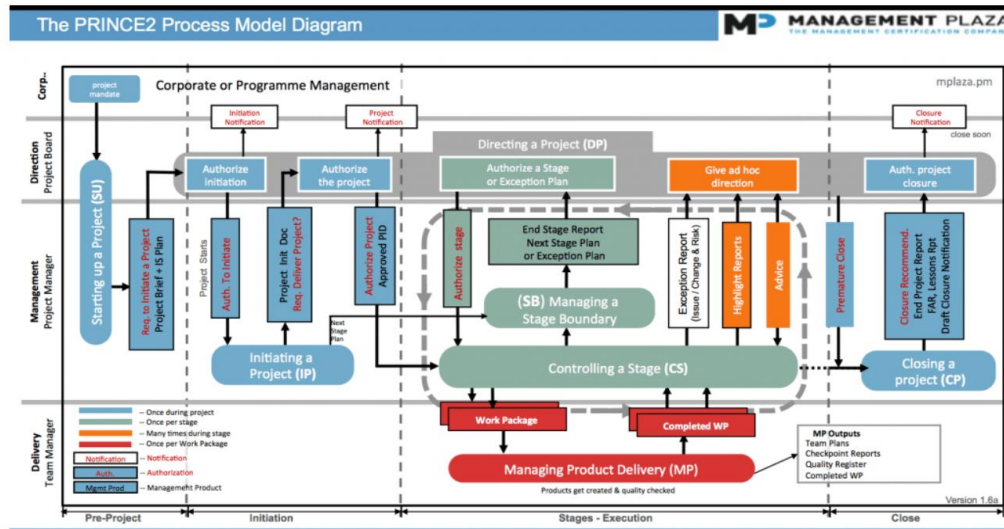


Figure 3: PRINCE2 Process Model Diagram, source: Management PLAZA

Key Components of PRINCE2

1. Principles:

PRINCE2 is built on seven (07) principles that ensure projects are aligned with business goals and executed efficiently: Continued Business Justification, Learn from Experience, Defined Roles and Responsibilities, Manage by Stages, Manage by Exception, Tailor to Suit the Project.

2. Themes:

Themes represent critical areas that must be managed continuously throughout the project, they are seven (07): Business Case, Organization, Quality, Plans, Risk, Change and Progress.

3. Processes:

PRINCE2 outlines seven (07) processes that guide project management activities from start to finish: Starting Up a Project, Initiating a Project, Managing a Stage Boundary, Controlling a Stage: Managing Product Delivery, Closing a Project: Formal project closure and evaluation.

Roles and Responsibilities

Key roles in PRINCE2 include:

- Project Manager: Responsible for overall project planning and execution.
- Team Manager: Manages the project team and reports to the Project Manager.

⁷ Colin and Bentley (2009) PRINCE2: A Practical Handbook

- Project Board: Consists of the Executive, Senior User, and Senior Supplier, overseeing high-level decisions and project direction.
- Customer: The end recipient of the project deliverables, who may also be involved in funding and requirements setting.

Comparative Analysis of Project Management Methodologies

There is a gap in comparative studies that evaluate the effectiveness of classic project management methodologies versus PRINCE2 within the same project context. Such comparative analyses could provide valuable insights into the relative advantages and limitations of each approach in the context of the DRC.

Qualitative Assessments Based on Project Reports (Monthly, ad hoc and closure, meeting minutes, Audits, etc.)

The research will be utilizing qualitative content analysis of project reports to evaluate project performance. This approach can offer a more nuanced understanding of project outcomes and management practices.

Functions and Criteria for the Construction of Statistical Data of the project

Statistics play a very decisive role in analyzing project success. Consequently, there are conventional elements that serve to construct these statistics in the case of reports of a construction project of the scale of Azambi Hydropower. Therefore, any construction project related reports should highlight at least these few elements:

- Key statics of major element of the scope of works;
- Project performance in term of quality, time and cost constraints.

In order to achieve the research results a framework associated with hypothesis assumption based on PRINCE 2 project management principles has been designed.

Hypothesis Assumptions

Hypothesis 1: Projects Implemented with Classic Methodologies Show lower Timeliness and lower Budget Adherence When Evaluated Against PRINCE2 Principles

- Assumptions:
 1. The Azambi Hydropower project, when evaluated using PRINCE2 principles, will reveal areas where PRINCE2's structured approach could have enhanced adherence to the project schedule and budget.
 - Rationale: PRINCE2's defined stages and continuous monitoring are expected to highlight potential improvements in time management that were not fully realized using classic project management methodologies.
 2. Evaluation of the Azambi project using PRINCE2 principles will identify financial management improvements, demonstrating how PRINCE2's

emphasis on clear financial planning and continuous business justification could have better controlled budget adherence.

- Rationale: The financial control aspects of PRINCE2 might show potential improvements in managing financial resources compared to traditional methods used in the Azambi project

Research objective 1: Evaluate Efficiency in Project Planning and Execution against PRINCE2 framework

Hypothesis 2: Classic Project Management Methods Deliver Lower Quality and lower client satisfaction When Benchmarked Against PRINCE2 Principles

- Assumption: When the Azambi project is evaluated against PRINCE2 principles, it will reveal areas where product-based planning and quality focus could have enhanced the deliverables' quality.
- Rationale: The product-based planning approach of PRINCE2 is expected to demonstrate potential quality improvements that could have been achieved, highlighting gaps in the classical project management methods used ⁸

Research objective 2: Evaluate Project Quality and client Satisfaction Against PRINCE2 Principles

Hypothesis 3: Projects Managed with Classic Project Management Methodologies Can Reveal less Potential for Enhanced Business Performance and less Benefit Realization When Evaluated Against PRINCE2 Principles

- Assumption: The Azambi Hydropower project, when assessed using PRINCE2 principles, will identify areas where PRINCE2's focus on business justification and benefits management could have led to better business performance metrics such as profitability, market share, and operational efficiency, as well as improved benefit realization.

- Rationale: Evaluating the Azambi project using PRINCE2 principles may uncover potential improvements in ensuring that the project delivers ongoing value to the organization, which were not fully realized under the classic project management methodology.

Research objective 3: Evaluate Project Business Performance and Benefit Realization Against PRINCE2 Principles

Data Collection

- Primary Data: Project reports (Monthly, ad hoc and closure, meeting minutes, Audits, etc.) and key informant interview of the Azambi Hydropower project personnel.

⁸ Müller and Jugdev (2012), Critical success factors in projects: Pinto, Slevin, and Prescott.

Profile and roles of people who took part in the Key informant interviews:

1. **Franck LAWUO**, Project Manager, 30 Years of construction management experience
2. **Tony MIHALI**, Superintendent Construction, 15 Years of construction management experience
3. **Antony AHIATAKU**, Quantity Surveyor, 20 Years of construction management experience
4. **Mustafa BAHWERE**, Health and Safety Officer, 12 Years of construction management experience
5. **Abdallah OSMAN**, Health and Safety representative, 10 Years of construction management experience

- Secondary Data: Documentary review of relevant literature, financial statements, and project reports.

Variable of the study

Independent Variables:

- PRINCE2 Principles: Defined roles and responsibilities, product-based planning, management stages, and continuous business justification.

Dependent Variables:

- Project Performance: Timeliness, budget adherence, quality of deliverables.
- Business Performance: Profitability, Net profit, operational efficiency.

Control Variables:

- Company Size: Number of employees, annual revenue.
- Environmental Factors: Political stability, regulatory environment

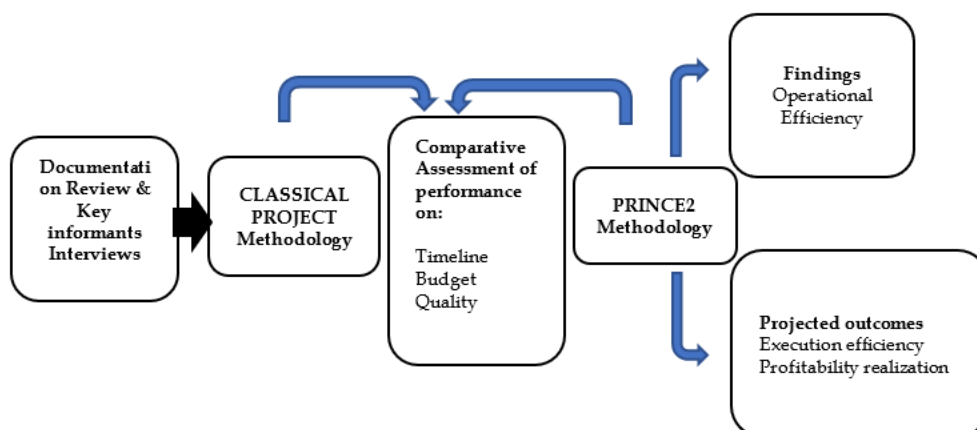


Figure 4: Conceptual frame work inspired by works of Kerzner and Joslin & Müller

Data Analysis Method: Qualitative Content Analysis

Two (02) methods were used in order to analyze available data and information; they are the following:

1. Descriptive Analysis:

Using Project Monthly-(ad hoc, closure)-reports, meeting minutes, Audits reports, etc. We examined all project documentation as well as feedback from key informants interviews to gather qualitative data on the implementation and effectiveness of classic project management practices.

Key Areas of Focus were:

- Timeliness: Was the project completed on schedule?
- Budget Adherence: Were the financial resources managed according to the budget?
- Quality of Deliverables: Did the project met the expected quality standards?

2. Thematic Analysis:

We transcribe data from documentary reviews and key informants feedback, to identify common themes and patterns related to the classic project management practices and their alignment or des alignment with PRINCE2 principles.

Key themes where focus was made :

- Efficiency in project planning and execution.
- Stakeholder satisfaction and involvement.
- Challenges faced and solutions implemented.

RESULTS AND DISCUSSIONS

Key projects figures

Table 1: Summarized construction project information

PROJECT SUMMARY	
PROJECT GOAL	Construct a 11 MW Hydropower dam for Kibali Gold Mine
BUDGET	\$ 17,977,585.35
DURATION	2 Years
MAIN COMPONMAINTS	Intake, Power canal, Power house, Tail race
START DATE	Oct-16
PROJECT STAFF	358

Table 2: Scope of major work components

MAJOR WORKS CARRIED ⁹				
WORK CATEGORY	No	Activities	Qty	Unit
CIVIL WORKS	1	Class C 10 Concrete	954	m3
	2	Class C 30 Concrete	6841	m3
	3	Rebar fixing	1071729	kg
	4	Formwork	11836	m2
EARTH WORKS	1	Clear & Grub	127999	m2
	2	Tree	344	Nr
	3	Topsoil	4956	m3
	4	Soft Excavation	319596	m3
	5	Exc. Place & Comp.	55762	m3
	6	Back fill	31980	m3
	7	Cement Stabilization	2298	m3
	8	Wearing course	4010	m3
	9	Hard excavation (Rock)	83968	m3

Detailed Study Results

1. Efficiency in Project Planning and Execution:

- a. Findings from documentary review

Table 3: Assessment of project adherence to Timeline and Budget

ON SCHEDULE					
PLANNED FINISH DATE	Actual Finish Date	Variance (in days)	On Schedule	Ahead of Schedule	Behind Schedule
16-05-18	30-10-18	182			X
ON BUDGET					
APPROVED BUDGET	Spend Budget	Variance (in \$)	On Budget	Under Budget	Over Budget
\$ 17,977,585.35	\$20,118,648.71	\$ 2,141,063.36			X (If acceleration program cost considered)

⁹ Anthony AYATIKU (2029), Azambi hydroelectric project civil and earthworks project completion report, Inter Oriental Builders

b. Findings from key informants interviews

How do you assess the overall success of the Azambi Hydropower Project?

5 responses

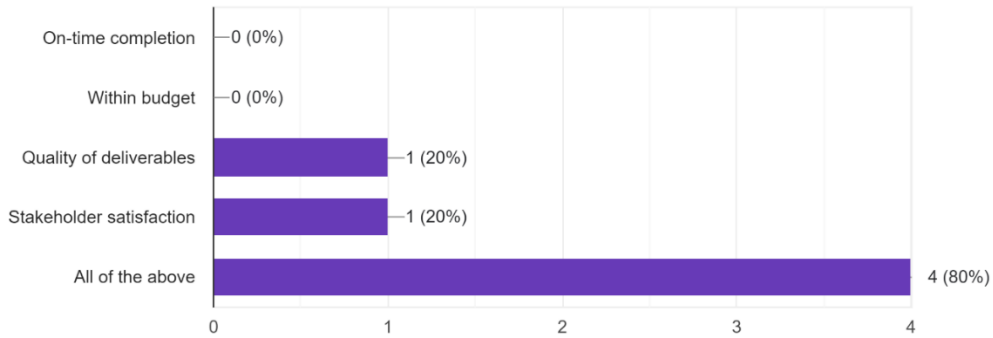


Chart 1 : illustration of assessment of project success by Key informants

What are the primary challenges you have encountered when using classical construction management methodologies in the Azambi Hydropower Project (Azambi HPP)?

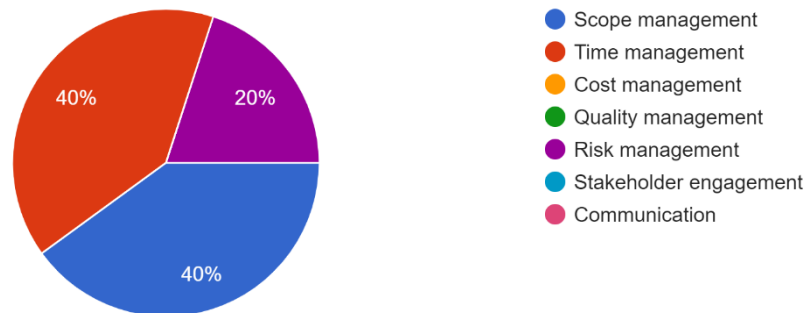


Chart 2 : challenges encountered when using classical construction management methodologies on the Azambi Hydropower Project

Findings:

- From both documentation review and key informants interviews, it is indicated that project under performed in terms of timeline and budget adherence although key informants consider that completion was done within budget this is only possible when one is not taking in account cost variance of 12 % related to the acceleration program to catch up with the delay.

2. Stakeholder Satisfaction and Quality:

a. Findings from documentary review

Table 4 : Assessment of meeting stakeholders' expectations

MEETING CUSTOMER EXPECTATIONS		
SUCCESS CRITERIA	Criteria Met	Comments
PROJECT WAS SUCCESSFULLY COMPLETED PER THE CONTRACT SPECIFICATION LEADING TO CLIENT SATISFACTION	X	Completed with delays

b. Findings from key informants' interviews

Rate the effectiveness of stakeholder engagement and communication under the classical construction management methodology in the Azambi Hydropower project on a scale were 1 is very ineffective and 5 is very effective.

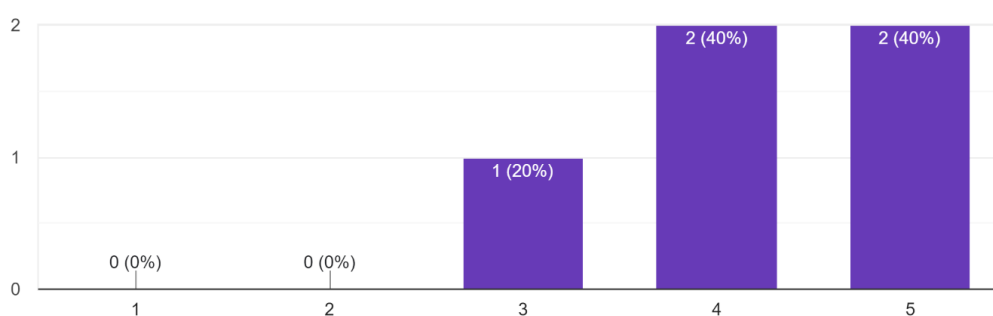


Chart 3 : Rating of the effectiveness of stakeholder engagement and communication under the classical construction management methodology in the Azambi Hydropower Project (Azambi HPP) on a scale of 1 to 5

Findings:

- Documentary review as well as key informant interview showed that stakeholder satisfaction varied from moderate to satisfactory due to the fact that, even though construction was delayed, it delivered the intended outcome of to all stakeholders and specifically to the client.

3. Benefit Confirmation:

a. Findings from documentary review

Table 5 : Assessment of project profitability and benefit realization

AZAMBI PROJECT COST SUMMARY¹⁰

	2016	2017	2018	Total	Comments
Income	\$ 1,832,996.99	\$ 8,600,398.53	\$ 6,818,557.34	\$ 17,251,952.86	
Expenditure	\$ 573,733.74	\$ 7,227,304.65	\$ 6,499,415.93	\$ 14,300,454.32	
Profit/lost	\$ 1,259,263.25	\$ 1,373,093.88	\$ 319,141.41	\$ 2,951,498.54	

b. Findings from Key informant Interviews

How do you assess the overall success of the Azambi Hydropower Project?

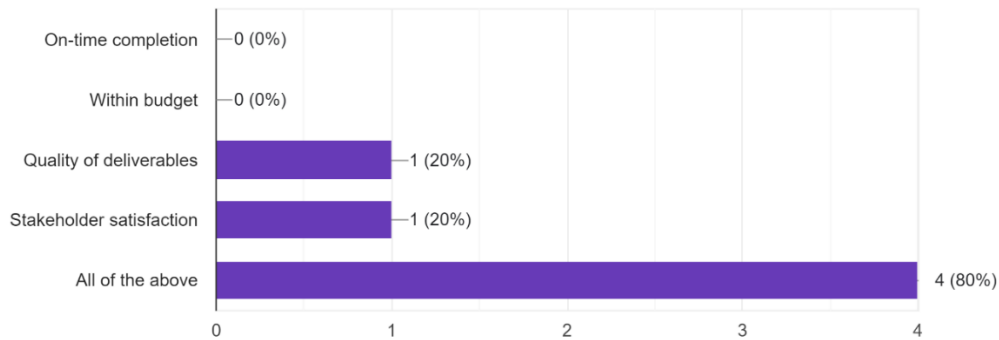


Chart 4 : illustration of assessment of project success by Key informants

Findings:

- Documentary review indicated that classic project management approach ensured business profitability despite being behind schedule and over budget. However key informants interviews responses insist on project meeting timeline and budget forecast, denying consideration of acceleration program over spend as an under performance.

DISCUSSIONS

General findings of the study show following Key results:

- Project was behind schedule and over budget
- Stakeholders’ satisfaction varied from moderate to satisfactory
- Project delivered benefit under classical construction management process.

¹⁰ Anthony AYATIKU (2029), Azambi hydroelectric project civil and earthworks project completion report, Inter Oriental Builders

Other minors findings can be illustrated bellow:

In your opinion what among the above were obstacles to project 100% success.

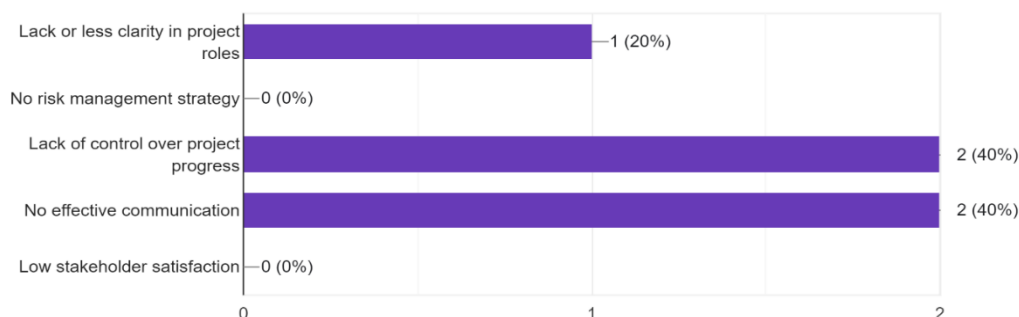


Chart 5: Opinion about obstacles to project 100% success

Hypothesis and research objectives verifications

1. Project was behind schedule and over budget

With reference to PRINCE2 frame work this poor performance could be explained as follows:

- Lack of a scheduling process that emphasizes on defined stages and continuous monitoring that highlight potential improvements in terms of time management;
- Lack of financial controls practices that could highlighted improvement on managing resource Allocations

Therefore, applying PRINCE2's structured approach could have further improved scheduling and resource allocation, leading to better adherence to timelines and budgets.

2. Stakeholders' satisfaction varied from moderate to satisfactory

Implementing PRINCE2 principles could have enhanced communication and stakeholder involvement and help in mitigating delays through a better coordination, improving overall satisfaction.

3. Project delivered benefit under classical construction management process

Although classical construction management delivered benefit, implementing PRINCE2 principles could have enhanced communication and stakeholder involvement and help in mitigating delays through a better coordination, improving overall satisfaction.

Furthermore, applying PRINCE2 to the project, success could have been better achieved through the 4 integrated elements of PRINCE2 methodology against which Azambi construction project outcomes was evaluated.

PRINCIPLES:

Manage by stage principles allows to break the project in manageable stages **in order to plan accordingly** and get direction from the project board, failure to meet this is illustrated by the following sentence in the documentation review:

“Long time periods and delays in the procurement of essential materials E.g., Milo Sand, Small Tools, Drilling” issue number 1 under PROCUREMENT AND LOGISTICS.

Manage by exception principle allows PM to work within tolerances of Cost-Time and Quality for which any deviation or **issue and risk is escalated to the project board for Ad-hock directives and on change management that have impact on project’s timely completion**. Failure to meet this is illustrated by the following sentence in the documentation review:

“Uncoordinated movement of materials and equipment from Azambi to other sites. Egg Excavator to Pakaka, Grader to Road Maintenance, Dozer to the Mine” issue number 3 under PROCUREMENT AND LOGISTICS.

Roles and responsibility principle was poorly applied with **less consideration for different roles and responsibility** of directing the project (project board, sponsor), managing (project manager), delivering (team manager). Failure to meet this is illustrated by the following sentence in the documentation review:

“No due respect for the Chain of Command when IOB Senior Management visits sites.” issue number 2 under COMMUNICATION problems.

THEMES:

Plans themes highlights the **necessity of producing a project plan that describe project products and activities for which time and cost of delivery are defined** and that can allow to generate a concise procurement plan for example. Unfortunately, this was not the case of Azambi project execution as stated in the project closure report. Failure to meet this is illustrated by the following sentence in the documentation review:

“Long time periods and delays in the procurement of essential materials E.g., Mbilo Sand, Small Tools, Drilling” issue number 1 under PROCUREMENT AND LOGISTICS problems.

“Long breakdown time E.g., Sandvik Drilling Machine - 5 months, Excavator CAT 374 - 4 months, Bell B25 ADT - 7 months, Unavailability of Service Kits” issue number 2&3 under PLANT problems.

Quality themes insists on **project product description to meet customer quality expectations and acceptance criteria** as a way to achieve quality this was not achieved as it is quoted in the closure report that wrong items were

purchase that could lead to projects delays especially when it comes to earth works equipment. Failure to meet this is illustrated by the following sentence in the documentation review:

"Procurement of wrong items E.g., JCB Roller Injector Pump, TLB Stater Motor, Excavator Bucket Tips, etc." issue number 2 under PROCUREMENT AND LOGISTICS problems.

Organization Theme, makes sure that a **project structure is established right from project start with competent people that plays different roles and responsibility of directing the project (project board, sponsor), managing (project manager), delivering (team manager)**. However classical project implementation methodology did not allow proper consideration of the organization theme's impact on quality of project delivery, in the documentation, it is highlighted that the project team competence was regularly questioned by the client as illustrated bellow:

"Lack of skills and experience up to Senior Management Levels at Azambi." issue number 2 under HUMAN RESOURCES problems.

Progress theme focuses on controlling advancement of work through check point reports from team manager to project manager and high light reports from PM to project board, all of them working within approved time, cost and quality tolerances set by each hierarchical project level to ensure accountability and that project deliver value.

Although this is not clearly highlighted as an issue in reports, it is noticeable that project progress follow-up was not given much consideration from IOB Management, thus leading to project time overrun.

Business case theme, focuses on outlining the benefit that the project will generate for verification at each stage of the project to ensure that there is still business justification of continuing the project. As benefit realization was not an issue both from contractor and client perspective, we did not investigate further how PRINCE2 Methodology applied could have led to better results in this regard. However, it should be noted that the project experienced variations extending from approved budget of \$17,977,585.35 to a final project cost of \$20,118,648.71, thus leading to 12% cost overrun amounting to \$2,141,063.36 that could have been avoided if process theme was strictly applied to remain within cost tolerance, especially because these variations were caused by the necessity to fund an acceleration program for completion delay.

PROCESSES

Issues raised under CLIENT section on documentation review are related to gaps in terms of project successfully processing. Using PRINCE 2 framework that take in account all project stakeholders (Senior Supplier, Senior User, Sponsor) could have allowed to start the project with all stakeholders involved and issues could have been sorted over project execution within the project

steering committee. The gap in processes execution is illustrated by the following sentences:

“Client had a strained relationship with the Project Manager” this is linked to initiating a project process

“Client did not provide resources in time E.g. Cranes, Sika Product”

“Client provided insufficient and or deformed resources E.g. Rebar, Peri Shutters and Formwork, Scaffolding and Concrete Pump”, issue number 1,2,3 under CLIENT problems.

All the 3 comments are linked to managing a stage boundary process were resources for the next stage need to be prepared properly for a better execution.

TAILORING

The only tailoring necessity that could have applied to PRINCE2 methodology for successful project delivery and business performance could have been taken into consideration is the nature of the project that required a match with construction management practices.

NEGATIVE IMPACTS OF THE ABOVE TO THE PROCJET OVERALL PERFORMANCE

- *Lost time and Money – Client had to use TES external contractor for procuring stuff meant to be used by IOB.*
- *Lost time and money – Some earthworks activities had to be redone after failed compaction tests*
- *Severely strained relations with the Client who demanded a Breakdown Register for IOB Equipment.*
- *Poor workmanship and quality of work.*
- *Huge workloads on some people.*
- *Disrespect for authority*
- *Accountability, lines of authority and decision-making power became blurred due to no respect of Chain of Command. Managers felt disrespected because the issues that they were supposed to report or answer to were being directed to their subordinates.*
- *Strained relations with the Resident Engineer and Client who regularly complained and questioned the expertise of Senior Managers.*

CONCLUSION

This study aimed at alleviating existing literature gaps by conducting a comparative analysis of project outcomes based on classical project management methodologies and projecting potential outcomes using PRINCE2 framework. The research has achieved its goal demonstrating that PRINCE 2 methodology could have enhanced Azambi HPP delivery compared to execution under classical project methodology that led to the bellow out comes:

- Project was behind schedule and over budget;
- Stakeholders' satisfaction varied from moderate to satisfactory;
- Project delivered benefits under classical construction management process.

Therefore, had PRINCE2 been used, the Azambi Hydropower construction project might have experienced the following:

- Enhanced clarity in roles and responsibilities, reducing internal conflicts and improving team coordination.
- Improved risk management practices, leading to fewer unexpected challenges and better mitigation strategies.
- More effective project control and monitoring, resulting in adherence to timelines and budgets.
- Comprehensive documentation, aiding in post-project reviews and future project planning.

Area of improvement identified and recommendations for future projects

1. **Project Clarity and Roles:** Ambiguities in roles hindered the Azambi Hydropower project. PRINCE2's clear role definitions could have ensured better accountability and coordination. **Recommendation:** define role and responsibility right from project beginning
2. **Risk Management:** Traditional methods lacked proactive risk management, causing delays and overruns. PRINCE2's structured risk processes could have identified and mitigated risks earlier. **Recommendation:** Risk management could handle proactively with PRINCE 2 approach on risk management
3. **Control and Monitoring:** Gaps in classical monitoring led to inefficiencies. PRINCE2's continuous monitoring could have ensured better control, timely completion, and budget adherence. **Recommendation:** Applying controlling a stage process with check point reports, highlight reports, exception reports (issue report) can reinforce control over project monitoring.
4. **Documentation and Learning:** The classical approach's poor documentation hindered learning. PRINCE2's thorough documentation could have improved knowledge transfer and future project management. **Recommendation:** establishing PMO¹¹ within IOB could improve project delivery outcomes and learning as highlighted in the Bank of Uganda case by Esther Gonza (2020) in terms of long-term benefits.

¹¹ Project Management Office : is a division or department that supports business units in managing their projects using PRINCE2

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