

ACHIEVING PERFORMANCE IN MAJOR PUBLIC INFRASTRUCTURE PROJECTS: THE CASE OF ROAD WORKS IN SENEGAL

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AGEROUTE SENEGAL







1. PRESENTATION OF AGEROUTE SENEGAL: SOME KEY FIGURES (1/3)

2000

August 3, 2000 creation of the Autonomous Road Works Agency,

following the reform of the road sector which aimed to correct the dysfunctions of the former public works direction 2004

Status of autonomous public service unit with 2 bodies :

The roads council,
deliberative body and
the general
management, executive
body

2010

AATR was replaced by AGEROUTE, a legal entity under public law

Main mission: the implementation of all construction, rehabilitation and maintenance Works on roads, bridges and other structures as well as management of the classified road network







1. PRESENTATION OF AGEROUTE SENEGAL: SOME KEY FIGURES (2/3)

Supervision

Technical supervision: Ministry in charge of Infrastructures

Financial supervision: Ministries in charge of Economy and Finance

Strategic Objectives Six (06) Strategic Objectives in the Strategic development plan (2023-2027): 1. ensure proper preservation of the road and motorway network; 2. strengthen subregional integration and urban mobility; 3. open up production areas; 4. improve the mobility of people and goods; 5. increase and maintain highways; 6. strengthen the AGEROUTE management and coordination system

Other information

Workforce (2023): 228 agents including 67% executives; 30% woman.

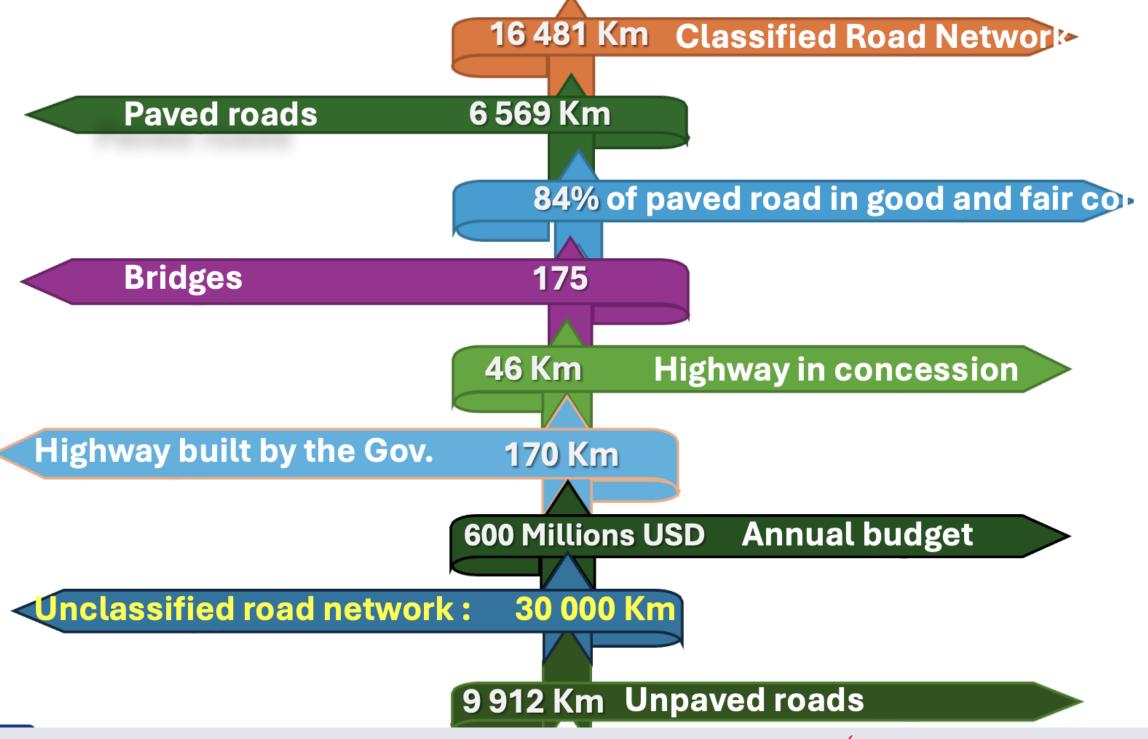
Operation/Investment Ratio: 1.3%

Portfolio: 36 actives projects, Total length: 3,665 km, Budget: 3,6 billions USD.





1. PRESENTATION OF AGEROUTE SENEGAL: SOME KEY FIGURES (3/3)







PRESENTATION OF THE AUTHOR AND PLAN

PRESENTATION OF THE AUTHOR

- Training
 - 1997: Civil Design Engineer Diploma, Ecole Polytechnique de Thiès (Senegal)
 - 2018: MBA International Paris, IAE Paris Sorbonne-Paris Dauphine-CESAG
 - 2021: Executive Doctorate in Business Administration (E-DBA), Business Science Institute of Luxembourg & IAE Lyon School of Management

Career

- 1998-2016: Compagnie Sahelian Enterprises (CSE), Materials Engineer & Road Project Manager in Senegal and the West African sub-region
- 2016 to present : Agency for Works and Road Management (AGEROUTE) of the Ministry of Land Transport Infrastructure and Opening Up of Senegal, Project Implementation Unit Coordinator & Head of the Major Road Works Division
- PLAN: 1. Introduction, 2. Conceptual framework, 3. Epistemology and Methodology,
 - 4. Presentation of research results, 5. Managerial recommendations, 6. Conclusion





1. INTRODUCTION 1/2

PROBLEMATIC

- Public infrastructure: direct support for productive activities, circulation and development of human capital. (Hansen, 1965)
- Increase in infrastructure capital = increase in GDP (Ingram et al., 1994)
- Need to implement large projects to increase infrastructure capacity
- Complexity and uncertainties lead to lack of performance in the implementation of these large projects with unwanted results like schedule & cost overruns and quality defects

IMPORTANCE AND TOPICALITY OF THE SUBJECT

- SDG No 9 (United Nations 2030 Agenda): "establish quality, reliable, sustainable and resilient infrastructure, ..., at an affordable cost and in conditions of equity"
- 11% of Senegal's budget devoted to road infrastructure from 2010 to 2020





1. INTRODUCTION 2/2



- Main fields of literature : Academic and Practitioner
 - Project Management
 - Strategic Management of Organizations



THE GAP IN THE LITERATURE

- The project manager, what about the other stakeholders?
- The local context: not sufficiently taken into account
- -Golden Triangle (Scope-Schedule-Cost) towards Pentagon with two other criteria: (i) the satisfaction of users and local residents; (ii) safeguarding the project environment

RESEARCH QUESTION

How to achieve project performance within the framework of a broader stakeholder vision?

RESEARCH OBJECTIVES

(i) Diagnose the status of implementation of road projects in Senegal; (ii) Determine and analyse the roles of the client, consultant, contractor, funder and other stakeholders in order to achieve performance.



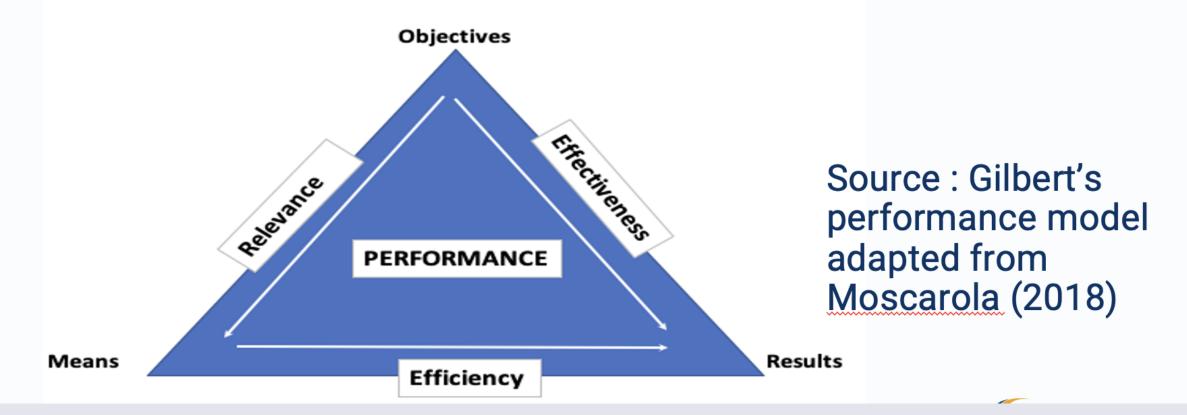


2. CONCEPTUAL FRAME 1/2

ROAD PROJECT

unique set of activities carried out by stakeholders and coordinated by a project owner, with a view to carrying out a work conforming to the specified quality, as soon as possible, at the lowest cost while ensuring stakeholder satisfaction and safeguarding the project environment. Project cycle: identification, preparation, implementation, ex-post evaluation

THE PERFORMANCE MODEL

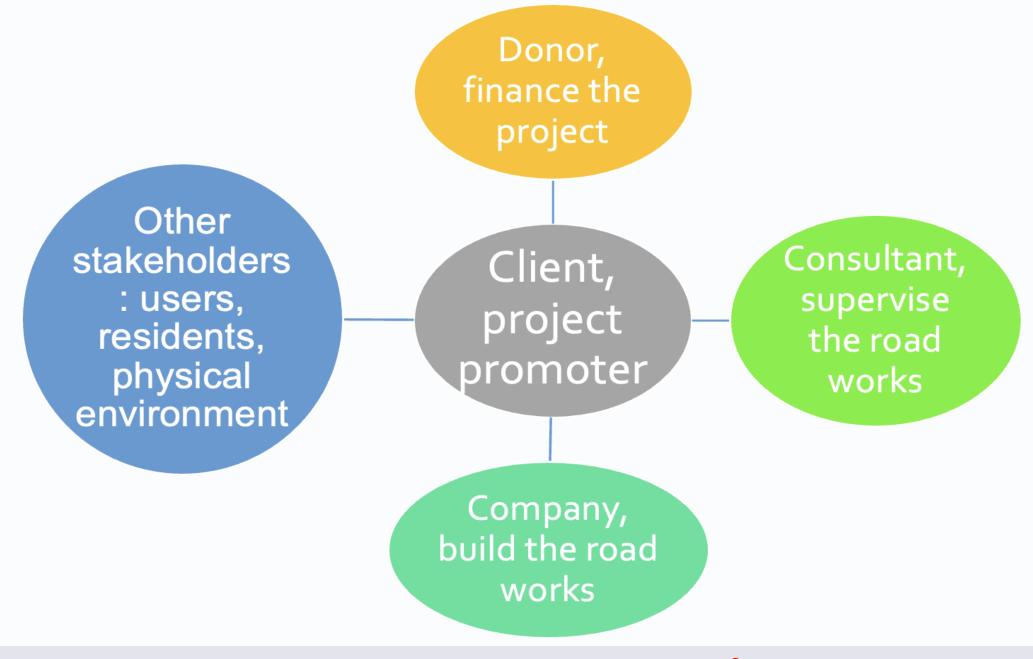






2. CONCEPTUAL FRAME 2/2

THE ROAD PROJECT' STAKEHOLDERS







3. EPISTEMOLOGY AND METHODOLOGY 1/2

THE RESEARCH EPISTEMOLOGY

Type of reasoning : ragmatic constructivisn abduction Quantitative Methodology: performance diagnosis of road projects Qualitative Methodology: determining the role of the stakeholders





3. EPISTEMOLOGY AND METHODOLOGY 2/2 THE RESEARCH METHODOLOGY

- 1. Diagnosis of the performance of road projects: describing the problem (quantitative approach)
 - Local context analysis with PESTEL
 - Diagnosis of the results of the execution of 41 major road projects (AGEROUTE, 2007-2016
 - Data analysis with <u>Dataviv</u> by Sphinx
- 2. Empirical investigation: <u>understanding the problem</u> (qualitative approach)
 - 34 semi-structured interviews: April December 2019; average duration: 66 mins
 - With all stakeholders: project owner, funder, project manager, company, users & residents of the road
- 3. Development of managerial proposals: transforming the problematic situation
 - Full transcription of interviews: textual data processed by content, lexical and semantic analyses
 - Emergence of managerial themes relating to the roles of each of the stakeholders at each stage of the project cycle to achieve the performance of the road project.

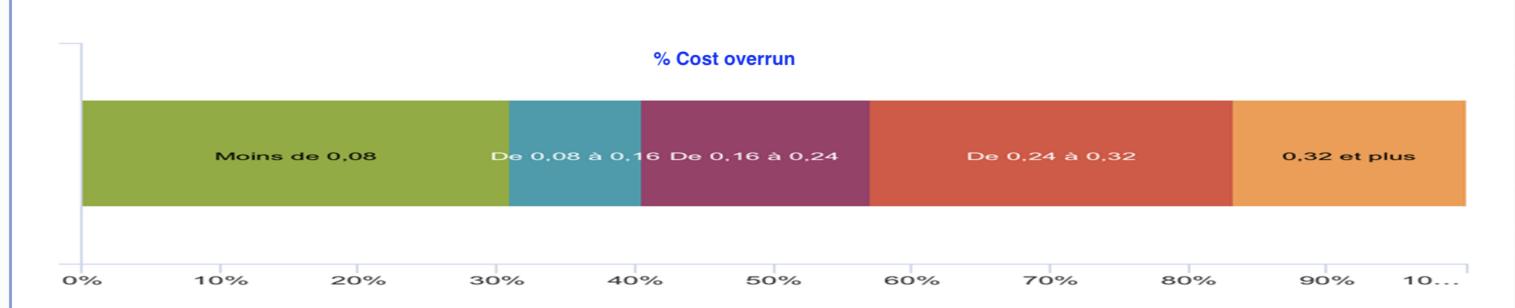




4. PRESENTATION OF THE RESEARCH RESULTS 1/3

QUANTITATIVE APPROACH: DIAGNOSTIC RESULTS (SCHEDULE & COST)



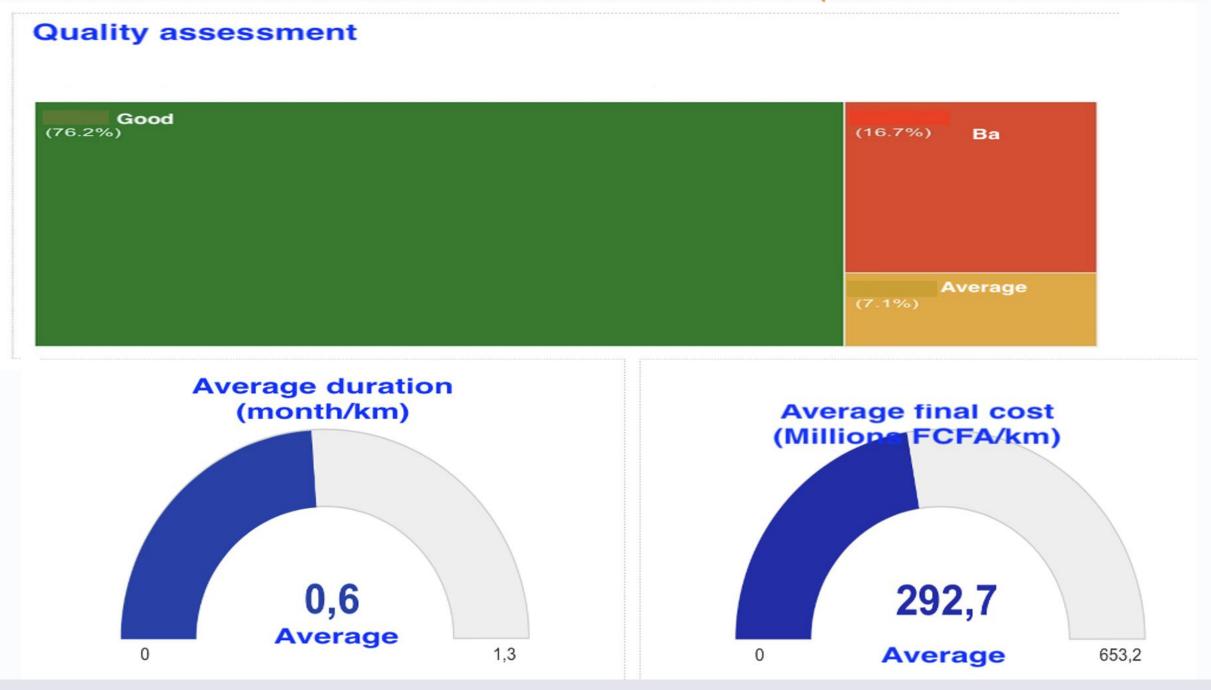






4. PRESENTATION OF THE RESEARCH RESULTS 2/3

QUANTITATIVE APPROACH: DIAGNOSTIC RESULTS (QUALITY OF THE WORKS)





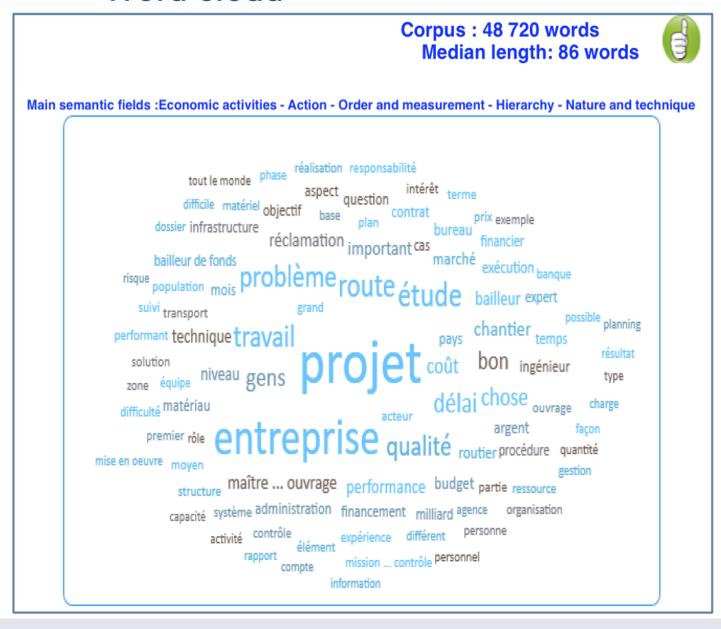


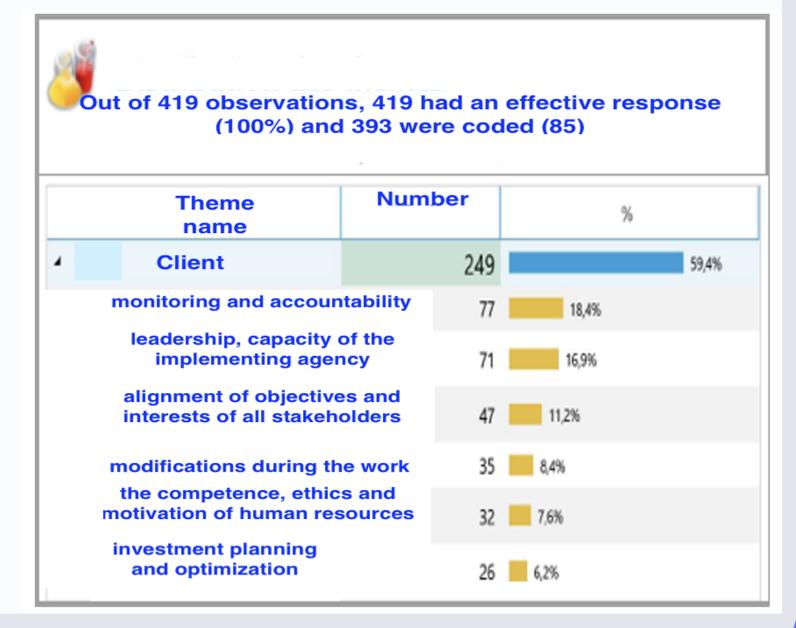
4. PRESENTATION OF THE RESEARCH RESULTS 3/3

QUALITATIVE APPROACH: LEXICAL AND SEMANTIC ANALYSES

Word cloud

Distribution of themes









5. MANGERIAL RECOMMENDATIONS 1/4

AT THE PROJECT **IDENTIFICATION STAGE** FOR EACH STAKEHOLDER



- Show leadership and have capacity
- Take into account the strategic alignment of objectives and interests of all stakeholders
- Select professional human resources to take into account strategic planning, investments optimisation, risks identification and management

Donor

- Make funds available
- Identify and manage risks (socio-economic impacts)

Other Stakehold ers <u>Take into account</u> the expression of the needs of other stakeholders (users, residents,...)





5. MANGERIAL RECOMMENDATIONS 2/4

AT THE PROJECT **PREPARATION STAGE** FOR EACH STAKEHOLDER

Client

- Attach importance to the quality of the pre-project technical, environmental and social studies. Optimize the financial arrangement. Promote local service providers
- Set up a study validation committee and process

Donor

Be responsive to requests for approval (Notice of no Objection)

Service providers (Consultant Engineer)

- Ensure the competence, experience and ethical behaviour of the experts
- Have reliable input data
- Conduct transparent procurement processes

Other Stakeh

- Raise awareness in an inclusive and participatory way
- Free the project's grip in time and in a fair way
- Ensure good coordination with network concessionaires





5. MANGERIAL RECOMMENDATIONS 3/4

AT THE PROJECT **EXECUTION STAGE** FOR EACH STAKEHOLDER

Client

- Monitor and report
- Avoid modifications during the work
- Sanction non-performing providers

Donor

- Carry out regular supervisory tasks, technical and financial audits
- Comply with the deadlines for processing and payment of invoices

Service provi ders

Other Stake

- Ensure competence, experience and integrity of the Engineer staff
- Have a Quality Management System and apply it
- Have a good organisation and the human resources required as well as the required equipment
- Have technical and financial capacity
- Take accompanying social measures and preserve the environment
- Collaborate with organisations representing other stakeholders





5. MANGERIAL RECOMMENDATIONS 4/4

AT THE PROJECT **EX-POST EVALUATION STAGE** FOR EACH STAKEHOLDER

Client

- Capitalise on best practices and on lessons learned
- Promote information sharing with other administrations

Donor

Carry out technical and financial ex-post evaluation

Other Stakeh

- Liaise and raise awareness in an inclusive way
- Take into account the expression of the needs of other stakeholders





6. CONCLUSION 1/2

MAIN CONTRIBUTIONS OF THE RESEARCH

Performance diagnosis (Scope-Schedule-Cost) of road projects in Senegal

Inclusive and participatory approach with stakeholders in the Senegalese context

Identification and analysis of the roles of each of the stakeholders in the road project, in order to achieve performance





6. CONCLUSION 2/2

FUTURE RESEARCH BASED ON OUR THESIS

Focus group:
greater
legitimization
of the results
of our
research

Hypotheses
of
hypotheticodeductive
research
through a
quantitative
survey

Similar research:
other areas of
public
infrastructure
(energy and
hydraulics), both in
Senegal and in
African countries
with a similar
context







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