

SURVEY QUESTIONNAIRE

Supplementary File 1 — Validated Survey Instrument

Cascading Risk–Constraint Dynamics in Public Construction Projects:

A Systems-Based Model — Nakuru County, Kenya

NACOSTI Licence No. NACOSTI/P/24/38529 | Field Data (2024) | N = 292

PARTICIPANT INFORMATION AND CONSENT

You are invited to participate in a doctoral research study on project risk management, project size, external environment, and project performance of county-funded construction projects in Nakuru County, Kenya, conducted by Julius M. Kabue, PhD student, University of Nairobi.

- Your participation is entirely voluntary. You may withdraw at any time without penalty.
- All responses are strictly confidential and will be reported only as aggregated group data.
- No personal identifying information will be associated with your responses.
- This questionnaire takes approximately 20–25 minutes to complete.

By completing and returning this questionnaire, you confirm that you have read and understood the above information and consent to participate.

SECTION I: DEMOGRAPHIC CHARACTERISTICS

1. Gender:

- ☐ Male ☐ Female

2. Highest level of education:

- ☐ Secondary School Level ☐ College Level ☐ Undergraduate Level ☐ Post Graduate Level

3. Age bracket:

- ☐ 18–25 years ☐ 26–35 years ☐ 36–45 years ☐ 46–55 years ☐ Above 55 years

4. Role:

- ☐ Contractor ☐ Sub-Contractor ☐ Project Engineer ☐ Finance Manager ☐ Project In-Charge (County Government)

5. Type(s) of county construction projects involved with:

- ☐ County Health Facilities ☐ County Roads ☐ Market Stalls ☐ ECDE Centres

6. Years worked with county-funded construction projects:

- 1–2 years ○ 3–4 years ○ 5–6 years ○ Above 6 years

Scale for Sections II–VIII: 1 = No Extent (NE) | 2 = Small Extent (SE) | 3 = Moderate Extent (ME) | 4 = Large Extent (LE) | 5 = Very Large Extent (VLE)

SECTION II: OPERATIONAL RISK MANAGEMENT

Indicate the extent to which each operational risk management practice is applied in your project.

No.	Statement	1	2	3	4	5
1	Our project has measures to identify risks associated with contractor performance	☐	☐	☐	☐	☐
2	Our project has measures to identify risks associated with sub-contractor performance	☐	☐	☐	☐	☐
3	Our project has measures to identify risks associated with supplier performance during project implementation	☐	☐	☐	☐	☐
4	We always evaluate the possible impact on project performance if identified contractor performance risks are realised	☐	☐	☐	☐	☐
5	We always evaluate the possible impact on project performance if identified sub-contractor performance risks are realised	☐	☐	☐	☐	☐
6	We always evaluate the possible impact on project performance if identified supplier performance risks are realised	☐	☐	☐	☐	☐
7	Adequate measures are put in place to address any contractor-related risks that may be realised	☐	☐	☐	☐	☐
8	Adequate measures are put in place to address any sub-contractor-related risks that may be realised	☐	☐	☐	☐	☐
9	Adequate measures are put in place to address any procurement-related risks that may be realised	☐	☐	☐	☐	☐
10	We always monitor various associated operational risks	☐	☐	☐	☐	☐

Open-ended: What other operational risk management practices are utilised in your construction projects?

SECTION III: STRATEGIC RISK MANAGEMENT

Indicate the extent to which each strategic risk management practice is applied in your project.

No.	Statement	1	2	3	4	5
1	We proactively identify evolving regulatory interventions in the construction industry	☐	☐	☐	☐	☐
2	We always proactively ensure continuous compliance with diverse regulatory requirements	☐	☐	☐	☐	☐

3	Our project team fosters positive working relations with regulatory bodies as a risk management measure	☐	☐	☐	☐	☐
4	Our projects always examine the impact of diverse change requests on project performance before implementing them	☐	☐	☐	☐	☐
5	We always proactively manage the frequency of change requests	☐	☐	☐	☐	☐
6	All required stakeholders are consulted before implementation of diverse change requests	☐	☐	☐	☐	☐
7	To mitigate frequent design changes, all stakeholders are always consulted at the project design stage	☐	☐	☐	☐	☐
8	Diverse stakeholders are always provided with adequate information for decision-making during the project design stage	☐	☐	☐	☐	☐
9	Project management teams with adequate experience are always present during the project design stage	☐	☐	☐	☐	☐
10	Critical stakeholders impacted by any change requests are always in agreement with such changes	☐	☐	☐	☐	☐

Open-ended: *What other strategic risk management practices are utilised in your construction projects?*

SECTION IV: LEGAL RISK MANAGEMENT

Indicate the extent to which each legal risk management practice is applied in your project.

No.	Statement	1	2	3	4	5
1	Our project teams always proactively forecast possible sources of conflicts in order to mitigate them	☐	☐	☐	☐	☐
2	All stakeholders are always appropriately consulted to mitigate the occurrence of disputes that could lead to litigation	☐	☐	☐	☐	☐
3	Proactive measures are always put in place to prevent arising disputes from escalating to litigation	☐	☐	☐	☐	☐
4	Alternative dispute resolution has always been embraced instead of litigation processes when disputes arise	☐	☐	☐	☐	☐
5	All contracts are always prudently prepared to avoid legal loopholes	☐	☐	☐	☐	☐
6	Any arising disputes are always resolved in a timely manner before they escalate to litigation	☐	☐	☐	☐	☐
7	Any arising legal disputes are comprehensively resolved to avoid recurrence	☐	☐	☐	☐	☐
8	Our projects always actively monitor contract provisions in order to mitigate the risk of contract breaches	☐	☐	☐	☐	☐
9	The root causes of any arising legal disputes are always investigated in order to put an effective resolution in place	☐	☐	☐	☐	☐
10	Our project team continuously monitors the legal risks that the project is facing	☐	☐	☐	☐	☐

Open-ended: What other legal risk management practices are utilised in your construction projects?

SECTION V: FINANCIAL RISK MANAGEMENT

Indicate the extent to which each financial risk management practice is applied in your project.

No.	Statement	1	2	3	4	5
1	In undertaking our projects, cost estimation is always carried out for all projects	☐	☐	☐	☐	☐
2	The cost estimations are always used for decision-making on finance-related issues	☐	☐	☐	☐	☐
3	Our project teams always have adequate expertise to produce realistic cost estimations that do not vary significantly during project implementation	☐	☐	☐	☐	☐
4	Our projects always have a robust internal control mechanism to avoid fund misappropriation	☐	☐	☐	☐	☐

5	The construction projects are always availed with the required funds in a timely manner	☐	☐	☐	☐	☐
6	There is always a robust approval process for project costs to be incurred during implementation	☐	☐	☐	☐	☐
7	Project cost expenditures are always proactively monitored during implementation	☐	☐	☐	☐	☐
8	The construction projects always undertake project cost control measures to avoid cost overruns	☐	☐	☐	☐	☐
9	Budget baselines are often used in the project cost estimation aspects	☐	☐	☐	☐	☐
10	Payments are often undertaken in a timely manner to avoid disputes	☐	☐	☐	☐	☐

Open-ended: *What other financial risk management practices are utilised in your construction projects?*

SECTION VI: PROJECT SIZE

Indicate the extent to which each statement about project size applies to your county-funded construction project.

No.	Statement	1	2	3	4	5
1	Our projects would often be considered large relative to other similar construction projects in the county	☐	☐	☐	☐	☐
2	We consider our projects to be of such complexity as to require special consideration in procurement matters	☐	☐	☐	☐	☐
3	We consider our projects to be of such complexity as to require special consideration in financial management matters	☐	☐	☐	☐	☐
4	We consider our projects to be of such complexity as to require special consideration in stakeholder management matters	☐	☐	☐	☐	☐
5	We consider our projects to be of such scope as to require special consideration in procurement matters	☐	☐	☐	☐	☐
6	We consider our projects to be of such scope as to require special consideration in financial management matters	☐	☐	☐	☐	☐
7	We consider our projects to be of such scope as to require special consideration in stakeholder management matters	☐	☐	☐	☐	☐
8	We consider our projects to be of such scope as to require special consideration in technical expertise matters	☐	☐	☐	☐	☐
9	We always ensure adequate project planning measures are in place for larger-sized projects	☐	☐	☐	☐	☐
10	We always consider logistical arrangements as potential risk factors in larger projects	☐	☐	☐	☐	☐

***Open-ended:** What other project size factors are considered in risk management for your construction projects?*

SECTION VII: EXTERNAL ENVIRONMENT

Indicate the extent to which each external environmental factor has a bearing on your county-funded construction project.

No.	Statement	1	2	3	4	5
1	In our projects, regulatory impact has a huge bearing on project implementation dynamics	☐	☐	☐	☐	☐
2	Community relations aspects often have a huge bearing on the projects we implement	☐	☐	☐	☐	☐
3	The physical environment we operate in often has a huge bearing on the projects we implement	☐	☐	☐	☐	☐
4	The technological environment we operate in often has a huge bearing on the projects we implement	☐	☐	☐	☐	☐

5	The political environment we operate in often has a huge bearing on the projects we implement	☐	☐	☐	☐	☐
6	The financial environment we operate in often has a huge bearing on the projects we implement	☐	☐	☐	☐	☐
7	The economic environment we operate in often has a huge bearing on the projects we implement	☐	☐	☐	☐	☐
8	The social environment we operate in often has a huge bearing on the projects we implement	☐	☐	☐	☐	☐
9	The cultural environment we operate in often has a huge bearing on the projects we implement	☐	☐	☐	☐	☐
10	The legal environment we operate in often has a huge bearing on the projects we implement	☐	☐	☐	☐	☐

Open-ended: *What other external environmental factors affect your construction projects?*

SECTION VIII: PROJECT PERFORMANCE

Indicate the extent to which each project performance outcome applies to your county-funded construction project.

No.	Statement	1	2	3	4	5
1	Our construction projects are always completed within the stipulated project cost	☐	☐	☐	☐	☐
2	Our construction projects are always completed within the stipulated project schedule	☐	☐	☐	☐	☐
3	Our construction projects are always completed within the stipulated quality standards	☐	☐	☐	☐	☐
4	Our construction projects are always completed within the stipulated project scope	☐	☐	☐	☐	☐
5	Our construction projects are always completed with the required safety standards	☐	☐	☐	☐	☐
6	Our construction projects are always completed in compliance with all contractual requirements	☐	☐	☐	☐	☐
7	All project stakeholders are always satisfied with the performance of the construction projects	☐	☐	☐	☐	☐
8	Our construction projects are always cost-effective in nature	☐	☐	☐	☐	☐
9	All technical standards required for the construction projects are always met	☐	☐	☐	☐	☐
10	The overall performance of our construction projects meets or exceeds expectations	☐	☐	☐	☐	☐

Thank you for your participation. Please return the completed questionnaire to the designated research assistant or contact person at your project site. All responses are strictly confidential and will be used solely for academic research purposes.

Principal Investigator: Julius M. Kabue | Email: kabuetaiyana@gmail.com | University of Nairobi, Kenya
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