SELECTED WORK

Freight Forwarding and Port Congestion

A questionnaire and hypothesis-development sample

PROJECT TYPE	Questionnaire and hypothesis design for a study of freight forwarding and congestion across Lagos ports.

Design problem

A study originally framed around one location was widened to Lagos ports. The instrument therefore needed measures that remained comparable across locations while capturing operational differences.

Construct map

Construct	Example indicators	Suggested scale
Congestion exposure	Queue time, truck turnaround, gate delay	Frequency or minutes/hours
Operational efficiency	Clearance time, predictability, documentation	5-point agreement
Coordination	Information sharing, agency alignment, scheduling	5-point agreement
Business impact	Cost, missed delivery, demurrage, client complaints	Frequency and magnitude

Sample questionnaire items

Item	Statement
B1	Truck queues regularly delay cargo movement at the port used by my organisation.
B2	Gate-processing time is predictable enough for effective delivery planning.
C1	Relevant agencies provide timely information when operational changes occur.
D1	Congestion increases the direct cost of completing freight-forwarding assignments.
D2	Port delay contributes to missed delivery commitments to clients.

Hypothesis alignment

Hypothesis	Independent variable	Dependent variable	Possible test
H01	Congestion exposure	Freight-forwarding efficiency	Correlation/regression
H02	Agency coordination	Clearance predictability	Correlation/regression
H03	Gate-processing delay	Operating cost	Correlation/regression
H04	Scheduling practices	Truck turnaround time	Group comparison/regression

Quality checks before use

- Avoid combining two ideas in one statement.
- Use one consistent recall period for experience questions.
- Define the port or terminal context before operational items.
- Pilot the instrument with a small relevant group and revise unclear wording.
- Keep identifying information to the minimum required by the study.

FormalPen contribution

Scope refinement, construct selection, questionnaire organisation and alignment between study objectives, variables and statistical tests.

ETHICS NOTE A final instrument should be approved by the relevant supervisor or ethics process before data collection.