A framework to scope logistics initiatives

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Presentation outline

- Perspective on Logistics
- Joburg Metro’s Economic Development Unit (EDU)
- The proposed framework
- Example
- Scoping an initiative
- Calculating stakeholder fitness
- Research agenda
Perspective on logistics

Goods, services, and related information

Commodities

Import venue
Warehouse
Point of Supply
Origin

Physical movement

Exports venue
Warehouse
Point of Demand
Destination

Freight logistics sector

4th Party logistic service provider
3rd Party logistic service provider
Transport service provider

Road
Rail
Air
Water
Pipeline

Logistics enablers

Node infrastructure
Network infrastructure
Transport vehicles and vessels
Operational human resources
Joburg’s Economic Development Unit (EDU)

- Freight logistics acknowledged in Integrated Transport Plans at metropolitan (city) level
- 9 Cities Network and the Transport Working Group
- Sustainability — a political ideology
- Return on investment requires beneficiaries to invest in
- Beneficiaries’ participation required in project identification
- Careful selection of beneficiaries required
Proposed framework
Proposed framework

Stakeholder roles

- Service Supporter
- Regulator
- Operator
- Supplier
- Owner

Commercial service portfolio

- Integration
- Quantitative decision making
- Knowledge management
- Information

Physical components

- Node infrastructure
- Network infrastructure
- Vehicles / vessels
- Operational human resources
Proposed framework

- Stakeholder roles:
  - Service Supporter
  - Regulator
  - Operator
  - Supplier
  - Owner

- Physical components:
  - Node infrastructure
  - Network infrastructure
  - Vehicles / vessels
  - Operational human resources

- Integration
- Quantitative decision making
- Knowledge management
- Information
Proposed framework — an example
Proposed framework — an example
Proposed framework — an example
Proposed framework — an example

\[ \overline{C_3} = \{3, 7, 8\} \]
Scoping an initiative

Stakeholder roles

- Service Supporter
- Regulator
- Operator
- Supplier
- Owner

Commercial service portfolio

- Integration
- Quantitative decision making
- Knowledge management
- Information

Physical components

- Node infrastructure
- Network infrastructure
- Vehicles / vessels
- Operational human resources

Knowledge management

- Service Supporter: 17, 18, 19, 20
- Regulator: 13, 14, 15, 16
- Operator: 9, 10, 11, 12
- Supplier: 5, 6, 7, 8
- Owner: 1, 2, 3, 4
Scoping an initiative

Commercial service portfolio

Quantitative decision making

Knowledge management

Information

Service Supporter

Regulator

Operator

Supplier

Owner

Node infrastructure
Network infrastructure
Vehicles / vessels
Operational human resources

Physical components
Stakeholder fitness

\[ s_i = \frac{2 \times \| H \cap \overline{C}_i \| + \| L \cap \overline{C}_i \|}{2 \times \| H \| + \| L \|}, \forall i \in \{1, 2, \ldots, I\} \]
Stakeholder fitness

\[ s_i = \frac{2 \times \| H \cap \overline{C}_i \| + \| L \cap \overline{C}_i \|}{2 \times \| H \| + \| L \|}, \forall i \in \{1, 2, \ldots, I\} \]

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Research agenda
Research agenda

- Eliminate ambiguity of elements through questionnaire
- Refine the calculation of fitness — penalize (or promote):
  - Service offering
  - Scope of initiative
Research agenda

Thank you