

**TRANSPORT INFRASTRUCTURE PROJECT
PLANNING PROCESS AND CAPITAL DEPLOYMENT
EFFICACY IMPLICATIONS:
EVIDENCE FROM SRI LANKA**

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Degree of Master of Philosophy

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University of Moratuwa

Sri Lanka

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Thesis submitted in partial fulfilment of the requirements for the
Degree Master of Philosophy

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August 2021

Declaration of Originality

I declare that this is my own work and this thesis does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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The supervisor/s should certify the thesis/dissertation with the following declaration.
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Transport infrastructure project planning process and capital deployment efficacy implications: evidence from Sri Lanka

Abstract

Public sector investments contribute to economic growth and enhance the productivity of a country. According to the Central Bank annual report 2020, the Government of Sri Lanka spends around 30% of total annual expenditure on capital investments. The project planning process plays a crucial role in selecting projects and allocating resources with optimum capital efficiency. However, public investment planning in Sri Lanka does not consider returns on investment or technical specifications, resulting in low value for the cost. It also lacks expert consultations or in-depth evaluations of project need. As a result, implementors often fail to adhere to the process of selecting capital-efficient ventures.

It is important to comprehensively evaluate projects at the planning stage and select the most cost-efficient options. This analysis of the current project planning process in Sri Lanka is undertaken based on selected case studies of road and rail transport infrastructure investments. Sri Lanka allocates a share of its public capital investment for land transport infrastructure projects. This research aims to examine the planning process for public sector capital investment projects, identify its implications for capital efficiency and propose efficiency improvements to Sri Lanka's public sector capital investments.

Standard operating practices in Australia, Canada, Germany, Hong Kong, India, and Vietnam were compared with Sri Lanka. This comparison revealed that Sri Lanka's public project planning process does not provide standard operating practices for initial screening of projects, clientele analysis, probabilistic risk analysis, or post-project evaluation.

Context analysis from rail and road infrastructure investment projects revealed that most projects in Sri Lanka do not follow the current project planning process. Instead, project proponents bypass the process and seek direct Cabinet approval. On average, projects that receive such direct approval have higher investment costs associated with them. In-depth interviews with industry experts revealed that the causes of capital deployment inefficiencies were the unclear institutional role entrusted by the Department of National Planning, political influence, lack of transparency throughout the process, and gaps in the operation manual.

Upon summarising all gaps and identified issues, the study proposes appropriate mitigation measures. These measures recommend developing an Act of Parliament to introduce an authoritative body to implement the planning process and adopt centralised guideline with Standard Operating Practices. The proposed centralised guideline was validated through two rounds of expert consultations. Future research could evaluate the proposed centralised guideline by applying them to specific projects and expanding their application to encompass irrigation, port, and airport infrastructure investments.

Keywords: Public investment, capital efficiency, project planning process, transport infrastructure

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LIST OF ABBREVIATIONS

ADB - Asian Development Bank
BCR - Benefit-Cost Ratio
BOQ – Bill of Quantity
CECB - Central Engineering Consultancy Bureau
DP – Decision Points
DPR-Detailed Project Report
FEDD - Front-End Detail Design
FR - Financial Regulations
GDP - Gross Domestic Production
GOSL – Government of Sri Lanka
ICOR - Incremental Capital Output Ratio
IFI – International Financial Institution
IMF - International Monetary Fund
IP – Investment Productivity
IPD - Initial Project Description
IRCON - IRCON International Limited India
JICA - Japanese International Corporation Agency
KPI – Key Performance Indicators
LCC – Life Cycle Costing
LKR – Sri Lankan Rupee
NPAA - National Project Appraisal Authority
NPD - National Planning Department
OM – Operation Manual
PAC - Project Appraisal Committee
PIM – Public Investment Management
PP - Project Proponent
RDA – Road Development Authority
ROCE - Return on Capital Employed
ROCKS – Road Cost Knowledge System
SD - Standard Deviations
SLR - Sri Lanka Railway Department
SOP - Standard operating practice
USD – United States Dollar
VE – Value Engineering
WB - World Bank

Exchange rate (2019) - USD 1 = LKR 178.78 (Central Bank of Sri Lanka [1])