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University of the Witwatersrand, Johannesburg

# Feasibility assessment of projects for risk of failure: How feasibility assessments are done for infrastructure projects

A study submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, in fulfilment of the requirements for the degree of Master of Science in Building by research

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**Johannesburg 2019**

**CANDIDATE'S DECLARATION**

I declare that this dissertation is my own unaided work. It is being submitted to the Degree of Master of Science by Research to the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other University.

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Ronald Smith

---------- day of ---------- 2019.

**Abstract**

Avoiding project failure is a concern within the discipline of project planning and management. Feasibility assessment is a front-end process used in project planning to analyse risks and avoid failure. The aim was to explore how feasibility assessments for large infrastructure development projects are conducted and the extent to which risk of failure is recognised. Literature review established theory and definition of feasibility assessment as applied to projects. Two cases of large scale infrastructure development projects in South Africa were investigated to compare different approaches of how feasibility assessments are conducted. Methodology was a combination of direct observation, interviews and analysis of documents collected from the case studies. The predominant risk factor recognised by expert feasibility assessors in both cases was found to be perception of risk itself. Questions asked of the experts are designed to lead to a confirmation that the project *could* go ahead. The questions do not necessarily ask opinion on whether the project *should* go ahead. Comparison of the cases showed that the process of feasibility assessment was driven by each assessing firm's own interpretation of the purpose and objective of feasibility assessment. Overall, the study confirms that the feasibility assessment process is useful as a way for project managers to recognise risk of failure before deciding to proceed with a project. However, the process depends on each assessor's own interpretation of the definition of feasibility assessment and its purpose. Further research is suggested into the distinction between the reasons justifying why a feasibility assessment was not done, and the reasons why feasibility assessment was not considered for a project.

**KEYWORDS:**

Gautrain Project, HRtLR Project, Infrastructure Development, Risk assessment.

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## LIST OF ABBREVIATIONS THAT HAVE SPECIFIC MEANINGS

**CIDB**- Construction Industry Development Board (South Africa).

**CIOB**- Chartered Institute of Building (UK).

**HRtLR**- Hybrid Road to Light Rail (project concept)

**IDMS**- Infrastructure Delivery Management System (South Africa)

**PMBoK**- Project Management Body of Knowledge (International)

**PMI**- Project Management Institute (USA).

**SIPDM**- Standard for Infrastructure Procurement and Delivery Management (SA)