

# Abstract

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## **DEVELOPING A FRAMEWORK OF SUSTAINABLE RAIL PERFORMANCE MEASUREMENT: IN REFERENCE TO THE EGYPTIAN RAILWAYS**

Abstract Over the years, different terms were developed such as multimodal transport, combined transport and co-modality. These terms refer to integration between different modes of transport. The target is to achieve a more efficient use of the transport system. In the transport sector, railways are recognised as an environmentally friendly transport mode with a significant potential for sustainable development. Hence, the railway industry is facing potential growth. Setting a sustainable strategy and identifying how a sustainable rail Programme can be developed are the main purposes in this paper. Purpose This paper aims to examine the current state of sustainability efforts within the Egyptian railways, to identify the opportunities for enhancing the sustainable operations and to develop a sustainable rail strategy. Research Approach In order to discuss the above purposes, the researcher has set the following questions to be answered, including: what is the rail sustainability strategy? What are the sustainable development principles? How can a sustainable railway system be enhanced? What are the potential growth opportunities for developing the railway services? An exploratory approach is applied in this paper as it helps defining the rail sustainable issues, areas for potential growth, alternatives, and prioritising areas of development that are required. An Empirical Study has applied in reference to the Egyptian railway as a case study. A SWOT analysis has been developed regarding the three sustainability pillars economic, environmental and social. The paper starts with discussing the importance of implementing sustainability into rail logistics operations, followed by the extant literature, and then it turns to explain the rail industry sustainable development principles with application to the Egyptian railway, and finally it ends with SWOT analysis for Egyptian railway sustainable pillars. Findings and Originality There has been little work done to understand how a sustainable rail strategy can be developed. Developing such a framework for the rail sustainability strategy will help to improve the efficiency of the transport systems in Egypt, including rail transport. Research Impact This paper aims to identify the sustainable practices, principles and constraints that should be considered in order to understand the overall rail sustainable operations. Practical Impact Top managers and operators of the Egyptian railways need to be able to visualize and map out the rail industry sustainable strategy, and benchmark their sustainability efforts with other rail networks. Key Words Sustainable strategy, Egyptian railways, railway SWOT analysis