

ABSTRACT

Large infrastructure projects often experience project delivery failures where schedule and cost overruns occur. These project overruns curtail the effectiveness of the available economic resources and limit the potential growth of an economy. The Indian road sector continues to be plagued by them, even after the advent of Public Private Partnerships (PPPs) in the late 90s. The particular causes of project delivery performance in road PPP projects in India remain to be clearly understood, which arouse the need for this study. This work aims to identify the parameters that are conditions for the occurrence of success or failure of project delivery of road PPP projects. Using Fuzzy set Qualitative Comparative Analysis (FS/QCA), pathways to project delivery success or failure of road PPPs are identified through investigation of data assembled from various sources on 21 operational road PPP projects of India. Specifically, projects having characteristics of high equity investment by concessionaires with low regional industrial activity (measured through adjusted SDP) lead to project delivery success. Projects having characteristics of less concessionaire equity investment with low reliance on toll revenue and with either (a) high project technical complexity or (b) high regional industrial activity, lead to project delivery failure. Furthermore, the study essentially illustrates that the occurrence of success or failure of road PPP projects is generally derived from multiple causal factors which interact with each other along different pathways. This research provides a tool to aid essential project stakeholders in better understanding of project complexities and key project elements that affect project delivery success.

Keywords: Infrastructure, Indian roads, cost overruns, construction delays, project delivery, public private partnerships, PPP, qualitative comparative analysis, fuzzy set qualitative comparative analysis