

Title: Enhancing the Sustainable Performance of Public–Private Partnership Projects: The Buffering Effect of Environmental Uncertainty

Author Names: Waseem Ali Tipu , Yasir Hayat Mughal , Ghulam Muhammad Kundi and Ramayah Thura Samy

Abstract: The purpose of this study was to investigate the buffering (moderating) effect of environmental uncertainty (EU) on the relationship between the critical success factors (CSFs) of public–private partnership projects (PPPPs) and sustainable performance. A survey approach was adopted to collect primary data from construction industries that have signed an agreement with the public sector. The public sector includes federal and provincial government departments such as the National Highway Authority (NHA) and the Frontier Works Organization (FWO) for the construction of roads, and the private sector includes engineering companies registered with the Pakistan engineering council. The non-probability convenience sampling technique was used to select the sample, and the Krejcie and Morgan table was used to calculate the sample size. A total of 500 questionnaires were distributed but 394 completed questionnaires were used in the analysis of the data, yielding a response rate of 78.8%. Confirmatory factor analysis was conducted to check the reliability and validity of the scales; the findings revealed that the scales met the threshold, and all the factor loadings, average variance extracted, composite reliability, Cronbach alpha, and discriminant validities met the cut-off level. Hence, the questionnaires were found to be reliable and valid. The results revealed that environmental uncertainty significantly moderates the CSFs (technical, procurement, and economic factors) of PPPs and the sustainable performance of PPPPs. Furthermore, the interaction terms of all moderating effects revealed negative beta values; this implies that a low level of uncertainty results in better economic performance, better technical and procurement factors, and highly sustainable performance. It is concluded from the findings that if EU is high, then the sustainability of PPPPs is low; moreover, fewer economic resources and no technical support and procurement also have a weak impact on enhancing sustainable performance. On the contrary, if EU is low, there is a high level of sustainability in PPPPs.

Key words: critical success factors; economic factor; procurement factor; technical factor; environmental uncertainty; public–private partnership; sustainability

<https://doi.org/10.3390/buildings14123879>

<https://www.mdpi.com/2075-5309/14/12/3879>