

## ABSTRACT

Many road projects in Tanzania experience extensive delays, thereby exceeding the planned project duration date which often lead to cost overruns, time overrun, disputes and claims between the parties involved. The main objective of this study was to assess the most common causes of Variation Orders in construction projects at Arusha, its effects and suggest possible measures to grapple with the persisting problem. This study answered three key questions which were: what are the causes of Variation Orders in road construction projects in Tanzania, what are the associated effects resulting from such situations, and what measures can be taken to minimize the detrimental consequences caused. The main methodology employed was a questionnaire survey conducted among 89 major road project stakeholders who included owners, contractors and consultants. The Relative importance index of each cause and the effect was carried out. This study identified the most common causes of Variation Orders in road construction projects. Besides, exploratory factor analysis was carried out to eliminate variables that are not purely factorial and grouped the core causes under four principal cause groups, namely; competence of the consultant, external elements, competence and project management of the contractor and administration and financial management of the owner. Finally, the probit regression model was applied to identify the level of influence of each factor group on the completion time of road construction projects. In the same vein the most consequential effects of Variation Orders identified in this study include extended completion time of the project, cost overrun, disputes and claims, negative social impact and arbitration. Overall the study has further shown an average time overrun of 40.4% higher than the original construction durations and cost overrun of 25.1% higher than the original budget in road construction projects. The study ends with recommendations for each of the parties in order to minimize and avoid the causes of Variation Orders and make sure that projects are completed within the planned timeframe.