Assessing the impact of oil price fluctuations on spending on construction projects in Oman

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Abstract

The crude oil price fluctuations have direct impact on the income of oil producing governments. Studies showed that most of the construction projects suffer oil price fluctuations worldwide. This study aimed to investigate the impact of oil price fluctuations, during the last few years, on government spending on construction projects in Oman. This is done by studying the causes, effects through a literature review, field survey (questionnaire and face-to-face interviews) and case studies. Based on the outcome of the analysis a remedial action was suggested to alleviate or at least reduce the effects of oil price fluctuations on spending on construction projects in Oman.

First, a thorough literature review was conducted. This was followed by study of historical data during period 1990-2017. 100 questionnaire sets were distributed to different stakeholder professionals including clients, consultants, and contractors based on projects planned and executed in the last ten years, 77 responses were received out of which 70 were considered complete and used in the analysis. Information about three selected construction projects in Oman were analysed and used as case studies. Based on the analysis of the questionnaire and the case studies, suggested remedial actions were prepared and used in a face-to-face interview session with eleven senior professionals.

The results from the questionnaire and case studies showed that most of analyzed projects experienced impact of oil price fluctuations on spending on construction projects. The questionnaire revealed that the very significant effects ($0.72 \leq \text{RII} \leq 0.81$) of oil price fluctuations were: (1) effects on the overall budget of project, (2) causing cost and time overrun, and (3) causing the planned projects to be suspended, reduced in size or even reverted. According to the case studies, it was found that the most three common impacts were: (1)
additional burden to the contractor and claims of late payment by the subcontractors, (2) reducing in the transportation and lodging fees for supervisory staff from the ministries, and (3) difficulties faced by contractor in a financing the purchase of heavy equipment.

The face-to-face interviews revealed the effective remedies in the following sequence: (1) develop data base of experience and lessons learned from previous financial crises and their effects on construction projects, (2) include value engineering in the design to minimize cost, maintain quality, and ensure timely execution and completion of projects, and (3) priorities the national projects based on strategic need and importance including projects that generate profits.