

HOW BENCHMARKING CAN SUPPORT THE SELECTION, PLANNING AND DELIVERY OF DECOMMISSIONING PROJECTS

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Abstract: Decommissioning projects are characterized by several risks, long schedule and cost estimates that lie in the range of hundreds of billions of dollars. In many countries, decommissioning projects are even more significant than the nuclear new build. Despite this extremely high relevance there is a huge gap in the literature concerning the benchmarking of these projects. The ultimate goal of the research is to understand commonalities between successful projects and unsuccessful ones to draft guideline for the project management. The research methodology presented here is based on a structured process to review the cases and to spot “cross-case” patterns. These “patterns” will then be generalized to generate theoretical propositions.

1. INTRODUCTION

Decommissioning projects are characterized by several risks, long schedule and cost estimates that lie in the range of hundreds of billions of dollars. In many countries, decommissioning projects are even more significant than the nuclear new build. Despite this extremely high relevance there is a huge gap in the literature concerning the benchmarking of these projects. The budgets for these projects keep increasing and key stakeholders have a limited understanding of the key determinants that engender these phenomena.

1. METHOD

The term “benchmarking” refers to the process of comparing projects and it offers significant potential to identify best practices and improve the performance of project selection, planning and delivery. However, benchmarking of nuclear decommissioning projects is a much debated topic, as it refers to several interrelated subjects. Moreover, it is hindered by the uniqueness, difficulty in gaining appropriate data, and a lack of sufficient data for comparability between projects. Therefore, even if project benchmarking is the envisaged approach to tackle this challenge, it has only been partially used.

1. RESULTS

The researchers envisage using an inductive cross-case analysis as in [1] to perform the project benchmarking. This research methodology is based on a structured process to review the cases to spot “cross-case” patterns. These “patterns” will then be generalized to generate theoretical propositions. The approach adopted is based on the seminal work of Eisenhardt [2] who derived a process where theoretical generalizations could be generated from reviewing a set of cases of a particular phenomenon: statistical analysis can then be used to reveal relationships between project characteristic (independent variables) and project performance (dependent variables).

Nevertheless, there are inherent problems in trying to understand these relationships, due to:

- 1) the numbers of fully decommissioned project available, too small for statistical purposes;
- 2) data associated with decommissioning project characteristics are rich and quantitative and needs to be converted into a quantitative form to enable statistical analysis. This process is notoriously difficult [3];
- 3) the evaluation of “performance” for projects in general and PPMs in particular can be controversial [4].

Suggested methodologies to tackle these issues are the Fisher Exact Test and the Qualitative Comparative analysis. Therefore, instead of providing a bottom-up analysis, this research focuses on a top-down benchmarking approach and presents the key ideas of a project to research benchmarking utilizing information from the UK’s Nuclear Decommissioning Authority (NDA) and publicly available documents. Being the benchmarking process is as important as the benchmarks themselves [5], this study is based on the critical selection of the relevant case studies.

1. CONCLUSION

This initiative is receiving a particular focus because the estimates for the decommissioning programme are large and increasing, with a current average of £ 53.2 billion (\$ 80 billion) for the decommissioning of Sellafield (UK) only, and accounting for more than half of the decommissioning costs within the current NDA programme. Also, many other facilities across the UK are undergoing preparations to be decommissioned, and even if there has been considerable progress with this exercise, there is a need to institute a sustainable

approach.

The authors propose an innovative approach to find the relationships between dependent and independent variables, through an inductive process, and envisage a deep reflection on the way forward for the application of project benchmarking in nuclear facilities.

The key audience of this presentation include policy makers, regulators, companies involved in the decommissioning, owners of facilities to be decommissioned and the key stakeholders involved in the delivery of decommissioning projects.

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