

Value-based approach to infrastructure asset management. A decision-making process for asset intensive organizations

Summary

The main objective is to develop a process approach to support asset management decision making in infrastructure organizations towards the realization of value from its infrastructure assets and satisfaction of all its relevant stakeholders. Asset-intensive organizations have been adopting internationally recognized asset management principles towards the realization of value from their asset base, based on international standards ISO 5500x. This normally involves the grasping of opportunities for an enhanced balancing of costs, risks and performance throughout the life cycle of asset portfolios or asset systems. Depending on the asset management maturity level of the organization, this may be done in a more or less explicit and formal manner. Both the scientific community and practitioners recognize that there is margin for improvement in the decision processes of infrastructure organizations. These improvements can be achieved by a clear understanding of the concepts of value, risk and opportunity, as laid down by the ISO 5500x.

The thesis is expected to make a contribution in this regard, namely by: (i) establishing a conceptual decision making framework for infrastructure organizations based on the background knowledge of internationally recognized management approaches in the infrastructure industry and on the publications of the scientific and technical communities; (ii) proposing a formal and systematized value-based opportunity management process for asset-intensive organizations; (iii) testing the proposed process with real case studies in asset intensive organisations of different types; iv) clarify what is meant by value in different organizations balanced with cost, risk, opportunity and performance and the ways that those organizations undertake to demonstrate that value is being realized from its assets base.

The expected benefits and results of the application of the process in multi-sector asset intensive organizations, namely infrastructure organizations with varying levels of asset management maturity, are also discussed.

Keywords

Value, opportunity management, asset management, process approach, infrastructure organizations.



World-class infrastructures assets to manage (source: WEF 2014).



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