Investigating and Assessing the Sustainability Indices in Oil and Gas Industry “Case Studies in Oman”

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Abstract

There is an urgent need to build a sustainable future in oil and gas sector to accommodate and respond to the short-term pressures of the world environment, economic and social issues raised by the operations. One of the main issues in petroleum companies is the concept of sustainability is being interpreted in a multitude of different ways and cannot be achieved with conflicting notions of the concept at various levels. In addition, numerous frameworks and indicators have been developed to assess sustainability, but there is no agreement on a common set of criteria for analysis, assessment and investigation.

After designing and modeling the framework of sustainability in oil and gas companies, results are analyzed and investigated by two important methods. The primary method (Micro-level) proposed in this thesis to evaluate and assess sustainability index in petroleum industry is consists of three steps which are normalization, relative weight calculation and indicators evaluation (benchmarking). Then, sustainability index have been investigated and assessed in different levels (aspects, pillars, micro-level and macro-level). An implementation of the suggested framework will be applied on three case studies in Oman. The results have been used in larger scale which the secondary method is called “Macro-level” of sustainability.

The results shows that B and C companies’ sustainable indices are assessed as fair but it is still far from the target. Company A is more sustainable then companies B and C. Sustainable development index in the macro-level of oil and gas sector in Oman assessed to be (63.31%) which is fair but it is still far from the target. In general, the root cause of this result is the economic dimension in oil and gas sector. It is a big challenge to the companies to be fully sustainable and manage risks in business but they can increase their work on safety and reliability of operations to protect the welfare of workforce and the environment and local communities.