**Mapping Associated Risks in Oil and Gas Supply Chains: Evidence from UAE**

Oil and gas industry has a worldwide marketplace and oil and gas reservoirs are extended to everywhere, an oil or gas supply chain is one of the most complex networks (Sahebi et al., 2014). The need for a long-term sustainable energy supply is becoming increasingly apparent due to the rising marginal cost of natural gas supply, the primary backbone of the UAE domestic energy system (Sgouridis et al, 2015). Efficient risk management reduces vulnerability by making the supply chain resilient (Bogataj and Bogataj, 2007).

The focus of this research is to provide a methodology that simultaneously considers risks and their inter-relatedness to arrive at a more prudent decision in selecting the option to manage risks in the oil and gas industry in Abu Dhabi, UAE. Through this research, we will offer a new solution methodology for minimizing the impact of different forms of risk resident in a gas supply chain. The objective of this study is to gain an insight into SCM practices in oil and gas supply chains UAE, with a focus on risk management, and to propose different strategies that can be employed to map risks in oil and gas supply chains. As there exists limited study which has studied the risk in gas supply chains the proposed research aims to fill in the gap in the available academic literature and also provide a comprehensive methodology to understand the risks and develop suitable strategies to mitigate them. We offer a new solution methodology for minimizing the impact of different forms of risk resident in a gas supply chain. The proposed research would be carried out in three stages: Stage 1 would involve developing a broad understanding of supply chain risks inherent in oil and gas supply chains through examination of risks by understanding various links in the supply chains. An exploratory study would be carried out in stage 2 to understand the current risk susceptibilities of the oil and gas supply chains and the corresponding practices to map and mitigate risks. This stage would include data collection from a series of in depth case studies with respondents from multiple tiers in the supply chain to develop a deep understanding of risks and challenges in an oil and gas supply chain. This would be followed by a test to verify the findings of the case studies. Based on the findings of stage 2 and discussion with experts in the area of supply chain risk management this stage 3 would develop mathematical models utilizing, Analytic Network Process (ANP).

The research would map various risks in an oil and gas supply chain and would provide the opportunity for a complete evaluation of risk. It would also help to understand different risk variables independently which would help to decide areas needing particular attention to mitigate risk. The research also aims to develop a comprehensive framework which would provide opportunity to supply chain managers to benchmark their supply chains on risk dimensions and adapt the best practices to mitigate risks.

**Keywords:** Supply Chain, Oil and Gas Industry, United Arab Emirates.