

**Assessing and improving health, safety, and environmental practices
in the oil and gas sector by evaluating industry standards and
advancements**

Dissertation Proposal

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1. Research Background

The oil and gas sector is one of the largest industrial sectors operating worldwide, with total revenues reaching \$4.3 trillion in 2023 (IBISWorld, 2022). This sector deals with activities related to oil and gas fields' exploration, development, and operations to fulfill gasoline requirements worldwide. With such colossal size and penetration worldwide, the practical functions of the oil and gas sector related to health and safety are essential, as according to the ILO (2022), about 6 million people are employed in the same industry globally.

2. Research Rationale and Significance

The research is crucial because of the troubling statistics relating to the oil and gas industry's environmental, health, and safety issues. The International Association of Oil and Gas Producers reports that 1,346 events in the sector were documented in 2020, leading to 122 fatalities and significant environmental harm (Society of Petroleum Engineers, 2022). Additionally, the industry significantly contributes to global greenhouse gas emissions, with the oil and gas sector accounting for 8% of all emissions (International Energy Association, 2022).

The importance of this study rests in its capacity to reduce these risks and promote sustainability. By analyzing industry standards and innovations, we can improve safety procedures, avoid accidents, and lessen the business's environmental impact (Noort *et al.*, 2016). In line with international objectives for a greener and safer world, this study presents the chance to save lives, conserve ecosystems, and contribute to a future of energy that is more sustainable.

3. Key Aims and Objectives

The study's aim is

To comprehensively assess and improve health, safety, and environmental practices in the oil and gas sector by evaluating industry standards and advancements

The associated objectives of the study are

- To evaluate existing health, safety, and environmental standards within the oil and gas industry.
- To investigate recent technological advancements and innovations in risk management and sustainability practices.
- To analyse the impact of industry practices on human and environmental health through case studies.
- To develop recommendations for enhancing industry standards and promoting a safer, more sustainable sector.

4. Literature Review

One practical, theoretical framework for assessing health, safety, and environmental practices in the oil and gas industry is the "Safety Culture Theory." This James Reason-developed hypothesis, frequently used in high-risk sectors, contends that organizational mishaps stem more from a weak safety culture than a simple human error (Goncalves-Filho and Waterson, 2018). The literature now available emphasises safety culture's crucial role in accident prevention and performance enhancement within the industry. Studies like Masys's (2016) research show that accidents may decrease significantly by establishing a solid safety culture defined by common safety beliefs, attitudes, and practices. Additionally, studies on the link between safety culture and several safety performance indicators have been conducted, emphasizing the importance of cultural elements in determining safety results (Karanikas *et al.*, 2016).

5. Research Methodology

The researcher intends to complete the current study using qualitative research methodology. Xiao and Watson (2019) appraise this methodology for its explorative

nature, allowing the researcher to collect maximum data related to the subject matter for accomplishing the targeted results. The researcher shall contain the necessary research data by using the systematic literature review technique for systematic data collection. At the same time, the collected data shall be analyzed using the thematic analysis technique to accomplish the targeted research objectives positively (Okoli, 2015).

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