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Senior managers and safety leadership role in offshore oil and gas construction projects

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Abstract

Recent changes in the global construction industry coupled with rising challenges as a result of the dynamic nature of offshore operations have greatly underscored the need for stakeholders to evolve safety management systems that optimize safety during the execution of their construction project operations. As a result, the offshore industry has witnessed significant changes which currently place a greater premium on effective safety management, with organizations' requiring to look across the whole project's life cycle. To optimize safety during operations, formulating effective safety management systems becomes a crucial challenge faced by industry stakeholders. Utilising evidence from semi-structured interviews, this paper examines senior managers' role in safety leadership in Nigerian offshore oil and gas projects. It concluded that leadership style is critical for the implementation of any effective safety management system utilised during offshore construction projects. The findings also facilitate an in-depth understanding of lessons learnt from offshore construction projects and will be useful for improving the overall safety management strategy of organisations in line with important factors usually considered by the global offshore oil and gas industry.

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1. Introduction

Majority of the oil and gas resources are domiciled in offshore fields. Past studies [1] indicate that there are over 7270 offshore oil and gas installations in place globally with a distribution in more than fifty-three countries. Offshore hydrocarbon resources also serve as a major source for meeting the global energy demand. According to Maribus (2014), offshore projects have produced about 30 per cent of the world's oil production and 27 per cent of world gas production since the start of the new millennium. [3] equally added that above ninety per cent of the world's undiscovered hydrocarbon reserves lie offshore and further disclosed that proven offshore oil and gas reserves in excess of fourteen billion tonnes of oil equivalent accounts for only about five per cent of the total proven oil and gas reserve estimates. Additionally, The International Energy Administration (IEA) anticipated that global offshore oil and gas fields would account for about a third of the anticipated one hundred and twenty million barrels per day consumption rate by 2030 [4].

These disclosures buttress this paper's view that the offshore oil and gas sector is unarguable one of the world's most viable sectors since revenue from its investment have prospects of generating huge revenue annually.

Excerpts from [5] revealed that leading global producers of oil and gas include US, Canada, Norway, United Kingdom, Venezuela, Qatar, Nigeria, Kuwait and Saudi Arabia. For the purpose of this research and because of its uniqueness in the global oil and gas industry, the activities of the Nigerian offshore oil and gas industry shall be the primary focus. Statistical projections from [6] confirmed Nigeria's great potential for highly profitable offshore oil and gas exploration and production activities. [6] indicated that with the quest to explore newer frontiers, current focus of exploration activities in the Nigerian oil and gas industry has gradually shifted to deep and ultra-deep offshore fields where huge deposits of energy resources are in abundant supply. Consequently, [7] concluded that the deep offshore operations are sine qua non to the future of the Nigerian oil and gas industry.

Regardless of the importance of the offshore industry to the global economic and that of Nigeria, [8], observed that offshore oil and gas projects are always saddled with higher levels of risks and uncertainties. Their arguments are hinged on the nature of these projects which are characterised by having extreme locations, harsh environment conditions and large number of participants from diverse orientations etc. Furthermore, the offshore oil and gas industry also presents a typical example of safety critical sector because of the interplay of inherent technological, environmental and human challenges. All these highlight the need for all stakeholders in the offshore oil and gas industry to effectively manage projects. One strategy of seamlessly actualising effective project management in a safety critical sector will certainly be by ensuring that adequate safety regulations are adhered to during projects operations.

In managing offshore oil and gas projects, the role of senior managers and safety leadership can never be over emphasised. It has been often argued that effective safety leadership can decrease human errors and incident rate. In support of this notion, The United States Occupational Safety and Health Administration (OSHA) (1996) recognized the power of leadership and identified management leadership as a key element in safety issues. According to [10], Safety leadership that motivates team members to work harder, efficiently, and take ownership of responsibilities for safety performance should upheld. Furthermore, Health and Safety Executive (HSE) in UK articulated that without effective leadership, good safety performance cannot be achieved. From the foregoing, broad conclusions indicating that safety leadership supports increased organizational safety effectiveness can be drawn. Therefore, developing and sustaining safety leadership is important to reduce accidents and to promote safety among personnel. Accordingly, this paper posits that the way forward for safety in offshore oil and gas project operations must be instigated by senior managers' and safety leadership. This is because their actions usually introduce rippled effects on the entire organisation and can galvanise greater levels of safety awareness within organisations.

In the light of the above, this paper will examine senior managers' perceptions of safety leadership and their role towards facilitating safety performance in Nigerian offshore oil and gas projects. The subsequent sections of this paper are organised to provide an overview of relevant literature, introduce the research method utilised, present and discuss the findings and draw up conclusions.

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