

REVIEW ARTICLE

SWOT ANALYSIS OF UPSTREAM OIL AND GAS INDUSTRY DEVELOPMENT IN THE DEMOCRATIC REPUBLIC OF CONGO (DRC)

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ABSTRACT

For many years, the Democratic Republic of Congo (DRC) has awarded oil and gas blocks to several oil companies in an effort to boost the oil and gas industry's economy. Notwithstanding the potential profitability of oil and gas resources, the sector remains unexploited for decades. This situation has lagged the country behind its neighbors. This research attempts to investigate the upstream and the issues that potentially affected the oil and gas sector in the Democratic Republic of Congo (DRC) using the SWOT method. The results demonstrated that while the sector's weaknesses and threats are mostly political and environmental, its strengths and opportunities are economic. This study raises awareness among DRC's policymakers of the strategic exploitation of these resources, which represents the nation's strength, to effectively respond to the economic crisis, and calls for further research into the downstream oil and gas sector to provide a more comprehensive understanding of the industry.

KEYWORDS

SWOT, oil, gas upstream, Democratic Republic of Congo.

1. INTRODUCTION

Since the start of the industrial era in 1859, oil and gas have contributed significantly to the growth of global energy (Alagoz et al., 2023; Ite et al., 2024). The impact of its contribution in the energy sector was noticed in the domain of transportation and power production (IEA, 2023; Halkos and Gkampoura, 2020; Supapo et al., 2021). Numerous nations have benefited from this in terms of economic progress thus far (Acquah-Andoh, 2018; Al-Moneef, 2006). However, although some oil or gas deposits have been discovered at shallow depths or from oil or gas seeps (He et al., 2017; Palabiyik and Ozdemir, 2019), the exploration reports that, currently, many deposits are concentrated deeper in the subsurface, thus demanding huge investment in both exploration and production (Ke and Intern, 2019).

It is worth noting that over the years, the DRC government has allocated various oil and gas blocks to oil companies. Nevertheless, only a few of these have been explored to a significant extent, indicating that the DRC's oil and gas resources are still in their early stages (Titeca and Edmond, 2019). Consequently, the DRC lags well behind its neighbours in terms of oil and gas development.

SWOT analysis has been employed in several oil and gas research investigations. A group researchers utilized this analysis to develop a strategy for transferring intelligent oilfield technology to Iran, while a researcher conducted a SWOT analysis to assess the impact of sanctions on Iranian oil and gas (Manjily et al., 2024; Behboudi et al., 2018). Furthermore, some researcher combined it with the Multi-Criteria Decision-Making (MCDM) approach to examine Iran's compressed natural gas (CNG) business (Khan, 2018). A group researcher used a SWOT analysis to highlight the vulnerabilities in Qatar's liquefied natural gas (LNG) supply chain (Al-Haidous et al., 2022). A group researcher predicted the development strategy of the gas sector in Turkmenistan, while in other study researcher has combined SWOT with PESTLE (Political, Economic,

Social, Technological, Legal, and Environment) and FDEMATEL (Fuzzy Decision-Making Trial and Evaluation Laboratory) to develop a conceptual model of environmental policy for sustainable development of the oil and gas industries of the Kurdistan Region (Koshesh and Jafari, 2019).

In addition, a group researcher applied SWOT to investigate the development of shale gas industrial clusters in China (Ma et al., 2014). These examples demonstrate the value of SWOT analysis in the oil and gas business. To evaluate DRC's potential and the challenges that must be addressed in the upstream oil and gas sector, a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis was undertaken. This study aims to help policymakers of DRC by analyzing the country's energy sector, particularly the upstream oil and gas, using a SWOT analysis. This will help them identify the opportunities and obstacles in the development of the upstream oil and gas sector.

2. METHODOLOGY

This study's approach consisted of four main steps:

- (i) Identification of factors: (a) What would entice investors to put money into DRC's upstream oil and gas? (b) What deters investors from making upstream investments in DRC's oil and gas? (c) What are the benefits of developing DRC's upstream oil and gas resources? And (d) What can jeopardize DRC's upstream oil and gas development?
- (ii) Contact energy experts from universities, oil and gas sectors, and freelance researchers, using a questionnaire to gather their views on the factors identified. At least 19 experts were contacted, to whom it was asked to rate the impact of the identified factors using a rating scale from 1 (very low) to 5 (very high impact) and to categorize these factors in SWOT groups.

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- (iii) We calculated the average score for each factor based on the expert's viewpoints we received in (ii). This average was then used to eliminate factors that were deemed irrelevant because they did not meet the necessary criterion of medium impact (score 3).
- (iv) For factors that have at least a medium impact, we determine their nature.

3. RESULTS AND DISCUSSION

Thirty factors were identified and divided into four groups using the SWOT technique, and their effects varied from low (2.5) to high (4.3) impact (Table 1).

Table 1: Upstream SWOT matrix and factors' effects

SWOT Group		Factors	Impact Average
Internal	Strength	A vast market for investors	3.2
		Availability of a skilled productive workforce	2.5
		Availability of legal text in oil and gas sector	2.9
		Availability of oil and gas resources	3.6
	Weaknesses	Administrative bureaucracies to obtain licence and tax issues	3.4
		Bad business climate	3.8
		Bad economic policy	3.7
		Change of oil and gas blocks owners	3.3
		Corruption	3.6
		Economic dependency on minerals	2.8
		Economic instability	3.9
		Lack of refinery	2.6
		Lack of transparent management of oil revenues	3.2
		Lack of transport's infrastructures	3.1
Lack or limited information on oil and gas resources	3.2		
Political instability	3.7		
External	Opportunities	A new source of revenue for the country	3.7
		Foreign oil and gas partners	3.4
		Increasing of gross domestic production	4.3
		Job's creation	4.1
		Overcoming energy deficits	3.6
		Possibility of development and transfer of advanced technologies	3.8
		Setting up a refinery	3.3
		The construction of a pipeline	3.4
	Threats	Climate change agreement	3.3
		Environmental restrictions	3.5
		Increasing E&P costs	2.7
		Poor security in certain regions	3.3
		Shift in consumer preferences	2.5
The blurring of boundaries	2.6		

3.1 Strength

Four factors were identified as strengths in the DRC's upstream oil and gas sector. Only two of them have at least a medium impact (an average of at least three out of five), and those are the availability of oil and gas resources and a vast market for investors. It should be noted that the availability of resources has an impact on the oil and gas industry's growth. According to recent studies, it is the main driving force in various countries, including China, Qatar, Kurdistan, and Turkmenistan (Iwaszczuk et al., 2021; Ma et al., 2014; Koshesh and Jafari 2019; Al-Haidous et al., 2022).

3.2 Weaknesses

Twelve issues in the DRC's upstream oil and gas industry could discourage investors in the DRC. Ten have at least a moderate effect, whereas two have an inconsequential one. With an impact average of over 3.5, five factors-economic instability, bad business climate, bad economic policy, political instability, and corruption-seem to have a greater influence than others (Table 1).

3.3 Opportunities

The results of this study show that upstream development in DRC has the potential to generate eight opportunities. The creation of employment and the rise of gross domestic production will be greatly impacted compared to the other six opportunities, which will be moderately influenced by this event.

3.4 Threats

Our results identified six issues that are likely to hinder upstream development, although only three of these-environmental restrictions, the climate change agreement, and the lack of security in certain regions-tend to have a moderate impact on the industry. For the effect concerning the environmental constraints, certain oil and gas projects in the DRC have not been completed. For instance, following several protestations, SOCO International was forced to stop the oil prospection in Block v, in the western portion of the Eastern Rift, in 2014. Environmental rights activists recently challenged the sale of oil and gas blocks in the central basin, claiming the blocks threatened protected areas and forest ecosystems.

3.5 Nature of factors

Based on the viewpoints of experts, Table 2 presents the nature of factors in descending order of impact, excluding those that have a weaker impact (i.e., less than three (3)) on the upstream sector. In the internal factors

group, strengths are economic while weaknesses tend to be political (7 out of 12). On the other hand, in the external factors group, the opportunities are technological (4 out of 8) and economic (3 out of 8), but threats are environmental (2 out of 3).

Table 2: Nature of Key factors with impact ≥ 3

SWOT Group		Factors	Nature
Internal	Strengths	(S1) Availability of oil and gas resources	Economic
		(S2) A vast market for investors	Economic
	Weaknesses	(W1) Economic instability	Political
		(W2) Bad business climate	Economic
		(W3) Political instability	Political
		(W4) Bad economic policy	Political
		(W5) Corruption	Political
		(W6) Administrative bureaucracies to obtain license and tax issues	Political
		(W7) Change of oil and gas blocks owners	Political
		(W8) Lack or limited information on oil and gas resources	Technology
External	Opportunities	(O1) Increasing of gross domestic production	Economic
		(O2) Job's creation	Economic
		(O3) Possibility of development and transfer of advanced technologies	Technology
		(O4) A new source of revenue for the country	Economic
		(O5) Overcoming energy deficits	Technology
		(O6) Foreign oil and gas partners	Political
		(O7) The construction of a pipeline	Technology
		(O8) Setting up a refinery	Technology
	Threats	(T1) Environmental restrictions	Environmental
		(T2) Climate change agreement	Environmental
		(T3) Poor security in certain regions	Political

4. CONCLUSION

The upstream oil and gas industry in the DRC is examined in this paper using SWOT analysis. The findings indicate that the upstream sector has many more weaknesses compared to strengths, but if the DRC capitalizes on its strengths, such as the availability of resources and the fact that it is a vast market, eight opportunities can be created, despite potential threats. Additionally, political factors are much more prevalent than economic and technological factors, primarily in areas of weakness. This analysis will help decision-makers in determine the best course of action to advance this industry. This article only covers the upstream sector; it should be expanded to include the downstream sector.

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CONFLICT OF INTEREST

The authors confirm that there are no conflicts of interest in the content of this article.

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