
An Empirical analysis of the Influence of Sustainable Business in the extractive Industry Risk Management Perspective

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Abstract

In recent years, there has been growing pressure on the extractive industry crucial part of the global economy to address environmental, social, and governance (ESG) concerns. The objective of this empirical study is to examine how risk management in the extractive industry is affected by sustainable business practices. The relationship between sustainability and risk management is crucial since it will continue to influence the way this business is shaped by ethical, social, and environmental rules. This study aims to shed light on how sustainable business practices reduce risks and improve the overall resilience of operations in the extractive industries through thorough data analysis and statistical modeling. By examining significant risk factors and sustainability signs, this research contributes to our growing knowledge of the complex interplay between managing risk and maintenance. The impacts of managing risks on corporate sustainability and investor value in extraction sector (ES) enterprises are the main subject of this study. Workers wanted to know the risk identities, risks insolenes, and risk mitigation procedures of the top 21 Indian oil and gas (O&G) and excavation businesses. 490 responses to the poll came from 975 employees. The findings suggest that the risk identities, risk viewpoints, and risk management exercises for ES-businesses should be as follows: more comprehensive than for firms lacking ES; essential for SV via CS; According to the survey answers provided by ES employees, they are cognizant of the characteristics of RM and the importance of the ES area with regard to investing, hiring, and natural resource flow. This study indicates that mining enterprises and RM methods are converging when environmentally damaging fuel is substituted, and it also serves as a standard for future research. Hydroelectricity and non-ES green power sources.

Keywords: Sustainability of business, risk management, extraction industry.

1. Introduction

The extractive sector, which includes mining, oil, and gas, is essential to the growth of the world economy since it supplies the energy and raw materials required by contemporary society. But the extractive sector also has to deal with intricate and dynamic issues pertaining to governance, social, and environmental aspects (ESG). In recent times, there has been a surge in the awareness of environmental issues including habitat disruption, water pollution, and greenhouse gas emissions; social issues like labor practices and community engagement; and governance-related concerns like ethical conduct and transparency. The sector is at serious risk from these problems in terms of both operational stability and reputational harm. Corporate sustainability has become a predominant research topic due to the growing number of

stakeholders, including insurers [1]. Minerals are produced in over 100 nations and play a significant role in employment and wealth transfer. The prospecting for, extraction, and primary processing of minerals, on the other hand, is risky and has the potential to significantly harm society, the environment, and culture. Natural, Social, and Administration is an advancing concentration in corporate gamble, divulgence, and maintainability.

Partner worth and CS in mineral-centered associations are turning out to be progressively reliant upon risk the board [2]. Effective risk management is a term that is always changing. Instead of emphasizing ESG (environmental, social, and governance) variables, the writers of the present research defined risk management (RM) generally as attempts to alter, regulate, and adjust an organization's culture and practices to maximize

possibilities while limiting adverse effects in reaction to this shifting flux. The academic categorization of exogenous aspects of danger indicates an increase in their quantity and difficulty, as well as the importance of Risk Management for leaders. In addition, the convergence of market, institutional, political, and functional gamble has obscured the distinction between public and global components of chance due to rapid changes in the global business field.

In the case of extractive industry, RM is a valuable strategy for gaining and preserving a competitive edge. This study defines corporate upkeep as a company strategy that, by using opportunities and managing risks to elevate public image, establishes and strengthens an extended SV. [3]. Baxamusa point out that Choi improves a company's financial and capital structure options and that good RM and reporting reduce information asymmetry. This investigation emphasises a free market system, whereas numerous studies have examined the political and socioeconomic environments, which have a significant impact on business behavior. Nonetheless, the discoveries of this study ought to be applicable to state proprietor tasks.

Considering this, adopting sustainable business practices has become essential to the extractive industries' risk management strategy. Beyond only CSR, sustainability includes plans and initiatives that tackle long-term environmental, social, and governance issues to reduce risks and improve operational resilience. The following important concerns are addressed as part of this study's attempt to scientifically examine how sustainable business practices affect risk management in the extractive industry:

1. In what ways do risk factors in the extractive industry get affected by sustainable business practices?
2. What connection exists in this industry between risk mitigation and sustainability indicators?
3. How can businesses in the extractive industries successfully incorporate sustainable practices into their approaches to risk management?

This study will use statistical modeling, an in-depth examination of case studies from the extractive industry, and empirical data analysis to address these problems. By statistically evaluating sustainability's impact on handling risks, this research aims to clarify the nuanced link between minimizing risk and environmentally friendly company practices. In the end, the extractive industry and society at large will profit from the research's findings, which will be useful not only to industry practitioners but also to policymakers who are trying to achieve a balance between economic development and sustainability.

2. Literature Review

2.1 Management of risk: An Indian Perspective on the Extractive Industries

Financial crises, fraud, scandals, and both natural and man-made disasters have all recently affected the global business environment [4]. Several variables, including current and past significant mishaps, safety, wellness, and ecological issues, along with socially and politically and financial turmoil, have undermined public and investment trust in the honesty of the mining industry. According to research on the impact of corporate social responsibility (CSR) on a business's finances poor-quality borrowers with flexible CSR expenditure tend to have longer loan durations and larger loan gaps [5].

Agreeing to Deloitte bets in excavating and O&G are steadily growing and are portrayed by escalating demands and approves, surprising, advanced bouts, questionable cost, potential skill wars, sway frameworks, expanding costs, elevated assessment from the hypothesis neighbourhood, disasters, rising opportunities of ordinary owners of the 1 and (Local old people). The following are examples of unidentified risks: unmanaged and capable of generating risks that threaten a company's safety, social license to operate, protection, importance to stakeholders, financial success, and environmental responsibility.

2.2 Unique Risks in the Extractive Industry

These days, governmental and financial instabilities and worries do not totally exclude the possibility of extraction area investments. The Universe Risks Framework developed by Ernst & Young provides the framework for this study. It categorizes and lists common ES key risks based on their nature and impact on ES operations. The goal of this study is to generalize these risks and incorporate them into a statistically testable model [6]. Additionally, the Risk Radar provides additional information about the risk components. In the years to come, mining and oil and gas companies will face the greatest challenge from the risks in the dark portion of the radar. The outer layer's arrows indicate if these hazards, such as instability, are anticipated to increase or decrease in prominence.

3. Methodology

The study's research strategy, which includes data collection and variable measurement and operationalization, is outlined in this section. This study aims to fill a knowledge gap by determining whether firms' wealth and/or CS have a significant impact on SV in the Indian ES through RM practices. The two implications are examined in the case that the null assumption is disproved. The

study's approach of quantifying, measuring, analyzing, and evaluating RM is in line with earlier ones.

3.1 Collection of data

The questionnaires that 490 employees of 21 selected ES companies completed provided the study's data. The top 100 extraction, elements, power, and utility businesses registered on the Indian Financial Market in the S&P/ASX 200 comprised the study's audience of interest. The decision was taken with the retail sector valuation of the listed firms according to December 2017 in mind. The questionnaire's main emphasis was on managers' and employees' opinions of the chosen organizations' RM procedures and how they affected SV and CS. The importance of every RM practice and how it influences making decisions were the topics of the questions. A response rate of 51.2% was obtained from 490 of the 975 employees of the selected companies.

4. Results and Discussion

Figures 1, 2, and 3 depict the participants to this study's respondents' demographic traits. These characteristics suggest that employees of O&G companies and mining companies share many of the same characteristics:

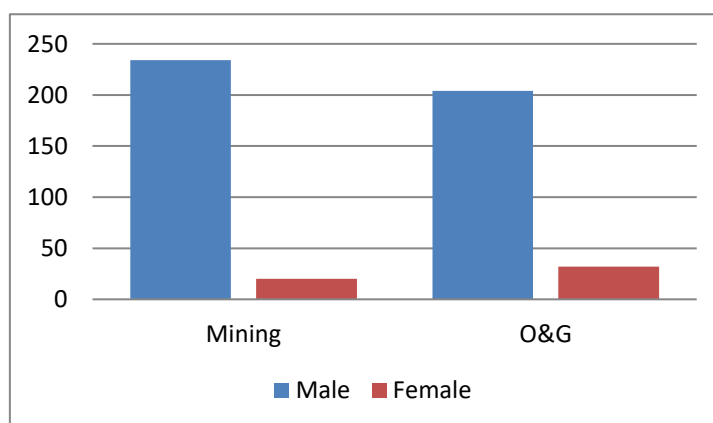


Figure 1: Gender discrimination

According to Figure 1, the ES seems to be in control by men, but O&G companies, with 13.4%

female representatives, are somewhat more orientation-adjusted than mining companies.

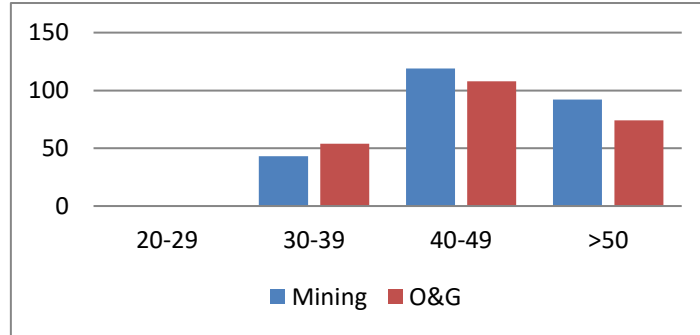


Figure 2: Age distribution

According to figure 2, a little less than half of managers in mining and oil and gas companies are

between the ages of 40 and 49, and approximately 81 percent of managers are over 40.

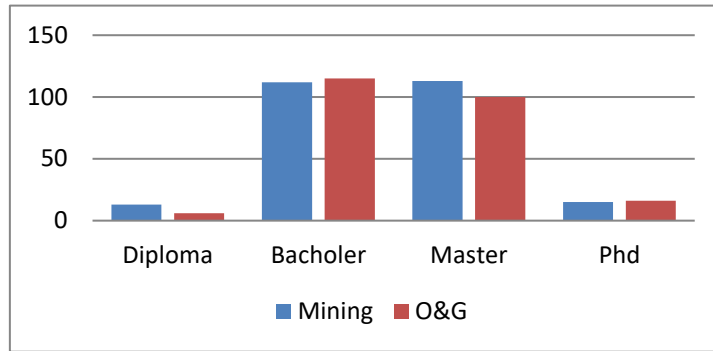


Figure 3: Educational qualification of managers

According to Figure 3, O&G workers appear to have slightly more education than miners. a ranking on a Likert scale with 5 points for each category was provided by managers' responses when they on

the basis of their RM practises, were requested to rank the statements. Mining receives the first value in each cell, while O&G receives the second value, as shown in Table 1.

Table 1: Measurements for RM practices elucidating the correlation between the mining and O&G

RM	Mean	Median	Mode	Max	Min	S.D
Operational risk	3.17/3.18	3.18/3.04	3.34/3.04	4.00/4.00	1.00/2.43	0.481/0.376
Financial risk	3.03/3.12	3.00/3.13	3.00/3.13	4.00/4.00	2.04/2.75	0.378/0.426
Compliance risk	3.25/3.26	3.23/3.23	3.16/3.22	4.00/4.00	3.01/2.28	0.445/0.472
Strategic risk	3.02/2.95	3.00/3.00	3.15/3.30	4.00/4.00	2.01/2.78	0.480/0.404
Control key risk	3.12/3.18	3.19/3.19	3.19/3.19	4.00/4.00	2.30/2.30	0.435/0.420
Risk analysis	2.42/2.93	3.29/3.49	2.59/3.39	4.00/3.90	1.39/1.39	0.563/0.563
Loss prevention risk	3.13/3.21	3.22/3.00	3.22/3.00	4.00/4.00	2.01/2.01	0.559/0.565

According to Table 1, managers of mining and oil and gas companies share similar perspectives regarding their companies' RM capabilities. The minimal numbers, however, suggest that certain executives of mining firms seem to have far less trust in the operating, monetary, and risk-taking capacities of their organizations than do managers of O&G. On the other hand, compliance risk

capabilities appear to be much more important to them.

- ❖ Risks related to operations, finances, the environment, and reputation are all present in the extractive business. One important instrument for reducing these risks is the implementation of sustainable business practices. Reducing the possibility of

expensive incidents and reputational harm can be achieved by extractive industries by using sustainability measures such as environmental impact assessments, community involvement initiatives, and ethical governance standards. The results of this study should demonstrate how useful sustainability is for risk management.

- ❖ Although the importance of sustainable business practices in risk management is becoming more widely acknowledged, financial concerns may exist. Businesses in the extractive sector frequently have to make upfront investments to adopt sustainable practices. By evaluating whether the initial investment in sustainability measures results in long-term risk reduction and financial rewards, this study can aid in quantifying the cost-benefit connection. Industry decision-makers must comprehend the financial effects of sustainability measures.
- ❖ Sustaining a "social license to operate" and adhering to regulations are strongly related to sustainability. Many governments and interested parties are putting pressure on extraction industries to comply with stricter ecological and social regulations. Repercussions from the public and regulatory penalties may result from failure to comply with these criteria. This study can provide insight into how extractive industries can successfully negotiate the complicated regulatory environment and obtain their operating licenses by prioritizing sustainability.
- ❖ Because of the perceived detrimental effects of their operations, extractive industry corporations are frequently the target of public scrutiny and mistrust. Rebuilding and preserving stakeholder trust, enhancing the industry's standing, and strengthening linkages with customers, investors, and communities are all made possible by sustainable business practices. The importance of sustainability in

establishing and preserving trust—which is a crucial component of risk management—should be emphasized in this conversation.

- ❖ This study aims to investigate the long-term benefits of environmentally friendly company tactics in the extractive industry. Not only should immediate risks be avoided, but a more flexible and robust company strategy should be developed. Sustainability activities can assist businesses in anticipating and adjusting to long-term risk factors such as shifting consumer preferences, technology improvements, and changing market dynamics.
- ❖ It's important to note that there are difficulties in implementing sustainable business practices in the extractive sector. Trade-offs between long-term sustainability and short-term profitability could exist. Businesses may encounter opposition from interested parties who value short-term gains over long-term viability. Assessing these difficulties and possible compromises will offer a comprehensive viewpoint on sustainability's place in risk management.

5. Conclusion

To conclude, the considerable impact of sustainability on risk mitigation, regulatory compliance, reputation management, and long-term resilience may be revealed by an empirical investigation of the influence of sustainable business in the extractive industry from a risk management perspective. This research adds to a more thorough understanding of how the extractive industry might reconcile economic expansion with sustainable and responsible operations by addressing the difficulties and expenses related to sustainable practices. In order to fill in a few studies assesses the perceived impact of RM practises, business characteristics, and managers' characteristics on SV and CS to fill the gaps among the RM literature. It reviewed 490 workers of India's 21 biggest worldwide mining and oil and gas organizations the greater part, everything being equal. It was discovered that managers believe that

CS and SV are significantly influenced by RM practices. The significance of RM is the source of the conditional ideas of RM converging and diverging; the former suggests slack, non-competitive circumstances, while the latter happens in highly competitive settings. Table 1 show that the absolute differences are significant but very small when compared by ratio. This study's discoveries ought to be valuable to specialists, chiefs of global enterprises in the steadily developing extractive industry, strategy creators, and partners. Especially, the dangerous character of the ES regularly interacts with the socioeconomic and governmental goals of the global population.

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