ICICI Lombard
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CORPORATE INDIA RISK INDEX

2022

Intelligence partner FROST & SULLIVAN

SECTOR REPORT 2022
METAL & MINING


RISK

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Preface

Corporate India Risk Index is primarily an academic exercise to understand the level of risk that companies are facing and also assist in developing a successful risk aversion plan, CIRI is a first-of-its-kind risk measurement tool to gauge the level of a company's risk exposure and preparedness.

This Corporate risk comprises of various aspects of the business–spanning customer, competition, regulatory environment, business operations, technology finances, environmental factors etc. The impact of unprecedented events is significantly higher now.

This Index is a comprehensive framework that draws upon global risk management best practices and comprises of 32 risk elements across 6 broad dimensions. The Risk Index is based on the principles of Lean and Six Sigma that qualify business processes by measuring effectiveness and efficiency.

ICICI Lombard's Corporate India Risk Index provides a crucial tool for assessing and addressing risks, fostering resilience and adaptability in the ever-evolving global landscape. In the current climate of increasing macroeconomic uncertainties, it is essential for corporates to prioritize robust risk management. We believe that a proactive approach to risk management not only fortifies individual businesses but also contributes significantly to India's overall economic growth and stability.

Executive Summary

India has a rich history of mining, mineral and metal production, and the sector plays a significant role in the country's economy. The country has vast mineral resources, including coal, iron ore, bauxite, copper, zinc, lead, and many others. The sector also plays a crucial role in providing raw materials to various industries, including steel, power, and cement.

Mining, mineral, and metal sectors are inherently risky due to several factors such as geological uncertainties, volatile commodity prices, regulatory changes, and safety hazards. Despite the significant contributions of the mining, mineral, and metal sector to India's economy, there are also concerns regarding environmental degradation and the impact on local communities. To address these challenges, the Indian government has initiated several measures, such as the use of modern technology for exploration and mining, and promoting sustainable mining practices. The government is also working to improve infrastructure and facilitate investment in the sector. In this report, the efforts were to drill down into the elements of risk exposure, risk management, and risk index for the Mining, Mineral and Metal sector in india.

The overall risk index has improved as the lockdown gradually lifted up and industrial activity facilitated the mining activity which led to the comparatively better growth. There were comparatively less fluctuations in the exchange rate than the previous year which also helped in the efficient cross-border transportation. But the operational risks continued to be the major barrier in the mining activities as the natural hazards and safety concerns. India holds enormous potential for growth and development, and the government's efforts to promote the sector are likely to lead to increased investment and improved performance in the coming years.

Introduction

ICICI Lombard Corporate India Risk Index is a one of its kind, unified, credible, standardized corporate Risk Index that spans over the country level, the industry level, and the company level. The index has a comprehensive sector coverage.

Aerospace and Defense, Agriculture and Food Processing, Automotive and Ancillary, BFSI, Biotech & Life sciences, Chemicals and Petrochemicals, Education Skill Development, Energy, FMCG, Healthcare Delivery, Infra and Realty, IT/ITES, Manufacturing, Media and Gaming, Metals and Mining, New Age & Startup, Pharmaceuticals, Telecom and Communication Technology, Tourism and Hospitality, Transportation and Logistics.

The impact is identified across key business risk (internal and external) under the following 'Strategic Risk Areas', The ICICI Lombard Corporate India Risk Index Framework comprises of 32 risk elements across 6 broad dimensions.

Market and Economic Risk

Corporate Risks arising due to market and economy related factors, such as internal or external political uncertainty, global slowdown, taxation-regulatory changes etc. Market and economy related risks are also identified as 'Systematic Risks', we have further classified the risks into below mentioned categories.

- **Inflation:** Inflation is the general increase in prices within the economy. The rising prices for businesses could result in bigger production spending and a fall in profitability. The companies should be attentive, acute, and responsive to changes in inflation to efficiently manage the prices of final products.

- **Taxation:** In a large democracy like India, complexity of multiple taxes (multiple taxes like GST, custom duties, central excise duty, etc.) is a major concern. The changing legislations, increased scrutiny by tax authorities and increasing public attention are together resulting in tax risks for organizations. There is, thus an increasing urgency for firms to manage their tax affairs efficiently to minimize tax risks.

- **Regulatory Risks:** Regulatory risk is the risk of changes in regulations and laws that might affect an industry or businesses. The regulatory changes can pertain to tariffs and trade policies, business laws pertaining to employment, minimum wage laws, financial regulation, Foreign Direct Investment etc.

- **Foreign Exchange Risk:** The exchange rate plays an important role for firms who export goods and import raw materials. The fluctuations in foreign exchange will have great impacts on the prices of traded goods. For example, if the currency depreciates (devaluation), the exporting firms will benefit. However, the firms importing raw materials will face higher costs on imports. The firms need to hedge their exposure to foreign exchange risks to insulate themselves from the impact from forex changes.

- **Geo-political Tension:** Geopolitical risk means the political and economic risks that are a potential threat to the financial and operational stability of companies.

- **Competitive risk:** Competitive risk is the risk associated with the fact that there are multiple companies competing in the market, each seeking to obtain the highest position and consumer ratings, to gain maximum benefits for themselves. The companies devise different strategies to garner a higher market share and acquire customers from competitors. Any failure in managing the competitive stand could lead to losses in business, thereby making marketing and competition a major risk in market.

Technology Risk

Technology risks are also identified as information technology related risks which may arise due to failure of any installed hardware or software system, spam, viruses or any malicious attack. Also delay/over/under adoption of trending disruptive technologies can lead to technology related risks. We have classified the risks in below mentioned categories.

- **Innovation Risk / Obsolete Technology:** Innovation is the key to success in all the industries. Risk of redundancy and losing out to competition on account of poor R&D is a major concern.

- **Intellectual Property risk:** Dependence on trade secrets and unpatented proprietary know-how.

- **Disruptive Technologies:** These will fundamentally alter the financial prospects of the industry.

Data Compromise: Hardware failure refers to malfunctions within the electronic circuits or electromechanical components (disks, tapes) of a computer system; Software failure refers to an operating system crash. Such failures lead to stoppage of entire computer or operating systems creating substantial losses to business.

Operational and Physical Risk

Risk of losses caused due to faulty or failed processes, systems or human resource related inefficiencies are classified as operational and physical risks. We have classified Operational & Physical risks in below mentioned categories.

- **Critical Infrastructure Failure / Machine Breakdown:** Industries with a heavy dependence on machinery consider any rise in machinery breakdowns a hindrance to their businesses operations. An untimely equipment breakdown can bring businesses to a standstill or be the root cause for fires and explosions. Mostly, human errors and deferred maintenances are the major reasons for such breakdowns. The companies should actively invest in timely maintenance of all machineries.

- **Business Continuity / Sustainability:** Non adoption of Business Continuity/ Sustainability Plans and Lack of Internal Control tools would result in: Failure of businesses, Brand Equity / Loss of reputation, Financial Loss, Business model Failure, Ineffective engagement/communication with stakeholders, Losses in productivity, Lack of opportunity monitoring.

- **Supply chain risk:** Raw Material unavailability and Heavy Dependence on Global Supply Chains / Supplier concentration risk. Unavailability of raw materials owing to disruption in the supply chain or heavy dependency on one source (company/country) which is unable to supply owing to some geo-political tensions, fires, or any other incidents. Transportation is one of the key activities for companies making it an important risk to mitigate. The loss of goods in transit and spillage is one of the major concerns as it accounts for a sizeable loss of revenue to companies.

- **Commodity Price Risk - Volatility in prices of raw materials:** The fluctuations in raw material prices creating a margin pressure / top-line pressure in the scenario of rising input costs.

- **Portfolio Risk:** Loss of key customers, Customer concentration - Key customers accounting for a larger share of revenue, Over-dependence on suppliers, Business Model Risk: Transformative changes in business model, Tail Risks: Ability to overcome or manage extreme worst-case scenarios.

- **Environmental Hazard Risk:** Any environmental hazard having the potential to affect the surrounding environment.

- **Workplace Accident:** Fire and Explosion Hazards, Containment Incidents, Workplace Injuries

- **Human Resource: Key person risk:** This risk occurs when a business or business unit becomes heavily reliant on a key individual. Talent acquisition and retention - The companies require a highly skilled labor force for R&D as well as continuous production. Accessing skilled resources and expertise on an on-going basis is one of the major challenges; moreover, retention of trained staff is imperative. Labor shortages, Union Strikes & Industrial Actions, Employee health, safety, and security (SHE/Sustainability risk).

- **Financial Risk:** Financial Reporting Risk: Material misstatement of Financial Statements, whether due to fraud or error. Interest rates and equity prices: Interest rate risk arising out of working capital borrowings at variable rates. Equity price fluctuations affect the Company's income or the value of its holdings of financial instruments. Liquidity Risk (Credit Risk / Receivables).

- **Breaches of law (local/ international):** Voluntary/ involuntary breaches of law can lead to costly lawsuits.

Crime & Security Risk

Cybersecurity risks relate to the loss of confidentiality, integrity, or availability of information, data, or information (or control) systems and reflect the potential adverse impacts to organizational operations. These attacks can cause major financial losses, reputational harm, and a loss of client trust. Regarding cybersecurity, the BFSI industry in India has several difficulties, including difficult-to-secure legacy systems, a shortage of qualified cybersecurity personnel, and the requirement for ongoing system and network monitoring. There is a significant investment in cybersecurity tools like network monitoring, endpoint security, access control, and threat intelligence. Many organizations are also implementing cutting-edge technology like artificial intelligence and machine learning to strengthen their security posture. Around 7.4% of the attacks in the Asian region were targeted at India in 2022.

We have classified Crime & Security risks in below mentioned categories.

- **Cyber Crimes:** Data Theft, Spam, scams and phishing, Hacking, Malwares and Viruses, Piracy, Fraud, Corruption, Malicious attacks

- **Counterfeiting:** Counterfeiting of goods/services leads to loss of revenues, profits and ultimately affects the brand equity

- Threat to Women Security

- **Terrorism:** Un-lawful use of violence and intimidation, especially against civilians, in the pursuit of political aims.

Natural Hazard Risk

A natural hazard is the threat of an event that will likely have a negative impact. A natural disaster is the negative impact following an actual occurrence of natural hazard if it significantly harms a community. Due to India's geographical structure, it is one of the most disaster-prone countries in the world. Natural hazards like floods, earthquakes, landslides, and cyclones are common risks faced by India. The situation has worsened due to rise in GHG emissions, loss of biodiversity, deforestation, and degradation of environment. From Surat Gas leak to landslides in the north and cyclones in Bay of Bengal, the year 2022 was no exception. Such natural disasters hamper the day-to-day operations of corporates, and it is important for them to understand that such risks cannot go unheeded. Over the years, Indian corporates have learnt to mitigate such risks by diversifying their supply chains, having multiple logistics partners, diversified geographical presence and multiple vendors.

- **Pandemic and other global epidemic diseases:** Risk to business owing to disruptions caused by COVID-19 pandemic and similar another global epidemic.

Strategic risk

- Strategic risk is the risk that failed business decisions may pose to a company. Strategic risk is often a major factor in determining a company's worth, particularly observable if the company experiences a sharp decline in a short period of time. Several factors, such as unethical or unlawful activities, poor customer service, product recalls, data breaches, or unfavorable media coverage, can lead to strategic risk. An organization's reputation can be severely harmed by a single negative incident, such as a high-profile data breach or fraud scandal, resulting in a loss of clients, income, and market share.

- **Resource scarcity / Misutilization / Overall Utilization:** Difficulties in acquisition of land, water, fuel, or other resources for operations of business.

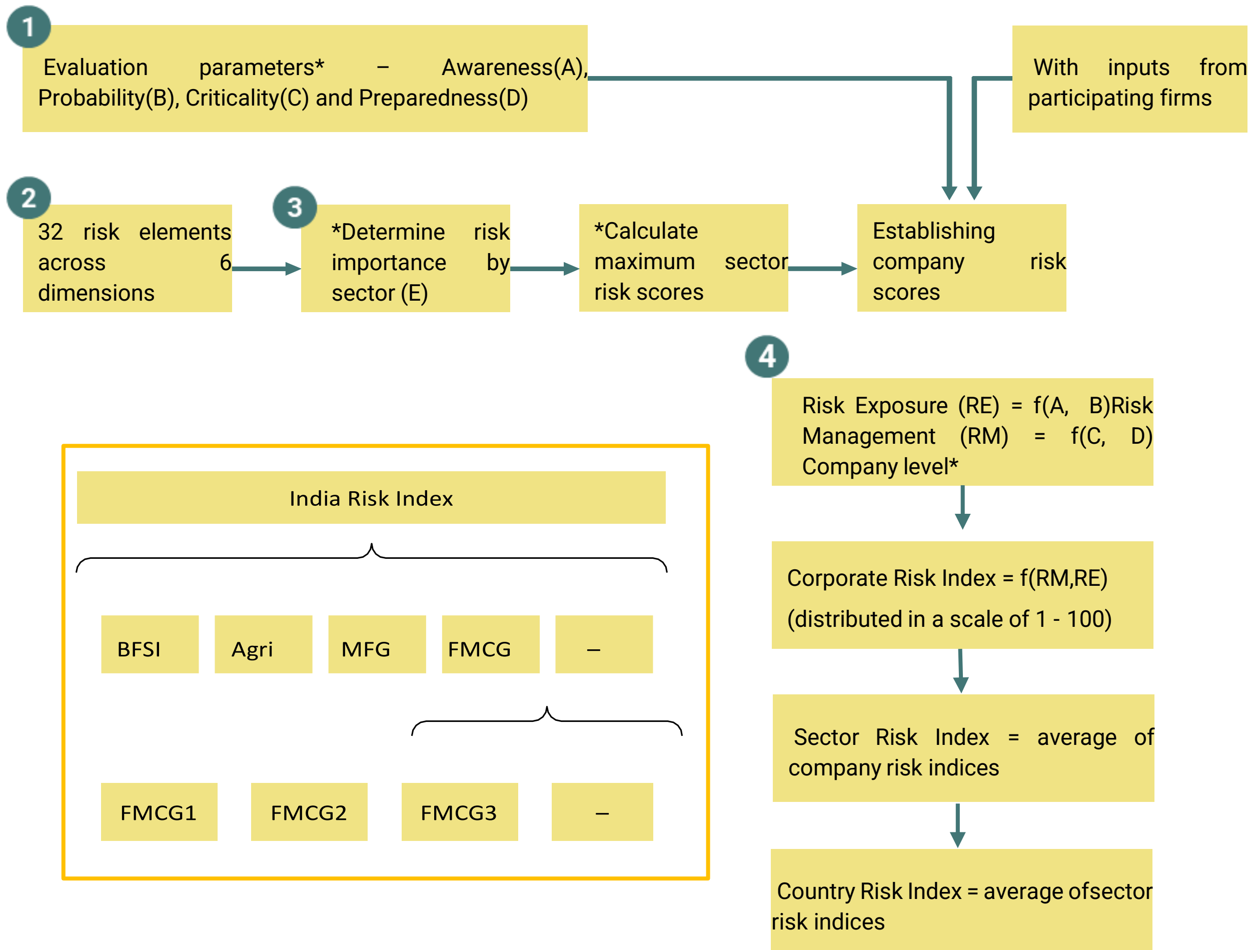
- **Public Sentiment:** Current events playing out in the public scene can change the public sentiment.

- **Delay in execution of projects:** Delays in execution of projects can surge in the capex.

- **Increased number of recalls and quality audits:** Impacts both the brand equity and increased operational expenses.

- Failed / Hostile Mergers & Acquisitions: High dependence on inorganic growth.

Bottom-Up Risk Assessment Approach



1. **Evaluation Parameters*:** The index maps the risks faced by any enterprise basis of Awareness, Probability, Criticality and Preparedness against the defined Risk elements. The evaluation Parametersare defined as: Awareness - Level of awareness of potential risk affecting the firm. - Likelihood of riskto affect the business goals of the firm adversely. Criticality - Level of impact of the identified risk on the success of business goals. Preparedness - Risk handling practices/ mechanisms already in place tohandle the risk.

2. **Determining Risk Importance*:** Importance/Impact of individual risk element is established against individual sector based on the published corporate risk reports, in depth sector understanding by F&Steam and SMEs.

3. **Calculating Maximum Sector Risk Score**: Weighted Sum of all risk elements based on their importanceto the respective sector.

4. **Company Level*:** All the Risk Index scores for companies in a sector are averaged to represent the sector; and sectors average to India. Risk Exposure is defined as the function of corporate's Risk Awareness and Probability of risk occurrence. Risk Management is defined as the function of an enterprise risk preparedness and criticality risk impact assessment.

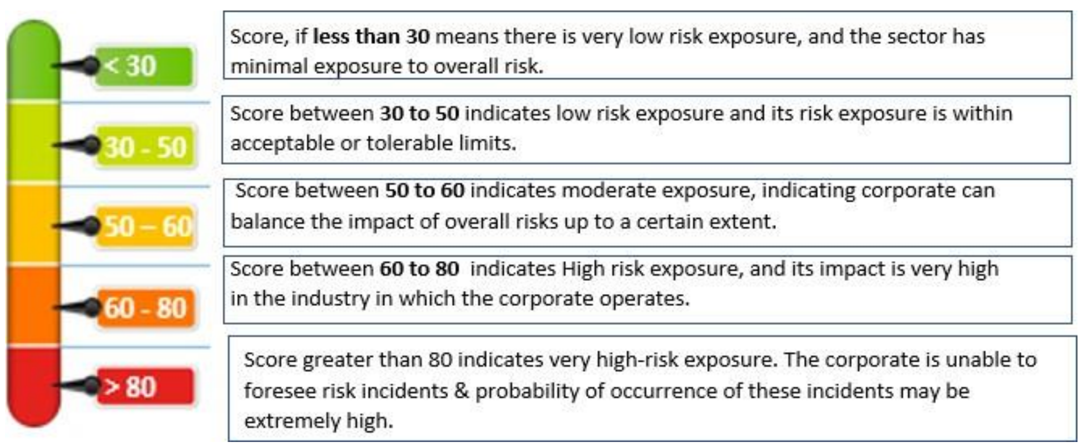
Defining the Risk Scale

Defining the Risk Scale

We have selected 20 sectors to understand the current stand of our country today in terms of risk. Risk for various sectors is measured on the risk exposure scale and risk management scale.

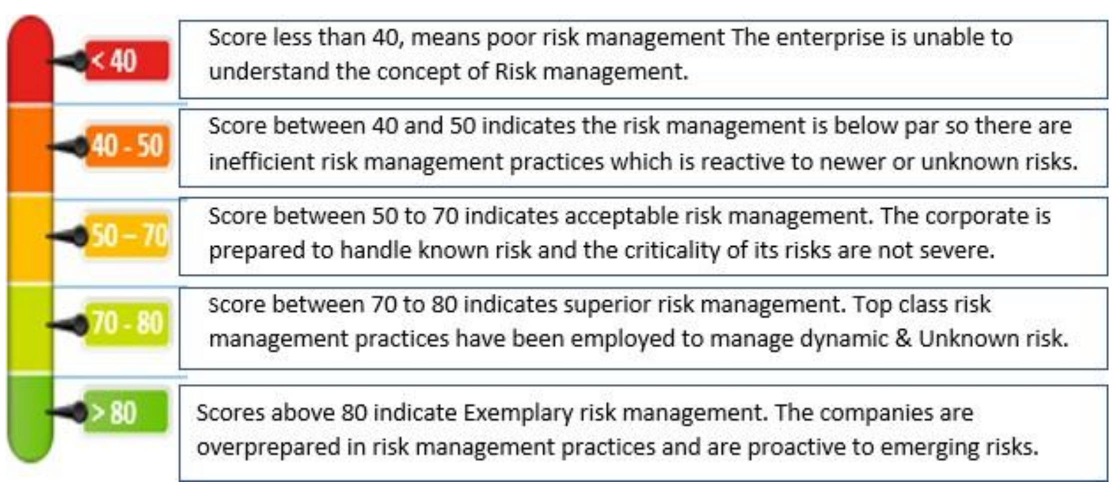
A. ICICI Lombard Corporate Risk Exposure – Scale

Risk Exposure: The impact of any internal, external or strategic occurrence on the financial performance of an organization is defined as the corporate risk exposure. Risk has traditionally been seen as something to be avoided – with the belief that if behavior is risky, it's not something a business should pursue. But the very nature of business is to take risks to attain growth. Risk can be a creator of value and can play a unique role in driving business performance. Let's look at the risk exposure scale.



B. ICICI Lombard Corporate Risk Management – Scale

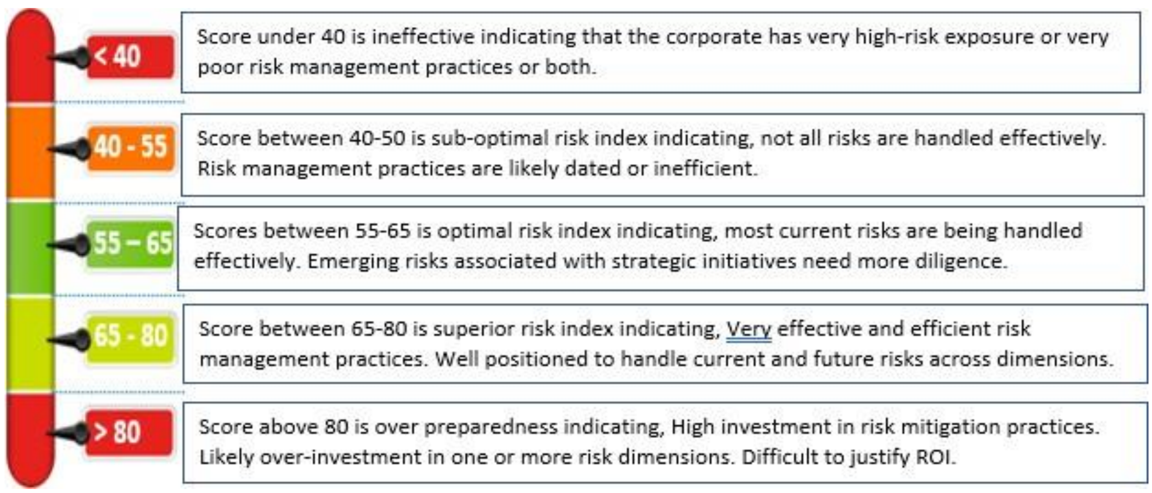
Risk Management: Identification, Evaluation and Prioritization of corporate risks followed by well-coordinated steps to minimize the occurrence of uncertainties in the foreseeable future is defined as the Corporate Risk Management. The risk management scale works in the opposite to that of the risk exposure scale. Let's look at the risk management scale.



C. ICICI Lombard Corporate Risk Index – Scale

Risk Index: Risk Index is a measurement tool to gauge the level of Risk Exposure against Risk Preparedness. The score intends to give companies/Sector/Country access to an extensive and quantifiable metrics of risk management.

Let's look at the risk Index scale.



India - Emerging Superpower with Optimized Corporate Risk Handling

Manufacturing sector contribution to India's GDP in 2022 stands at 17% and is expected to grow to 25% by 2025, the expected growth is attributed to various favorable schemes initiated by Government of India like 'Make in India', 'Digital India', Improved Road Infrastructure, implementation of modern technologies of manufacturing resulting in optimized and effective production, Also the pandemic has made business realize that they cannot just rely on a single manufacturing hub; hence notion of "China+1" is making the world realize the significance of India. China is in a trade war with the USA, which is positively shaping the role India will play in the global arena.

The below chart showcases the gradual increase in India's manufacturing exports.

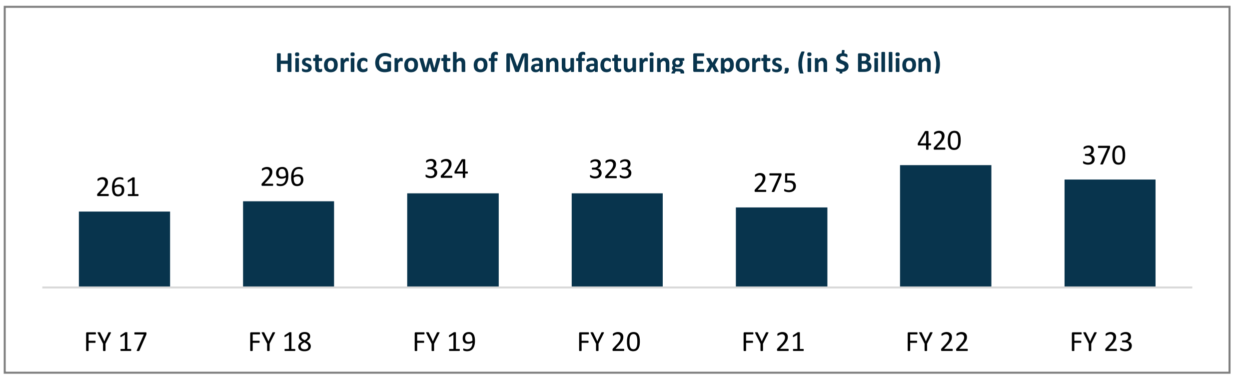


Figure 1: India's Growth of manufacturing exports. (Source: Redseer)

Indian manufacturing sector is also focusing on electronics manufacturing like mobile phones, industrial electronics consumer electronics, etc. due to government initiatives the production has doubled since 2015.

Aerospace and defense sector in India have evolved significantly, Govt. of India have identified A&D as area of focus due to the belligerent neighborhood, steps like Make in India(Atmanirbhar Bharat) is helping the overall defense sector, however India still remains the largest importer of arms and ammunition, favorable policies and ease in regulations is helping the drone industry in India and many new start-ups and big players are entering in this space.

Urbanization is another phenomenon evolving in India and it is estimated that by 2030 more than 400 million people will be living in cities, due to this megatrend huge push towards realty and infra sector is observed which is also the growth of ancillary industries like metals, cement, water availability, sanitation, mobility etc., the government along with the private sector is working on multiple initiatives to manage the huge inflow.

India has observed a steady adoption towards EVs in recent years, though India adoption still remains very low in comparison to Europe, Canada, China, however all big auto players are coming with new lines of EVs, and significant strategic investment have been made. The adoption is primarily due to lower running costs, lower maintenance, zero tailpipe emissions, tax and financial benefits by the government, convenience of charging.

BFSI sector in India is showcasing a significant robustness in the time of global crisis, there is a growing demand for financial services as there is a gradual rise in income across income brackets, with a rapid increase in mobile penetration and internet availability more than 2100 fintech companies have emerged in India, the traditional banks are also adopting the digital technologies at a required pace, investment on making the systems secured from cyber threats is utmost priority. Policy support by the government in the union budget 2021-22 is taking up shape and is helping the BFSI sector in 2022 and coming years, like government approval of 100% FDI for insurance intermediaries have increased the FDI limit to 74% from 49%.

Healthcare sector is also continuously growing healthcare has become the one of the India's largest employers, employing around 4.7 million people, though in 2021-22 India only spends 2.1% of its GDP in healthcare, in the union budget 2022-23, US$ 11.28 billion was allocated to the Ministry of Health and Family Welfare (MoHFW). there is still huge room for improvement in the overall healthcare system in India. Efforts towards having well trained medical professionals in India is top priority. There were exemplary development in the vaccine manufacturing by India, Bharat Biotech Covaxin and Oxford AstraZeneca's Covishield manufactured by SII, helped India get a protection shield against Covid. There is a plan by the government of India to infuse US $ 6 billion to boost the healthcare infrastructure in India.

The IT/ITes sector is a key engine for fueling India's economic growth and contributing to 7.5% of India's GDP in 2021-22, the Big four IT firms in India have recruited over 1 million employees, As the world is moving towards era of digital economy Indian IT-sector will be contributing significantly towards this journey, the rollout of 5G communication technologies and adoption of new age technologies across industries; like AI, Robotics, Internet of Things will further increase the size of Indian IT sector.

Indian enterprises are also concerned about the risks emerging out of the growing economy and the globalization India is heading towards, its observed that Indian enterprises are taking significant steps towards risk management and keeping budget allocated to implement best in class risk mitigation practices.

India Showcasing an Optimized Risk Handling

Figure 2: Corporate India Risk Index 2022

Corporate Risk Index Score of 63 implies that Indian enterprises are handling the risk in an optimal way but still there is scope of improvement to get into superior risk handling territory, Indian enterprises have a well-defined risk management practice in place for inherent risks, however risk management can be improved further as a potential buffer against potential risk events arising from market & economy, operational and technology related Risk events, openness towards adoption of technology and having a well-defined risk management team was observed across enterprises in India.

Sectorial categorization across above stated five categories, it was found that risk management is getting a paramount importance in the growth strategy of every organization and all the organization fell either into ‘Superior Risk Management’ or ‘Optimal Risk Management’ category.

From a risk exposure front the intensity of impact due to market and economy related risks increased due to the heightened inflation, global recession, and geopolitical tensions though from a regulation point the sector specific policies by the government helped the industries. Some of the inherent risks exposure due to the operational aspect did not see a significant change as compared to previous year, however companies are adopting diversification, technologically enabling the supply chain, and creating better hedging against financial related risks, whose results will be seen in coming years.

Below is a broader categorization of sectors in terms of risk index:

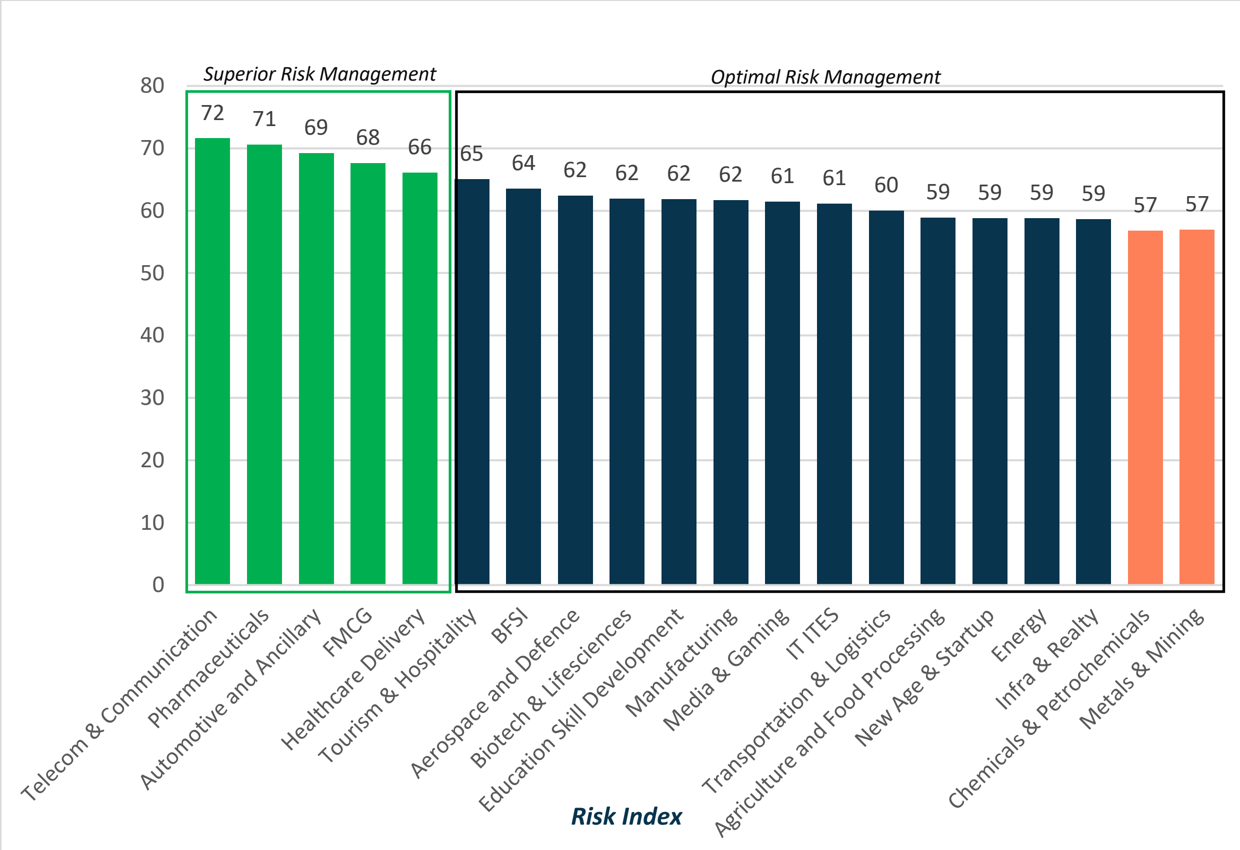


Figure 3: Corporate India Risk Index 2022 Sector Score

Superior Risk Index

Superior risk handling was found in five industrial sectors: Telecom & Communication, Pharmaceuticals, Automotive & Ancillary, FMCG, Healthcare Delivery.

Optimal Risk Index

Optimal risk handling was found in 15 industrial sectors: Tourism & Hospitality, BFSI, Aerospace & Defence, Biotech & Lifesciences, Education Skill Development, Manufacturing, Media and Gaming, IT & ITES, Transportation & Logistics, Agriculture and Food Processing, New Age & Startup, Energy, Infrastructure & Realty, Chemicals & Petrochemicals, Metals & Mining.

Metal & Mining Sector Insights 2022

The mining, mineral, and metal sector is an essential part of the Indian economy, contributing significantly to employment and GDP. However, it is also associated with several risks, including environmental, social, and governance risks, as well as operational and financial risks. These risks can have significant impacts on companies' profitability, reputation, and sustainability, as well as on local communities and the environment. This abstract aims to provide an overview of the major risks faced by the mining, mineral, and metal sector in India, including regulatory and policy risks, resource and reserve risks, operational risks, market risks, and social and environmental risks.

Many sectors, including those in construction, transportation, and electronics, rely on it for their raw materials, and it also offers employment to millions of people. The metals and mining sector is critical for economic growth in a developing country like India. The sectoral share of mining and quarrying in Gross Value Added (GVA) was estimated to be around 2.2% in FY22. This has declined over the years from a high of 3.1% in FY17. India produces 95 minerals, including metallic, non-metallic, atomic and minor minerals. India is ranked as one of the leading global producers of valuable minerals such as iron ore, chromite, coal, and bauxite.

The profitability of mining industries can be affected by changes in commodity prices, shifts in the demand for metals and minerals, and worldwide economic trends. The sector may also be impacted by economic reforms and policies, such as altered tax laws or import-export rules. To be competitive and viable over the long term, businesses in this sector must evaluate these risks and establish strategies to manage them successfully.

The Mining, Mineral, and Metal sector in India experienced a 31% reduction in fatalities in 2022, which is a positive development. However, safety risks such as accidents, natural disasters, and equipment failure can still result in production delays, higher expenses, and negative publicity.

Environmental concerns such as pollution and land degradation can also lead to penalties from the government and damage the reputation of companies in the sector. Therefore, it is essential for these companies to prioritize investments in safety measures, adopt sustainable practices, and regularly assess and manage operational and physical risks to ensure their long-term sustainability and success.

The Mining, Mineral, and Metal industry in India may be significantly impacted by the usage of cutting-edge technology. In mining operations, automation, artificial intelligence, and data analytics may boost productivity, save costs, and boost safety. Digital technology may enhance resource utilisation, cut waste, and improve supply chain management. The adoption of new technology can, however, present difficulties, including the requirement for new skills, large investment costs, and potential worker opposition. In order to be competitive and sustainable, businesses in this area must weigh the advantages and dangers of using new technology and devise plans to deal with unforeseen difficulties.

On the strength of increasing demand from end-use industries and new investments indicated by the mining businesses, the mining sector in India was poised for robust expansion in the financial year 2020–2021. Nonetheless, the spread of COVID-19 at the start of the fiscal year caused disruptions in a number of different industries.

The industry is vulnerable to events including floods, earthquakes, landslides, and cyclones, which can harm equipment and infrastructure, interrupt business operations, and delay output. These incidents may impact both workers and communities, harming a company's reputation and generating bad press for the industry.

The mining industry in India is heavily regulated, and changes in regulations and policies can significantly impact the sector. For example, changes in environmental regulations, land acquisition laws, or mining lease policies can affect the ability of companies to operate in the country.In India's Mining, Mineral, and Metal industry, mergers and acquisitions can have positive effects including improved efficiency, access to new technologies, and greater market power. These may, however, also provide difficulties, such as those related to cultural integration, legal compliance, and financial risk. Companies need to carefully weigh the advantages and risks of such operations.

Metal & Mining Sector Risk Index 2022 Vs 2021

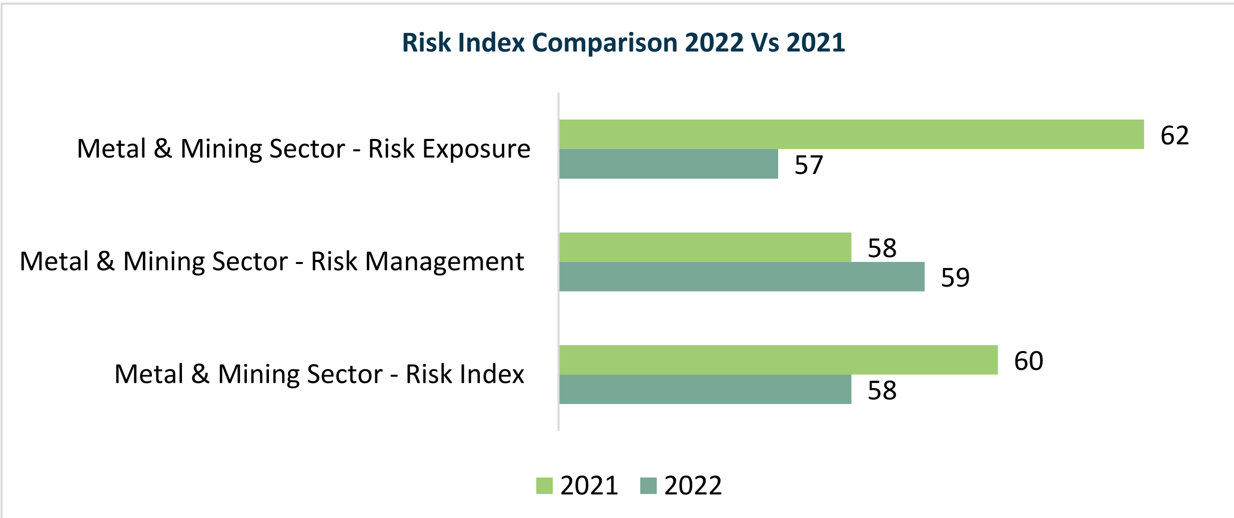


Figure 4: Detailed Comparative Analysis 2021 Vs. 2022

Metal & Mining Sector Risk Index 2022 Vs 2021

The overall risk for the mining, minerals and metal sector in India has improved significantly from 62 in 2021 to 57 in 2022. There was a lockdown everywhere in 2021 due to the outbreak of pandemic, there were several challenges faced in 2021. As the lockdown gradually lifted up, the economic and industrial activities again continued which facilitated the mining activities.

There was a significant improvement in the market & economic risk and operational risk in this sector from 74 in 2021 to 64 in 2022 respectively. The recent announcements to enhance domestic production, through innovation and by bringing more investments through unrestricted transfer of mineral concessions etc. were a welcoming move for the mining industry's role in "Atmanirbhar Bharat".

Metal & Mining Sector Risk Management 2022 Vs 2021

There hasn't been a significant improvement in the risk management in India Risk Management, however it has gone up to 60 in 2022 than 2021.

In 2021, the Indian government took various measures to improve risk management in the mining sector. These measures included the launch of the National Mineral Exploration Trust to encourage mineral exploration, the introduction of the Mineral Laws (Amendment) Act 2021 to provide greater flexibility in mining leases, and the implementation of the District Mineral Foundation to promote the welfare of mining-affected communities.

Metal & Mining Sector Risk Exposure 2022 Vs 2021

There was a slowdown in industrial and economic activities in 2021 on account of restrictions levied due to pandemic. As the economy opened-up, there was an increase in the mining and mineral processes which increased the mining volumes in 2022. The demand for Coal, Copper, Aluminum and iron-ore in both domestic and international market was also all time high in 2022.

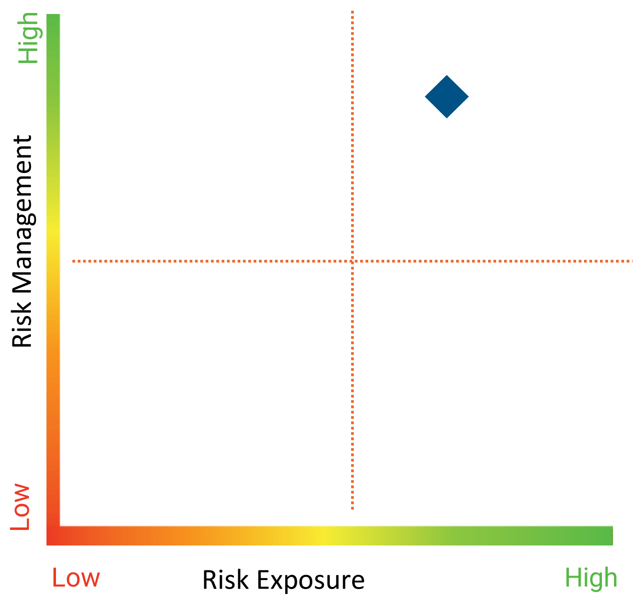
Pharmaceutical Sector Risk Exposure went up due to heighten geopolitical tensions, global slowdown in GDP growth resulting in reduced industrial activities, all-time low rupee valuation and high raw material dependency. The Risk exposure for pharmaceutical sector went up to 68 vs 62 in 2021. The Market and Economy dimension showed the highest increase in the risk exposure, the major increase is accounted due to the slowed-industrial activities resulting in financial risks and geo-political tensions arising due to the Russia-Ukraine tensions.

Key Highlights

Risk Dimension Analysis: Market and Economy

Risk Exposure Score: 64

Risk Management Score: 69



Inflation

- The cost of production for Mining, Mineral and Metal sector are greatly impacted by inflation due to increase in prices of fuel, energy and raw materials which also end up reducing the profitability of the companies operating in similar verticals.
- The impacts of inflation can also be seen in demand and supply dynamics as several minerals are consumed in day to day living and therefore, its demand is prone to be affected by the cost of living and the household incomes of the families.
- Inflation has a direct impact on the exchange rates as it depreciates the domestic currency which increases the demand of domestic good in the foreign market as they stand competitive and cheaper. Therefore, inflation needs to be kept in check so as to maintain the balance of demand and supply in the country.

Taxation

- The taxation has a direct relation with the cost of inputs in the Mining, Minerals and metal sector as there are fluctuations in the tax rate of the fuels, machines etc. The tax policies immensely reduce the profitability of the companies in this sector as it is very difficult to operate with high tax rates.
- The investment opportunities in the Mining, Minerals and Metal sector are driven so much by the tax policies of any countries. There are Fiscal Stability Agreements (FSA) that governments provide to ensure certainty in tax regime over a period of time. These are extremely important to increase the profitability of the companies in this sector.

Regulatory Risks

- Mining and Minerals processing activities causes several threats to the Environment such as soil erosion, water pollution, and deforestation. Therefore, the companies have to be abided by the Environment protection regulations failing to which results into legal, ethical and other reputational damage to the companies.
- Political instability is a major concern for the companies operating in this sector as the uncertainty over government projects, contracts and regulatory mechanisms results in the reduction of profitability of the companies.
- Government intervention to ensure least variation in the market prices through transfer pricing between parties is a also a regulatory challenge since they can impact the deals between the parties.

Foreign Exchange Rates

- Fluctuations in the exchange rates of the currency significantly impact the profitability of the companies. For instance, the competitiveness of the domestic products and the scale of cost in the imported machineries and other products are immensely influenced by the exchange rates.
- The interest rates also affect the companies operating in this sector. The companies sometimes take debt in foreign currency thus any fluctuations in the currency greatly affects the financial transactions of the company.
- The government tariffs are an important means of reducing foreign exchange risk as the government in order to reduce the reliance on the imported products imposes tariffs to promote the exports.

Geopolitical Risks

- In the era of globalization where the world is inter-connected in every sphere of business activities, the geo-political tensions are critical to the functioning of the multi-national companies. The cross-nation policies, political instability, and other the nationalistic policies like trade barriers through tariffs results into several challenges like disruption of supply chains etc.
- The social and environmental concerns emanating due to the mining and mineral processing activities also poses notable threats to the companies since several NGOs, government organization restricts the mining activities at various places, which impacts the operations of these

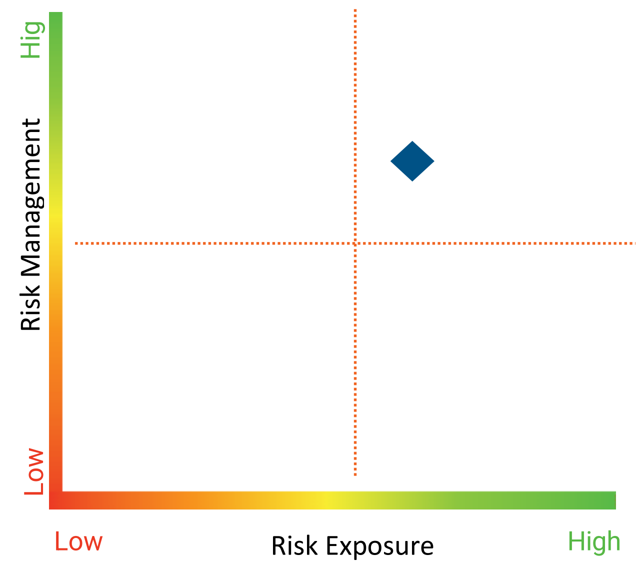
Competitive Risk

- The price volatility in the market due to several companies makes it imperative for the companies to increase the extraction activities which further leads to depletion of resources and other operational risks mentioned above.

Risk Dimension Analysis: Technology

Risk Exposure Score: 67

Risk Management Score: 66



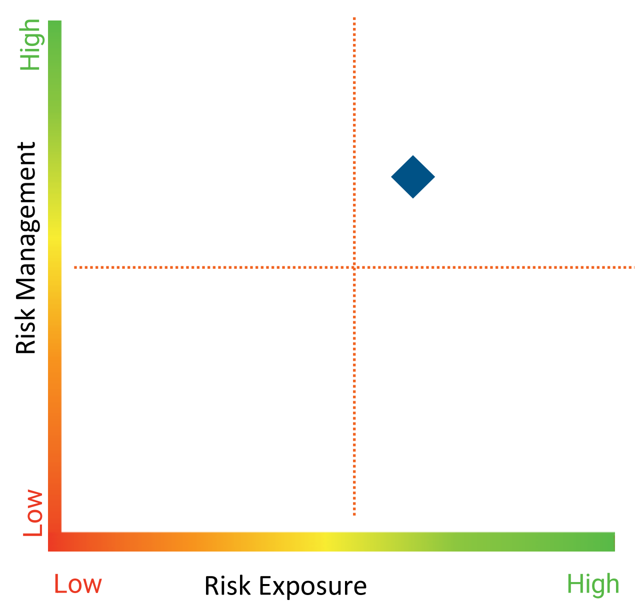
Innovation Risk/ Obsolete Technology

- The technological advancement at a global scale requires the Indian companies to keep up the innovation in order to protect themselves from losing the competitive advantage. There is always a risk of technological obsolescence which companies can tackle through continuous innovation.
- With the increasing use of technology in mining operations, there is a risk of equipment failure. If mining companies fail to maintain and repair their equipment, it could lead to operational disruptions, loss of lives and financial losses as well.

Risk Dimension Analysis: Operational and Physical

Risk Exposure Score: 63

Risk Management Score: 62



Critical Business Continuity Risk

- The sustainability in the Mining, Minerals and Metal sector in India has a range of challenges such as water scarcity, land acquisition, safety issues etc.
- The Mining and Mineral processing activities requires a lot of water and therefore, in the areas where the water is scarce, it is difficult for the companies to operate as it causes social and environment conflicts.

- The Mining involves a large traction of land which lead to displacement of local communities, loss of livelihood etc. This is not promoted as it generally caters to caste-based discrimination, social inequality etc.

Workplace Accident

- The mining industry is often associated with hazardous working conditions, including exposure to toxic chemicals, heavy machinery, and mining accidents. These working conditions can lead to serious health and safety risks for workers, as well as long-term health impacts on local communities.

Supply Chain Risk

- The supply chain plays a critical role in the mining and mineral processing activities and then also in the transportation of the extracted minerals and metals. Any disturbance in the supply chain results into the delay in processing and shipping of good, increase in inflation and increased operational cost for the companies. This impacts the both revenue and profitability of the company.

- The demand for minerals and metals is subject to market trends, and any sudden changes in demand can lead to supply chain disruptions and price fluctuations. Therefore, the efficient risk management needs to be there to ensure the sustainability and profitability of the company

Financial Workplace Accident

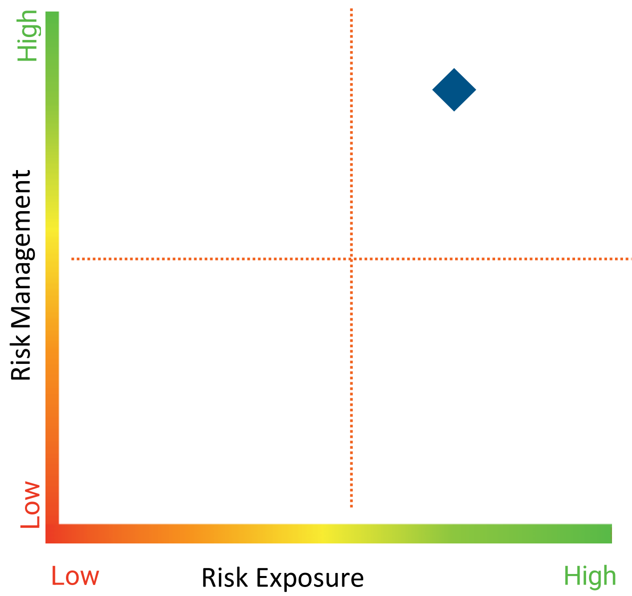
- The prices of minerals and metals are subject to fluctuations based on global demand and supply factors. Any significant fluctuation in prices or the exchange rate could lead to revenue losses for mining companies.

- Mining projects require significant capital investments, and any failure to secure financing could lead to project delays or cancellation, resulting in financial losses for the company. The government policy also has a major role to attract investment, therefore, any instability on the part of government can also led to the failure of the mining projects.

Risk Dimension Analysis: Crime and Security

Risk Exposure Score: 64

Risk Management Score: 68



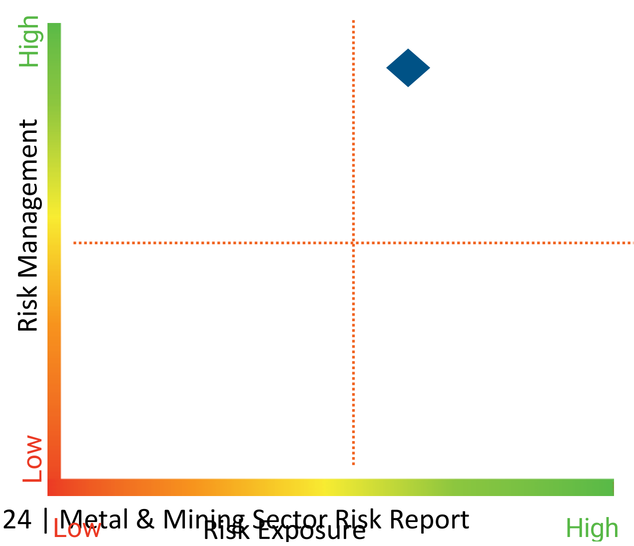
Cyber-crimes

- With the increasing use of digital technologies in mining operations, there is an increased risk of cyber-attacks. Cyber-attacks could lead to data breaches, loss of sensitive information, and operational disruptions, leading to financial losses for mining companies.
- With the increasing use of digital technologies, mining companies are generating a large amount of data. If mining companies fail to manage and analyze their data effectively, it could lead to operational inefficiencies and financial losses. This also leaves the scope for data safety and security breach for confidential or the technological information.

Risk Dimension Analysis: Natural Hazard and Event

Risk Exposure Score: 60

Risk Management Score: 63



Pandemic and other global epidemic

- The pandemic and any epidemic disease severely impact the mining, minerals and metal sector as is evident from the Covid-19 pandemic.
- The pandemic has disrupted the supply chain for the mining sector, which led to the delay in the delivery of equipment, machinery, and raw materials. The disruptions in the supply chain have also

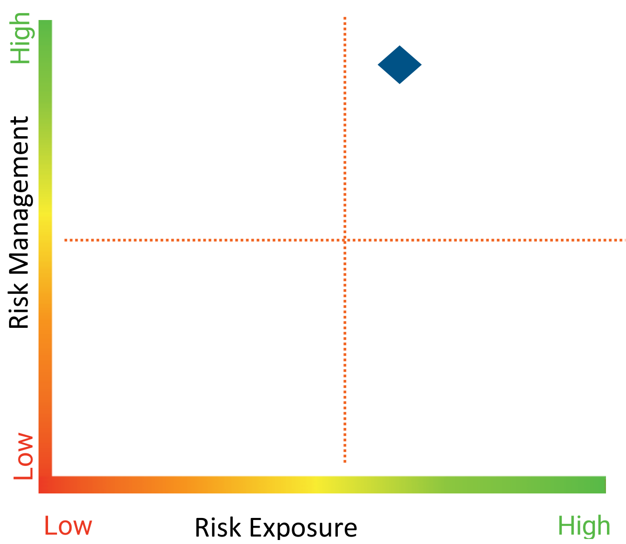
led to increased prices for essential inputs, resulting in cost escalations for mining companies.

- The pandemic has resulted in labor shortages due to restrictions on the movement of people and the closure of mines. The labor shortages have impacted the production capacity of mining companies, leading to reduced output and revenue losses.
- The pandemic has resulted in a global economic slowdown, leading to reduced demand for minerals and metals. This has led to a decline in prices for minerals and metals, resulting in revenue losses for mining companies.

Risk Dimension Analysis: Strategic Risks

Risk Exposure Score: 69

Risk Management Score: 68



- The metal and mining sector is heavily reliant on technology for production, exploration, and processing.
- Any disruption in technology or a failure to adopt new technologies can impact the competitiveness and profitability of metal and mining companies.

- The metal and mining sector in India requires significant infrastructure such as roads, railways, and ports. Any disruption in the infrastructure can impact the production and supply chain of metal and mining companies.

ICICI LOMBARD: Key Solution Offerings

Property

a. Businesses are always prone to risks and fire eruption and fire insurance provides a comprehensive protection against damages caused due to fire explosion and other risks. Besides fire related perils, it also protect damages caused due to any natural calamity, bursting of water tanks, theft etc. The built in covers include alterations or extensions, stocks on floater basis, temporary removal of stock, cover for specific contents, start-up expenses, professional fees, costs for removal of debris etc

b. Solutions

i. Property Loss Prevention exercise - We have developed the methodology of Property Value Added Services for corporate customers which focuses on technical engagement with detail risk visit, followed by benchmarking of the risk (Industry Risk Profiling).

ii. Fire Hydrant IoT - Fire hydrant online monitoring devices use IoT to monitor fire hydrants and assure their availability in emergencies. We've helped multiple corporate customers maintain and monitor this important fire safety component in real time.

Marine

a. We offer specially curated plans for covering the risk of theft, malicious damage, shortage, and non-delivery of goods, damages during loading and unloading, and mishandling of goods/cargo

b. Marine Cargo insurance primarily covers loss during transit caused due to fire, explosion, hijacks, accidents, collisions, and overturning

c. Solutions

i. GPS Device Tracking: With the help of our advance GPS devices we can have bird eye view on the consignment and vehicle from anywhere in the world. OurSAAS allows us to track and get the visibility of the vehicle on the basis of our requirements which is fully customizable

Liability

a. Comprehensive general liability:

i. This policy is important for every small and medium sized businesses to protect the insured entity against claims arising out of legal liability where they are heldresponsible for third party bodily injury or property damage due to insured's business, premises or products. It should be taken by every new business as it covers all risk a business may face.

b. Cyber - With cyber risk steadily increasing, security/ data breaches affect millions of records a year. Cyber Risk insurance coverage is designed to help an organization mitigate its risk exposure by offsetting costs involved with recovery after a cyber-related security breach or similar event.

c. Solutions

i. **Simulated phishing tests** - Simulated real looking phishing tests andrecord employee behavior to phishing attacks along with training collateral in form of co-brandable posters, infographics and videos

ii. **Cyber maturity assessments** - Assess the security posture of your organization and identify the potential risks with our assessment based on ISO 27001 Control measures for Information security

iii. **D&O** - The need of Directors & Officers Insurance is more than ever before. Any breachor non-performance in the duties can result in claims against directors, officers and employees by reason of wrongful act and need to incur various expenses like defense costs, damages or compensation and other incidental costs. This can affect company's growth and performance.

Group Health

a. Employees are the backbone of an organization and the most valued asset. OurGroup health insurance product is designed to offer health coverage to suit employees of all business types ranging from small & medium enterprises to large organizations.

b. Solutions:

i. **IL Take Care -** AI enabled mobile app for employees

ii. **Health assistance services -** Health Assistance is a dedicated medical care service that assists you in all your health related queries for identifying specialist/hospital/fixing an appointment with doctors/nutritionist /facilitating2nd opinion

iii. **Tele Consultation –** Hello Doctor

iv. The insured is eligible to avail unlimited General Physician consultations for routine health issues over the phone by aqualified doctor

v. **Diagnostics & pharmacy services** – Book a lab test or home delivery of medicines

Bibliography

https://www.indianchamber.org/the-chamber/expert-committee/minerals-and-metals/

https://www.oecd.org/env/1830307.pdf

https://www.ey.com/en_gl/mining-metals/risks-opportunities

https://link.springer.com/article/10.1007/s13563-021-00263-6

https://www.assocham.org/uploads/files/Study_Indian%20Mineral%202022.pdf

https://www.ibef.org/industry/metals-and-mining

https://www.pwc.com/gx/en/industries/energy-utilities-resources/mining-metals.html

Jain, P. K. (2021). Impact of lockdown on the mining industry in India. Mineral Economics, 34(2), 331-335.

https://economictimes.indiatimes.com/industry/indl-goods/svs/metals-mining/fatalities-see-a-reduction-of-31-in-2022-hit-record-low-coal-india/articleshow/98118655.cms?from=mdr

Bhattacharyya, S. S., & Shah, Y. (2022). Emerging technologies in Indian mining industry: an exploratory empirical investigation regarding the adoption challenges. Journal of Science and Technology Policy Management, 13(2), 358-381.

https://www.assocham.org/uploads/files/Study_Indian%20Mineral%202022.pdf

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Notes:

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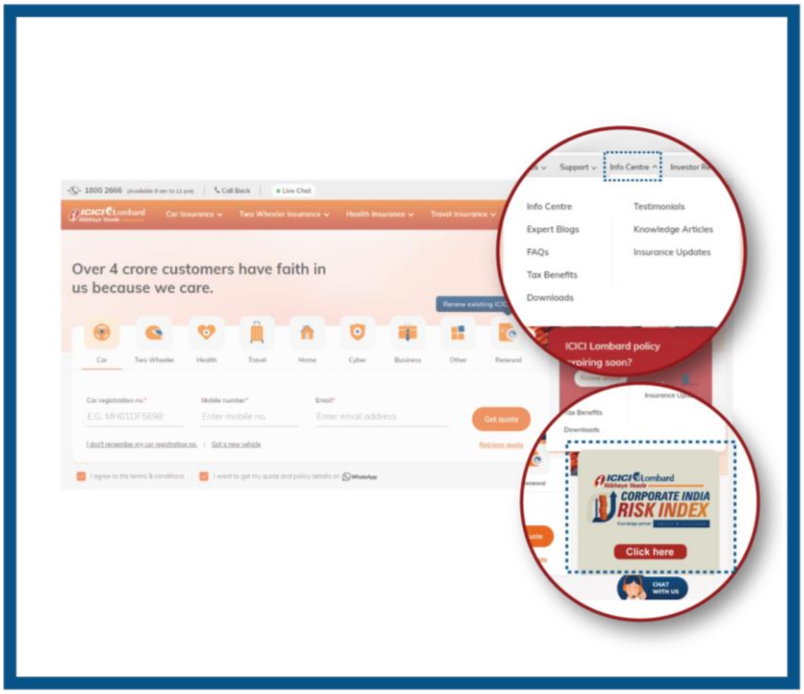

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