ICICI Lombard
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CORPORATE INDIA RISK INDEX

2022

Intelligence partner FROST & SULLIVAN

SECTOR REPORT 2022
MANUFACTURING


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's manufacturing sector is facing hindrances in its growth due to high interest rates, and while rate hikes have been implemented to control inflation, a pause in the interest rate hike cycle has been suggested to allow for steady economic growth. The uneven impact of the pandemic has led to increased savings for the middle and upper classes, and the government has implemented incentives to encourage growth in various manufacturing and service sectors, with the Indian manufacturing industry maintaining growth momentum in Q4 2022-23.

The country's growing manufacturing sector, which is expected to reach $1 trillion in exports by 2030, faces high competition among manufacturers. However, the sector is challenged by a shortage of skilled workforce, lack of technology adoption, infrastructure and transportation.

Despite challenges, American companies are increasingly partnering with India's manufacturing and supply chain sectors, exemplified by the record-breaking Boeing-Air India deal, and consumer appliance companies are also planning to commence manufacturing in India to reduce the country's dependence on imports. The government is taking steps to address these challenges, such as launching technology innovation platforms and promoting the use of new technologies.

The Indian manufacturing industry also faces cybersecurity threats and counterfeiting concerns, with a 50% rise in cybersecurity incidents from 2020 to 2021, making it the most targeted sector for cyber attacks in 2021. Furthermore, India ranks third in the number of natural disasters in the past 20 years, with floods contributing to 52% of the damage, causing economic damage and disrupting logistics and manufacturing. The recent rise in commodity prices, including crude oil and industrial metals, is expected to negatively impact India's manufacturing sector, leading to higher input costs and potentially lower GDP growth rates.

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.

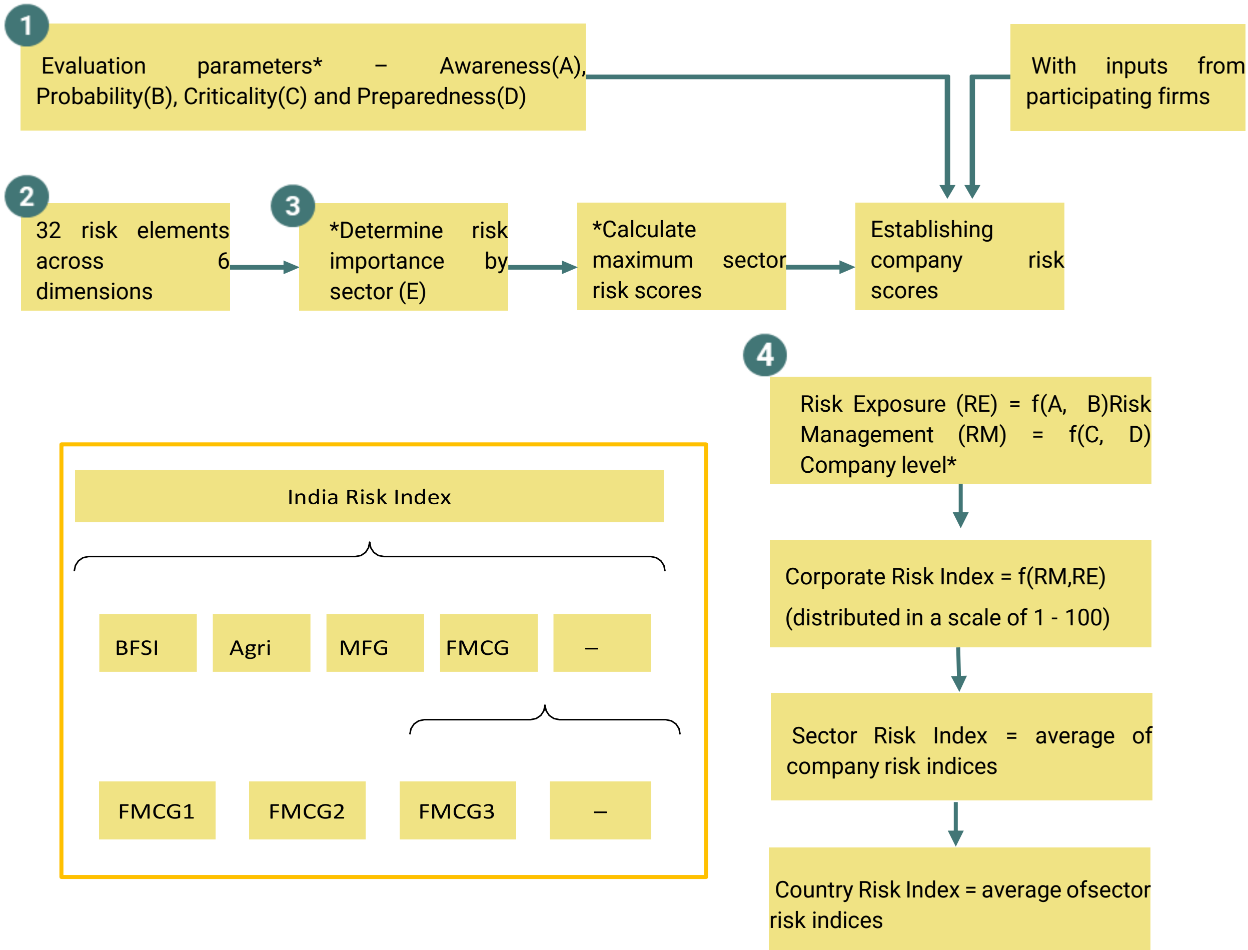
- **Public Sentiment:** Current events playing out in the public scene can change the public sentiment.

- **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



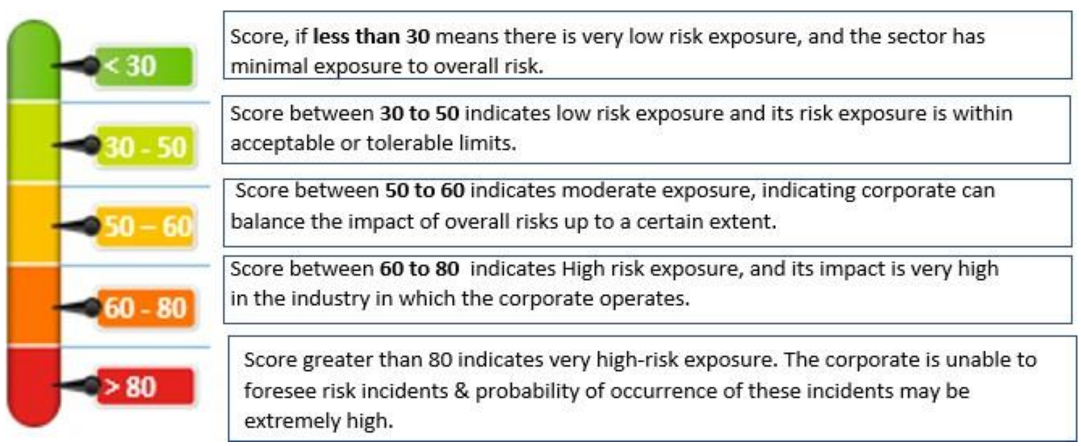
1. **Evaluation Parameters*:** The index maps the risks faced by any enterprise basis of Awareness, Probability, Criticality and Preparedness against the defined Risk elements. The evaluation Parametersare defined as: Awareness - Level of awareness of potential risk affecting the firm. - Likelihood of 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

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.

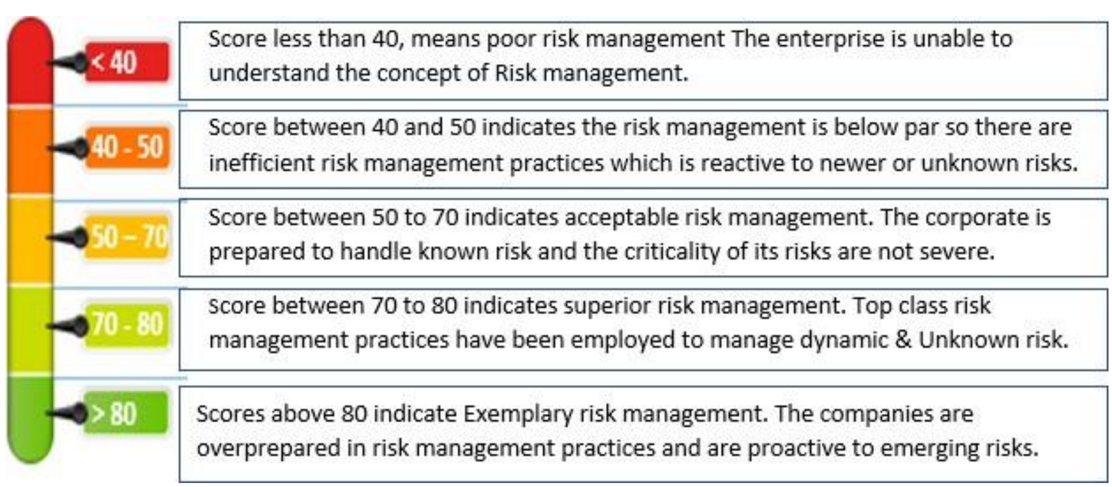
A. ICICI Lombard Corporate Risk Exposure – Scale

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

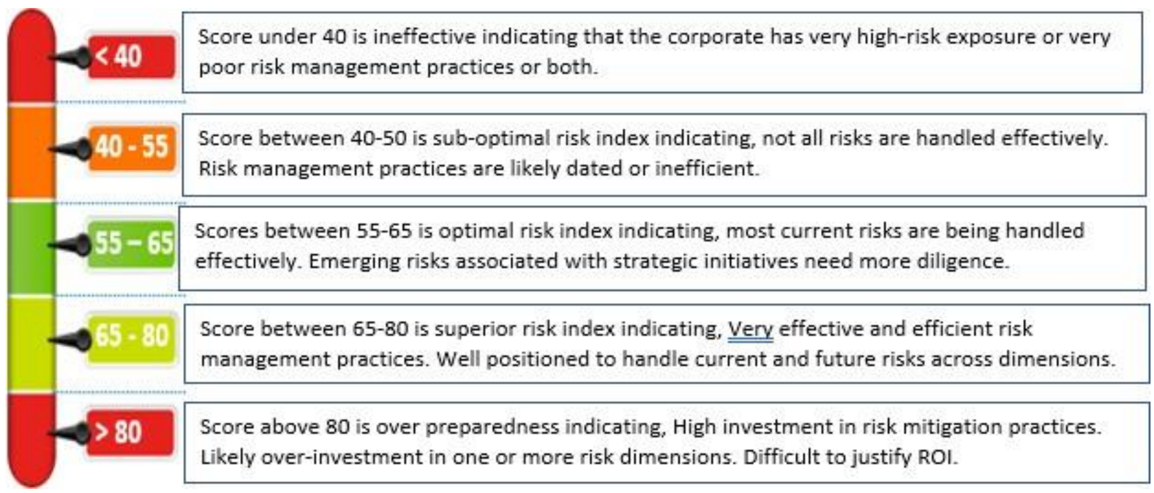
Risk Management: Identification, Evaluation and Prioritization of corporate risks followed by well-coordinated steps to minimize the occurrence of uncertainties in the foreseeable future is defined as the Corporate Risk Management. The risk management scale works in the opposite to that of the risk exposure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

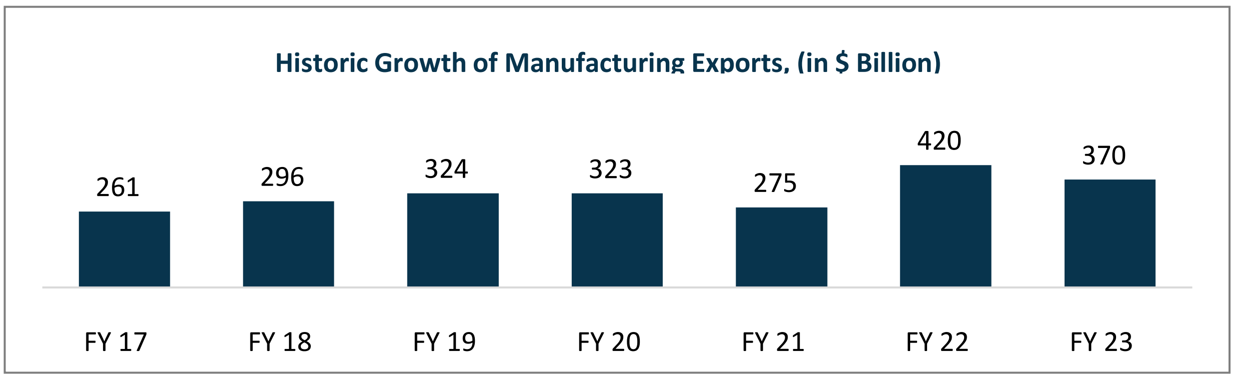


Figure 1: India's Growth of manufacturing exports. (Source: Redseer)

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:

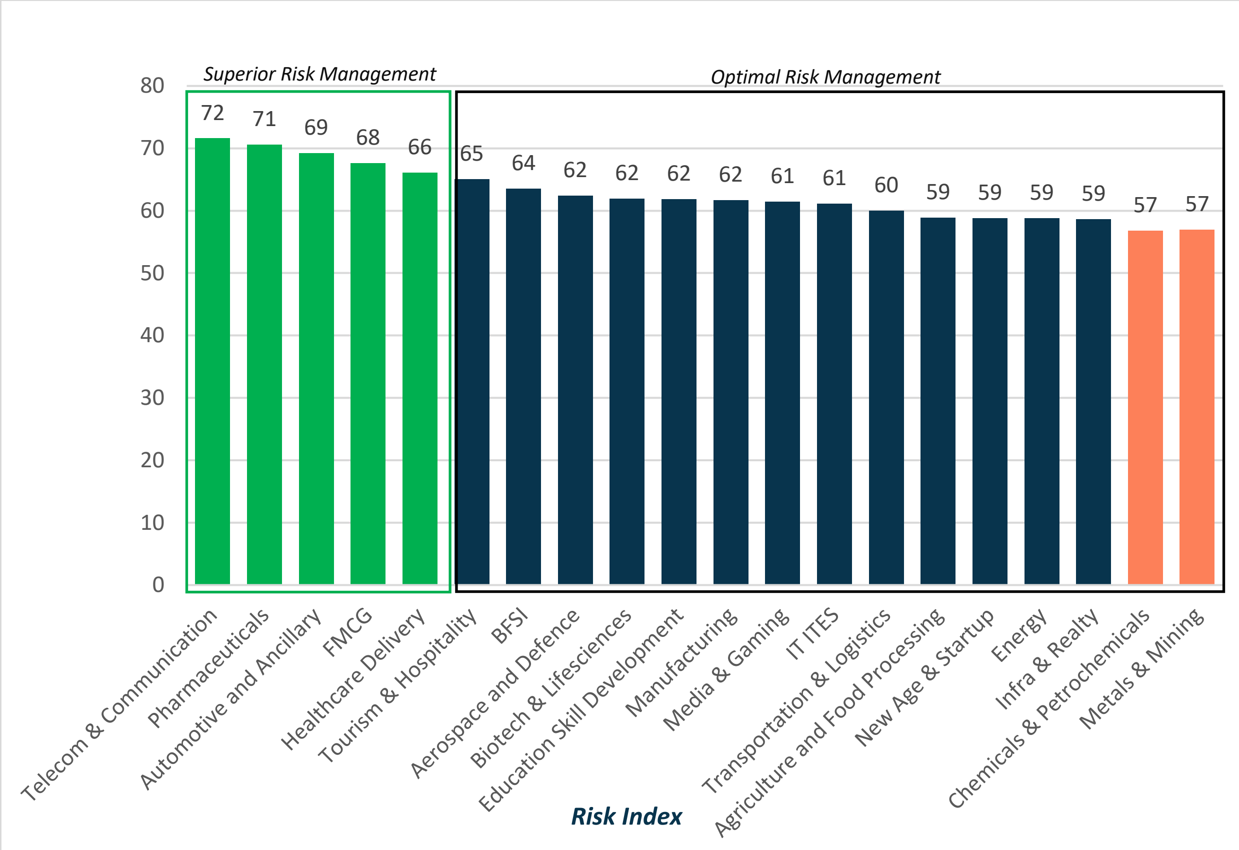


Figure 3: Corporate India Risk Index 2022 Sector Score

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.

Manufacturing Sector Insights 2022

In the past 20 years, the services sector in India has grown rapidly, while the manufacturing sector has not experienced a significant boom as it has in other countries. This has led to the services sector contributing 55% to GDP, while manufacturing has remained stagnant at 15% in 2017 and 17% in 2022. However, if India wants to achieve its projected target of $20 trillion by 2047, it is imperative to focus on the growth of the manufacturing sector. By taking appropriate measures and implementing them rigorously, India's manufacturing sector can reach $4.5 trillion, which would increase its share in GDP to 22% (compared to the base projection of $2.5 trillion with a 17% share in GDP). This presents both a necessity and an opportunity for India to shine in the manufacturing sector.

In order to become a global superpower and maintain its independence, India must focus on developing its domestic manufacturing sector. India's manufacturing industry is a significant economic pillar, contributing 17% to the country's GDP and providing employment for over 27.3 million people. The government has recognized this need and has implemented various reforms, such as GST and PLI schemes, to boost manufacturing. These reforms have already shown positive results and the global value chain reconfiguration due to the pandemic presents an opportunity for India to become a manufacturing powerhouse. The growth of the manufacturing sector will not only boost the economy but also create employment opportunities for millions of people.

The Indian government aims to increase the manufacturing industry's contribution to GDP to 25% by 2025 through new laws and policies. India's manufacturing value chains, particularly in basic metals, textiles and apparel, renewable energy, chemical goods, pharmaceutical formulations, capital goods, and automotive components, have the potential to expand rapidly due to the country's abundance of low-cost labor, natural resources, and skilled professionals. This expansion could lead to India becoming a major player in global manufacturing, with the potential to export goods worth $1 trillion by 2030.

India's economic growth rate slowed down in the December quarter due to a decrease in pent-up demand and continued weakness in the manufacturing sector. The country's year-on-year growth rate was 4.4% in October-December, compared to 6.3% in July-September. This decline in growth rate can be attributed to various factors, including the fading of pandemic-induced base effects and revision to last year's growth rate, as suggested by economists. Despite these challenges, India's economy remains one of the largest in Asia, ranking third in the region.

India's vast young population has yet to reach its full potential due to a significant skills gap. A large proportion of the Indian workforce lacks the necessary skills to work in the manufacturing industry. Estimates suggest that only 4.7% of India's workforce is formally skilled, in contrast to the US with 52%, the UK with 68%, Japan with 80%, and China with 24% of their workforce formally skilled. Furthermore, some manufacturing plants in India still employ unproductive processes despite the availability of advanced manufacturing techniques.

To address this challenge, the central government has introduced several schemes such as Pradhan Mantri Kaushal Vikas Yojana for Technical Institutes (PMKVY-TI), Employability Enhancement Training Programme (EETP), National Employability Enhancement Mission (NEEM), AICTE-Startup Policy, Skill Assessment

Matrix for Vocational Advancement of Youth (SAMVAY), Leadership Development Programs, and others. These initiatives aim to reduce the skills gap, but it will take time to yield results.

India presently has a working-age population of approximately 800 million, which is expected to grow by an additional 200 million in the next 30 years. At present, the manufacturing sector provides employment to around 50-60 million individuals. However, if the sector is able to generate an output of $3.5 trillion by 2047, it has the potential to create an additional 85 million jobs. If the manufacturing industry manages to achieve an output of $4.5 trillion through increased growth, it could lead to the creation of 90 million jobs. The positive impact of such a development would be significant and have a multiplier effect on economic growth, leading to a substantial increase in income.

India is facing a significant challenge in the manufacturing industry due to limited investments being made upfront to establish manufacturing plants. There are multiple factors contributing to this, including political instability, economic fluctuations, uncertainty regarding project feasibility, and unpredictable growth patterns. Banks are also hesitant to provide loans to manufacturing setups. Compared to other countries that export, capital investments are high in India, and the costs of land and power are also above the global market average.

To address these issues, the Indian government has introduced initiatives like PMEGP and Mudra Loan. However, there is low awareness among businesses about these schemes, leading to few businesses benefiting from them.

Small and medium-sized enterprises (MSMEs) account for approximately 29% of India's gross domestic product (GDP). However, due to the prevalence of numerous small businesses in the Indian manufacturing industry, there are challenges in scaling up production, resulting in high production costs. This, in turn, makes it difficult for Indian businesses to compete in the global market. By enhancing production capacity, costs can be reduced, and product quality can be improved.

The Indian manufacturing industry is facing two significant challenges. Firstly, it is difficult to manufacture certain products in India due to the availability of cheaper alternatives from countries like China. Secondly, high import duties on raw materials increase the cost of production, making it challenging to compete with cheaper alternatives in both domestic and international markets.

In addition, India's transport infrastructure is inadequate compared to the global average, resulting in higher logistics costs. According to government data, the average logistics cost in India is 13% of revenue, whereas the global average is 8%.

For India to achieve its aspirations of becoming a global superpower in a world where geopolitical tensions are high, it is essential for the country to attain self-reliance. A prosperous and self-sufficient domestic manufacturing industry would provide India with a strong foundation to realize its ambitions.

Manufacturing Sector Risk Index 2022 Vs 2021

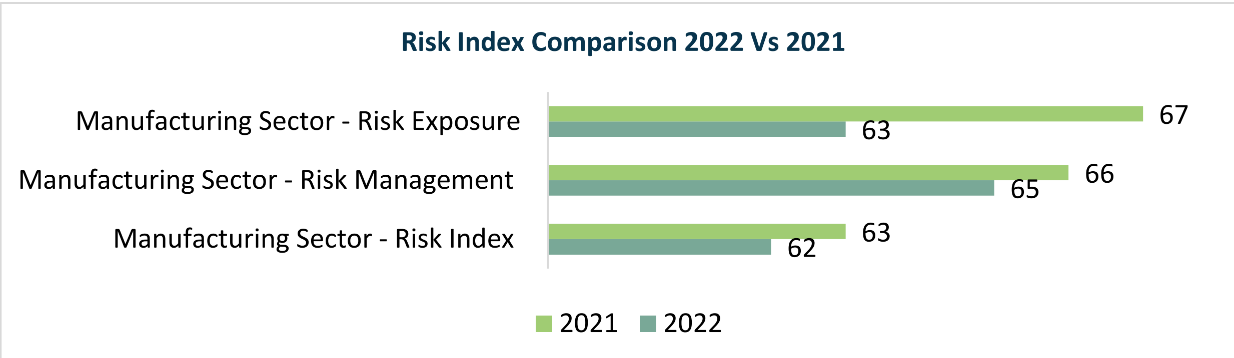


Figure 4: Detailed Comparative Analysis 2021 Vs. 2022

Manufacturing Sector Risk Index 2022 Vs 2021

The risk index for market and economic risks, operational risks, and other risks has remained stable between 64-66. However, there have been significant improvements in technological risk, cyber risk, and natural hazards risk. Technological risk increased by 11 points, attributed to initiatives such as demonetization, GST, and Digital India. Cybercrime initiatives caused a 7-point jump in crime and security. Additionally, the government established a $56 million fund to promote cybersecurity. The National Programme for Disaster Resilient Infrastructure (NPDRR) has contributed to an 18-point increase in natural hazards risk. The program proposes to use technology to enhance India's resilience against natural disasters.

Manufacturing Sector Risk Management 2022 Vs 2021

According to RICS Global Construction Monitor managing risk in India has declined over the years due to the significant impact of the current Russia-Ukraine war on the global economy. Managing businesses during this situation has become a serious problem. With the war, there have been significant challenges in managing the supply chain and trade between the countries. Manufacturing companies in India have not been able to manage the risks arising from the current global crisis.

Manufacturing Sector Risk Exposure 2022 Vs 2021

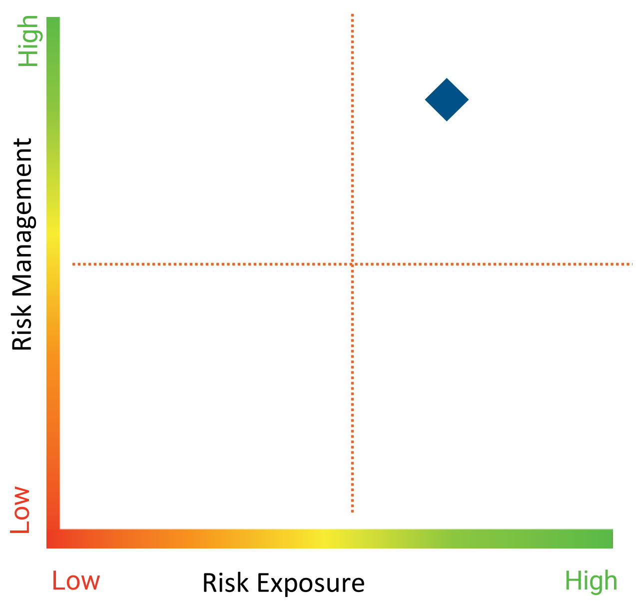
The manufacturing industry had been adversely affected by covid-19 during the year 2020 which was felt till year 2021. But the in the year 2022 manufacturing industry showed a positive growth rate in double-digit which indicates that the manufacturing industry came out of potential disruption after covid-19 and now the risk of market disruption and possible shutdown has reduced, which ultimately has resulted in positive sentiments among Indian market with 11.8% manufacturing sectoral growth in India, this growth can also be attributed to various govt initiatives and increasing the budget spending on manufacturing.

Key Highlights

Risk Dimension Analysis: Market and Economy

Risk Exposure Score: 64

Risk Management Score: 69



Inflation

- India should have its own interest rate cycle that is independent of the global one, because the current high interest rate is holding back the manufacturing sector.
- The economy will grow steadily in the future if the manufacturing sector is supported by expanding exports and stopping rate hikes by the central bank.
- The economy will grow steadily in the future if the manufacturing sector is supported by expanding exports and stopping rate hikes by the central bank.As per kotak securities owing to inflation the revenue of major IT firms will be down by 2% to 10% for FY23-FY25.
- Due to the impact of the pandemic and subsequent events such as inflation and interest rate increases implemented to control it, there has been uneven growth in the domestic economy. The middle and upper classes have increased their savings due to their reduced spending during this time.
- The Reserve Bank of India's Monetary Policy Committee (MPC) increased the repo rate by 25 basis points to 6.50% in February 2023 to help bring inflation closer to the central bank's target of 4%. The MPC has raised the repo rate a total of 250 basis points since May 2022.

Regulatory Risks

- According to a survey by Ficci, the Indian manufacturing sector is predicted to maintain its growth momentum in the final quarter (January-March) of 2022-23. The survey indicates that there are indications that cost pressures that the sector has faced in recent months are easing slightly.

- The Ficci survey collected responses from over 400 manufacturing units, including large and small to medium-sized enterprises (SMEs) with a combined annual turnover exceeding Rs 10 trillion. The survey results show that the cost of production as a percentage of sales has increased for 73% of respondents, which is a decrease from the 94% reported in the previous survey.

- The report highlights that the average capacity utilization in the manufacturing sector is currently at around 75%, which is higher than the 70% reported in the previous survey. This suggests that there is sustained economic activity in the sector.

- There are many opportunities in various manufacturing and service sectors in India that the world is interested in investing in and purchasing from. The Indian government has implemented production linked incentive and other schemes to encourage growth in these areas. Given this situation, it is important for us to be flexible and responsive. It may be appropriate to temporarily pause the interest rate hike cycle and shift to a neutral stance.

Foreign Exchange Risks

- The relationship between American companies and India as a manufacturing and supply chain partner is becoming stronger. The recent deal between Boeing and Air India is a prime example of this trend. The record-breaking agreement, announced last month, involves the US aerospace company supplying India's largest airline with 220 aircraft valued at approximately $34 billion. This is the biggest purchase in the history of civil aviation, and it underscores the increasing ties between American companies and India's manufacturing and supply chain sectors.

- Boeing has made a significant deal with Air India, which is the third-largest sale in the history of the US aerospace company in terms of dollar value. The deal also involves Boeing's European competitor, Airbus. Air India has placed an order for 470 aircraft, including 250 Airbus passenger jets and 220 aircraft from Boeing, consisting of 190 737 Max aircraft, 20 787s, and 10 777Xs. This deal highlights the increasing importance of India as a market for aerospace companies and demonstrates the potential for closer connections between American firms and India's manufacturing and supply chain industries.

- There has been a significant shift away from China in some major markets, such as smartphones and semiconductors, due to global developments. India sees an opportunity to benefit from this trend by attracting major segments of supply chains to the country.

- Leading consumer appliance companies such as LG, Daikin, and Midea are planning to commence manufacturing of air conditioning compressors by the end of this month. This is expected to reduce India's dependence on imports for this component to 15-16% of home consumption by 2027-28, according to the government's internal projections.

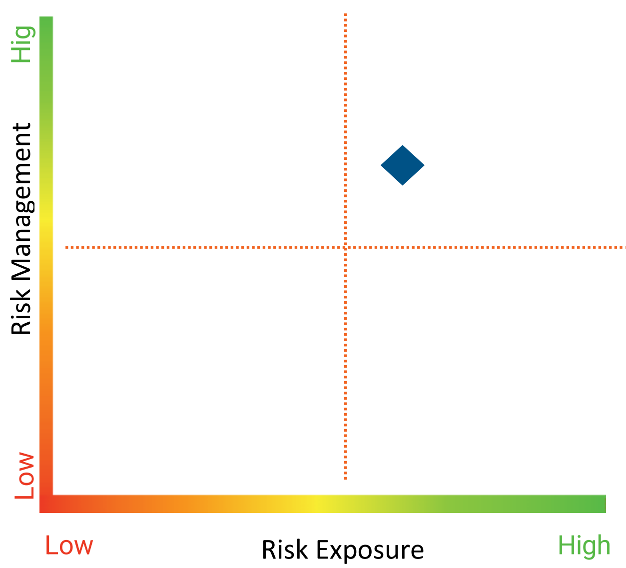
Competitive Risk

- With the growing manufacturing sector in India which is expected to reach the capacity of exporting $1 trillion by 2030 it pertains to high competition for manufacturers to gain market share in this lucrative manufacturing sector in India.
- To gain market share companies are coming up with strategies of innovation for better offerings such as the introduction of E-Choupal by ITC for sourcing of raw material which is helping ITC in saving millions of dollars in raw material procurement.
- And other innovations in the manufacturing process such as by Ambuja Cement which enabled them to reduce cost and helped them to acquire significant market share.
- As per the World Bank report , India is among the world's leading innovation players in the various sectors such as biotechnology, pharmaceuticals, automobile parts and assembly sectors of the manufacturing industry. And Indian manufacturers are using innovation in order to gain cost

Risk Dimension Analysis: Technology

Risk Exposure Score: 67

Risk Management Score: 66



Innovation Risk/ Obsolete Technology

- One of the biggest challenges faced by the Indian manufacturing industry is the lack of skilled workforce. According to a report by the National Skill Development Corporation, only 2.3% of the Indian workforce has undergone formal skill training. This shortage of skilled workers is a major hurdle in the adoption of new technologies and processes, which in turn affects innovation in manufacturing.
- According to a report by Entrepreneur, the manufacturing industry should adopt the following technological innovations: using the Total Lifetime Value Calculator (TLVC) for Generative Designs, employing Additive Manufacturing (AM) in Applications, deploying of Digital Factory Data, and utilizing Autonomy Solution Provider (ASPs).

- In July 2021, the government launched six technology innovation platforms to develop technologies and thereby, boost the manufacturing sector in India to compete globally.

Data Compromise

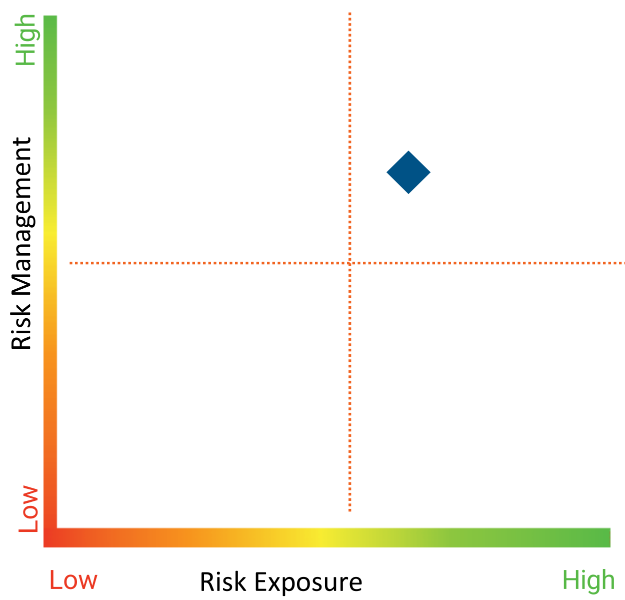
- According to a recent report, the manufacturing sector turned out to be more prone to account compromise and supply chain attacks within the last year. 38% of respondents in this sector had to deal with account compromise at least once, while the average for all other industries was 31%.

- Multiple industry reports note manufacturing as the second most targeted sector for ransomware-associated data extortion.

Risk Dimension Analysis: Operational and Physical

Risk Exposure Score: 63

Risk Management Score: 62



Critical Infrastructure Failure Risk

- India only allocates 3% of its GDP for infrastructure construction each year, compared to China's allocation of 20% of its GDP.
- Even today, India's surface transportation systems cannot adequately support modern high-speed logistics, which is crucial for efficient manufacturing.
- Another disadvantage that India's manufacturers face is poor and unreliable electricity supply. India has an annual power gap of over 10%, and its per capita power consumption is among the lowest in the world.

- Many companies worldwide now prefer to procure goods from factories that have received ISO or BSI certification. In China, a vast majority of factories across various product categories possess these certifications, while it can be challenging to find comparable operations in India.

- India experienced this difficulty firsthand when searching for mask manufacturers. In India, there were only a few manufacturers certified by CE (Conformité Européene) and FDA (Food and Drug Administration), and many did not meet basic inspection standards. In contrast, China had hundreds of mask factories with CE and FDA certifications.

- These practical issues often dissuade serious international buyers from considering India as a sourcing destination.

Sustainability

- The sector is also a major contributor to carbon emissions, accounting for 2.88 gigatons of emissions in 2021.

- It is also a major consumer of energy and natural resources, such as water, while generating substantial waste that harms the environment. Sectors such as metals (both ferrous and non-ferrous), chemicals, non-metallic minerals (including cement), and heavy industry (such as machinery and transport equipment) are responsible for the majority of these emissions, energy consumption, and waste generation.

- Bharat Forge, a top manufacturer of machinery and automotive components, has now placed greater emphasis on a systematic approach to lightweighting automotive components.

- Tata Steel has planned various initiatives aimed at reducing Scope 1 and 2 greenhouse gas (GHG) emissions by utilizing solar energy as the primary source of electricity for their manufacturing plants.

- Vedanta Aluminium, India's largest aluminium producer, and Dalmia Cement have partnered for a long-term supply of industrial waste materials for producing low carbon cement.

- Hindalco was awarded the title of 'world's most sustainable aluminum company' by the Dow Jones Sustainability Indices (DJSI) in 2021 for the second year in a row. It is the only aluminum company included in the DJSI World Index.

- Kirloskar Oil Engines Ltd has set up a manufacturing plant capable of converting 100kg of plastic waste into a fuel that has similar properties to diesel.

- Eaton India has implemented a water recycling system to reuse industrial wastewater within its manufacturing plants, resulting in less than 2% wastewater discharge.

Commodity Price Risk:

- India's manufacturing sector is expected to take a hit as commodity costs have risen due to the recent Russian-Ukrainian crisis. At present, international prices of crude oil, natural gas, coal, nickel, copper, aluminium, titanium, and palladium have risen to multi-year high levels. The raw material prices will impact the sector which was already reeling under expensive commodities costs due to the rise in their international demand and supply constraints. Moreover, India is a major importer of these precious as well as industrial commodities.

- According to Anuj Gupta, VP of Research at IIFL Securities, the rise in crude prices could lead to an increase in freight charges, which could in turn affect the prices of perishable and non-perishable commodities. He further added that this rise in prices could have a negative impact on the manufacturing and services sectors, and could ultimately result in a lower GDP growth rate for India.

- Lower manufacturing growth can lead to a slowdown in the overall economic growth of the country, which can impact job creation as well.

- The February report of the seasonally adjusted IHS Markit India Manufacturing Purchasing Managers' Index (PMI) revealed that Indian manufacturers had to bear higher average input costs, as per the report. It was also mentioned that the inflation rate for purchase prices was high but decreased to a six-month low. Although manufacturers increased their selling charges, the rate of increase was not significant, indicating a modest rise.

Human Resource:

- Tamil Nadu's manufacturing sector is considered the driving force behind its ambitious target of achieving a $1 trillion economy, but it is expected that guest or migrant workers will be required to power this growth. According to industry executives and state officials, the state will need a workforce of 13 million in the manufacturing sector alone over a period of ten years, with at least 5 million of them expected to be guest workers.

- Due to the locals' aspiration for more skilled jobs, large enterprises and MSMEs in Tamil Nadu are facing a shortage of blue-collar workers. As a result, industry representatives are requesting that the state take measures to make migrant workers feel more welcome.

- To support the growth of the manufacturing and construction industries from $100 billion to $400 billion, Tamil Nadu will need to increase its workforce to 1.3 crore employees. However, there is already a deficit of 50 lakh blue-collar workers, as locals prefer more skilled jobs. This means that migrant workers will be crucial to meeting the workforce demand.

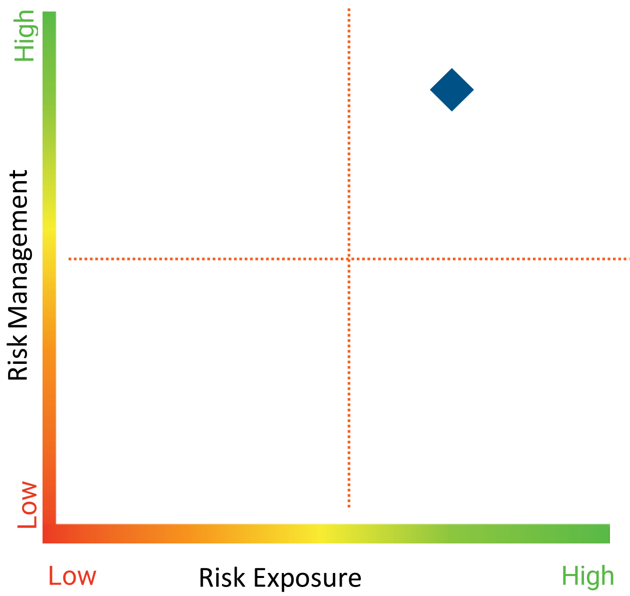
- The lack of comprehensive data on the number of migrant laborers is a major issue in ensuring their welfare. According to the Census of 2011, Tamil Nadu had about 34.8 lakh guest workers, while Gujarat had 30.4 lakh and Maharashtra had more than 79 lakh.

- According to the Centre for Monitoring Indian Economy (CMIE), the labour force participation rate of locals in Tamil Nadu has been decreasing from 2016 to 2022. In March 2016, the participation rate was 56%, but it has since fallen by 20 percentage points to around 36%.

Risk Dimension Analysis: Crime and Security

Risk Exposure Score: 64

Risk Management Score: 68



Cyber-crimes

- The manufacturing industry is expected to reach a size of $1 trillion by 2025, which could make it a lucrative target for both cybercriminals and nation-state adversaries. According to several industry reports, manufacturing is ranked as the second-most targeted sector for data extortion through ransomware attacks.
- The manufacturing industry has experienced a worrying increase in cybersecurity incidents, with a staggering 50% rise from 2020 to 2021. This has resulted in manufacturing overtaking the finance and insurance industries to become the most targeted sector for cyber attacks in 2021.

Counterfeiting

- As per the article published WTR in year, 2022 counterfeiting in both online and offline market has become grave concern in India. This article included 2020, review of Notorious Markets for Counterfeiting and Piracy published by Office of UN, it stated that Indian websites are most notorious online platforms for sale of the counterfeit products in India along with several open physical markets in Mumbai, Delhi and Kolkata which also includes Heera Panna Market. This market sells counterfeit products which are copy of the original products being sold and manufactured in India

- The report also stated the though there exist legislative laws that recognize and protect geographical indications, patents, and designs, but the potential remedies are only of a civil character

- In addition, article published by TOI in year 2022, it stated about the survey of OECD which ranked India the 5th biggest exporter of counterfeit product

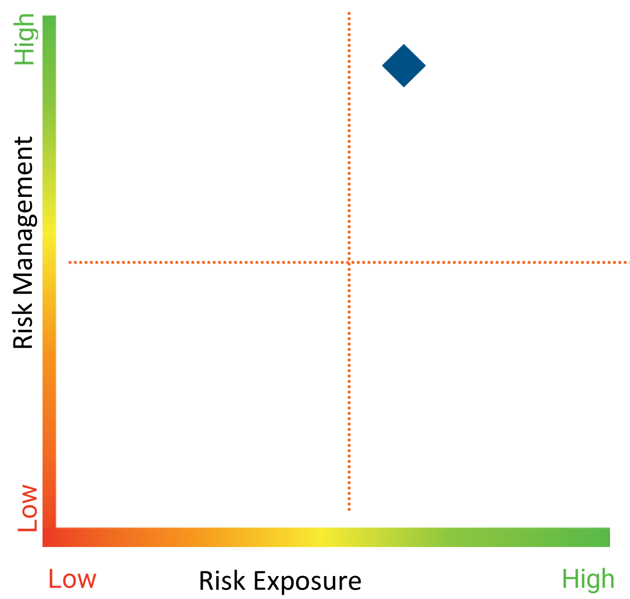
- There have been several instances of catching counterfeiting products in India. When Xiaomi said that it seized more than 9000 counterfeit products worth INR 7.4 million in first half of 2022 itself, which was just double the last year they had.

- Also, the report by FICCI published in the year 2019 stated that India loses up to INR 1.2 trillion annually due to counterfeiting in five sectors only.

Risk Dimension Analysis: Natural Hazard and Event

Risk Exposure Score: 60

Risk Management Score: 63



Natural Hazards:

- As per the UN report India has been ranked 3rd just after China and USA in recording the highest number of natural disasters over the past 20 years. Natural hazard causes economic damage both directly and indirectly, which effects disruption in logistic and supply chain along with lowering manufacturing.
- Natural disaster in India has mostly consisted of floods which contribute 52% towards the total natural disaster of India. As per Climate in Asia 2020 report by WMO India lost $ 87 billion which is the highest just after China involved damages to infrastructure and building support to manufacturing.
- India has also been ranked 89th among 181 countries in world risk index which indicate countries prone to natural disasters, which impact a company's decision on choosing a suitable location for setting up a manufacturing plant.
- The oil refining and cement manufacturing companies in Assam got significantly impacted logistically by floods in year 2022.

Pandemic and other global epidemic diseases

- India is 2nd largest mobile market and manufacturer, just behind China and still it imports 87% of its composition and the majority from China. The current view of China in handling the covid situation has resulted in a disruption in supply to its exporting countries such as India.
- India is 4th largest auto market in the world. But all white goods produced anywhere require semiconductors which is a crucial part of the products. Whereas 27% of other parts are imported from China and due to the supply of this product lower.
- There had been a downward trend in the manufacturing sector in the year 2021 due to covid, where PMI stood at a month low of 55.4 in the month of march 2021. And according to the report by, UNIDO manufacturing in India had completely stopped after the lockdown was imposed.

- India's IIP also fell to negative growth of -9.6%, indicating that how the pandemic impacted the Indian manufacturing industry

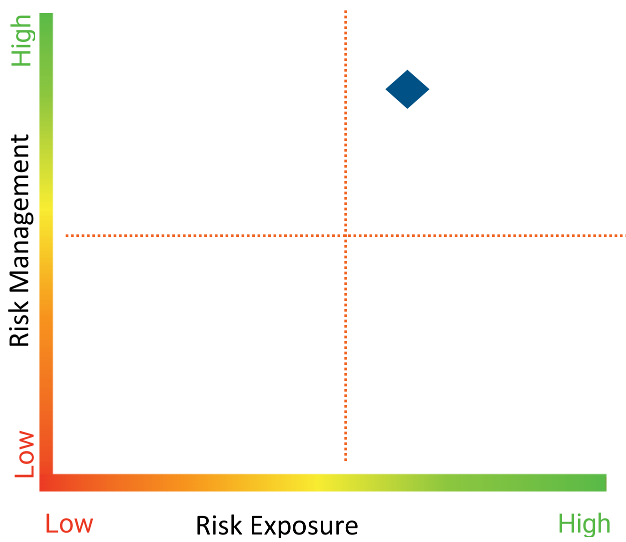
- Even India produces some products domestically, still it imports major parts from China which faced shortages of supply during the pandemic year 2020-22 due to Zero Covid policy from China where factories were shut during an outbreak.

- And as per world Bank Indian Manufacturing sector shrunk to about 13% during the pandemic period in India. In addition to this about 10,113 companies were down their operations voluntarily which is published report by MCA.

Risk Dimension Analysis: Strategic Risk

Risk Exposure Score: 60

Risk Management Score: 63



Strategic Risks

- Foxconn Technology Group, a multinational electronics contract manufacturing company, has gained attention recently after announcing plans to open a manufacturing plant in Telangana. This new facility is expected to generate 100,000 job opportunities, and it will also help to enhance the state's reputation as a prominent hub for electronics manufacturing.

- The planned Foxconn manufacturing plant is set to be located in Telangana's Kongara Kalan village, but the Karnataka state government also expressed interest in the deal. Both states recognized the economic benefits of having an electronics manufacturing plant, as well as the brand reputation that Foxconn brings with it.

- In January 2023, the India Electronics and Semiconductor Association (IESA) and the US Semiconductor Industry Association (SIA) agreed to establish a private-sector task force to enhance collaboration between the two nations in the global semiconductor ecosystem. This action was taken as the world's fifth-largest economy was actively pursuing strategic partnerships in the semiconductor sector while also seeking to establish chip manufacturing in the country.

- An MoU was signed between the US and India to enhance coordination of their respective chip industry incentive programs and to discuss methods to prevent excessive subsidization.

- The US and India are collaborating to synchronize export controls and are engaged in a trade dialogue centered on semiconductor-related issues as well. The US Commerce's Bureau of Industry and Security (BIS) will be leading the task force on behalf of the US, according to sources. Furthermore, the task force has specific objectives, such as identifying opportunities and obstacles to enhance India's involvement in the global semiconductor value chain, including chip manufacturing.

- India already has a significant presence in semiconductor research, chip design, and equipment engineering, but its future potential in this field is even greater. The aim of this task force is to identify practical measures that can unlock this potential by enhancing collaboration between the US and India in the global semiconductor ecosystem.

Failed / Hostile Mergers & Acquisitions:

- For M&A, businesses are required to undergo a long and tedious process of sanctioning permission for merger by the high court. A company in India has to follow different provisions of the companies act 2013 at various stages.

- As per the article published by Harvard Business Review, 70-90% of the M&A deals have been deemed to be failure

- Since the Companies act 2013 has come to force, companies often face regulatory issues on M&A of the business.

- Failed acquisition by Apollo, an Indian tire manufacturing company of Cooper Tire & Rubber Co. which is the second largest tire-making company in the US. Apollo wanted to acquire Cooper in an all-cash deal but could not due to the fact that Cooper was unable to deal with backlash from the worker union from one of its subsidiaries in China and the coming into common the steelworker union in India. With all these due reasons the acquisition failed and cooper was made to pay a termination fee of $50 million.

- Failed acquisition of Adani Power of DB Power Limited in year 2022. Adani planned to hold 100% share of DPPL and for that DPPL were supposed to hold 100% share and transfer those shares to Adani Power on date of transaction. Date ware extended multiple times but Adani power withdrew from the deal as no further extension was provided and ultimately after Hindenburg report published this deal was called off.

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

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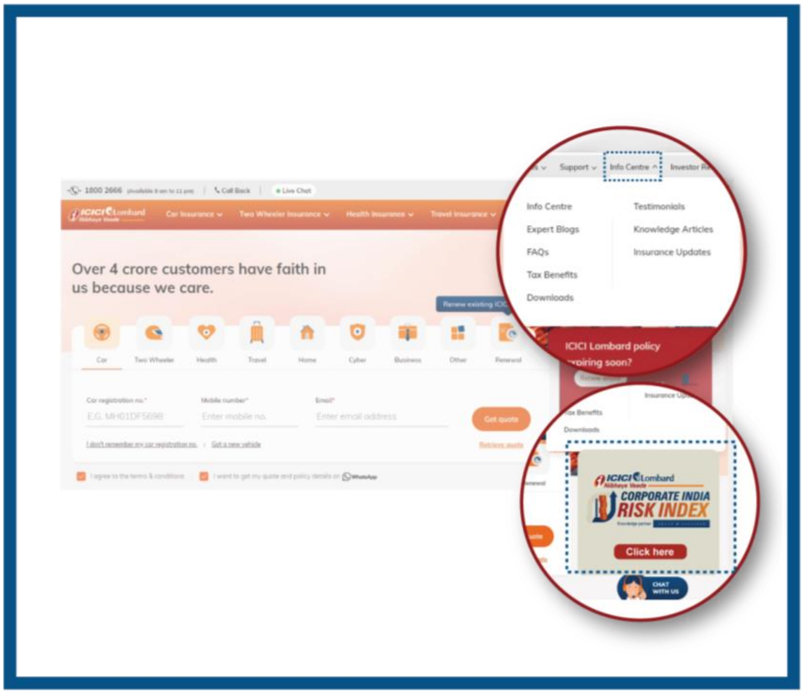

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