

# **CORPORATE INDIA RISK INDEX**

2024

Intelligence partner

FROST & SULLIVAN

Navigating Risks, Powering India's Growth

## **SECTOR REPORT 2024**

IT / ITES



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# Preface

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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

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In 2024, India's Information Technology (IT) and Information Technology Enabled Services (ITES) sector continued to demonstrate strong growth, cementing its position as a global leader in technology and digital services. The sector remained resilient, adapting to evolving global economic conditions while meeting the increasing demand for advanced technological solutions. India's IT and ITES industries have expanded significantly, benefiting from both domestic and international demand for software, services, and innovative digital solutions.

A key driver of growth in 2024 was a substantial increase in IT spending within India, fueled by the country's expanding digital infrastructure and growing reliance on technology across various industries. This uptick was further supported by government initiatives designed to boost the sector, emphasizing innovation and digital transformation. The sector also saw significant growth in employment, with more professionals joining the workforce, reflecting its role as a major job generator. India's IT-ITES industry remains integral to the country's economic landscape, contributing significantly to GDP and continuing to position the nation as a hub for global digital services and solutions.

As India continues to strengthen its capabilities in digital technology, the sector's future looks even more promising. With continued government support, strategic investments in new technologies, and an expanding talent pool, India's IT and ITES industries are poised to play an even more crucial role in driving both national and global economic growth. The sector's innovation, scale, and expertise make it an essential component of India's ambition to lead in the global digital economy.

# 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 Defence, 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

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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

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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.

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

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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. 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 global pandemic scale events like the COVID-19 pandemic

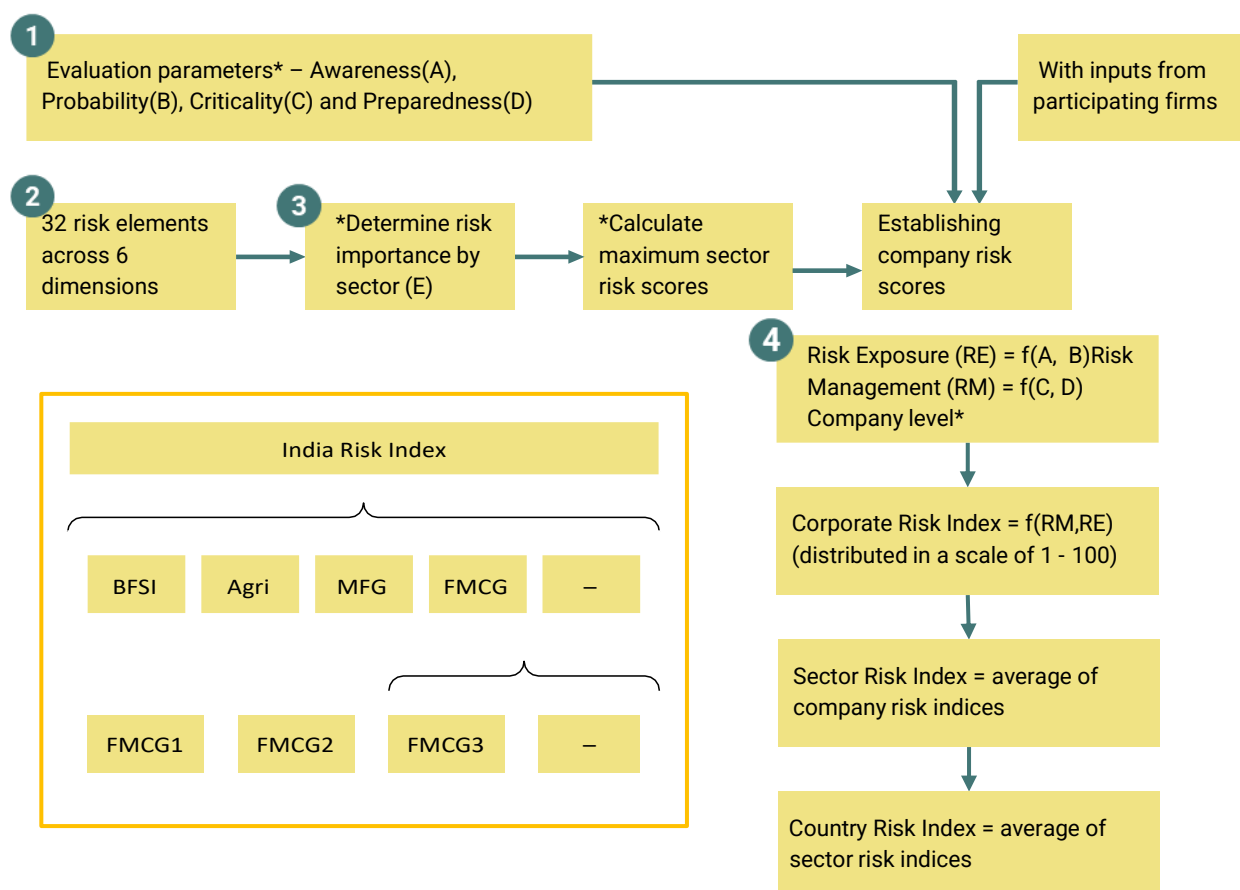
## Strategic Risk

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Strategic risk is the risk of undesirable outcomes of business decisions which may impact 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



**Figure 1: 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 Parameters are defined as:
  - Awareness - Level of awareness of potential risk affecting the firm.
  - Probability - Likelihood of risk to 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 to handle 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&S team and SMEs.

3. **Calculating Maximum Sector Risk Score:** Weighted Sum of all risk elements based on their importance to 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

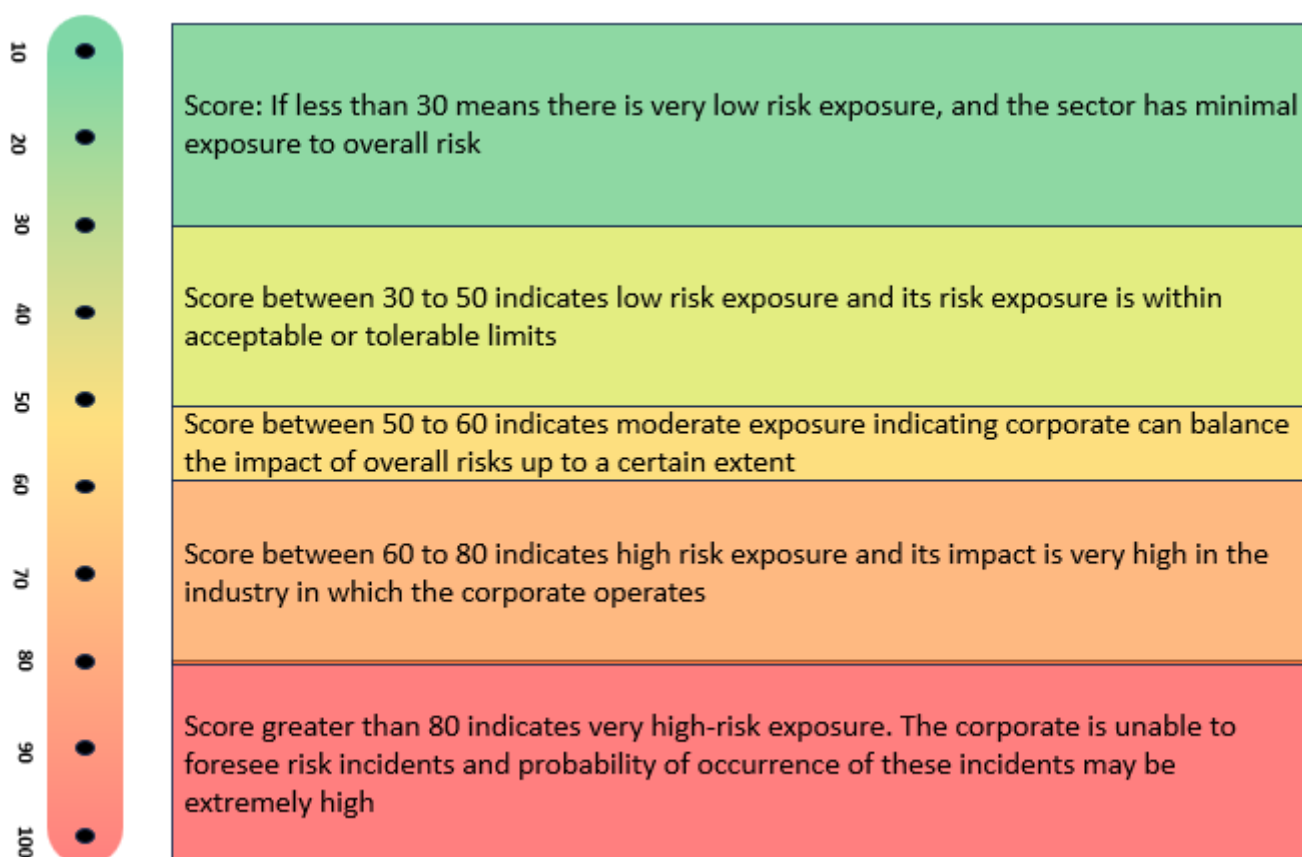
We have selected 20 sectors to understand the current stand of our country today in terms of risk. Risk for various sectors is measured on the risk exposure scale and risk management scale.

## 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.

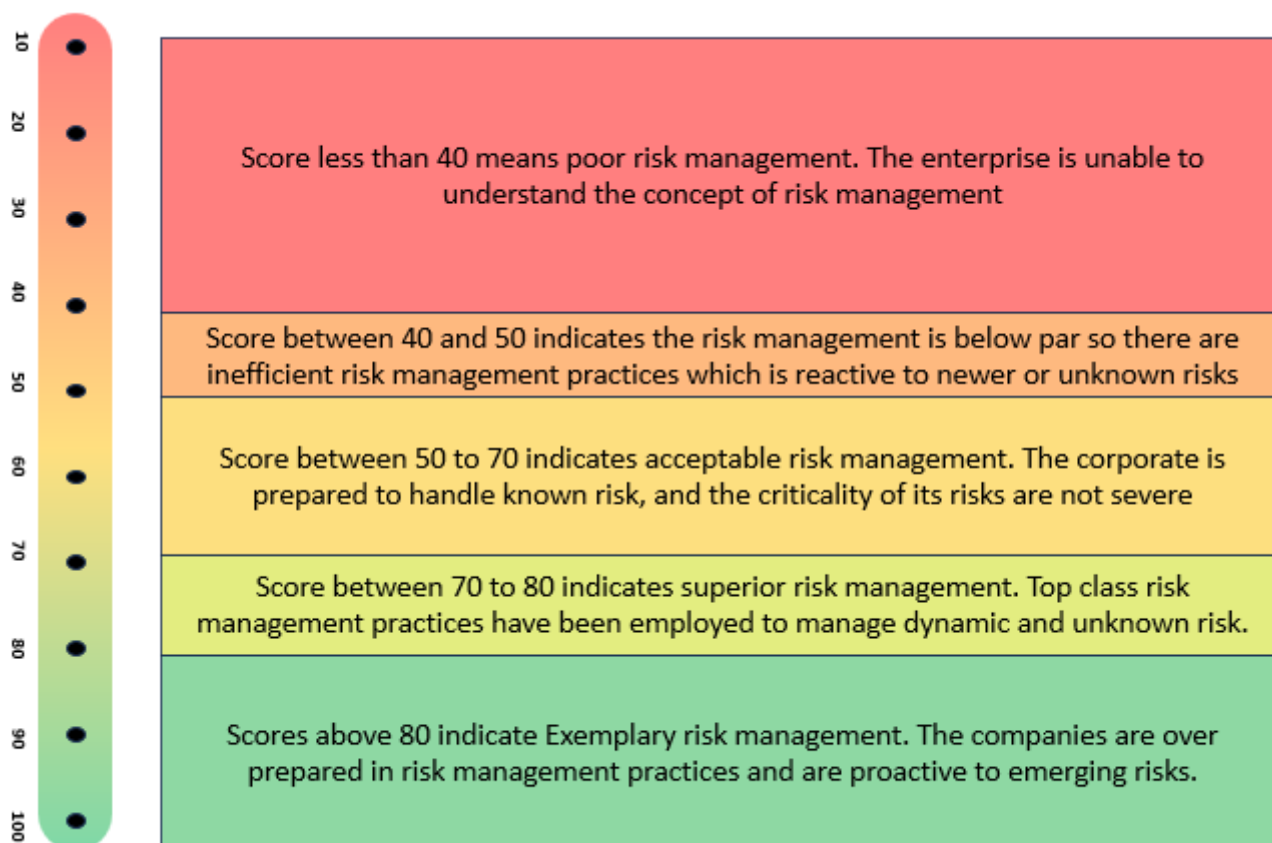


## B. ICICI Lombard Corporate Risk Management – Scale

**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.

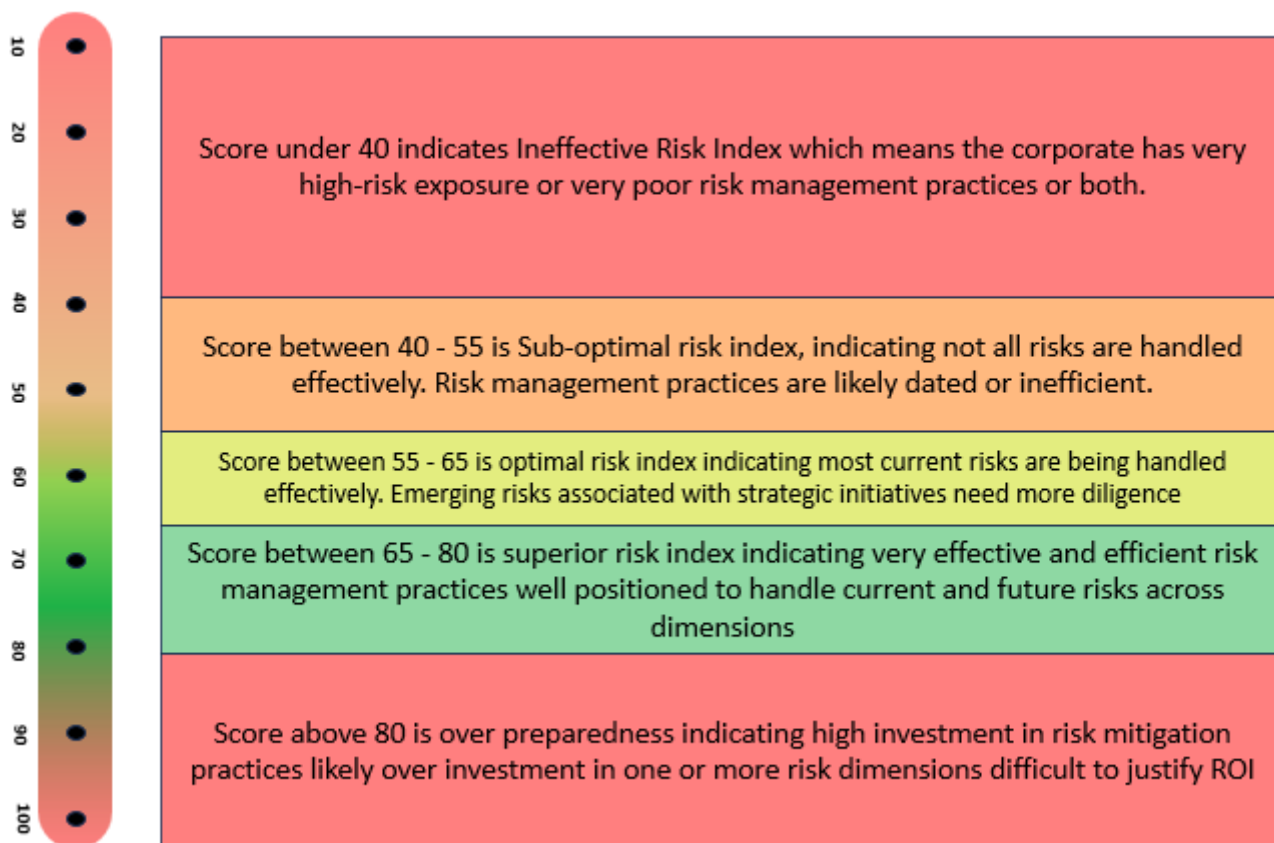




### c. ICICI Lombard Corporate Risk Index – Scale

**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 - Resilient Growth and Superior Risk Management

In 2024, India's diverse sectors demonstrated significant growth and resilience, leveraging technological advancements, strategic reforms, and proactive risk management to navigate an evolving economic landscape. Despite global challenges, industries embraced innovation, digital transformation, and sustainable practices, positioning themselves for long-term success.

In this year, the integration of Artificial Intelligence (AI) across various sectors presented both significant opportunities and risks. While AI-driven innovations enhanced productivity, decision-making, and customer engagement, the adoption also raised concerns around data privacy, cybersecurity, and workforce displacement. India navigated these risks by implementing robust data protection regulations and promoting AI ethics in the development and deployment of technology. Additionally, the government and private sector invested in reskilling programs, ensuring the workforce was equipped to adapt to the evolving digital landscape. AI's strategic implementation across sectors like BFSI, healthcare, and manufacturing helped India enhance operational efficiency while balancing the challenges posed by rapid technological transformation. The Aerospace & Defence sector saw substantial advancements as India attracted global aerospace companies seeking to strengthen supply chains. Local firms expanded their capabilities, particularly in the growing private space sector, driving both revenue growth and global competitiveness. The Agri & Food Processing sector turned to precision farming and AI-driven analytics to enhance productivity, while renewable energy solutions like solar-powered cold storage reduced post-harvest losses, improving sustainability and efficiency.

In the Automotive sector, the shift toward electric vehicles (EVs) gained momentum, supported by government schemes aimed at promoting EV adoption. Major manufacturers expanded their EV portfolios, addressing both sustainability goals and evolving consumer demands. The BFSI sector continued its digital transformation, with AI integration enhancing fraud detection and compliance, further improving security and efficiency.

The Biotech & Lifesciences sector experienced accelerated growth, particularly in genomics and vaccine development, with India solidifying its role as a global leader in pharmaceutical manufacturing. The sector's innovation, supported by public and private investments, enhanced healthcare technology and medical devices. In Chemicals & Petrochemicals, India attracted significant investments to meet rising demand, driven by growing consumption from its expanding middle class, while the Education sector embraced AI and digital learning platforms, expanding access to quality education and equipping the workforce for future demands in emerging technologies.

The Energy sector made substantial progress towards sustainability, with a focus on renewable

energy, including ultra-mega solar parks and offshore wind projects. These initiatives were supported by favorable government policies and decreasing costs of clean energy technologies. The FMCG sector adapted to inflationary pressures by shifting focus towards premium products and e-commerce platforms, which were increasingly driving sales, particularly in rural markets.

In Healthcare, there was significant growth fueled by digital innovations such as telemedicine and AI-driven diagnostics, which helped improve access and efficiency in healthcare delivery. India also continued to strengthen its position as a global hub for medical tourism, offering competitive treatment options. The Real Estate sector benefitted from increased demand in affordable housing and infrastructure development, with commercial real estate seeing steady growth and an emphasis on sustainable building practices.

The IT sector continued to thrive despite global challenges, driven by demand for cloud services, cybersecurity solutions, and AI technologies. Tier 2 and 3 cities emerged as new tech hubs, with government support enhancing regional tech expansion. The Pharmaceutical sector saw an uptick in exports and domestic manufacturing, with reduced dependence on imports and new product launches in global markets bolstering its growth. In Manufacturing, India focused on boosting production through initiatives like the Production-Linked Incentive schemes, especially in electronics and EV manufacturing, which also contributed to job creation and supply chain resilience. The "China + 1" strategy adopted by global firms has played a pivotal role in shaping India's manufacturing sector. While it has increased risk exposure, it has also driven companies to invest in more sophisticated, globally relevant risk management practices, strengthening the sector's resilience and positioning India as a key player in global supply chains.

Media & Entertainment saw continued growth, with OTT platforms gaining popularity, especially in regional content. The Gaming industry also flourished, becoming a key revenue generator as mobile gaming gained dominance. In Steel and Mining, investments in decarbonization and digitalization allowed the sectors to reduce environmental impact and enhance operational efficiency. Startups saw substantial funding despite global slowdowns, with SaaS, fintech, and D2C brands leading the charge in innovation and market expansion.

The Telecom sector expanded 5G coverage and rural internet penetration, narrowing the digital divide and improving connectivity across the country. The Tourism & Hospitality sector rebounded strongly, attracting both domestic and international visitors, with eco-conscious travelers opting for sustainable tourism options and luxury experiences. Finally, the Logistics sector benefited from advancements in automation and multimodal connectivity, reducing costs and improving efficiency, while the government's National Logistics Policy streamlined operations, cutting transit times and enhancing cross-sector integration.

In summary, 2024 saw India's sectors display resilience and adaptability, addressing emerging risks through innovation, digital adoption, and sustainability initiatives. The country's ongoing focus on risk management, technological advancement, and strategic reforms has positioned its economy for continued growth and transformation, paving the way for India to solidify its place as a global economic leader.

# India Showcasing an Optimized Risk Handling



**Figure 2: Corporate India Risk Index 2024**

A score of 65 on the Corporate Risk Index indicates optimal handling of risk by the Indian companies. In 2024, India faced significant market, economy, and operational risks across various sectors, highlighting areas for improvement in the coming years. The year was further complicated by global events such as the ongoing Israel-Palestine conflict, which led to geopolitical instability and fluctuations in global oil prices. The rise of recession fears in major economies like the United States and Europe disrupted supply chains and created demand uncertainties, impacting Indian exports and manufacturing. Investor sentiment in India remains flat in 2024, reflecting the cautious behavior of Angel and VC investors globally. This persistent challenge, which has carried over from 2023, highlights ongoing risks in the market and underscores the uncertainty that continues to affect investment decisions in the country.

Additionally, India's national elections increased risk exposure, with political uncertainty and policy shifts potentially affecting business operations, investor confidence, and sectoral reforms. These global and domestic challenges underscored the need for stronger risk management

frameworks and adaptive strategies across India's industries to navigate future uncertainties effectively.

In response to the heightened risks in 2024, companies across India have increasingly focused on strengthening their risk management frameworks. With the backdrop of global uncertainties, such as geopolitical conflicts and economic slowdowns, alongside domestic challenges like the national elections, businesses have prioritized proactive risk identification, mitigation strategies, and resilience-building measures. This shift reflects a broader trend of embedding risk management into corporate strategy, with an emphasis on agility, digital transformation, and sustainability. As a result, sectoral risk indices have remained within the superior and optimal risk index range, demonstrating that most industries in India have effectively managed the challenges they faced. Through a combination of technological innovations, regulatory compliance, and strategic planning, sectors have been able to maintain stability and navigate both internal and external risks. This disciplined approach to risk management has ensured that, despite various pressures, India’s sectors remained well-positioned for sustainable growth and continued progress in 2024.

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



**Figure 3: Corporate India Risk Index 2024 Sector Score**



**Superior Risk Index**

Superior risk handling was found in nine industrial sectors: Pharmaceuticals, Healthcare Delivery, Automotive & Ancillary, Manufacturing, Metals & Mining, Telecom & Communication, BFSI, Tourism & Hospitality, and Transportation & Logistics.

**Optimal Risk Index**

Optimal risk handling was found in 11 industrial sectors: Media & Gaming, FMCG, Infra & Realty, Agriculture & Food processing, Biotech & Lifesciences, IT ITES, Energy, New Age & Startup, Aerospace & Defence, Chemicals & Petrochemicals and Education & Skill Development

# IT/ITES Sector Insights 2024

The Information Technology (IT) and Information Technology Enabled Services (ITES) sector in India is a cornerstone of the nation's economic development, contributing significantly to GDP, employment, and global technological advancement. Encompassing software services, hardware, business process outsourcing (BPO), knowledge process outsourcing (KPO), and emerging digital technologies, the industry has played a critical role in transforming India into a global technology hub. India remains the world's largest outsourcing destination, reinforcing its position as a leader in IT-enabled solutions.

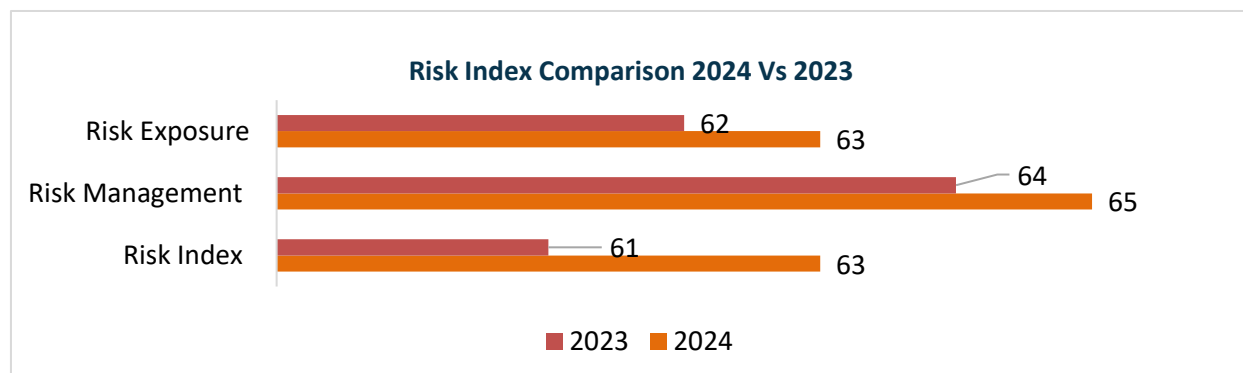
The growth of the industry is being driven by several factors. India's vast pool of IT professionals positions it as a global leader in technology services. The sector's competitive advantage is further bolstered by its cost-effective service delivery, strong emphasis on STEM education, and proficiency in English, enabling seamless global collaboration. Government initiatives have played a crucial role in attracting significant investments and boosting domestic manufacturing in electronics and IT hardware. The rapid expansion of data centers, cloud computing, and artificial intelligence-driven applications has further fueled growth, positioning India as a leader in these fields.

The digital transformation of businesses globally is reshaping the IT/ITES landscape. The adoption of emerging technologies such as artificial intelligence, machine learning, blockchain, and cybersecurity solutions is driving demand for specialized IT services. India's software exports continue to dominate the global market, and the rise of software-as-a-service (SaaS) companies has positioned India as a key player in enterprise solutions. Additionally, the increasing penetration of cloud computing and 5G technology is enhancing connectivity, enabling businesses to scale operations efficiently.

Despite its strong growth potential, the sector faces several challenges. Global economic fluctuations, geopolitical tensions, and changing data privacy regulations pose risks to business continuity. Cybersecurity threats have increased with the rise of digital transactions, necessitating advanced security frameworks and compliance measures. The industry also faces concerns regarding talent retention and upskilling, as rapid technological advancements demand continuous learning and adaptation. Additionally, the emergence of generative AI and automation could lead to workforce restructuring, requiring proactive measures to reskill employees for evolving job roles.

Opportunities for expansion remain robust. The rise of remote work, gig economy platforms, and hybrid work models has increased demand for IT infrastructure and collaboration tools. India is witnessing a surge in start-up ecosystems, driving innovation in artificial intelligence, cybersecurity, cloud computing, and deep tech solutions. The focus on smart cities, digital healthcare, and Industry 4.0 is further broadening the application of IT services across various domains. The future of the IT/ITES sector in India is set for sustained growth, supported by policy reforms, digital innovations, and evolving global technology trends. The sector's adaptability and resilience will shape a competitive and sustainable market.

# IT/ITES Sector Risk Index 2024 Vs 2023



**Figure 4: Detailed Comparative Analysis 2024 Vs. 2023**

## IT/ITES Sector Risk Index 2024 Vs 2023

The overall Risk Index for the sector has increased from 61 to 63 in 2024, owing to an increase in the risk exposure and a corresponding increase in risk management.

## IT/ITES Sector Risk Exposure 2024 Vs 2023

Risk exposure has increased as global economic uncertainties and geopolitical tensions continue to impact the sector, the increased focus on risk management indicates that companies are more proactive in addressing potential vulnerabilities. The industry's growth prospects have also led to greater attention to market fluctuations and technological disruptions, prompting businesses to adapt their strategies for long-term sustainability and resilience.

## IT/ITES Sector Risk Management 2024 Vs 2023

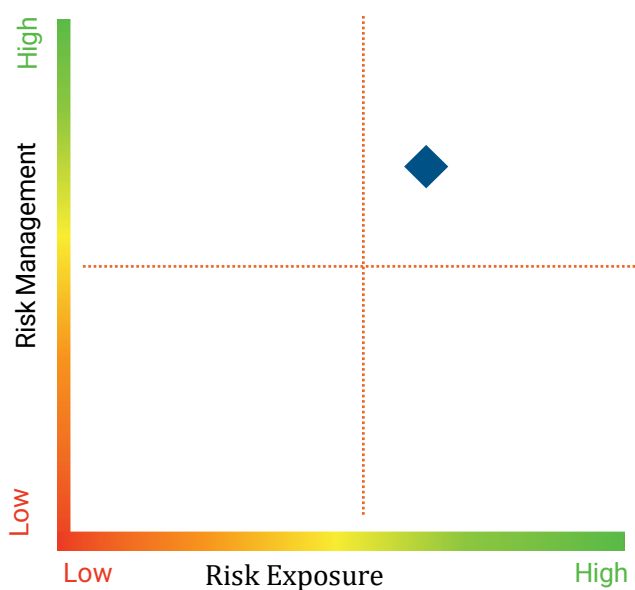
Risk management has become more pronounced as the sector grapples with increasingly complex challenges, such as cybersecurity threats, data privacy concerns, and the adoption of emerging technologies like artificial intelligence and machine learning. In response, companies have ramped up investments in robust cybersecurity frameworks, compliance protocols, and workforce upskilling to navigate these risks effectively. Furthermore, regulatory changes across the globe, particularly around data protection and privacy, have prompted organizations to strengthen their risk management frameworks to stay compliant and secure.

# Key Highlights

## Risk Dimension Analysis: Market and Economy

**Risk Exposure Score: 68**

**Risk Management Score: 67**



### Inflation

■ Rising inflation in India, which averaged 5.5% in 2023, has led to increased operational expenses for IT/ITeS firms, particularly in real estate costs, electricity tariffs, and high-speed internet services, directly impacting margins. Office lease rates in tech hubs like Bengaluru and Hyderabad have surged by 8-10% YoY, increasing fixed costs.

■ Wage inflation remains a significant concern, with salaries in the IT sector rising 2023, driven by talent shortages and high attrition rates. Companies have to offer retention

bonuses, salary hikes, and employee benefits, straining profitability, especially for mid-sized IT firms.

- Inflationary pressure on cloud computing services and enterprise software licensing has led to price hikes by vendors like AWS, Microsoft, and Google Cloud, affecting IT firms reliant on cloud infrastructure for global service delivery.
- The rising cost of imported servers, networking equipment, and semiconductor-based hardware due to global supply chain disruptions has affected IT firms' infrastructure expansion. Chip shortages and higher logistics costs have led to a price rise in hardware procurement, particularly impacting data center and IT infrastructure providers.

### Taxation Risk

- Changes in TDS (Tax Deducted at Source) regulations have added compliance burdens, particularly for IT/ITeS firms working with freelancers and contractors. The 5% TDS on professional services has increased cash flow constraints, requiring firms to maintain additional liquidity.



- The 18% GST on IT services remains a challenge, making domestic IT services costlier compared to offshore alternatives. Small and mid-sized enterprises (SMEs) struggle with tax refunds and input credit claims, impacting their working capital. Delayed GST refunds further create liquidity issues.
- International tax compliance complexities have risen due to evolving global taxation policies like the OECD's Pillar Two framework, which enforces a 15% global minimum tax. Indian IT firms with offshore delivery centers must reassess tax strategies to avoid double taxation and maintain profitability.
- Transfer pricing audits have increased scrutiny on cross-border transactions of IT firms, especially those operating in Special Economic Zones (SEZs). The need for detailed documentation and compliance with arm's length pricing norms has escalated legal and operational costs.

### **Geopolitical Risks**

- The US-China technology war has led to disruptions in the semiconductor supply chain, delaying IT hardware deliveries and increasing costs for Indian firms reliant on high-performance computing (HPC), AI chips, and data center infrastructure. Chip lead times have extended by 12-16 weeks, affecting project timelines.
- Visa restrictions and stricter H-1B and UK Skilled Worker visa policies impact Indian IT talent mobility, forcing companies to increase onshore hiring at 2-3x higher salary costs in the US and UK. This affects margins and reduces cost arbitrage benefits.
- The push for data sovereignty laws across multiple countries (e.g., India's Data Localization Policy, EU's GDPR) creates compliance challenges for IT firms handling cross-border data processing. Companies must invest in localized data centers, increasing capital expenditures.
- Rising geopolitical cyber threats have forced IT firms to enhance cybersecurity protocols, endpoint monitoring, and threat intelligence investments. IT service providers managing critical infrastructure, BFSI, and healthcare data face increasing scrutiny and compliance costs.

### **Foreign Exchange Risk**

- The Indian rupee depreciated by ~5% against the US dollar in 2023, affecting IT/ITeS firms that derive majority of revenue from exports. Contracts denominated in USD become more profitable, but fluctuations in forex rates impact long-term pricing strategies and financial planning.
- Volatility in the Euro and GBP due to economic instability in the EU and UK directly affects revenue from European clients. Indian IT firms working with BFSI and retail sectors in Europe face payment delays and increased contract renegotiations due to currency fluctuations.
- Rising forex hedging costs due to global economic uncertainty have made risk management more expensive. IT firms engaged in long-term service agreements must invest more in hedging instruments like forward contracts, increasing operational costs.
- The weakening rupee has also increased import costs for software licenses, cloud services, and

cybersecurity solutions. IT firms relying on AWS, Google Cloud, and Microsoft Azure face higher operational expenses as global software providers adjust pricing in response to currency shifts.

### Regulatory Risk

- The Digital Personal Data Protection Act (DPDP), 2023, introduces stricter data privacy laws, requiring IT firms to invest in data protection officers, compliance frameworks, and infrastructure upgrades to handle sensitive user data. Non-compliance attracts penalties of up to ₹250 crore per violation.
- Frequent changes in SEZ taxation policies impact IT firms operating in IT parks and export zones. Uncertainty regarding tax incentives, such as phased-out exemptions for SEZ units, affects investment planning and long-term business strategies for software exporters.
- AI-based IT services face increasing scrutiny as emerging AI and automation regulations may impose data residency requirements, algorithmic transparency norms, and ethical AI guidelines. This can impact firms offering AI-driven IT solutions in banking, healthcare, and analytics.
- The evolving work-from-home (WFH) regulatory framework requires IT companies to adhere to revised labor laws, including provisions for remote employee benefits, taxation, and digital monitoring compliance. Stricter guidelines on cross-border remote work taxation complicate workforce management.

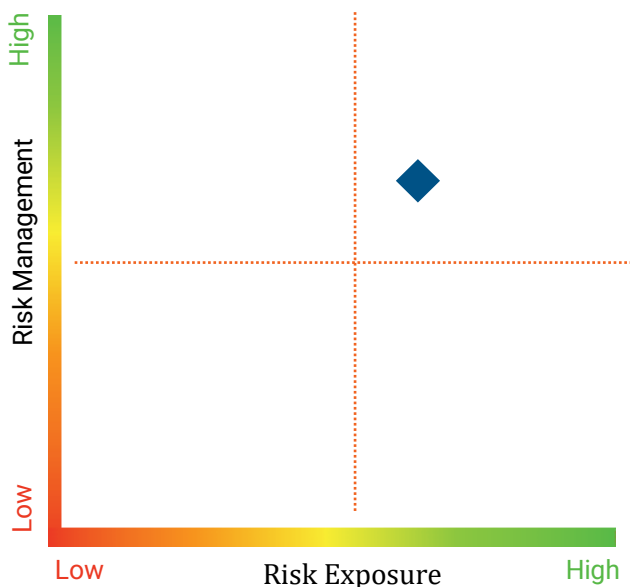
### Competitive Risk

- India's IT/ITeS sector faces growing competition from emerging nearshore destinations like Vietnam, Poland, and Mexico, which offer cost-effective outsourcing with regulatory incentives.
- The rise of Generative AI and automation tools in 2023, such as OpenAI's ChatGPT and Google's Gemini, has impacted traditional IT services like customer support and basic coding, reducing demand for low-skill IT jobs and forcing companies to reskill employees.
- Global IT giants like Accenture, Capgemini, and TCS are expanding into cloud and AI-driven services, intensifying competition for mid-tier Indian IT firms, which lack scale and investment for rapid tech adoption. Accenture announced a \$3 billion AI investment in 2023, challenging Indian firms.
- Indian IT firms are losing price-sensitive clients due to the reduction in IT budgets by US and European enterprises, with major companies like Amazon, Meta, and Google implementing cost-cutting measures in 2023, leading to smaller outsourcing contracts and intensified pricing competition.

# Risk Dimension Analysis: Technology

**Risk Exposure Score: 67**

**Risk Management Score: 64**



## Innovation Risk / Obsolete Technology

■ Rapid advancements in AI and automation in 2023 made traditional IT services like manual coding and testing less relevant, forcing firms to upskill employees and invest in AI-powered automation tools to stay competitive.

■ Cloud computing dominance by AWS, Microsoft Azure, and Google Cloud reduced the relevance of traditional IT infrastructure management services. Indian IT firms had to pivot towards cloud consulting and optimization to retain clients.

■ Legacy IT systems in banking, healthcare,

and manufacturing struggled with digital transformation in 2023, forcing IT companies to offer modernization services to remain relevant while facing competition from born-digital firms.

- Quantum computing developments in 2023 posed a long-term risk to existing encryption methods used in IT security services. Indian cybersecurity firms had to explore quantum-safe encryption models to future-proof their solutions.

## Intellectual Property Risk

- The rise of generative AI tools in 2023 created risks of copyright violations in AI-generated code, leading to lawsuits against firms using AI-assisted development. IT companies had to implement AI-generated code screening mechanisms to avoid legal risks.
- Software patent disputes increased globally, with Indian IT firms facing IP infringement claims when developing AI, blockchain, and cloud-based applications. Firms had to strengthen legal teams and patent filing processes to mitigate risks.
- Unauthorized use of open-source software in IT services led to compliance risks in 2023. Companies had to implement stricter software license audits to prevent litigation under GPL, Apache, and MIT license agreements.
- Growing cyber espionage threats in 2023 put Indian IT firms at risk of IP theft, especially in AI/ML development. Companies had to enhance internal cybersecurity measures and conduct regular IP protection audits.

## Disruptive Technology

- The rise of ChatGPT and generative AI in 2023-24 disrupted traditional IT services like customer support, content creation, and software development, forcing IT/ITeS firms to integrate AI into their offerings or risk obsolescence.
- 5G network rollouts in India in 2023 increased demand for edge computing solutions, challenging IT firms to adapt to new computing architectures while competing with global tech giants already established in the space.
- The emergence of Web3 technologies, including blockchain and decentralized applications, threatened traditional IT services in cloud hosting and centralized database management. Firms had to invest in blockchain-based solutions to remain relevant.
- Low-code and no-code platforms gained traction in 2023, reducing reliance on traditional software developers. IT firms had to offer high-value consulting and API integration services to maintain their relevance

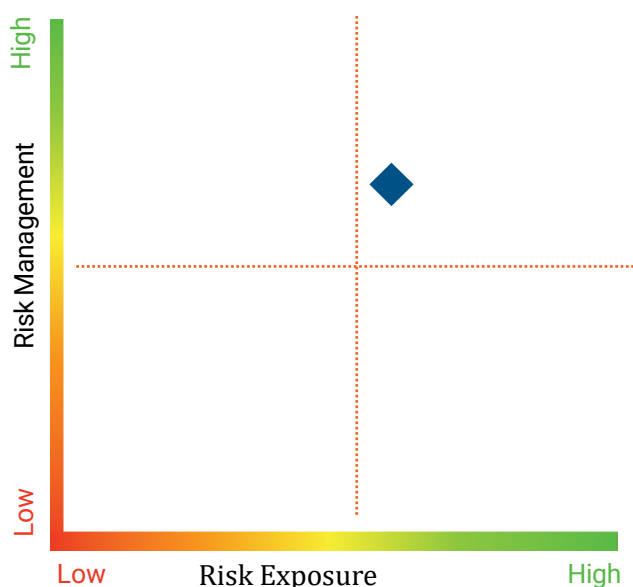
## Data Compromises

- India experienced an increase in cyberattacks in 2023, with IT/ITeS firms among the primary targets due to their handling of sensitive client data. Companies had to enhance endpoint security and adopt zero-trust architectures.
- Cloud data breaches increased in 2023, as companies migrated to multi-cloud environments without robust security frameworks. Indian IT firms had to offer enhanced cloud security services to address vulnerabilities.
- Insider threats became a major concern, with reports of employees leaking sensitive corporate data to competitors or using AI-based tools for unauthorized information processing. Firms had to implement stricter access controls and monitoring mechanisms.
- The rising trend of ransomware attacks in 2023-24 led to increased cybersecurity spending by IT firms.

# Risk Dimension Analysis: Operational and Physical

**Risk Exposure Score: 61**

**Risk Management Score: 63**



## Critical Infrastructure Failure / Machine Breakdown

■ Data center outages increased in India in 2024, with failures at major hubs like Mumbai and Hyderabad, impacting IT service continuity. Power outages, server overheating, and cyberattacks remain key vulnerabilities in cloud infrastructure.

■ The semiconductor supply chain crisis persisted into 2023, causing delays in IT hardware procurement. Indian IT firms reliant on Intel, Nvidia, and AMD chips faced delays of up to 20 weeks, affecting AI/ML project rollouts and server upgrades.

- ISP failures and undersea cable disruptions impacted global IT operations in 2023, with a major subsea cable fault in the Red Sea causing internet slowdowns for Indian offshore IT delivery centers, delaying projects for US and European clients.
- Cloud server failures increased in December 2023, with AWS and Azure reporting uptime issues in Indian data centers, affecting BPO and IT service firms that rely on SaaS-based platforms for global client support

## Business Continuity / Sustainability

- Global IT spending cuts in 2023 impacted Indian IT firms, with Gartner reporting a slowdown in enterprise software purchases, leading to delayed payments and contract cancellations for small and mid-sized IT vendors.
- Layoffs in global tech firms (e.g., Google, Meta, Amazon) in 2023 led to contract renegotiations and reduced project volumes, affecting Indian IT firms reliant on outsourced staffing and software development projects. Over 2,50,000 layoffs in Big Tech directly impacted IT service demand.
- Indian IT firms faced high attrition (17-20%) in 2023, leading to a shortage of skilled professionals in AI, cybersecurity, and cloud engineering. The demand-supply gap forced companies to invest heavily in reskilling and employee retention programs.
- The shift toward Green IT policies has increased operational costs, with new ESG reporting



mandates requiring IT companies to track carbon footprints, optimize data center power usage, and adopt sustainable computing practices, adding compliance overhead.

### **Supply Chain Risk**

- Chip shortages in 2023 continued to delay IT hardware availability, with lead times for high-performance computing (HPC) processors reaching 20+ weeks, impacting AI-driven projects in fintech, healthcare, and automation.
- India's dependence on imports for networking equipment and servers from China, Taiwan, and the US exposed IT firms to geopolitical risks. Sanctions on Chinese telecom hardware led to delays in 5G deployment, slowing IT infrastructure upgrades.
- Global logistics disruptions in 2023, including the Red Sea shipping crisis and semiconductor supply constraints, resulted in higher IT hardware import costs and project delays, especially for IT firms investing in data center expansion.
- The US CHIPS Act and India's Semiconductor Mission have encouraged domestic chip manufacturing, but production delays in Tata's semiconductor fab unit and Micron's Gujarat plant mean India remains dependent on imports for 2024.

### **Commodity Price Risk - Volatility in prices of raw materials**

- Silicon and rare earth metal prices surged by 25% in 2023, increasing the cost of IT hardware like semiconductors, SSDs, and lithium-ion batteries used in data centers and high-performance computing systems.
- Rising electricity costs in data center hubs like Hyderabad, Pune, and Chennai due to fluctuating coal and renewable energy prices increased IT firms' operational expenses, affecting cloud service providers.
- Fluctuating prices of networking components like fiber optics, circuit boards, and processors led to higher IT infrastructure costs, impacting IT firms setting up new offices, innovation labs, and offshore delivery centers.
- The increasing cost of cloud storage and AI compute power due to higher energy consumption in machine learning and data analytics has led to price hikes from AWS, Microsoft Azure, and Google Cloud, making cloud-dependent IT firms more vulnerable to cost volatility.

### **Portfolio Risk**

- The slowdown in enterprise IT spending in 2023 led to decreased demand for traditional IT services, forcing Indian firms to shift focus toward cloud computing, AI, and cybersecurity. However, mid-tier IT firms faced portfolio gaps due to limited investment in emerging tech.
- The rise of low-code/no-code platforms from Microsoft, Google, and Salesforce in 2023 reduced the need for custom software development, affecting IT firms that relied on traditional coding-heavy projects. This shift forced companies to revamp service portfolios to include AI-based automation tools.

- The IT services sector saw increased client diversification risks, as major BFSI and retail clients reduced outsourcing contracts by 10-15% in 2023 due to global economic pressures, impacting firms dependent on these verticals.
- Declining demand for legacy IT services like on-premise ERP and data center management forced Indian IT companies to phase out non-profitable service lines, leading to a reallocation of resources toward AI-driven services, 5G network solutions, and digital transformation consulting.

### **Environmental Hazard Risk**

- Severe heatwaves and erratic monsoons in 2023 caused frequent power disruptions in IT hubs like Bengaluru, Hyderabad, and Pune, increasing dependency on diesel generators, which escalated operational costs for IT parks and data centers.
- The expansion of cloud data centers led to increased water consumption for cooling systems, causing local water shortages in tech hubs. Navi Mumbai's data center cluster reported a 30% rise in water demand, raising sustainability concerns.
- Rising e-waste generation from outdated IT equipment remained a challenge in 2023, with India generating 1.6 million tonnes of e-waste. The lack of efficient recycling policies forced IT firms to invest in sustainable disposal mechanisms, increasing compliance costs.
- Stricter ESG (Environmental, Social, Governance) regulations in 2023 required IT companies to report their carbon footprint, with SEBI mandating disclosure norms for large enterprises. Compliance with these norms increased the cost burden on mid-sized IT firms.

### **Workplace Accident**

- The rise in workplace stress and burnout in IT professionals in 2023 led to increased mental health-related leaves, with studies showing Indian IT employees reporting stress-induced health issues. Companies had to invest in employee wellness programs, increasing operational costs.
- Remote work setups in 2023 led to ergonomic health issues, with an increase in musculoskeletal disorders (MSDs) among IT employees. Companies were forced to re-evaluate WFH ergonomics and invest in health initiatives to reduce long-term medical claims.
- Data center accidents, such as server overheating and electrical failures, caused downtime and financial losses in 2023
- Physical security risks in IT offices increased, with reports of unauthorized access incidents in shared office spaces and coworking setups. IT firms had to implement biometric security measures and surveillance upgrades, raising security expenses.

### **Human Resource**

- India's IT sector faced an attrition in 2023, driven by poaching by global tech firms and the rise of high-paying AI/ML and cybersecurity roles, causing a talent crunch for traditional IT services.

- Delays in H-1B visa approvals and US work permit restrictions led to reduced onsite deployment opportunities for Indian IT employees in 2023, affecting revenue streams dependent on overseas talent mobility.
- Mass layoffs in the IT sector (over 60,000 employees in India in 2023) created uncertainty, impacting employee morale and retention. Companies had to introduce higher severance payouts and retention bonuses, increasing HR costs.
- Skilled workforce shortages in AI, blockchain, and cloud computing forced Indian IT companies to increase hiring from Tier-2 and Tier-3 cities and invest in in-house training programs, leading to rising talent development expenditures.

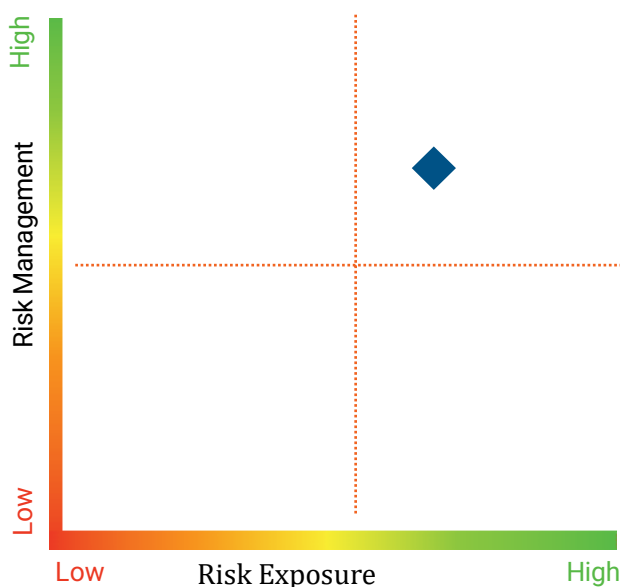
#### **Breaches of law (local/ international)**

- India's new Digital Personal Data Protection Act, 2023 (DPDP Act) increased compliance burdens on IT/ITeS firms handling personal data. Non-compliance can lead to penalties of up to ₹250 crore, forcing companies to upgrade data protection measures.
- The EU's stricter GDPR enforcement in 2023 led to fines for Indian IT companies providing outsourced data processing services. Companies had to implement stronger data residency policies to meet European compliance standards.
- Increased scrutiny on AI-generated content and deepfake regulations in 2023 required IT firms working on generative AI models to adhere to ethical AI development guidelines, impacting innovation speed and increasing regulatory overheads.
- Visa and work permit regulations in the US, UK, and Canada tightened for IT professionals, affecting talent mobility for Indian firms. H-1B visa rejections increased by 10% in 2023, leading to project execution delays.

# Risk Dimension Analysis: Crime and Security

**Risk Exposure Score: 59**

**Risk Management Score: 64**



## Cyber-crimes

■ India saw a rise in cyberattacks on IT firms in 2023, with major incidents targeting data centers, SaaS platforms, and IT infrastructure providers. Ransomware attacks on IT service companies led to downtime and contractual penalties.

■ Business Email Compromise (BEC) fraud cases increased in 2023, with IT companies reporting phishing and social engineering attacks targeting C-level executives and finance departments. Losses due to such scams exceeded ₹1,200 crore in India.

- Credential stuffing attacks surged in 2023, targeting IT helpdesks and remote access systems. Weak password policies led to breaches, forcing firms to adopt multi-factor authentication (MFA) and zero-trust security models.
- State-sponsored cyber espionage incidents targeting IT firms increased, with APT (Advanced Persistent Threat) groups from China and North Korea attempting to exploit software vulnerabilities in Indian IT systems. Firms had to increase threat intelligence investments.

## Counterfeiting

- Counterfeit software licenses and pirated enterprise solutions cost the Indian IT industry ₹10,000 crore in 2023, impacting revenues for legitimate service providers. Companies had to increase digital rights management (DRM) efforts to combat piracy.
- Fake IT hardware imports surged in 2023, with counterfeit networking equipment and data storage devices entering the supply chain, leading to security vulnerabilities in enterprise IT infrastructure.
- AI-generated deepfake impersonation attacks were used to facilitate financial fraud in IT outsourcing firms, forcing companies to implement AI-based voice and identity verification technologies to detect fakes.
- Unauthorized SaaS resellers and grey-market software providers affected the subscription-based revenue models of IT companies, leading to losses as clients opted for unverified, lower-cost alternatives.

### **Threat to Women Security**

- Cyber harassment cases involving women employees in IT/ITeS firms rose by 25% in 2023, with incidents of deepfake abuse, online stalking, and blackmail being reported. Companies had to strengthen internal reporting mechanisms and conduct digital safety training.
- Increased remote and hybrid work environments led to challenges in enforcing workplace harassment policies, as virtual meetings and work chats became new avenues for harassment. Firms had to implement AI-based monitoring tools to detect inappropriate behavior.
- Tech parks and late-night work shifts in IT hubs like Bengaluru, Pune, and Hyderabad raised concerns about women's physical safety, prompting companies to invest in safer transport facilities and 24/7 security.
- Data breaches in HR systems led to the leakage of personal information of women employees, increasing risks of targeted phishing and identity theft. IT firms had to encrypt HR databases and enhance access control mechanisms.

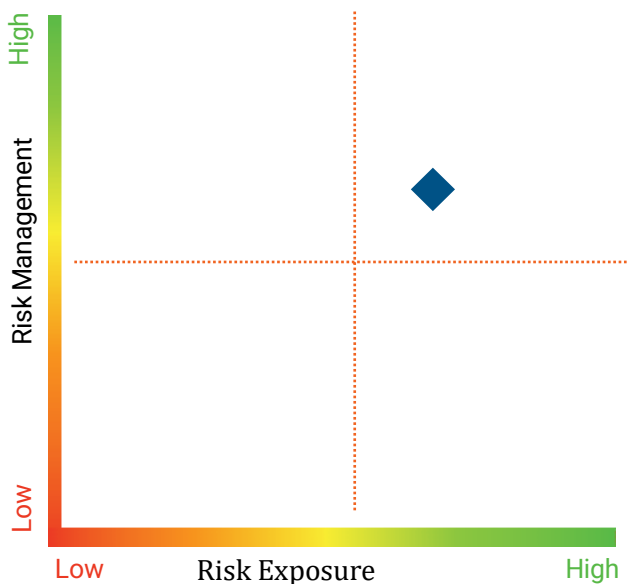
### **Terrorism**

- Cybercrime units in India reported an increase in bribery cases involving IT vendors and procurement officials, with kickbacks being offered for securing large-scale IT contracts in 2023. Firms had to strengthen anti-bribery compliance policies.
- Instances of insider trading and data leaks from IT firms increased, with employees selling proprietary source code and trade secrets to competitors or third parties, leading to IP losses. Companies had to implement strict NDAs and forensic audits.
- Public sector IT projects witnessed allegations of favoritism in contract allotments, affecting fair competition. Government agencies enforced stricter bidding processes, requiring IT vendors to comply with higher transparency norms.
- Corrupt recruitment practices in some mid-tier IT firms led to unqualified hires, reducing project efficiency and increasing client dissatisfaction. Companies introduced AI-driven hiring platforms to eliminate biases and manual interference.

# Risk Dimension Analysis: Natural Hazard and Event

**Risk Exposure Score: 61**

**Risk Management Score: 69**



**Natural Hazards like flood, drought, famine, earthquake, landslide etc**

■ Severe floods in Bengaluru in 2023 disrupted IT operations, forcing companies to relocate servers and enable business continuity measures to avoid data loss. Several firms faced losses due to submerged office spaces and damaged IT equipment.

■ Cyclone Biparjoy in June 2023 affected IT infrastructure in Gujarat, causing data center outages and telecom network disruptions, leading to delays in service delivery for clients.

■ Heatwaves in northern India caused higher cooling costs for IT data centers, as power consumption for server cooling increased by 20% in peak summer months. IT parks had to upgrade energy-efficient HVAC systems to manage rising temperatures.

- Earthquake tremors in Delhi-NCR led to temporary evacuations of IT offices, affecting productivity and prompting firms to reassess structural safety measures in tech hubs.

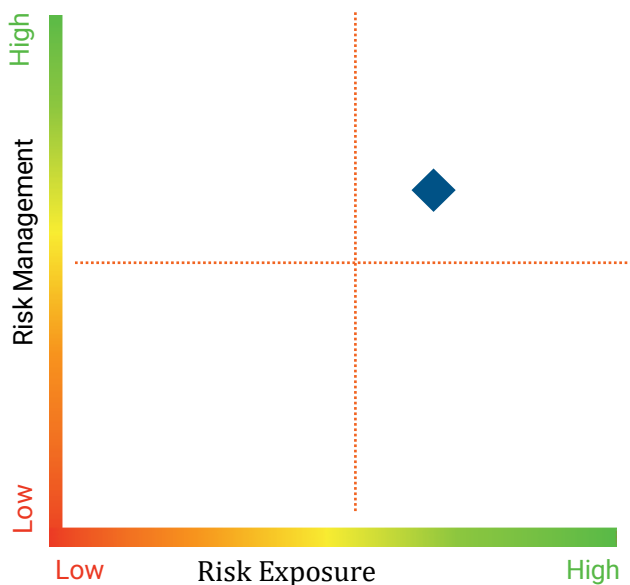
## Pandemic and other Global Epidemic Diseases

- The resurgence of COVID-19 variants in early 2023 led to temporary work-from-home mandates in major IT hubs like Bengaluru, Hyderabad, and Pune, impacting productivity and client deliverables due to inconsistent internet and power issues.
- The global spread of H5N1 (avian influenza) raised concerns in early 2024, prompting IT firms with offshore delivery centers to revisit pandemic response strategies, ensuring uninterrupted operations through cloud-based workflows.
- Major global IT events, including CES 2023 and Mobile World Congress, saw lower participation from Indian firms due to travel restrictions, affecting networking and business expansion opportunities in North America and Europe.

# Risk Dimension Analysis: Strategic Risk

**Risk Exposure Score: 60**

**Risk Management Score: 66**



## Resource scarcity / Misutilization / Overall Utilization

- Increased global demand for AI and cloud computing services led to a shortage of skilled talent in India, with firms struggling to find experienced AI/ML engineers, cloud architects, and cybersecurity experts, pushing up salaries by 20-30%.
- Server and semiconductor shortages continued in 2023, delaying IT infrastructure upgrades for Indian firms reliant on imported chips from Taiwan and China, leading to project slowdowns in cloud and data center expansion.
- Water scarcity issues in Bengaluru and

Chennai, key IT hubs, impacted data center cooling, leading firms to invest in alternative cooling methods such as liquid cooling and AI-driven power optimization to reduce water dependency.

- The inefficient utilization of cloud computing resources led to rising operational costs, with IT firms experiencing cloud cost overruns in 2023 due to poor workload management, necessitating investments in cloud cost optimization tools.

## Public Sentiments

- Mass layoffs in major IT firms like TCS, Infosys, and Wipro in 2023 created negative public sentiment, leading to concerns about job security in the Indian IT sector, affecting campus recruitment and fresh graduate hiring.
- AI automation concerns intensified in 2023, with widespread debates on the impact of ChatGPT and generative AI on job losses in software development, customer service, and content creation, forcing IT companies to justify their AI strategies.
- Data privacy scandals involving IT firms handling personal user data damaged brand reputation, especially after reports of third-party data leaks affecting Indian users in 2023, leading to customer distrust and regulatory scrutiny.
- Political debates over outsourcing in the US and UK in 2023 led to increased resistance against Indian IT firms securing offshore contracts, prompting firms to invest in onshore hiring models to maintain client confidence.

## Strategic Risk



- The growing dominance of Big Tech (Google, Microsoft, Amazon) in cloud and AI services in 2023 reduced the relevance of traditional IT service models, forcing Indian IT firms to pivot towards AI-driven consulting and high-value enterprise solutions.
- Geopolitical tensions between India and China affected IT supply chains, with import restrictions on Chinese networking and telecom equipment disrupting 5G infrastructure and enterprise hardware procurement for Indian IT firms.
- US visa policy changes in 2023 affected Indian IT firms' ability to deploy skilled engineers onsite, forcing companies to scale up nearshore and offshore development centers in Canada, Mexico, and Europe.
- The rise of IT freelancing platforms like Upwork and Fiverr increased competition for Indian IT firms, as global clients began hiring independent developers and consultants, reducing reliance on large IT vendors

### **Delay in Execution of Projects**

- Rising attrition rates in the IT sector led to project execution delays, as critical resources left mid-project, forcing companies to hire replacements and reskill new employees quickly.
- Global banking crisis in early 2023 impacted IT project funding, with major clients in the BFSI sector cutting IT spending, delaying contracts related to digital banking, cybersecurity, and AI-driven automation.
- Persistent chip shortages and supply chain disruptions in 2023 affected IT hardware procurement, delaying infrastructure projects related to data centers, networking, and cloud computing.
- Regulatory changes in India and the EU required IT firms to modify existing software solutions to comply with new data protection laws, leading to unexpected delays in software rollouts for client.

### **Increased Number of Recalls and Quality Audits**

- The increasing complexity of AI-driven software led to a rise in software patches and recalls in 2023, as IT firms had to fix algorithmic biases, security vulnerabilities, and compliance gaps in enterprise AI solutions.
- Global regulators, including the EU and India's MeitY, imposed stricter software quality audits for IT firms handling healthcare, finance, and public sector projects, increasing compliance costs and requiring continuous monitoring.
- Cloud-based service outages caused significant disruptions in 2023, with major IT firms facing quality audits after critical downtime incidents, compelling companies to invest in multi-cloud redundancy and failover mechanisms.
- Data privacy laws, including India's DPDP Act 2023, required IT firms to implement stringent data handling practices, leading to a surge in third-party security and compliance audits before software deployment.

### **Failed / Hostile Mergers & Acquisitions**

- The Indian IT sector saw a slowdown in M&A deals in 2023, with a drop in tech acquisitions due to economic uncertainty, high valuations, and reduced investor confidence, limiting sector consolidation opportunities.
- Integration issues post-mergers led to operational inefficiencies, with major IT firms struggling to merge IT systems, workforce cultures, and service portfolios, reducing expected cost synergies from acquisitions.
- Increased scrutiny from CCI (Competition Commission of India) on large IT acquisitions forced firms to undergo extensive regulatory checks, delaying strategic acquisitions in cloud, cybersecurity, and fintech domains.

# ICICI LOMBARD: Key Solution Offerings

## Property

Evaluation of various risks to understand areas for improvement, such as fire preparedness, electrical safety, safety & emergency preparedness, maintenance and house-keeping, etc. By evaluating risks, we can identify potential hazards and advise on mitigating risks.

- **Property Loss Prevention:** We believe users should carry out detail risk visit followed by benchmarking of the industry good practices (Industry Risk Profiling). For instance, industries such as chemicals & petrochemicals impose a major challenge in manufacturing due to inherent risk. We recommend solutions for “Low Focus - High Loss Areas. This can help in minimizing severity losses. All the risk recommendations are grouped into four different segments based on cost-impact matrix and the priority is decided accordingly. Key decision makers at user’s end can ensure to get recommendations implemented.
- **Comprehensive Risk Assessment (CRA):** A Comprehensive Risk Assessment is a systematic approach to electrical safety specially designed for industries to evaluate potential hazards and recommend improvements, coupled with savings. It is an important tool for identifying risks, severity of hazards and avoid incidents arising out of electrical faults.
- **Electrical Risk Assessment (ERA):** An Electrical Risk Assessment is a basic solutions focused towards electrical safety designed to evaluate potential hazards and recommend improvements. Majority of fires in India are caused due to electrical installations. Ensuring safety of electrical installations of industrial unit or organization is critical to reduce risk and ensure safety compliance with Safety Standards and Regulation. ERA is an important tool which have 6 inbuilt solutions such as Electrical Audit & Thermography, etc.
- **Fire Hydrant IoT:** Fire Hydrant IoT: Fire hydrant IOT (ILGIC Patented Solution) is an automated device for monitoring key parameters such as Hydrant and Sprinkler line pressure, Main and Jockey pump on-off status, Firewater tank level. These can be interpreted to provide intelligence on unauthorized usage of water and leakage, effectively saving water. This information pertaining to breach of above-mentioned parameters is notified through dashboard & email alerts. Monitoring of such system is essential as these fire fighting systems are lifeline during any emergency.
- **Temperature & Humidity IoT:** Provides end-to-end plug & play ambient temperature and humidity monitoring Solution to manage temperature and humidity-controlled environment more efficiently. It generates - Automated reports (historical trends for different locations etc.). Intelligent Alerts - SMS & emails is sent to the concerned (one or multiple) stakeholders in case

any anomaly.

- **Electrical IoT:** Electrical IoT is a patented solution (ILGIC Patented Solution) to avoid any instances of short circuiting due to abnormal voltage & current conditions. These are mainly built for application in warehouses. This solution has been created as these locations are having huge stocks with lesser manpower during emergencies mainly during non-business hours. The device automatically cuts off power in case of abnormality & restarts back when situation is normal.
- **Ultrasound technology for Gas Leak Detection:** Use of ultrasound technology for leak detection in process lines. The methodology recommends a non-destructive way of avoiding losses with no downtime. The main objective is to identify the leakages in all pressurized systems including pipelines by using ultrasound technology and tag them for rectification. It also includes listing leaks with individual CFM losses and cost savings possible.
- **Fire Mitigation Solutions:** Solutions have been designed based on their specific needs, keeping in mind the level of awareness and complexity of the location. These best-in-class solutions which are installed at correct locations.
- **Renewable Solutions:** In line with our philosophy of recommending business solutions, we recommend efficiency measurements for wind and solar power generating assets. Drones are used to provide high accuracy and quick reach which is not possible through any traditional methodology. User get to know about the low performing module and ways to improve the same within the entire solar plant with latlong identification. We recommend advanced drone-based technology for inspection of wind turbines and solar PV modules.

## Marine

In the dynamic realm of marine insurance, cargo faces a myriad of risks, from unpredictable weather conditions to unforeseen accidents, safeguarding against potential challenges at sea and in surface transportation / INLAND movement is paramount.

- **MLCE (Marine loss control engineering):** Frequent occurring losses due to Peril such as accident, wet damage, theft, non-delivery, pilferage, hijack of consignments, mishandling shall be examined with ground inspections, to determine root cause analysis with MIS, claim assessment reports collectively in the form of logistics audit.
- **MWS (Marine warranty surveys):** Our inhouse practices of condition survey prior risk inception & post risk inceptions helps our customers to have an independent risk management of the high value / ODC (over dimensional cargo) movements conducted by the Insured so that reliance over logistics service provider is supervised with Insured's nominated risk assessment team having a worldwide presence with a supervised network. Not only marine cargo, but HULL insurance risk exposures are surveyed for risk assessment and risk management.
- **Technical engagements:** Uncertainty of the risk associated with the transit can be concluded

with marine experts. Assessing vessel's condition for SEA transit as a full chartered load on behalf of the Insured, Risk assessment of cargo from packing, handling, lifting, securing, transit and final delivery methodology shall be discussed with the logistics team. Vessel selection, stowage and securing methods can be jointly discussed with the User's logistics team for a safe transit, dispatch and delivery coverage after assessing the risk on desktop with a virtual or F2F engagement and / or a ground visit.

- **Transit Telematics:** With the government's constant agenda of upgrading to digitalized operations by introducing ULIP and NITI Aayog mode of operations, not having a visibility of transit will hamper your logistics operations. IOT and SAAS (software as a service) based products incorporating the design of a cost efficiency and loss mitigation system can help enhance delivery with safe operation. Additionally, a 24\*7 risk control is recommended to effectively monitor and mitigate theft / pilferage prone dispatches to ensure a safe transit delivery. Be it a temperature-controlled cargo, expensive cargo in transit or liquid bulk cargo in lorry tankers, it is essential to mitigate the risk and losses that might occur due to accidents caused by fatigue, unexplained conditions, or theft. We have case studies of successful recovery of stolen goods with our telematics services.

## Liability

The growing adoption of technology in organizations has not only led to crucial data being stored and processed on digital platforms but also facilitated the automation of operations, thereby enhancing business efficiency. However, this shift also amplifies cyber risk, exposing sensitive information to potential threats and rendering organizations vulnerable to financial losses, reputational damage, and legal liabilities. As organizations delve deeper into the digital realm, fortifying cybersecurity measures becomes imperative to safeguard operational integrity and protect critical data from unauthorized access or breaches.

- **Phishing Simulation:** Experience cutting-edge phishing simulation tests to fortify your organization's defenses against cyber threats. You can enable phishing attack simulations to educate your employees on identifying and handling potential risks. Through engaging and interactive scenarios, you can raise awareness and equip your team with the necessary skills to detect and thwart phishing attempts.
- **Awareness Campaigns:** With Cyber Awareness Campaigns, you can go beyond just educating organizations about cybersecurity. The campaigns are meticulously designed to empower your team with essential best practices, insights into global incident trends and a comprehensive understanding of potential risks. Interactive designs help you captivate and engage your employees, fostering a cyber-aware culture within your organization. Customized campaigns can perfectly align with your unique needs and requirements and stay informed and vigilant.
- **Incident Response and Readiness:** A bespoke service that fortifies organizations with robust processes and clear communication channels for proficient cyber-incident management. This

recommendation not only trims down the incident response time but also facilitates prompt, accurate action within the crucial initial hours. By meticulously assessing your organization's incident response policies and sculpting response systems in alignment with global industry benchmarks, this ensures you are thoroughly prepared to tackle the evolving digital threat landscape.

- **CXO's Session:** CXO's Session service provides immersive training sessions, personalized coaching & interactive discussions to empower your CXOs with cybersecurity knowledge that aligns with your business objectives. The subject matter experts recommend strategic guidance and in-depth insights into the ever-evolving threat landscape, translating technical jargon into practical language. Regular cybersecurity forums facilitate peer-to-peer learning and benchmarking against industry standards. CXO- focused approach ensures a cyber-aware leadership team that drives your organization's success securely into the future.
- **Weekly Threat Intelligence Bulletin:** Stay ahead of cyber threats with the Weekly Threat Intelligence Bulletin. We meticulously curate this comprehensive bulletin, providing timely insights on emerging threats, vulnerabilities, and attack trends. Delivered directly to your inbox, it recommends proactive advantage by promptly identifying potential risks. With continuous updates and ongoing support, you can confidently adapt your Defence strategies to combat the most sophisticated threats. It enables you to make informed decisions and protect your organization from emerging threats with Weekly Threat Intelligence Bulletin.
- **Email Security:** Safeguard your organization's communication channels with the Email Security solutions. We recommend robust measures to protect against phishing, malware & other email-borne threats. The advanced email filtering and authentication technologies prevent malicious emails from reaching your users inbox. Implementing encryption protocols to ensure the confidentiality of sensitive data in transit is a good idea. With real-time monitoring and threat intelligence, email security measures provide proactive Defence, detecting and blocking suspicious activities promptly. You can protect your organization's reputation and sensitive information with comprehensive Email Security measures, ensuring a secure and reliable email environment.
- **Agent-less Patching:** Agent-less patching platform for companies and MSMEs who want a rapid solution to distribute critical security updates and vulnerability fixes without causing system downtime. The patching platform not only assists with patch deployment, but it also enables your system administrator in understanding the patches, Adjustments & impact of the patches on the system. Before applying the patch, the software generates a warning if the system requires downtime or a reboot. You can experience a hassle-free patching process with the platform recommending enhanced security for your organization.
- **EDR/MDR Services:** Elevate your organization's cybersecurity capabilities with the Endpoint Detection and Response (EDR) and Managed Detection and Response (MDR) services. These advanced solutions provide continuous monitoring, rapid threat detection & effective incident response, safeguarding your digital assets in real-time. With EDR, proactively detect and



respond to threats at the endpoint level, while MDR service offers 24/7 monitoring and expert support. You can strengthen defenses against the most sophisticated cyber-attacks with EDR/MDR services, ensuring a resilient and secure digital environment.

- **All-in-one Operating System:** All-in-One Operating System is a true game-changing platform that provides a fortified desktop environment to foster secure collaboration and centrally managed cybersecurity resilience. Inbuilt endpoint security serves as a vigilant guard, blocking potential dangers. Effortless IT management provides with a user-friendly interface, leading to significant cost savings in IT infrastructure. It provides in-built end-point security, automated updates and patches along with extensive device reports. Organizations can unlock a secure and prosperous future by embracing the All-in-One Operating System in their IT infrastructure.
- **Cyber Risk Management & Compliance Dashboard:** Gain a clear understanding of your organization's cyber risk exposure with Cyber Risk Management & Compliance Dashboard. This powerful tool assesses your risk posture, quantifies potential financial Impact & evaluates compliance with industry standards and regulations. Armed with this information you can make informed decisions to prioritize cybersecurity investments and ensure compliance with relevant laws and regulations. The intuitive dashboard provides a comprehensive view of your cybersecurity performance enabling data-driven decision-making. This solution enables organizations to stay ahead of threats and ensure a resilient cybersecurity posture.
- **Security Score Card:** Track your organization's cybersecurity performance with a dynamic Security Score Card solution. This comprehensive rating provides a clear overview of your security posture, highlighting areas that require attention and improvement. It empowers data-driven decisions, allowing you to focus on strengthening key areas. Identify potential risks and compliance gaps with industry standards and regulations. With actionable insights, you can prioritize cybersecurity investments effectively, ensuring a robust and resilient Defence against cyber threats. This Security Score Card solution can be your strategic tool to proactively elevate your cybersecurity posture.
- **VAPT:** Enhance your organization's cybersecurity defenses with the Vulnerability Assessment and Penetration Testing (VAPT) service. Skilled professionals conduct rigorous assessments, simulating real-world attacks to identify potential vulnerabilities in your digital infrastructure. With detailed insights, you can fortify your defenses and proactively address weak points before malicious actors exploit them. This service goes beyond identifying vulnerabilities, you also get actionable recommendations to mitigate risks effectively. Organizations can be one step ahead of cyber threats, ensuring the security and resilience of your critical assets with the comprehensive VAPT service.

## Engineering

In engineering risk management, it's vital to adopt a holistic approach that extends beyond immediate concerns to proactively tackle potential risks and uncertainties. Drawing upon



considerable expertise in claims handling and risk evaluation, a robust and customized protection strategy can be ensured.

Construction endeavors face a myriad of risks such as floods, cyclones, impact damage, fires, theft, and collapse. However, the adverse effects of these risks can be mitigated through the implementation of extensive loss prevention measures specifically tailored for engineering projects.

- **Engineering Loss Prevention Exercise (ELP):** To effectively manage losses in Engineering Risk, fostering a culture of loss prevention is crucial. It's widely acknowledged that each construction project is distinct, presenting specific challenges related to geography, geology, occupancy, and construction methodology, which in turn result in unique associated risks. To cater this challenge a specific risk management framework which deals about the unique requirement of each project could be created for the loss prevention with reference to some parameters of distinctive research and industries best practices.
- **Drone Solutions for Linear Projects:** In recent years, the construction industry has undergone significant changes due to the introduction of drone-based construction solutions. These cutting-edge technologies are transforming the planning, design, and execution of construction projects. A major benefit of drone technology in construction is its capacity to conduct aerial surveys, providing extensive coverage and detail. Drones, equipped with advanced cameras and sensors, can rapidly capture precise images and data, offering project managers valuable insights into site conditions. This data can facilitate project planning, cost estimation and design optimization by providing a comprehensive understanding of the project's parameters.
- **CPM - Fleet & Fuel Management:** An advanced GPS-equipped sensor is available to precisely measure direct fuel consumption, evaluate engine efficiency, and detect potential tampering of diesel engines in both mobile vehicles and stationary machinery. This solution enables real-time alerts for service reminders and critical health issues, facilitating prompt resolutions and enhanced utilization. Additionally, it offers valuable insights into machinery and equipment performance through comprehensive analyses, resulting in optimized inventory usage and increased efficiency.

## Health

We highly recommend exploring proactive and preventive healthcare solutions, which can make a significant difference in maintaining good health. Recognizing that majority of in-patient department (IPD) admissions could be prevented with timely interventions and regular healthcare, it is important to focus on health, not just during illness.

- **Pioneering Digital Platform:** We recommend exploring digital health innovations offered by industry leaders, which provide cutting edge health solutions through the IL TakeCare (ILTC) app. Our platform has transformed the way health services are delivered by introducing a fully digital and cashless Outpatient Department (OPD) and Wellness Program.

- **Health Advisory Services:** We recommend a suite of health advisory services on the IL TakeCare app. Users can access health risk assessments, diet and exercise trackers, health parameter tracking and trends and sleep, meditation & hydration reminders. In addition, the platform recommends a feature to upload health records up to 1GB, and provides informative health blogs.
- **IL TakeCare App:** IL TakeCare app is a One-Stop-Solution for users with insurance needs. This robust user engagement is a testament to the high-value features that the app provides. Unique to the app is the innovative self-health assessment feature, which includes Face scan technology that can measure blood pressure, heart rate, cardiac variance, and SpO2 levels. The platform provides seamless teleconsultations with medical practitioners and specialists, and even recommends access to mental wellness experts to the insured. The facility for cashless OPD services and the efficient claim settlement process further enhance user experience. By encapsulating a wide range of state-of-the-art health services and solutions, the IL TakeCare platform revolutionizes corporate health management and serves as a comprehensive digital health solution.



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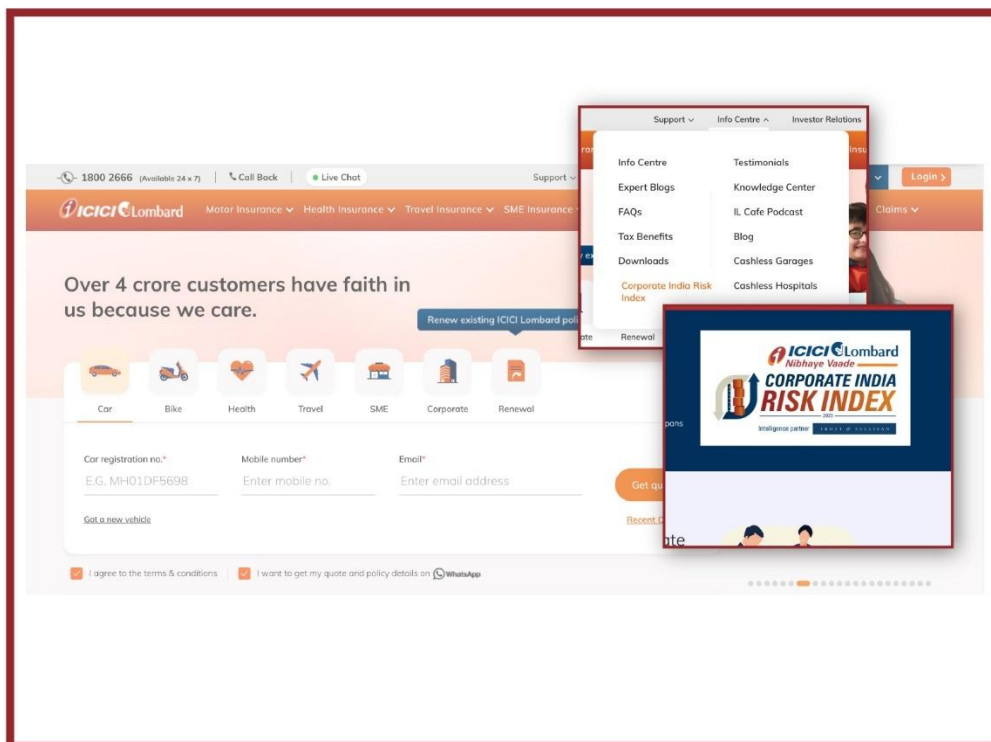
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