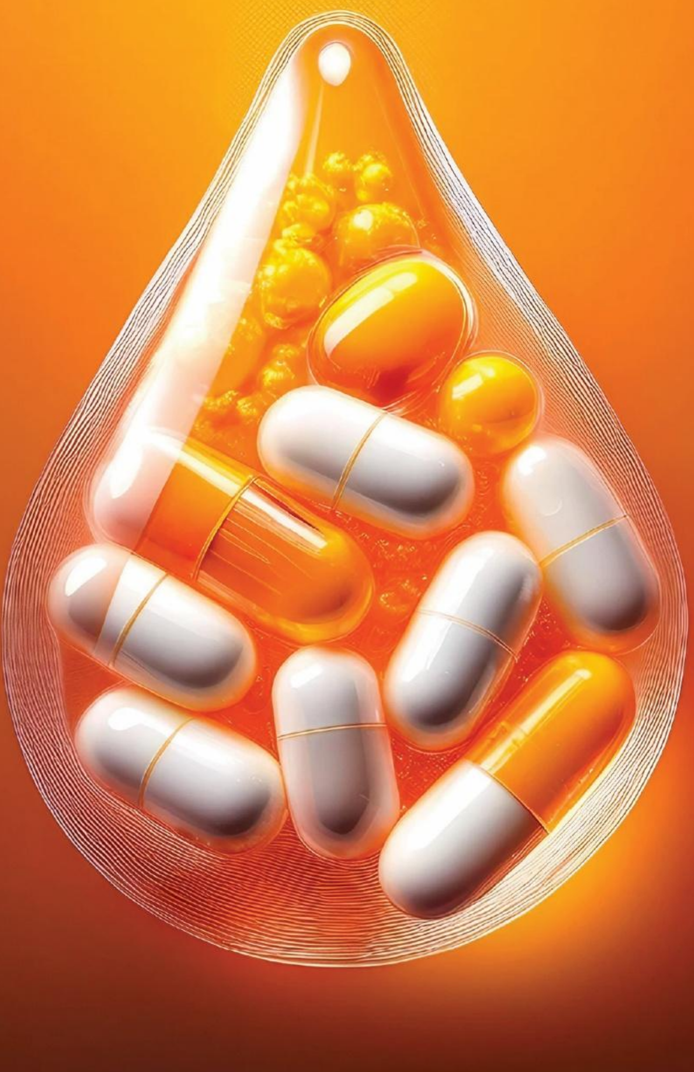
CORPORATE INDIA RISK INDEX 2024

Intelligence partner FROST & SULLIVAN

Navigating Risks, Powering India's Growth

SECTOR REPORT 2024

Pharmaceuticals



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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

In 2024, India's pharmaceutical sector showcased remarkable resilience and growth, despite facing several performance risks. The sector continued to benefit from strong innovation and robust demand for healthcare products, particularly in the wake of the global pandemic. However, challenges such as supply chain disruptions, rising raw material costs, and evolving regulatory landscapes presented ongoing risks. The global semiconductor shortage and shipping delays, along with fluctuations in the prices of active pharmaceutical ingredients (APIs), added pressure on manufacturing timelines and costs.

In response, the sector leveraged strategic innovations and effective risk management practices. Companies diversified their supply chains, investing in advanced manufacturing technologies like automation and AI-driven systems to boost efficiency and reduce dependency on external suppliers. Enhanced regulatory compliance processes ensured smoother market access, even amid changing global standards.

The sector also made significant strides in biotechnology, with a focus on next-generation vaccines, biologics, and sustainable production methods. Government initiatives such as "Atmanirbhar Bharat" spurred investment in domestic manufacturing capabilities, reducing reliance on imports and increasing self-sufficiency.

Overall, India's pharmaceutical sector effectively mitigated immediate risks through strategic investments in technology, regulatory alignment, and innovation. These efforts not only reinforced the sector's leadership in global pharmaceutical manufacturing but also set the stage for continued long-term growth and success.

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

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.

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. 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

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

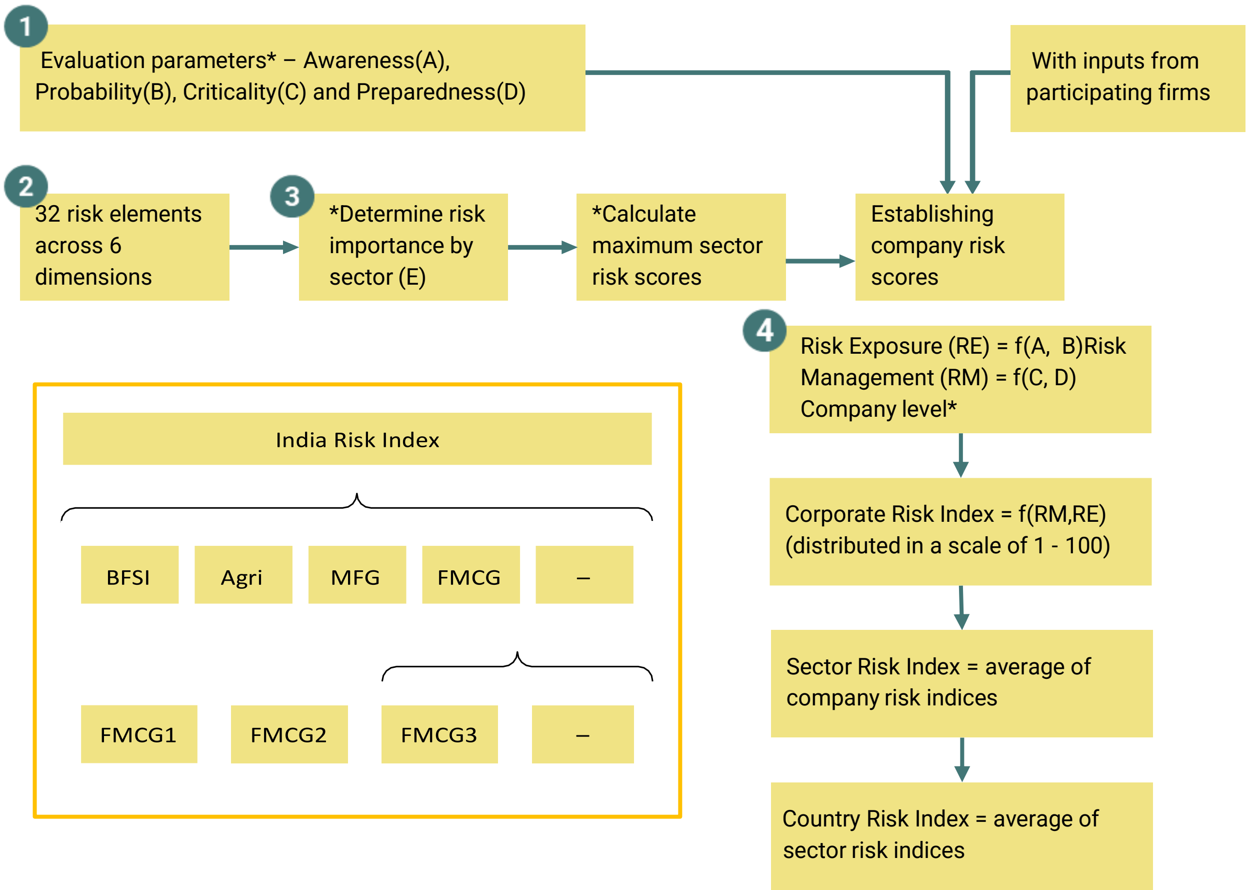


Figure 1: Risk Assessment Approach

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

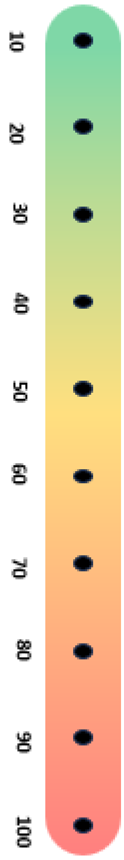
We have selected 20 sectors to understand the current stand of our country today in terms of risk. Risk for various sectors is measured on the risk exposure scale and risk management scale.

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.



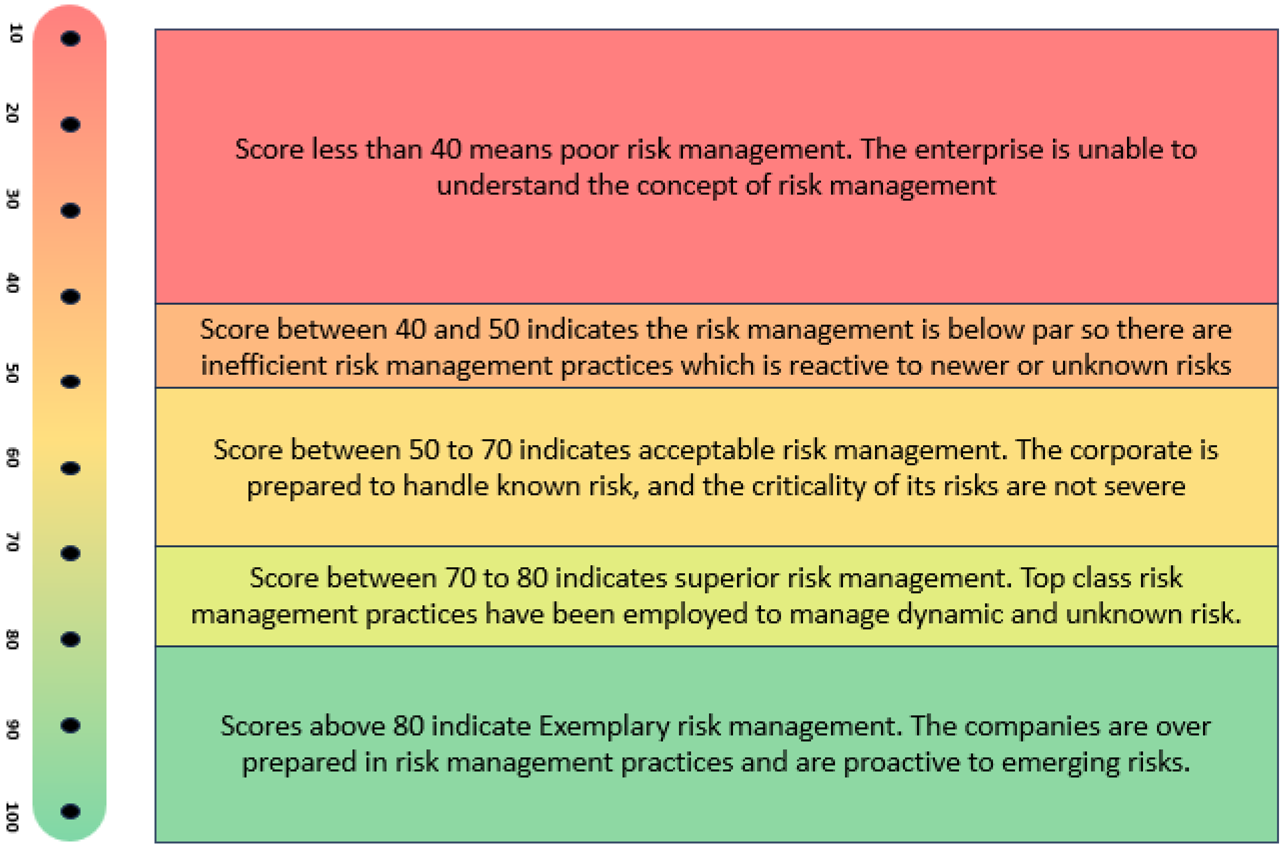
Score: If less than 30 means there is very low risk exposure, and the sector has minimal exposure to overall risk
Score between 30 to 50 indicates low risk exposure and its risk exposure is within acceptable or tolerable limits
Score between 50 to 60 indicates moderate exposure indicating corporate can balance the impact of overall risks up to a certain extent
Score between 60 to 80 indicates high risk exposure and its impact is very high in the industry in which the corporate operates
Score greater than 80 indicates very high-risk exposure. The corporate is unable to foresee risk incidents and probability of occurrence of these incidents may be extremely high

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.

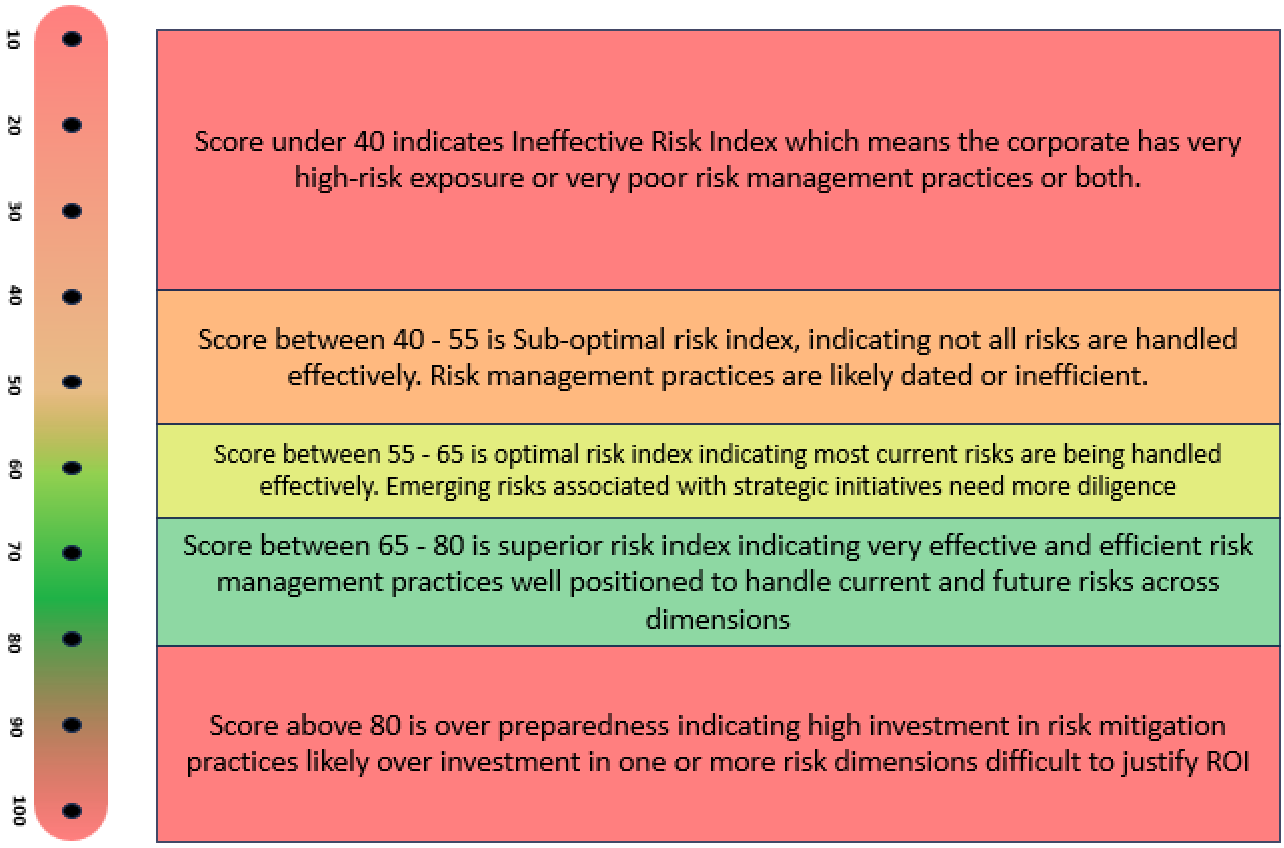
Let's look at the risk management scale.



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.

Pharmaceutical Sector Insights 2024

The pharmaceutical industry in 2024 is witnessing a transformative phase driven by rapid technological advancements, evolving market strategies, and regulatory shifts. Artificial intelligence (AI) has emerged as a game-changer, streamlining drug discovery, optimizing clinical trials, and improving drug safety monitoring. Companies are leveraging AI to analyze vast datasets, identify promising drug candidates, and enhance patient outcomes. Beyond AI, digital health solutions, such as wearable devices and remote monitoring, are becoming integral to pharmaceutical innovation. These advancements help in early disease detection, personalized treatment plans, and better patient compliance. Additionally, pharmaceutical firms are increasingly integrating big data and cloud computing into their research and supply chains, ensuring efficiency and cost-effectiveness.

Manufacturing strategies have also taken center stage as companies respond to geopolitical uncertainties and supply chain disruptions. Leading pharmaceutical firms are making substantial investments in domestic manufacturing to secure their supply chains and reduce dependence on foreign production. This shift is evident in the expansion of production facilities in major markets, ensuring a steady supply of essential medicines. At the same time, biologics and advanced therapies are gaining prominence, with manufacturers focusing on next-generation drugs such as gene and cell therapies. These developments signal a new era where pharmaceutical manufacturing is both resilient and innovation-driven.

Regulatory landscapes are evolving to address sustainability concerns and environmental responsibilities. Governments and international regulatory bodies are imposing stricter measures on pharmaceutical waste management, requiring companies to invest in eco-friendly manufacturing and disposal practices. One of the most significant developments in this regard is the introduction of environmental levies, which hold pharmaceutical companies accountable for the disposal of micropollutants from medications. Additionally, increasing scrutiny over drug pricing and patent regulations is pushing companies to balance profitability with accessibility. The industry is also navigating complex legal challenges related to intellectual property rights, generic drug approvals, and pricing transparency, shaping the future of global pharmaceutical policies.

The financial outlook of the pharmaceutical sector remains robust, with healthcare stocks maintaining stability despite broader economic uncertainties. Investors are increasingly viewing pharmaceutical companies as safe-haven assets, given their consistent revenue streams and high demand for medications. Major pharmaceutical players continue to report strong earnings, driven by new product launches, patent expirations of blockbuster drugs, and expansion into emerging markets. The growing focus on personalized medicine is further fueling revenue growth, as companies develop targeted therapies tailored to specific genetic profiles. This shift not only improves treatment efficacy but also opens new revenue streams for pharmaceutical firms looking to differentiate themselves in a competitive market.

The role of generic medicines continues to expand, with countries like India leading global production. India's pharmaceutical industry has cemented its position as a key supplier of affordable medicines, meeting demand in both developed and developing nations. Government initiatives supporting low-cost drug production have played a crucial role in making essential medications more accessible. Additionally, the industry's strong presence in vaccine manufacturing underscores its significance in global healthcare. As demand for generics and biosimilars grows, pharmaceutical companies are facing increased competition, prompting them to explore strategies such as partnerships, mergers, and acquisitions to strengthen their market presence.

Challenges remain, with rising research and development (R&D) costs and stringent regulatory requirements posing hurdles for drug development. Companies are addressing these challenges by outsourcing drug development to contract research organizations, optimizing costs while maintaining innovation. Furthermore, the pharmaceutical industry is under increasing pressure to accelerate drug approval timelines without compromising safety standards. Emerging trends such as decentralized clinical trials and adaptive trial designs are helping speed up drug development while ensuring regulatory compliance. As the industry navigates these complexities, collaboration between pharmaceutical firms, biotech startups, and regulatory bodies will be essential to drive innovation.

In conclusion, 2024 is proving to be a dynamic year for the pharmaceutical sector, marked by groundbreaking advancements, strategic shifts, and regulatory transformations. AI-driven innovations, resilient manufacturing strategies, and sustainability initiatives are shaping the industry's trajectory.

Pharmaceutical Sector Risk Index 2024 Vs 2023

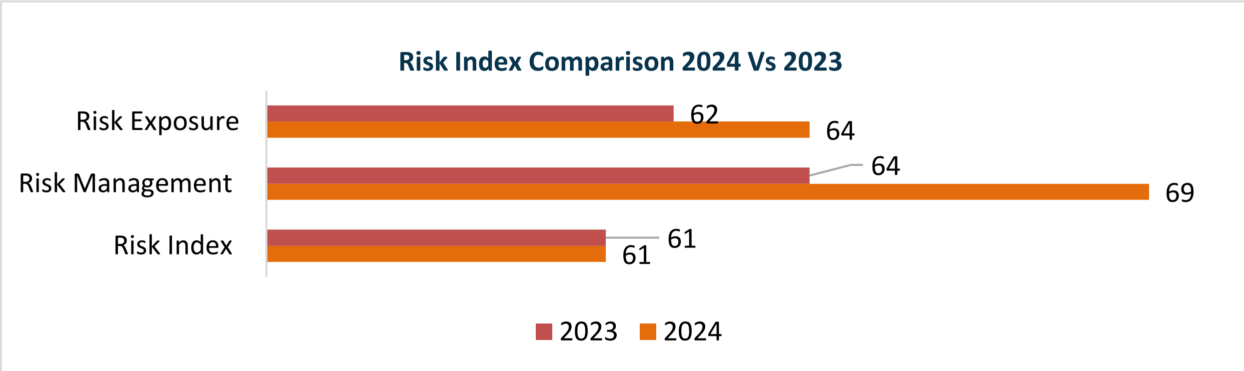


Figure 4: Detailed Comparative Analysis 2024 Vs. 2023

Pharmaceutical Sector Risk Index 2024 Vs 2023

The overall Risk Index for the sector remained stable at 61 in 2024, owing to an increase in the risk exposure which met by a higher increase in risk management.

Pharmaceutical Sector Risk Exposure 2024 Vs 2023

In the pharmaceutical sector, rise in risk exposure can be attributed to several factors, including disruptions in global supply chains, rising costs of raw materials, and the ongoing volatility in the prices of active pharmaceutical ingredients (APIs). Additionally, regulatory changes and increased scrutiny in both domestic and international markets created additional compliance challenges for companies, further elevating risk exposure.

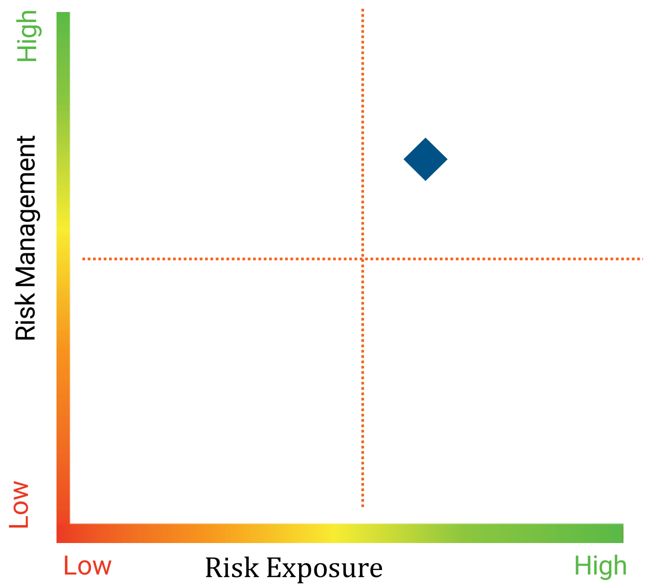
Pharmaceutical Sector Risk Management 2024 Vs 2023

In response to these risks, the sector enhanced its risk management practices significantly. Companies invested in advanced technologies, such as automation and AI-driven production systems, to streamline operations and reduce dependency on external suppliers. Supply chain diversification efforts were also implemented to mitigate disruptions, while more sophisticated risk management strategies, including financial hedging and compliance frameworks, were put in place. These proactive measures helped address the increased risks and maintain stability in the sector, leading to a higher risk management score despite the uptick in exposure.

Key Highlights

Risk Dimension Analysis: Market and Economy

Risk Exposure Score: 70
Risk Management Score: 70



Inflation

- Brand-name prescription drug prices increased in 2024, contributing to higher overall drug costs, despite a lower inflation rate compared to previous years.
- The prices of essential raw materials, such as solvents and reagents, surged due to ongoing supply chain disruptions, leading to higher production costs.
- The rising costs of raw materials and finished goods pressured the profitability of pharmaceutical companies.
- A significant increase in health insurance premiums, particularly affecting a large section of the population, led to potential affordability issues for healthcare services.
- India's medical inflation rate was high in 2024 creating cost pressures for both consumers and pharmaceutical companies.
- Companies focused on optimizing manufacturing processes, diversifying supply chains, and adopting cost-effective production technologies to mitigate these cost increases.

Taxation Risk

- Government-mandated price ceilings, such as those under the National List of Essential Medicines (NLEM), compressed profit margins, making it challenging for companies to pass on rising costs to consumers.
- Increasingly stringent regulations led to higher compliance costs for pharmaceutical companies, particularly around product approvals and safety standards.
- Companies invested in more efficient compliance processes and streamlined operations to manage regulatory costs and maintain market access.

Geopolitical Risks

- India's increasing role in the global pharmaceutical supply chain faced challenges from geopolitical risks, such as potential US tariffs on drug imports.
- Rising geopolitical tensions could impact pharmaceutical exports, particularly to key markets like the US, affecting India's export-driven growth.
- Despite these risks, India's cost advantages, regulatory compliance, and expertise in Active Pharmaceutical Ingredients (APIs) made it a preferred destination for global pharmaceutical manufacturing, allowing the sector to capitalize on shifting global supply chain dynamics.

Foreign Exchange Risk

- The exchange rate between the Indian Rupee and the US Dollar worsened, leading to higher import costs for Active Pharmaceutical Ingredients (APIs) and other materials critical to pharmaceutical production.
- The strengthening of the US Dollar impacted pharmaceutical companies' international expansion, revenues, research and development costs, and overall financial performance.
- Companies with significant exposure to currency fluctuations adopted financial hedging strategies to mitigate the impact of currency depreciation.

Regulatory Risk

- Government-mandated price ceilings, such as those under the National List of Essential Medicines (NLEM), compressed profit margins, making it difficult for companies to adjust prices in line with rising costs.
- Increasingly stringent regulations across domestic and international markets led to higher compliance costs, particularly related to product approvals and safety standards.
- The evolving regulatory environment posed challenges for pharmaceutical companies in maintaining market access, especially in emerging markets with rapidly changing compliance frameworks.
- To address these challenges, companies focused on enhancing their internal compliance processes, improving product quality standards, and establishing closer working relationships with regulators to ensure smoother market entry.

Competitive Risk

- The Indian pharmaceutical industry remained highly competitive, with over 3,000 companies and a large number of manufacturing facilities, leading to significant price pressures and margin compression.
- The sector faced increased competition from Southeast Asian countries, making it more challenging for Indian companies to maintain market share without continuous innovation and investment in research and development.
- Price competition, especially with generic drugs and biosimilars, intensified as both local and

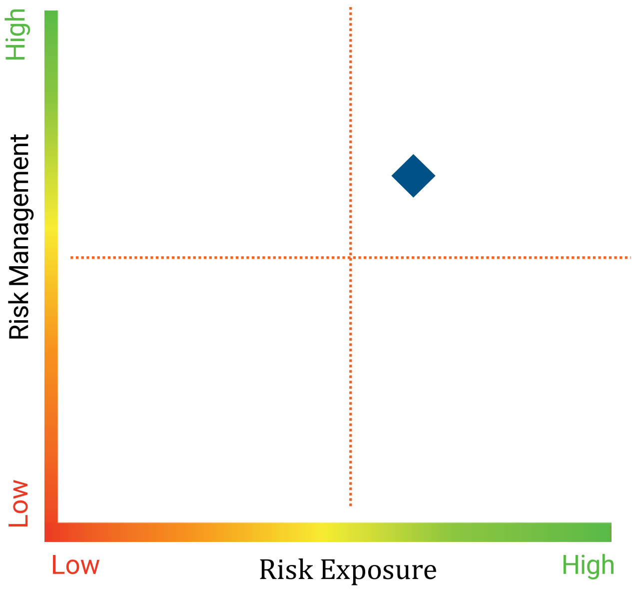
international players entered the market, putting pressure on existing businesses to differentiate their offerings.

- Indian pharmaceutical firms responded by investing heavily in R&D and operational efficiencies, focusing on differentiated products, and exploring new markets to maintain their global competitiveness.

Risk Dimension Analysis: Technology

Risk Exposure Score: 62

Risk Management Score: 72



Innovation Risk / Obsolete Technology

- The pharmaceutical sector faces the challenge of staying ahead in technological advancements, particularly in biotechnology and digital health.
- Delays or failure in developing next-generation therapies could lead to a loss of market share to more innovative competitors.
- Companies are increasingly investing in R&D to mitigate this risk, but rapid technological shifts pose a continuous challenge.

Intellectual Property Risk

- Protecting intellectual property is a significant concern, especially with the increasing competition in the global market.
- The risk of IP theft, patent infringement, and counterfeiting remains high, particularly in markets with weaker IP law enforcement.
- Companies are investing in stronger IP protection strategies, legal safeguards, and patent enforcement to address these risks.

Disruptive Technology

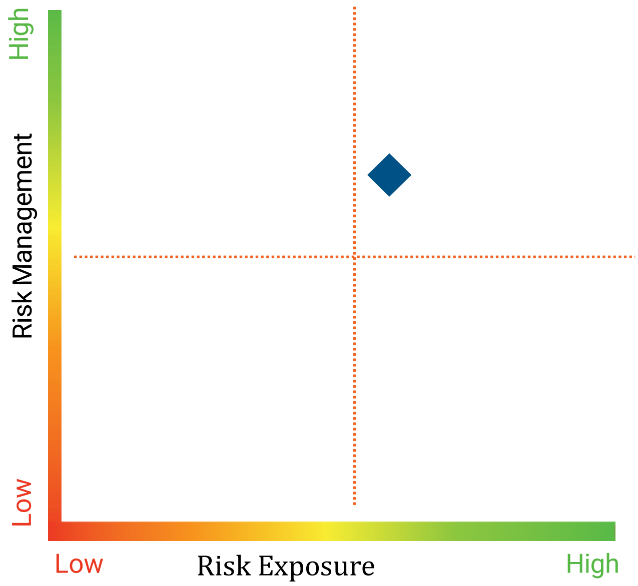
- The emergence of disruptive technologies like AI, automation, and digital platforms offers opportunities but also risks if not properly integrated into operations.
- Failure to adopt or implement these technologies could result in inefficiencies, missed market opportunities, and falling behind competitors.
- Companies are investing in digital transformation and automation to keep pace with technological advancements, but integration challenges remain.

Data Compromises

- The growing reliance on digital tools and data analytics increases the risk of data breaches and cyberattacks targeting sensitive pharmaceutical data.
- Clinical trial results, patient data, and proprietary research are prime targets for cybercriminals.
- The sector is enhancing cybersecurity measures, but evolving cyber threats continue to pose significant risks, including reputational damage and legal liabilities.

Risk Dimension Analysis: Operational and Physical

Risk Exposure Score: 62
Risk Management Score: 68



Critical Infrastructure Failure / Machine Breakdown

- In 2024, India's pharmaceutical sector faced increased risks from aging infrastructure and potential machine breakdowns in manufacturing plants, particularly as demand for rapid production escalated.
- With rising automation, any critical infrastructure failure, like the breakdown of automated production systems, can significantly disrupt manufacturing schedules and lead to delays in fulfilling export commitments, especially with international partners.
- To address this, many companies are prioritizing investments in predictive maintenance and advanced monitoring technologies to prevent unexpected downtime.

Business Continuity/Sustainability

- The pharmaceutical sector in India continues to face business continuity risks related to unexpected disruptions, including natural disasters, cyber-attacks, and public health emergencies. In 2024, companies were reminded of the need to have robust business continuity plans, especially following the challenges posed by the COVID-19 pandemic.
- In response, Indian pharmaceutical companies have enhanced their crisis management strategies, focusing on strengthening disaster recovery plans, upgrading cybersecurity frameworks, and ensuring that critical functions can be maintained during unexpected events.
- Additionally, the sector is adopting more flexible working models and improving remote operations capabilities to ensure that business continuity is maintained, even in the face of widespread disruptions.

Supply Chain Risk

- In 2024, the Indian pharmaceutical sector faced significant risks related to global supply chain disruptions, particularly in the procurement of raw materials and APIs from countries like

China, which experienced intermittent lockdowns and production slowdowns.

- The ongoing geopolitical tensions, such as the Russia-Ukraine conflict, continued to disrupt global logistics, increasing transportation costs and extending lead times for critical materials.
- Indian pharmaceutical companies are addressing these risks by diversifying their supply chain sources, investing in local manufacturing capabilities, and building strategic stockpiles of critical raw materials to ensure uninterrupted production.

Commodity Price Risk - Volatility in prices of raw materials

- The rise in global prices for key pharmaceutical inputs like active pharmaceutical ingredients (APIs), solvents, and excipients is a significant risk for Indian manufacturers, especially those that rely heavily on imports.
- In 2024, fluctuations in commodity prices due to geopolitical tensions, particularly with China, and disruptions from the COVID-19 pandemic continued to drive up costs.
- Pharmaceutical companies in India are addressing these risks by diversifying suppliers, hedging against price volatility, and investing in local production capabilities to reduce dependency on imports.

Portfolio Risk

- India's pharmaceutical sector is heavily reliant on the generic drug market, which faces increasing competition from global players and regulatory scrutiny. A high concentration in specific therapeutic areas or markets can lead to significant portfolio risk.
- In 2024, many companies are diversifying their portfolios to reduce dependence on generics and investing in more high-value, specialized areas such as biologics and biosimilars.
  The sector is also navigating challenges related to intellectual property and patent expirations, which pose risks to portfolio stability, prompting companies to shift focus to more innovative and niche markets.

Environmental Hazards and Sustainability

- Environmental risks such as pollution and waste management have become more pressing in India's pharmaceutical sector, particularly in states with weaker environmental regulations.
- In 2024, growing scrutiny from both the Indian government and international stakeholders led to stricter enforcement of environmental laws, challenging companies to improve their sustainability efforts.
- To mitigate this, companies are adopting green technologies, increasing efforts to reduce water usage, and shifting towards eco-friendly packaging solutions, aligning with global sustainability trends and meeting stricter environmental standards.

Workplace Accident

- In 2024, workplace safety remained a priority, especially in high-risk environments like chemical labs, manufacturing facilities, and R&D centers. Accidents, ranging from chemical spills to machinery malfunctions, can lead to both human and financial costs.

- The Indian pharmaceutical sector is focusing on improving safety protocols, conducting regular training, and implementing more stringent occupational health and safety regulations to minimize workplace accidents.
- The government's evolving guidelines and emphasis on worker welfare also pushed companies to adopt better safety standards, reducing the likelihood of accidents and related liabilities.

Human Resource

- The pharmaceutical sector in India has been facing increasing HR challenges, particularly in attracting and retaining skilled talent. There is a growing demand for professionals in regulatory affairs, R&D, and supply chain management.
- In 2024, talent shortages were exacerbated by competition from other growing sectors like biotechnology and tech, making it difficult for pharmaceutical companies to fill specialized roles.
- To mitigate HR risks, Indian pharmaceutical companies are investing in employee upskilling programs, collaborating with educational institutions, and enhancing employee retention strategies through attractive compensation packages and career development opportunities.

Financial Risk

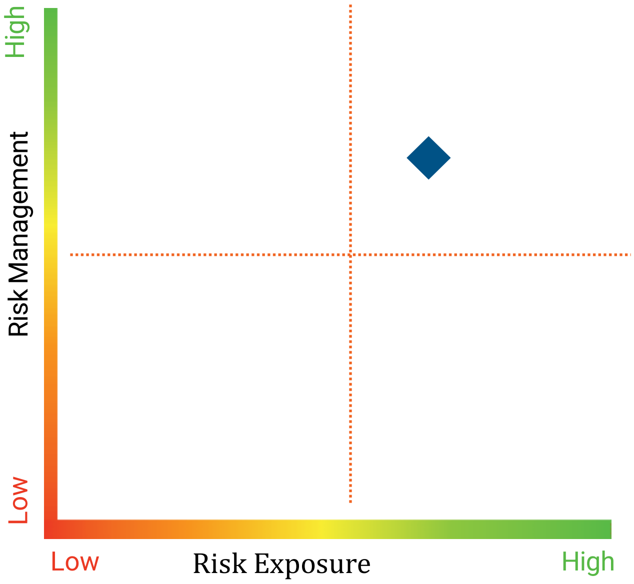
- In 2024, Indian pharmaceutical companies experienced finance risks stemming from currency fluctuations, particularly the depreciation of the Indian Rupee against the US Dollar, impacting costs for imported raw materials and APIs.
- Rising interest rates and inflation also added to financial pressure, particularly for companies relying on debt financing.
- Pharmaceutical companies are increasingly turning to financial hedging strategies, managing foreign exchange exposure, and diversifying their capital sources to mitigate these financial risks.

Breaches of law (local/ international)

- With heightened scrutiny on intellectual property, environmental regulations, and drug pricing laws, the risk of breaching laws has escalated in India's pharmaceutical sector in 2024.
- Legal and regulatory violations, such as failure to comply with the National List of Essential Medicines (NLEM) price caps or intellectual property infringements, can result in severe penalties, including fines and reputation damage.
- To prevent legal risks, companies are investing heavily in legal compliance programs, improving internal audits, and ensuring better alignment with national and international regulations to protect their operations from legal exposure.

Risk Dimension Analysis: Crime and Security

Risk Exposure Score: 62
Risk Management Score: 67



Cyber-crimes

- In 2024, the Indian pharmaceutical sector faced an increasing threat from cybercrimes, with hackers targeting sensitive data such as clinical trial results, patient information, and proprietary drug formulations.
- As digital transformation accelerates in the sector, the risk of ransomware attacks, data breaches, and intellectual property theft has become more pronounced.
- Indian pharmaceutical companies are investing heavily in cybersecurity infrastructure, adopting encryption technologies, and implementing stringent access controls to safeguard sensitive information and protect themselves from growing cyber threats.
- The government's focus on cybersecurity regulations, along with industry collaboration, is strengthening the sector's ability to mitigate and respond to cyberattacks effectively.

Counterfeiting

- Counterfeiting remains a persistent risk for India's pharmaceutical sector in 2024, with fake drugs being manufactured and sold as legitimate products, particularly in emerging markets.
- This threatens the integrity of India's pharmaceutical exports, damages brand reputation, and puts consumer health at risk.
- Companies are enhancing their anti-counterfeiting measures by adopting advanced technologies like track-and-trace systems, holograms, and blockchain to ensure the authenticity of their products and protect consumer safety.
- The Indian government is also ramping up enforcement against counterfeit drugs, but continued vigilance and industry collaboration are necessary to effectively combat this growing issue.

Threat to Women Security

- In 2024, the pharmaceutical industry in India faced concerns regarding the safety and security of women in the workplace, particularly in manufacturing plants and R&D centers.
- Despite increased awareness and government initiatives to promote gender equality, incidents

of workplace harassment and security threats to women employees continued to pose risks to companies' reputations and employee well-being.

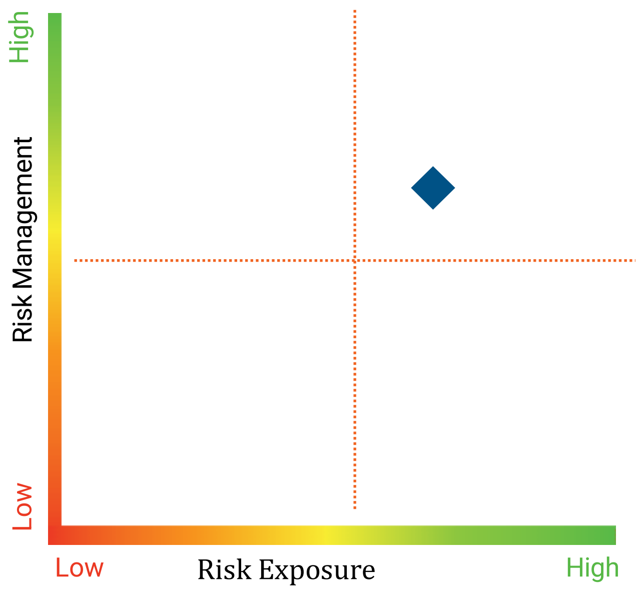
- Pharmaceutical companies are actively working to strengthen internal policies on sexual harassment and create safer, more inclusive work environments by implementing robust grievance redressal mechanisms and conducting gender sensitivity training.
- Additionally, organizations are increasingly adopting security measures such as CCTV surveillance, women's safety programs, and emergency response protocols to ensure a safer working environment for women employees.

Corruption

- Corruption remains a risk for pharmaceutical companies in India, particularly in regulatory approvals, licensing, and procurement processes. The industry continues to face challenges due to widespread corruption at various levels of government, which can delay product launches and increase operational costs.
- In 2024, regulatory agencies like the Central Drugs Standard Control Organization (CDSCO) increased oversight and transparency, but corruption in some local and regional levels continues to be a concern.
- To mitigate corruption risks, pharmaceutical companies are enhancing their internal governance frameworks, implementing strict anti-bribery policies, and ensuring compliance with both domestic and international anti-corruption laws.
- Industry groups and companies are also collaborating with the government to create a more transparent and ethical operating environment, focusing on transparency in regulatory processes and addressing corruption at the grassroots level.

Risk Dimension Analysis: Natural Hazard and Event

Risk Exposure Score: 65
Risk Management Score: 67



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

- In 2024, India's pharmaceutical sector continued to face risks from natural hazards, including floods, droughts, and earthquakes, which can disrupt manufacturing operations, supply chains, and distribution networks.
- The unpredictability of monsoon seasons in certain regions, for example, increases the risk of flooding, affecting the infrastructure of pharmaceutical manufacturing plants and transportation routes. Similarly, droughts can hinder the supply of critical raw materials, especially in agriculture-dependent areas.
- Earthquakes and landslides, particularly in seismic zones, have the potential to cause extensive damage to infrastructure, impacting production timelines and raising operational costs.
- In response, pharmaceutical companies are enhancing their disaster preparedness strategies by developing robust business continuity plans, investing in disaster-resistant infrastructure, and diversifying manufacturing locations to spread risk. The government is also focusing on improving resilience against natural disasters through better disaster management policies.

Pandemic and other global epidemic diseases

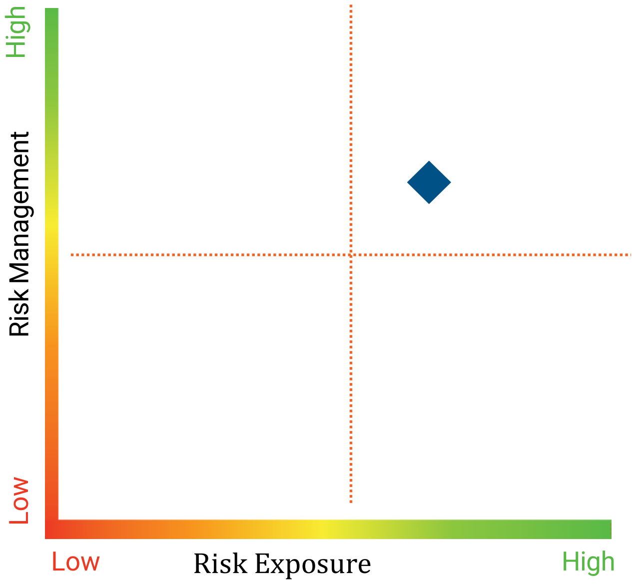
- The COVID-19 pandemic served as a wake-up call for India's pharmaceutical sector, highlighting vulnerabilities in global supply chains, production capacities, and workforce management. In 2024, the industry remains acutely aware of the potential for future pandemics, which could again disrupt the sector.
- Pharmaceutical companies are now placing greater emphasis on developing flexible supply chains that can quickly adapt to crisis situations, including alternative sourcing strategies for raw materials and APIs.
- The sector is also focusing on innovation in digital healthcare solutions and remote manufacturing capabilities to ensure continuity during future health crises. Additionally, increased investment in vaccine production and rapid-response manufacturing facilities has

become a priority.

- While the risk of future pandemics remains uncertain, companies are strengthening their pandemic preparedness plans, integrating lessons learned from COVID-19 into their operational and risk management strategies to safeguard against potential disruptions.

Risk Dimension Analysis: Strategic Risk

Risk Exposure Score: 65
Risk Management Score: 69



Resource scarcity / Misutilisation / Overall Utilisation

- The Indian pharmaceutical sector in 2024 faced challenges related to resource scarcity, especially in the availability of critical raw materials like active pharmaceutical ingredients (APIs), which are largely imported from countries like China.
- Misutilization of resources, particularly in manufacturing facilities, also posed a risk, where inefficiencies in the use of labor, energy, and raw materials resulted in increased operational costs and reduced production capacity.
- To address these issues, companies are investing in resource optimization technologies, including AI-driven analytics and process automation, to enhance the overall utilization of resources. Additionally, improving waste management practices and shifting to more sustainable materials has helped mitigate the risk of resource misutilization.

Increased number of recalls and quality audits

- In 2024, India's pharmaceutical industry saw a rise in product recalls and quality audits, driven by stricter regulatory oversight, rising consumer health expectations, and global quality standards.
- The increased number of recalls can damage brand reputation, lead to financial losses, and result in regulatory scrutiny. As a result, companies are strengthening quality control measures, investing in more sophisticated testing and monitoring systems, and ensuring compliance with both domestic and international regulations.
- To reduce the frequency of recalls, the sector is focusing on enhancing transparency in production processes and improving traceability systems. Increased collaboration with regulatory bodies also plays a critical role in managing quality risks.

Delay in execution of projects

- Delays in executing projects, especially in areas like new facility setups, product launches, and regulatory approvals, have been a challenge for the Indian pharmaceutical sector in 2024. Factors such as bureaucratic red tape, regulatory hurdles, labor shortages, and supply chain disruptions have all contributed to these delays.

- Such delays can result in missed market opportunities, reduced revenue, and higher costs due to extended timelines. To counter this, pharmaceutical companies are improving project management frameworks, streamlining internal processes, and adopting more flexible timelines to address unforeseen challenges.
- Government initiatives to speed up regulatory approvals and improve infrastructure, alongside better risk management practices, are helping reduce delays and keep pharmaceutical projects on track.

Public Sentiment

- Public sentiment in 2024 has continued to affect India's pharmaceutical industry, especially with rising awareness about drug pricing, the safety of generics, and the ethical practices of pharmaceutical companies.
- Negative sentiment regarding pricing or the use of unsafe raw materials can lead to protests, loss of consumer trust, and media scrutiny, which can have a direct impact on sales and market share.
- To improve public sentiment, companies are focusing on transparency, improving communication about their corporate social responsibility (CSR) efforts, and working closely with government bodies to ensure that drugs remain affordable and safe. Ensuring compliance with ethical marketing and advertising practices also helps in improving the sector's image.

Failed / Hostile Mergers & Acquisitions

- In 2024, the Indian pharmaceutical sector saw some failed or hostile mergers and acquisitions (M&As) as companies sought to expand their portfolios and market share. Cultural mismatches, regulatory hurdles, and disagreements over valuations have led to delays or failures in completing high-profile M&A deals.
- Failed M&As can lead to significant financial losses, strained relationships with key stakeholders, and reputational damage. As a result, companies are becoming more strategic in their approach, conducting thorough due diligence, and ensuring that integration plans are aligned with the long-term vision of both entities involved.
- Regulatory bodies also play a crucial role in these processes, and companies are focusing on stronger compliance with antitrust laws to prevent delays and ensure smoother transitions during M&A activities.

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.

Bibliography

https://www.business-standard.com/opinion/columns/fostering-r-d-and-innovation-in-pharma-and-medtech-sector-124010200762_1.html

https://www.cnbctv18.com/personal-finance/irdai-new-health-insurance-premium-rules-senior-citizens-changes-explained-19549698.htm

https://www.hdfcergo.com/blogs/health-insurance/impact-of-rising-health-insurance-premium-on-everyday-life

https://www.onsurity.com/

https://pharma-dept.gov.in/sites/default/files/English%20version%20of%20Annual%20Report%202023-24.pdf

https://invest.up.gov.in/wp-content/uploads/go/pressnews31012025-3.pdf

https://timesofindia.indiatimes.com/business/india-business/budget-2025-for-healthcare-will-union-budget-prescribe-incentive-dosages-for-indias-pharmaceutical-healthcare-sector/articleshow/117793367.cms

https://www.ibef.org/industry/pharmaceutical-india#:~:text=India's%20drugs%20and%20pharmaceuticals%20exports,2.36%20billion%20in%20September%202023.

https://www.linkedin.com/pulse/report-skill-gap-indian-pharma-industry-way-forward-dr-satish-gupta/

https://www.weareams.com/stories/why-pharma-and-life-sciences-need-to-rethink-talent-attraction/

https://www.researchgate.net/publication/371563918_How_Availability_of_NSAIDs_and_Public_Perception_matters_in_Vulture_conservation_in_the_Nilgiri_Biosphere_Reserve_South_India_An_overt_and_covert_Survey_Approach

https://www.ey.com/en_in/insights/health/india-s-medtech-transformation-paving-the-path-to-global-leadership

https://www.ey.com/en_in/newsroom/2025/02/india-s-pharma-and-healthcare-sectors-eye-30-40-percent-productivity-gains-with-gen-ai-adoption-ey-report

https://www.ey.com/en_in/insights/health/india-s-medtech-transformation-paving-the-path-to-global-leadership

https://pharma-dept.gov.in/sites/default/files/English%20version%20of%20Annual%20Report%202023-24.pdf

https://fundtq.com/challenges-in-the-pharmaceutical-industry/

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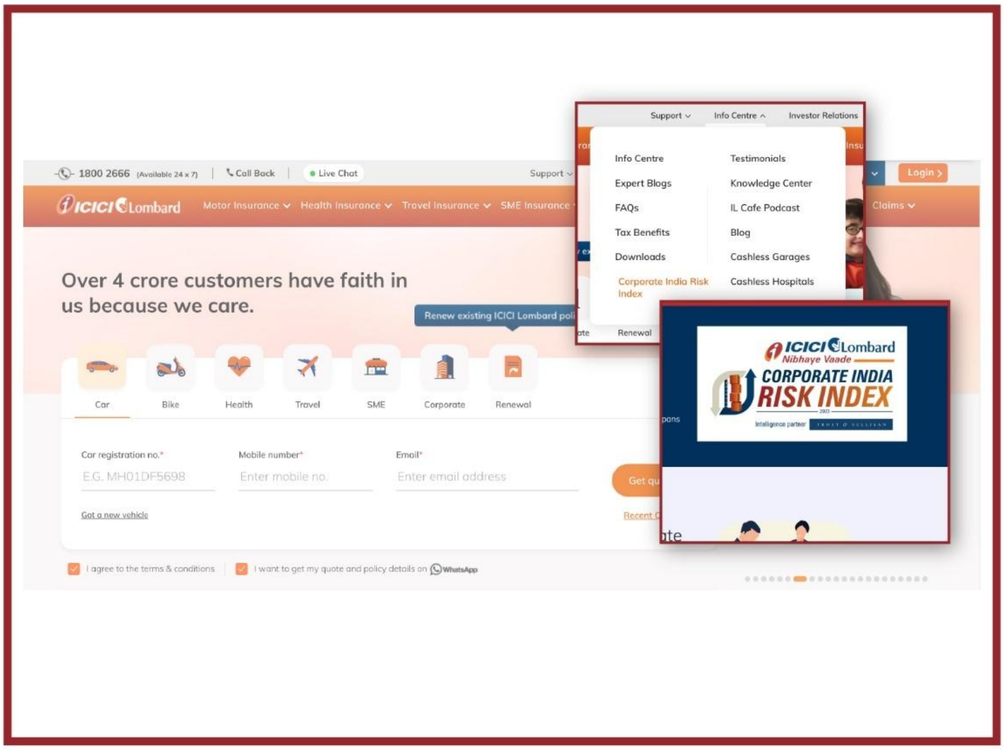

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