

Enterprise Risk Management (ERM) and the Indian Higher Education System

IRM India Regional Group Report



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Foreword

According to the IRM's **Risk Management Standard**, ERM is a central part of any organisation's strategy. It is the process whereby organisations methodically address the risks attached to their activities with the goal of achieving sustained benefit within each activity and across their portfolio. Furthermore, it should be a continuous and developing process that runs throughout the organisation's strategy with the capability to address all risks surrounding activities past, present and in particular, future.

ERM must be integrated into the culture of the organisation with an effective policy and a programme led by the most senior management. It must translate the strategy into tactical and operational objectives, assigning responsibility throughout the organisation with each manager and employee responsible for the management of risk as part of their job. Thus, ERM creates accountability, performance measurement and reward, plus the promotion of operational efficiency at all levels.

In today's complex and dynamic environment, risk management has become indispensable. Organisations need to evolve with changing circumstances to identify, analyse and prioritise risks effectively - plus bring the risk exposure in line with the risk appetite. Given that everyone in an organisation is responsible for the achievement of entity-wide objectives, risk management cannot be restricted to the Chief Risk Officer's (CRO) role. It is 'everyone's job'. The essence of a risk-aware culture in an organisation lies in the attitudes and behaviour of its individuals. Every decision of whether to or not to do has its consequences. However, foresight coupled with risk mitigation skills is what the industry demands to build sustainable and resilient enterprises today.

The range of risks that are covered in ERM includes procurement, supply chain, reputation, operational, geopolitical, social, environmental, technology and many others. ERM has long been seen to support organisations and institutions of all types with the successful delivery of business models and strategies.

Indian regulators like the Securities and Exchange Board of India (SEBI), RBI, and the Ministry of Corporate Affairs, have recognised and mandated the constitution of risk management committees at the board level. The CRO is now the rising hero in the boardroom. In the wake of these developments and amidst a looming third wave of COVID-19, risk management has emerged from financial specialism to become entity-wide. According to various global reports, there are over half a million job vacancies in risk management with Asia-Pacific demand standing at over 100,000 professionals. Allied Market Research valued the global risk management market at \$7.39 billion in 2019. It is projected to reach \$28.87 billion by 2027, growing at a compound annual growth rate of 18.7% between 2020 and 2027.

As the world's premier body for ERM examinations and research, the IRM and India RIG has collaborated with the AICTE, India's lead regulator for technical education, to help develop ERM education and meet our demand for risk-intelligent leaders. This report highlights the awareness about ERM in Indian higher education institutions, levels of risk literacy and the future role of ERM in Indian academia and industry.

I would like to express my sincere gratitude to Prof. Anil Sahasrabudhe, Chairman, AICTE; Professor Dileep Malkhede, Advisor to AICTE; Dr. Shashank Shah, Board Research Chair, IRM India Affiliate; and Dr. Sapna U. Malya, Research Project Co-Chair, IRM India Affiliate. I would also like to thank the entire research team including the industry and academic contributors, the IRM India Affiliate advisory board and alumni members, for their invaluable time, effort and contribution to this study.



Hersh Shah, SIRM

Chief Executive Officer - IRM India Affiliate
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Preface

The corporate world is aware of the risks and challenges it faces and has risk management systems in place to mitigate them. But most academic institutes are not even aware of the terminology, although there are few courses on the subject in management schools. Institutions do perform SWOT analysis while formulating their vision, mission and objective setting - but little beyond. That's why AICTE has taken numerous key initiatives to create awareness about risk management, now so much more important in a pandemic era.

Risk management identifies and establishes probable risk structures in a given organisation. Once these two factors are identified, it's the responsibility of management to create an enterprise risk road map and mitigate risk in a sustainable way. This map covers all the operational segments susceptible to risk and drives all necessary reforms. It helps drive risk awareness, risk reporting, risk avoidance and risk resolution across the organisation.

AICTE is the lead regulator within the Ministry of Education. It is preparing engineering and technical higher education institutions all over the country to manage the profound impact of COVID-19, making risk management an integral part of the decision-making process. Higher education institutions and organisations will form risk management teams able to classify the volumes of risk involved and assign those risks to the right management teams.

Alongside risk management teams there needs to be a risk management programme that monitors the institution's aims, objectives, history, property assets, teachers, students and resources. To achieve better results and meet risk management programme timelines, it's essential to nominate responsible officers who are accountable. These people must plan and implement the risk management programme and prioritise risks as they are identified.

The penultimate part of the above risk management programme is to monitor and review the plan from time-to-time. A consistent focus here is key to ensuring that no emerging risk results in an unprecedented or impossible challenge. The risk management board is also essential to ensuring best practice.

With an increasing regulatory focus on enterprise risk management, there is already rising demand for qualified ERM and risk-intelligent professionals. These people must have the skills to identify and manage not only financial risks but also cybersecurity, reputation, climate change and supply chain uncertainties. Corporate India, academia and government are working towards building resilience and ensuring even better preparedness for high probability and high impact occurrences - so-called 'grey rhino' events. We believe our association with the IRM in India - the world leader in ERM examination and research in over 140 countries - will prepare Indian institutions and students with the ERM skills needed to prosper within Industry 4.0.



Prof. Anil D. Sahasrabudhe
Chairman
All India Council for Technical Education

Setting the context

In terms of corporate and macro-economic success, we are living in the best of times. India has emerged as the fifth-largest economy in the world (in nominal GDP terms), and the third-largest economy in the world (in terms of GDP by purchasing power parity). The Indian stock markets are at historic highs. India has been attracting record foreign investments. Over the next quarter-century, nearly 80 percent of the population - over one billion people - will transition into the middle class as India becomes a US\$45 trillion economy (by purchasing power parity). Their per capita income will increase three times from the current levels of US\$2,000 per year. The Indian economy will have an enviable combination of ambition, size, and capacity.

However, we are probably in the worst of times in terms of socio-economic inequalities. Despite 30 years of economic liberalisation, the average daily household income of a farmer in 17 states across India is about INR 350 (for a family of five). The bottom 60 percent of the Indian population owns just five percent of the country's wealth. In the last 15 years, over 10 million Indians have died due to tuberculosis, malaria, and cancer. Yet, we haven't been able to make substantial public health infrastructure investments to address diseases endemic to India.

Except for the pandemic year, India's health expenditure is just three and a half percent of total government expenditure. With 18 percent of the global population, India has access to only four percent of global water resources. Consequently, nearly 500 million people are affected by drought at some time in the year and a further 160 million lack access to clean drinking water. According to the WHO, 14 of the world's 20 most polluted cities are in India. Of the 62 million tonnes of annual waste generated in urban India, only 20 percent is processed. Environmental degradation costs the country about US\$80 billion every year - nearly 6 percent of our GDP. Nearly 40 million Indians are affected by water-borne diseases every single year. We lose over 1.5 million children to diarrhoea alone.

When we contemplate the enormity of these challenges, the impact of the current pandemic pales into relative insignificance. This is the path of risks that each of us - as individuals and institutions, corporations and governments - will have to traverse before we can reasonably be acknowledged as a top three global economy. A closer look reveals that these risks are not limited to issues connected with finance or operations, or to specific strata of society. They permeate every aspect of the life of an ordinary Indian - economic inequity, malnutrition, public health, drinking water, environmental degradation, climate change and more. The risk list is long.

Transitioning from compliance to a culture of risk management

The time has come for managers and leaders of corporations to look at risk management beyond the obvious lens of a rules-based compliance system. Regulatory box-ticking will not be enough to ensure sustainable and inclusive success. The one-size-fits-all approach of regulatory authorities and professional associations to standardise the risk function may not work. There is an urgent need to transition from a compliance and silo-based approach to risk that focuses on preventable and internal risks, to the holistic application of ERM that helps manage strategic risks and anticipate external threats. ERM underscores multi-stakeholder risks rather than just financial risks and the building of related competencies. It focuses on the relationship of risk management with governance, social responsibility, sustainability and organisational prosperity.

With the need for such a phenomenal mindset change - which our corporate world hasn't been trained for - the solutions are not going to emerge from the boardroom. The solutions aren't going to be top-down. They will have to be bottom-up. The solutions will emerge when there is a convergence of this common purpose between academia and industry. The solutions will emerge through specialised institutions like the IRM that have the convening power and experience to address risks in academic, corporate, societal, economic and government spheres.

Creating holistic enterprise risk managers

The beginning of this urgent requirement for risk-aware leaders, managers, policymakers, and citizens will have to be made in the classrooms of Indian higher education institutions. Awareness of a contextual approach to risk management is vital.

For decades, leaders and managers have been looking at the risk versus reward paradigm. The 21st century no longer permits this luxury. We will have to take a more holistic approach that features risk versus responsibility. Young students must be introduced to the capabilities required to address issues and take decisions that create optimal value and minimise negative outcomes for multiple stakeholders. They will have to learn to perceive the nuanced situations that will emerge in the decades ahead. They will also need to substantially reduce - if not totally avoid - the negative impact of business and its decisions on people, society and the environment.

We cannot afford to look at the post-pandemic scenario as a 'new normal'. In the decades since India's economic liberalisation, corporations have gotten used to global supply chains in the manufacturing sector and labour cost arbitrage in the Information Technology Enabled Services (ITES) sector. Due to rapid geopolitical and environmental changes, businesses and industries are becoming far too dynamic. There is a need for senior leaders in corporations to look at things in more structured and proactive ways, rather than ad-hoc and reactive ways. The former is risk management, the latter is crisis management.

This paradigm change requires the integrated skills crucial to decision making. Currently, most of the learning in business schools happens in silos. Students are exposed to specific subjects in the classroom. But real-world business decisions cannot be taken that way. In the coming decades, the key skill for a capable manager will be the ability to see the big picture to reduce negative risk impacts not only on the profitability of the organisation but also on its stakeholders. This is the key skill that ERM teaching, training, certification and research at the IRM consistently delivers.

In the years ahead, a corporation's ability to effectively manage risks effectively will depend on how seriously its executives take enterprise-wide risk management when skies are blue and life is comfortable. Unfortunately, that sky is already overcast. But there is hope. And for that, a beginning will have to be made in developing such forward-looking leaders in Indian higher education institutions. This study is the first step in that direction.



Dr. Shashank Shah

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Section 1: Strategic observations

Risk and resilience: countering pandemic challenges

The world has suddenly become a place where several new normals are being established. Risk, as we all know, travels most frequently from outside-in:

- Working from anywhere
- SMSV: social distancing, masking, sanitisation, and vaccination
- Collaboration to get Environmental, Social and Governance (ESG) integrated into corporate strategy
- Digitalisation at breakneck speed
- Workers as connected entrepreneurs
- Insights from masked, de-siloed data

Data is the new oil. It's the new asset that needs to be curated, analysed and fed into the very essence of management.

Corporate boards have gone into overdrive. Risk policies are being revamped; independent directors are being added to risk committees and risk committees are being rebranded 'Risk and Opportunity'. All migrations from the identified risk status are being tracked, new mitigating actions are being established with deliberation and 'red' risks are being isolated for specialist attention. CEOs are finally taking ownership of the risk management process.

Let's take a look at a typical 'Risk and Opportunity' committee meeting. The CEO presented the top three red risks. They were:

1. Cybersecurity

In the cybersecurity space, these risks and opportunities were identified:

A repository to track key global cyber challenges that were successfully mitigated and those where the damage occurred. The pandemic period revealed that actual business interruptions were rising. Critically important mitigating factors were identified such as proactive patching, penetration testing, ethical hacking as well as protocols to communicate effectively as soon as an attack was discovered. A clear plan with the resources required was approved.

Strengthening the System On a Chip (SOC) is an ongoing activity. Investment in analytics, machine learning, rapid upgrades plus system documentation protocols were approved. The need to communicate the lessons to the entire organisation was clearly felt. Unless a widespread culture of safe device usage and interface to the internet interfaces was co-owned by the entire organisation, limited overall improvement was possible. This was then timelined annually to cover all levels of the organisation in waves.

2. ESG thought and action leadership

Work was initiated to create a vast implementation of Internet of Things (IoT), embedded chips, and auto dataset capture mechanisms. The aim was to establish continuous improvement in measurement. Lessons learned from ERP implementation were applied. Also, a commitment was made to use social media to share positive outcomes and to spread the strategic benefits of best practice. Experts were twice invited to share the latest learnings from all over the world.

3. Depletion of key mineral resources

Proactive permission for auctions to acquire mining rights and a global search for available reserves was initiated. The procedures to ensure resilient, proactive participation was defined quickly. The map of available, exploited, utilised and new acquisitions were put on a tracker to ensure they stayed on the committee's radar with continuous reporting.

The key takeaway is that the data richness, mapping and presentation accuracy need continual improvement. Actions need to be timely and responsibility tracked else they lose focus. Until the red risks turn green, the focus must be on continuous monitoring.

In such a fast-paced, risk professionals are now getting due recognition in terms of corporate contribution. IRM's qualified graduates and experienced members are being called upon to step up to maintain this momentum. Data analytics is in the ascendant, while machine learning and artificial intelligence are being deployed to glean insights and to recognise patterns. Risk repositories are being constructed and shared. Actions are being initiated, resources are being committed and results are being flagged continuously to keep organisations alert.

These actions are coalescing around a move to resilience. Agile organisations are innovating at a never-before-seen pace. Pivots are becoming commonplace: from linear to exponential thinking, from a scarcity to an abundance mindset, and from compliance to experimental infrastructures that support change management. All old stereotypes are being discarded and new management styles and paradigms are emerging daily.

This is the new normal. Let's embrace it and bring sustainability and technology to risk management. The benefits can be sizable and the inclusion of independent views in this process - as has been recently mandated by The Securities and Exchange Board of India (SEBI) - will bear ample fruit.



Shailesh Haribhakti

Chairman, Shailesh Haribhakti and Associates

Redefining resilience through risk literacy: a vital skill for future jobs

“To be alive at all involves some risk”

Harold Macmillan

In an ever-changing world, volatility and uncertainty have become the only constant. Any quest for attaining order or stability (be it for a system, a community, or an individual), which doesn't acknowledge the risk and challenges involved is almost bound to fail. When technological change, the development of new models and our own understanding of the world around us are dynamic and changing every minute, it would be safe to assume that we are living in a world more complex than it has ever been. The continuous disruptions from competing businesses or sudden surges of totally unforeseen crises (economic, social, political, or ecological) due to non-sustainable ventures, have not only impacted the entrepreneurial landscape, but also every aspect of life. Consequently, the risk involved in undertaking any major endeavour or life event (where decision making involves high stakes) has increased significantly.

The upheaval created by the pandemic has been severe, to say the least. The disruptions created have been widespread, spanning across continents, industries, and businesses. While the economic recovery is underway, the long-term effects of the pandemic are still being studied. Not only on the economy but also on public health, mental well-being, communities and social structures as well as political and ecological systems. With the threat of successive waves being foretold, the risks and uncertainties are expected to soar. The sudden transition to fully digital and remote ways of operation has been haphazard and has contributed towards the widening of the gap between the privileged and the disadvantaged. Those who had easy access to technology and were digitally literate could stay afloat, while those who did not, found themselves more disadvantaged than they were before.

Likewise, while ICT-based industries have experienced growth, many others are struggling for mere survival and people are suffering the loss of livelihoods. The healthcare and infrastructure sectors, on the other hand, are dealing with pressures for rapid up-scaling. Many industries are in the process of radically restructuring their strategies and models to focus on a speedy recovery and building resilience. It is an opportunity to rebuild our foundations while redefining flexibility and robustness.

In view of all this, risk literacy can become the key to unlocking the capabilities required for the future. Risk literacy is the capability of an individual to stay aware of, acknowledge, assess and recognise the various probable and context-specific risks in a real, dynamic and complex scenario with superior decision making. It is not just awareness about risks but an ability to deal with them. The suffix 'literacy' itself suggests the importance of the ability, as it is fundamental to effective decision making. Not only does it require a mind for numbers (ability to compute and compare alternatives statistically), an understanding of heuristics (when and how to use it and how to determine biases), but it also needs a balance between analytics and emotions, data and intuition.

From leaders and executives to entry-level employees, decision-making constitutes an indispensable part of one's job. Risk literacy in the organisational context thus provides a competitive advantage and agility, fostering an ecosystem where ideas are put to the test without fear. Specifically for individuals carving a career path, risk literacy could be a vital skill to own and hone. The WEF's Future of Jobs Report 2020 acknowledges the digital divide and the widening skill gap. It also identifies the critical trend of digital upskilling, requiring aspirants to continue updating their skills to ensure survival. The pandemic has further amplified complications and risks of unemployment, work stress, safety and disturbed work-life balance in remote work settings.

Apart from individual efforts, higher educational institutions and business organisations too can play a crucial role in imparting and promoting risk literacy. The goal should be to aid an individual in becoming 'Risk Savvy', a term used by German psychologist Gerd Gigerenzer.

He is a proponent of the balanced use of heuristics and analytics through careful observation of the environment when dealing with risks. According to Gigerenzer, the nature of the approach should align with the nature of the risk. So, when the risks involved in a situation or the alternatives of a decision-making problem can be weighed, the use of statistical models is effective. But when the risks are unknown, sudden, and decisions are to be made in a jiffy, heuristics are instrumental.

Risk literate individuals understand the types and nature of risk. They can differentiate between relative and absolute risks and are also aware of the common biases of human judgment. Knowledge of detailed risk behaviours is crucial for risk-savvy individuals. Behaviours associated with risks can be irrational and thus require attention to ensure effective risk mitigation. For instance, despite billions being spent on cancer diagnosis and treatment, smoking remains one of the major causes of oral cancer. But still, smokers fear death or health risk from other relatively low probability events but not smoking carries a high probability of developing cancer.

The WEF report also highlights the job roles that are going to be in demand. These roles are primarily analytical in nature - like data analyst, digital transformation specialist, strategic advisors, management analyst, OD practitioners and risk management specialists. The shift from risk aversion to embracing and dealing with risks to one's advantage is definitely a valued skill for future jobs.



Prof. Himanshu Rai,
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Industry 4.0: increasing complexity and global interconnection

Changing business landscapes and the new normal

The COVID-19 pandemic has taken a terrible toll on human lives. It has severely impacted the working of many organisations - big and small - and significantly impacted the way we think, work, and operate.

While the road to recovery has slowly started, the pandemic has fuelled continued evolution in economic and social areas as technological change accelerates and new behavioural patterns emerge. New business models, redefined customer playbooks, social trends and rapidly evolving technology are transforming the competitive and industry landscape. This impacts companies' strategic plans and their vision for sustainable and long-term value creation. In this context, the following business trends will define how organisations will operate in the future:

1. Rethinking supply chains

Even before the onset of the pandemic, there were a variety of factors - including rising unemployment, falling income, economic disparity and concentration of supply chains in a few countries - that were fuelling concerns about the negative effects of globalisation and a move towards localisation. These factors have been further highlighted during the COVID-19 crisis as supply chains were interrupted and we witnessed increasing security concerns and rising protectionism. This led nations and companies to start relooking at their supply chains and focus on improving their operational resilience.

Globalisation may not go away in a hurry, but the way companies will operate in the future, including developing their supply chains, will be very different from how they operate today.

2. Acceleration of digitisation

Digitisation and automation were already listed as top strategic objectives for most organisations. The global pandemic further accelerated this phenomenon. Some of these changes have led organisations to establish more resilient operating models that better serve their customers - and whose behavioural patterns have changed drastically over the last couple of years

3. Increased focus on environmental and societal factors

In recent times, there has been an increased awareness by the corporates and other stakeholders around ESG factors. While organisations are taking a very active interest in topics of climate change, natural and man-made disasters, investors and stakeholders have also been pushing for a more meaningful and transparent disclosure on ESG factors.

4. Changing workplace and workforce of the future

While a majority of the workforce in IT and financial services sectors and big organisations are still 'working from home', organisations have also started to think and invest heavily in the workplace of the future. New norms are being reimagined, including the use of technology to enhance collaboration, teamwork, productivity and to encourage innovation. There will also be a shift towards 'workforce on demand', with organisations tapping into vast and diverse pools of talent available across various parts of the globe - and at a short notice.

Changing risk landscape

The fluctuating business environment over the last few years - due to economic, geopolitical, and other changes like disruptive technologies and rapid digitisation - have exposed organisations to a variety of new risks. It has also accelerated some of the existing risks like cyber-attacks, data privacy, data protection, increased operational errors and human resource risks. These include the psychological impact of working from home for extended periods.

While most organisations are still grappling with the effects of the pandemic and addressing the situation at a tactical level, few organisations have started to think ahead. They are recognising these new business realities and proactively addressing the risks that accompany these changes.

1. Integrating risk management with business strategy

Organisations where boards and senior management ensure that risk management is fully integrated into the business strategy of the organisation (whether it is automation, digitisation, transformation, or building flexible and resilient supply chains) are more likely to be successful in navigating these changes seamlessly and coming out of crises stronger.

2. Enhanced focus on information security

The pace of innovation, digitisation and automation is increasing. A major proportion of employees continue to work from home. Organisations that are making a significant investment in creating enhanced information security frameworks (including securing customer data and complying with data privacy requirements) are more likely to create positive brand impact, seize on future opportunities and manage their risks more proactively.

3. Using technology for monitoring, detection, and reporting

Another area where companies are making a significant investment is in having an integrated ERM solution. They are leveraging the use of technology like artificial intelligence, machine learning and Big Data to ensure that there is an aggregated and timely view of not only current risks - but also to predict emerging risks and forward-looking indicators.

4. Creating flexible organisation

Companies that are making significant efforts to create a workplace of the future that offers a higher degree of flexibility to their workforce while attracting, retaining and developing critical employees, can proactively manage the risk of employee stress, burnout and mental fatigue. Many organisations are going forward in developing the right policies and infrastructure to tap into 'on demand' talent.

Conclusion

We are living in unprecedented times. The business landscape - and consequently the risk landscape - has evolved considerably over the last few years. These changes and corresponding risks have been further accelerated by the pandemic.

After responding to the events triggered by COVID-19, many businesses are now beginning to reshape the way they do things, from rewriting the customer playbook and reassessing their supply chain models to adopting new technology and thinking about the future workplace.

Risk managers have a big role to play in working with the board, senior management and business leaders. Not just in terms of helping them manage turbulent times but also ensuring that they are partnering proactively to create a more resilient organisation and build a strong foundation to be successful in future.



Jitender Arora, CFIRM

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ERM and building a resilient India Inc.

The COVID-19 pandemic has impacted the world economy and its citizens in unparalleled ways. The world is seeing – a new normal, particularly in the corporate workspace. The pandemic has necessitated the need to re-examine the key risks of today and tomorrow.

In the current volatile environment, it's crucial to keep a close watch on counterparty risk. If the counterparty fails to settle their obligations to the company, it could culminate in credit risk, impact cash flow and end up impacting the strength of the balance sheet.

From a market risk perspective, it is imperative to monitor the investments portfolio/book closely through qualitative investments being made in blue-chip companies and proactively track the market valuation of investee companies. The right percentage of investments should be maintained in liquid assets to facilitate obligations being honoured, as required.

As a consequence of the pandemic, organisations have been operating in a work from home environment. From a long-term perspective, organisations are already exploring the prospect of transitioning into a hybrid work environment. In such a scenario, protecting company data becomes critical and places a renewed focus on information security practices.

These uncertain times also necessitate keeping a close watch on the risk of fraud, since fraud prevention and management is crucial for protecting an organisation's bottom-line. Therefore, companies would be required to put in place various checks from a fraud risk mitigation perspective.

Reputation risk will always be a crucial area for any company. It is essential for companies to proactively track any impact on their reputation through close PR monitoring of social media platforms, the international, national and regional press, as well as other communication channels.

Companies with a strong ERM framework will be able to stand the test of time and manage risks more effectively. It's crucial that ERM functions identify new and emerging risks, have a solution-driven mindset towards business resilience and aim at leveraging technology for superior ERM practices. Industry and academia can forge a winning partnership by sowing the seeds of ERM and its core fundamentals in the minds of students.

ERM should not be perceived as another compliance activity, but an essential activity, one that is pivotal for the sustainability and long-term viability of an organisation. ERM is not an option in today's dynamic world – it is a core necessity.



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ERM in manufacturing organisations

Traditional risk management - where risks are managed in silos by different functions within an organisation - fails to address the relationship and interconnectedness amongst the range of risks experienced by businesses. With the focus on the delivery of objectives, ERM helps organisations assess multiple risks by the impact they have on the same activity or objective while driving coordinated actions across the enterprise.

An effective ERM programme adds value to manufacturing organisations by reducing operational costs and enhancing operational efficiency. ERM enables manufacturers to analyse and align their risks and opportunities closely with their strategic plans and track their performance through Key Performance Indicators (KPIs) - while monitoring potential hazards through Key Risk Indicators (KRIs).

Coordinated efforts to manage risks across the organisation ensures effective utilisation of resources and results in benefits associated with cost management, inventory management, asset management and cash flow management.

ERM also helps manufacturing organisations protect their value by ensuring compliance with laws and regulations. The ERM approach supports the management of hazard risks faced by organisations by defining and monitoring a range of internal controls. These include things like engineering, administrative and procedural controls as well as protective safety controls.

An integrated and holistic approach in ERM helps a manufacturing organisation to analyse and manage risks associated with ongoing day-to-day activities. It helps businesses by building the ability to anticipate and prepare for change and adapt to circumstances in a manner that provides them with the greatest chance of thriving in the long term.



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Entering a world of grey rhinos: ERM education now a necessity

A 'grey rhino' is a high probability, high impact event. The pandemic has caused some to raise a valid question: is this just a one-off event that was not predictable?

Another question: is risk management just a new management jargon or is it something real? The fact of the matter is that risk management as a concept has existed for centuries, from kings who were managing their territories to business owners who were managing their businesses. So, what has changed that we have now started talking about it only in recent years? Some important factors which have changed the game are:

- Owner driven enterprises moving to professionally managed CXO structures
- Ownership is now distributed with public participation through equity, which needs to have a lot more transparency and avoid uncertainties
- Appointment of regulators who have a solemn duty to protect investor interests at the same time bringing about a set of regulations that will bring uniformity in similar business operations
- Where the business environment is becoming increasingly complex and uncertain that any wrong decision can impact investor confidence

Let's look at some of the important events that happened within the last decade which have had a significant impact on businesses:

- 1. Economic issues** – The biggest event during the period 2013-2015 was crude oil prices which almost touched \$110 a barrel and put the developing economies to huge amounts of financial pressure. Countries like India, totally dependent on crude to fuel economic growth - were unable to pass on increased prices to their citizens and had to partially bear the costs. This in turn had an impact on the various development work of these countries. These developing nations are large consumption-driven economies and the inability of governments to inject cash into the economy impacted consumption with lowered demand. On the other hand, because of the spiralling effect of crude prices and the weakening of domestic currency against the US Dollar, economies had to handle inflationary trends.
- 2. Environmental issues** – Tsunamis, earthquakes, cloudbursts and floods, extreme droughts in many parts of the world which were hitherto far and few, have now become a regular feature. Large scale destruction to standing crops, inundated cities and business disruptions are now quite frequent - for instance the Mumbai floods, Uttarakhand disasters, plus floods in some of the rivers that are destroying large tracts of land. While excessive water is a problem, lack of rains and drinking water is another set of problems that lead to droughts. Citizens in some parts of the world do not even have water to drink. Climatic factors are so volatile that countries face a very uncertain future.
- 3. Geo-political issues** – Border disputes, the possible war in Asia and unstable governments continue to pose business uncertainty. The economic supremacy of countries like the US, Russia, China - and their rivalries - have also increased.
- 4. Social issues** – India and other developed countries have seen large scale discrimination on caste/race and other factors. Coupled with this, large scale income disparities have made the situation worse off for consumers whose purchasing power has reduced significantly. Governments have also adopted extreme right-wing or extreme left-wing policies, making business more and more complex.
- 5. Technological issues** – The last decade has seen the emergence of social media and digital infrastructure which has been a great business enabler - but has come with huge cyber risks, fraud risks and information security risks.

The WEF and other research agencies have been predicting that in addition to the above risks already existing, the spread of infectious diseases and the collapse of health Infrastructure is another major risk that will affect the world.

These factors have put risk professionals at the forefront to help guide businesses in proactively identifying these risk issues and mitigating them. It is important to note that risk managers are not a breed of futurists who can accurately predict what will hit businesses - but professionals who base their judgements on events of the past and emerging trends. They help business leaders to foresee the unforeseen and draw up plans to mitigate them proactively.

This means that risk managers also need to be trained to look for issues across the globe and apply them to their business environment. They also need to sift the issues which can have a material-long-lasting impact on their business from the routine ones. In some cases, risks may be inherent in the nature of the business, for example, commodity risks or exchange risks. In these cases, risk managers may have to develop risk appetites that provide the business with a guardrail to play within the set parameters.

Leading Institutions like the IRM play a very important role in training young managers into 'Risk Thinking' which is now developing into a core competency. Such skills need to be developed and talents nurtured.

Regulators are now becoming increasingly aware of the need to protect investor interests and remove uncertainty in business operations. The formation of Board-level Risk Committees is a step in the right direction. Such committees now deep-dive into existing and emerging risks over short-medium-long terms. This has helped risk managers to facilitate internal discussions with risk owners to come up with mitigation plans and also monitor implementation.

Successful businesses are now acknowledging the role played by risk managers in proactively mitigating risks and helping businesses get back in action at the right time.

To conclude never has there been a better time than now for risk managers to contribute positively to their respective organisations and help them navigate through difficult and unpredictable times.



V Swaminathan

Head - Corporate Audit and Assurance, Chief Risk Officer
Godrej Industries Limited

Section 2: Why we need ERM education in our higher education system

A national ERM capability that's built into education

The sixth assessment report from the UN's Intergovernmental Panel on Climate Change (IPCC) released recently has once again shaken up the world to the reality of climate change and its manifold impact on the lives of nations and citizens across continents. The earth is warmer than it has been in the last 125,000 years. The impact of this harsh truth isn't being faced by any one part of the globe.

Each continent is face-to-face with unprecedented calamities. In 2019, when eight percent of the Amazon forests were burnt in South America, over two million animals lost their lives. A year later in 2020 when 20 percent of Australian forests burnt in bushfires, nearly one billion animals were killed. A year later, in 2021, most parts of Europe witnessed unprecedented floods not seen in a thousand years. The most conservative estimates indicate a monetary loss of €2.55 billion. The lives of over a thousand European citizens missing due to the floods cannot even be measured in financial terms.

We highlight these shocking situations across continents in the north and south of the equator to indicate that nobody – individuals, institutions, economies, and nations - are being spared by our rapidly changing and fragile ecosystem. The risks that emerge from such a dynamic and complex scenario are too numerous to be listed. To add to that is a pandemic that has taken the lives of over four million people globally. A study published in the Scientific Reports (Nature Research) journal indicated that over 21 million life-years have been lost due to COVID-19 across 81 countries, including India. Everything that has been taken for granted for decades can no longer be so.

In such a scenario, it has become imperative for future managers to equip themselves with the knowledge of risk in their broadest sense and as applicable to every aspect of business and life. For this, the journey must begin in the classrooms of higher education institutions, where the destiny of the nation is being shaped. This study aims to explore this vital intersection between the awareness and adoption of the subject of ERM and its teaching, learning, research, and training in over one thousand higher education institutions. The objectives of this study are to:

- Understand how to conduct and develop risk management education capabilities in India's higher education system, including the introduction of ERM as a field of study and research
- Explore management and faculty awareness and perspective on ERM and future trends
- Explore senior industry experts' opinions about the need for ERM education including the demand for qualified ERM professionals
- Assess the shortcomings of risk management education courses in Indian universities and provide probable indicators for academic institutions and education policymakers

For this purpose, the project team considered it best to research opinions and perceptions of the leaders of Indian higher education institutions about the field, its importance, its implementation and its future implications. This exploratory survey had the following objectives:

- Assess the perceived importance of risk literacy of students in Indian higher education institutions
- Review the existence and content of risk management courses and the expert resources to deliver them
- Evaluate academic research in the field of study at the institution/university
- Investigate the availability of expert resources for institutional risk management at the institutions
- Explore the need for and existence of academia-industry collaboration to develop qualified risk professionals

While risk literacy is critical for corporate success, economic growth and development, Indian infrastructure to provide the same do not seem to be adequate. The challenge for greater acceptance and implementation of ERM education means getting the right faculty to offer the right courses at various stages of the higher education process.

Understanding different types of risks, addressing and mitigating them in the day-to-day business decision-making process requires specific skills which can only be provided through systematic educational change.

This also needs to be complemented by hands-on experience through corporate internships and industry projects. However, overall research in this space indicates that academia-industry collaboration across areas is limited. A 2019 report supported by the Ministry of Science and Technology indicated that out of nearly 500 industrial clusters across India, over 30 percent didn't have a research institute or university in their vicinity that would facilitate the translation of research into products, services and processes. Thus, the lack of qualified and deployable enterprise risk managers directly affects corporate recruitment in this very vital area.

Looking at the current situation of a supply mismatch to the rising demand for expertise in the field of ERM, it is imperative that a robust framework for ERM teaching and learning in Indian higher education institutions be introduced by policymakers. Investment in ERM research and a greater focus on ERM-focused publications relevant to the Indian experience would further add to the knowledge pool. We need to create common platforms where academia and industry can collaborate for knowledge creation and skill-building. These and many such initiatives will help India build a talent pool of risk professionals who can help address challenges on the path to sustainable and inclusive success - not just for corporations, but the nation too.

As reported by the All-India Survey of Higher Education (2018-19), India has become one of the largest networks of higher educational institutes in the world with 993 universities and 40,000 colleges. This study attempts to explore the insights gained from a representative sample of this universe. We wish to share our findings with academia, industry, and policymakers to fulfil IRM India RIG's mandate as a catalyst in the field of ERM. We are delighted to have AICTE, the highest body overseeing technical education in India, as a partner in this endeavour.



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Section 3: An overview of risk management in higher education

Risk management programmes in global higher education institutions

As part of this study, we undertook an exploratory study based on published secondary data sources in print and online to provide a brief overview of courses offered by higher education institutions in India and overseas. We've captured this in the two parts of this section.

We explored course offerings in risk management and ERM among 50 global universities, based on The Times Higher Education Rankings 2021. Among them, 39 universities offered one or more courses in risk management, either as a separate course or as a sub-set of specific courses with a focus on financial and operational risks. These courses are offered across both undergraduate and postgraduate levels. The table below captures a country-wise summary of these courses:

Country	Number of universities from top 50	Number of universities in which risk management courses are taught
United States	25	18
United Kingdom	7	7
Germany	3	3
Canada	3	2
Singapore	2	2
China	2	1
Switzerland	2	2
Sweden	1	0
Japan	1	0
Hong Kong	1	1
France	1	1
Belgium	1	1
Australia	1	1

A brief to the key offerings in risk management and ERM at the world's leading universities is provided here:

USA: Columbia University (Global Rank 17) and New York University (Global Rank 25) offered Master's programmes in risk management. The one-year programme at Columbia University deserves a special mention as it focuses on ERM and is the largest of its kind in the world. The other programmes offered are at Harvard University (Global Rank 3), University of Chicago (Global Rank 10), and University of Pennsylvania (Global Rank 13) as one-to-two-week certificate programmes in risk management.

Europe: In the UK, Imperial College London (Global Rank 11) offers a one-year Master's in risk management and financial engineering. In contrast, Ecole Polytechnique Fédérale de Lausanne, Switzerland (Global Rank 43) offers a two-week certificate course in risk management for undergraduate and postgraduate students.

Asia: The National University of Singapore (Global Rank 25) houses a risk management Institute that focuses on education, training, and research in risk management. It offers various certification programmes for industry professionals in operational and financial risk management. Hong Kong University (Global Rank 39) partners with the Glasgow School for Business and Society (part of Glasgow Caledonian University)

and offers courses in risk management where a student can pursue a growth trajectory from an Executive Diploma in ERM (six-month postgraduate programme) to a Master of Science in Risk Management (one-year postgraduate programme).

Most of the short duration programmes across continents attract working professionals from banking, financial services, consulting and risk analytics fields who are keen to gain a deeper insight into risk management as a field. This pursuit is either to benefit their existing firms or to enable them to switch careers. The full-time Master's programmes in risk management and ERM are for serious candidates seeking a career in the risk field. They are usually picked up for significant roles by multinational banking, financial services and consulting companies.

Risk management and ERM programmes in Indian higher education institutions

We also undertook an exploratory study of higher education institutions in India teaching risk management courses - especially ERM - to understand the types of courses offered, course curriculum, course duration, eligibility, fee structure and other details.

The secondary data-based research revealed that only about 20 institutions in India offered full-time or part-time programmes on themes connected with risk management. Interestingly, no higher education institutions across India were found to be teaching/offering specific courses in ERM. Most of the courses offered were in areas of financial, insurance and operational risk.

At the undergraduate level, three institutions offered a three-year full-time bachelor's course in risk management. These include Bharatiya Vidya Bhavan Institute of Management Science (Kolkata), Jain University (Bangalore), and Chandigarh University (Mohali). At the postgraduate level, only two institutions offered a two-year full-time Master's in Insurance and Risk Management – Aligarh Muslim University and Rakshapal Bahadur Management Institute (Greater Noida).

Several other institutions offered one or two years of full-time postgraduate diplomas in risk management with a specific focus on banking, taxation, insurance or hedge management. These include GITAM Institute of Management (Visakhapatnam), BK School of Business Management (Ahmedabad), International School of Business and Media (Pune), Global Risk Management Institute (Gurugram), CMJ University (Shillong) and Jammu University.

Among India's top 20 business schools, none except the Indian Institute of Management (IIM) in Ahmedabad offers a non-digital course on corporate risk management (three-day executive course). Other leading business schools like IIM Bangalore and IIM Kozhikode offer digital courses on financial risk management. Both these are certificate courses. The former is of three weeks and the latter of seven months duration.

The remaining institutions explored as part of this study offer short-term diploma or certificate courses on financial risk management, insurance risk management, banking, taxation or quantitative finance and risk management. It was found that in most of the top business schools and management institutions in India, risk management is taught as a core paper or an elective as part of the specialisation in finance. Unlike their global counterparts, ERM is likely not even offered as an elective or a core paper in any of the higher education institutions in India.

Section 4: Survey analysis

Over 1,100 institutions across India responded to the survey. This is probably the highest ever participation in a research study of this kind under the auspices of the AICTE. The responding institutions included university-affiliated institutions with academic autonomy, state universities, central universities, government institutes, deemed institutions and private universities.

The survey was conducted to seek information on both undergraduate and postgraduate courses related to ERM/risk management. A list of risk-related key terms used in the survey was given along with the questionnaire for a better understanding of the questions.

To achieve the objectives of the study, the questionnaire was divided into sub-themes as listed below:

1. Risk literacy in India
2. ERM and risk management courses offered by the institutions
3. Data on faculty resources for ERM/risk management courses
4. Data on content to teach ERM/risk management courses
5. Academia-Industry Collaboration
5. Future trends in ERM/risk management education
6. Demographic data of the institutions

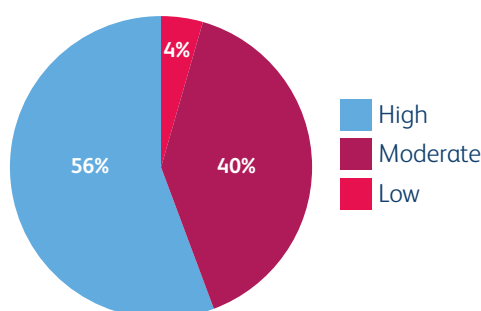
1. Risk literacy in India

Risk is the combination of the probability of an event and its consequence. Consequences can range from positive to negative. (Definition as per the IRM).

Professor Gerd Gigerenzer, a renowned German psychologist and risk expert, calls risk literacy 'the cement of society'. He argues that risk literacy is a must for every individual in every profession because at the end of the day, risk is inherent in everything we do. In the world of business, risk literacy is essentially defined as the ability to perceive risks that individuals or companies might face and the aptitude to make appropriate decisions after being aware of these risks.

Risk literacy enables individuals to develop foresight and risk mitigation skills. A risk literate person is always in a better position to identify, strategise and deal with risk in an informed manner. (Source: Shah, Hersh, 'Risk literacy: Need of the hour', Entrepreneur, August 13, 2020)

A. Is risk literacy a critical skill for organisational and individual success?

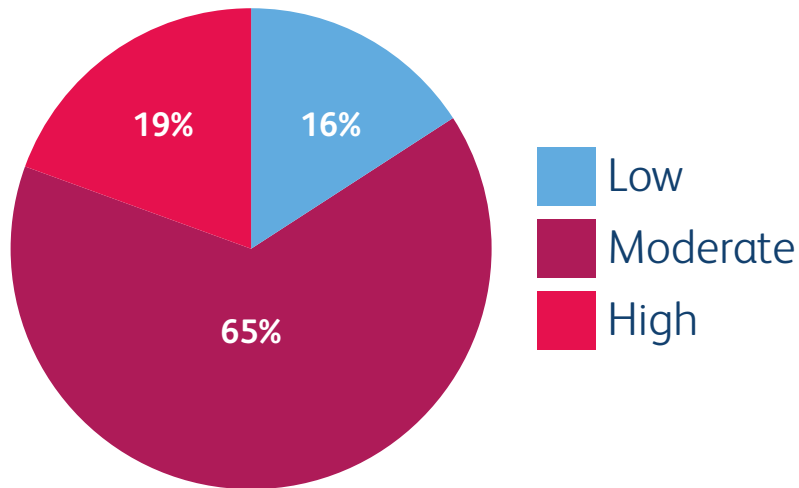


96% of the responding institutions believe that risk literacy is a critical skill for organisational and individual success.

What does this tell us?

Majority of the responding institutions believe that understanding risk is important for organisational and individual success. It is possible that the other responding institutions relate risk management to finance and insurance alone.

B. What is the current level of risk literacy in your students?



Only 19% of the responding institutions believed that risk literacy is high among their students.

What does this tell us?

Despite 96% of the responding institutions believing that risk literacy is a critical skill for success, 81% of the responding institutions accept that they have not been able to impart moderate or high levels of risk literacy to their students.

C. What component(s) of risk literacy would you like to cover/are already covering as part of the academic ecosystem in your institution?

Components	Percentage
Critical thinking and analysis	74%
Complex problem solving	61%
Risk-based decision making	56%
Resilience, stress tolerance	44%

Critical thinking and analysis, and complex problem solving, emerged as the top priorities of the responding institutions.

What does this tell us?

Majority of the responding institutions have demonstrated a clear aspiration to integrate critical thinking and analytical skills and introduce risk management to their students. This aligns with the WEF's Future of Jobs 2020 report that covers the top 10 skills of 2025 which include: analytical thinking and innovation; active learning and learning strategies; complex problem solving; critical thinking and analysis; creativity, originality and initiative; leadership and social influence; technology use, monitoring and control; technology design and programming; resilience, stress, tolerance and flexibility; and reasoning, problem solving and ideation. With risk management covering 40 percent of these skills a risk intelligent leader ought to be in demand in Industry 4.0.

D. Does your institution have a dedicated risk officer to advise the leadership on institutional risks?

Response	Percentage
Yes	37 %
No	63 %

Only 37% of the responding institutions have a dedicated risk officer to advise the leadership on institutional risks.

What does this tell us?

Despite this survey being conducted amidst the COVID-19 pandemic, a majority of the responding institutions have still not evaluated setting up a dedicated risk function. Quite a few IRM qualified professionals have gone back to the education sector as risk leaders or CROs of a university or a college. Just like India Inc., it is pertinent to note that the future of the Indian higher education sector requires risk and crisis ready officers to create long-term, sustainable institutions.

2. ERM and risk management courses offered by the institutions

Risk Management: A process that aims to help organisations understand, evaluate and take action on all their risks with a view to increasing the probability of success and reducing the likelihood of failure. (Definition as per the IRM).

ERM: A process effected by an organisation's board of directors, management and other personnel. It's applied across strategy and across the enterprise. It's also designed to identify potential events that may affect the organisation and manage risks to be within its risk appetite while providing reasonable assurance regarding the achievement of entity objectives. (Definition as per COSO 2004).

A. Does your institution offer ERM courses (including undergraduate and postgraduate courses)?

Response	Percentage
Yes	27 %
No	73 %

Only 27% of the responding institutions offer ERM courses at the undergraduate and/or postgraduate levels.

What does this tell us?

Despite the increasing demand for risk professionals in the industry, ERM remains a less preferred area of study at the responding institutions, as evident from the responses. The universal application of ERM may often make it a complicated exercise for higher education institutions to ensure adequacy and industry acceptability of the curriculum. Partnering with professional bodies in the area of ERM may save time from reinventing the wheel and help create parallel career pathways for Gen Z and Gen Alpha students.

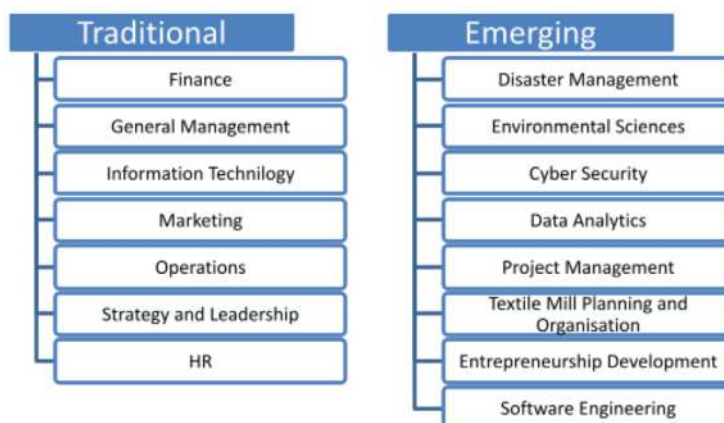
B. If your answer to the previous question is yes, kindly list the ERM courses taught in your institution.



What does this tell us?

The list of courses offered at the undergraduate and postgraduate levels at the responding institutions appear to be more specific to the specialisation/ functional areas. Furthermore, it is also evident that the scope of risk management is limited to finance, insurance, disaster management, and project management. However, ERM covers a detailed study of internal and external risks, with a 360-degree view of the entire business value chain. A Certified Fellow/ ERM professionals will demonstrate mastery in identifying and managing risks in procurement, supply chain, cyber security, reputation, ESG, legal, financial, health and safety, and more. This conveys the depth and breadth of topics covered by ERM, which are usually ignored in the finance or operations focused risk courses.

C. In which specific subject/functional areas does your institution offer any type of risk management courses?



What does this tell us?

While the above list may appear to be diverse, it still carries the risk of the courses being delivered in silos. The true essence of ERM is an integrated, interconnected, and consolidated view of risks – top-down and bottom-up.

D. How many courses connected with any type of risk management are taught in your institution?

Courses	UG%	PG%
1-5	94%	89%
6-10	1%	7%
11 and above	5%	4%

Most of the responding institutions offer not more than five courses related to risk management. From a geographical perspective, institutions in Tamil Nadu, Maharashtra, and Madhya Pradesh seem to be offering more than five courses in ERM / risk management.

E. List the names of the risk management courses taught in your institution? (Can tick multiple responses)

Postgraduate	Percentage	Undergraduate	Percentage
Financial Risk Management	22%	EHS	28%
Risk Management	16%	Disaster Management	25%
Market Risk Management	14%	Risk Management	16%
Risk Management and Insurance	14%	Financial Risk Management	11%
Environment, Health and Safety (EHS)	12%	Market Risk Management	7%
Disaster Management	12%	Risk Management and Insurance	6%
Credit Risk Management	11%	Credit Risk Management	5%

What does this tell us?

Undergraduate programmes at the responding institutions seem to focus more on environmental issues and themes, while postgraduate courses are heavily focused on financial risk management. There lies a great opportunity for students studying in some of these institutions and pursuing courses in risk management and ERM, to upgrade their knowledge and elevate their career by opting for exemption options towards becoming a certified fellow in ERM.

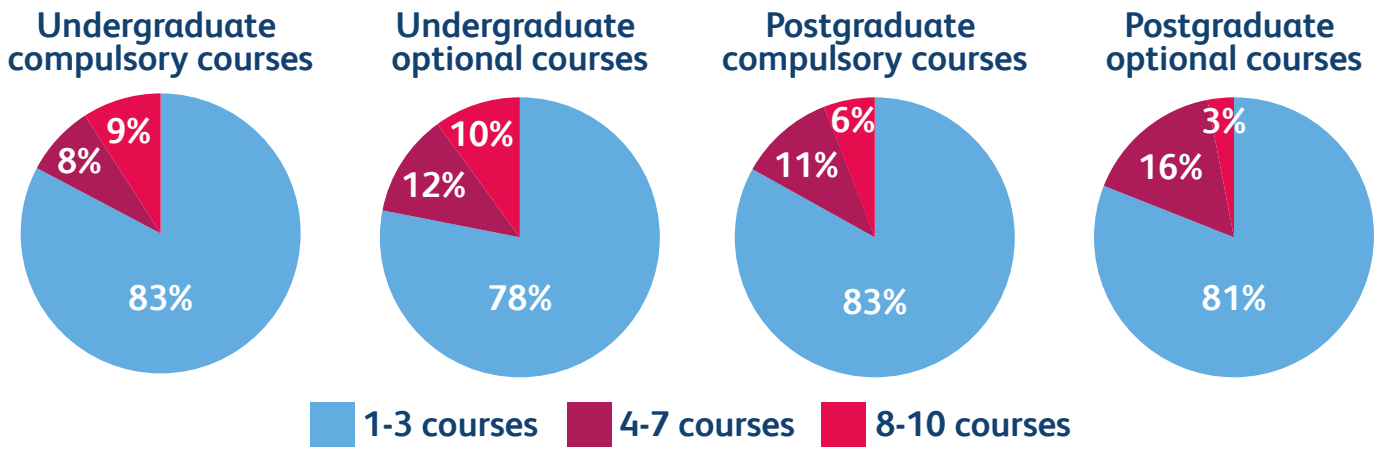
F. Are there any other risk management courses offered in your institution apart from the ones mentioned above?

Undergraduate	Postgraduate
Derivative and Risk Management	Disaster Management
Industrial Safety	Environmental Science
Risk Management in Bank	Financial Management
Business Analytics	Principles of Management
Corporate Sustainability	Risk Management
Critical Thinking	Critical Thinking
Environmental Science	Design of Structures
ERM	EHS
Financial Management	Entrepreneurship Development
	Financial Markets and Risk

What does this tell us?

Besides the traditional courses in risk management, a wide range of undergraduate and postgraduate courses in emerging areas are being offered at the responding institutions. It is commendable that some of the responding institutions offer courses in the areas of business analytics and design of structures, which is the true essence of ERM.

G. Number of compulsory and optional risk management courses offered in your institution.

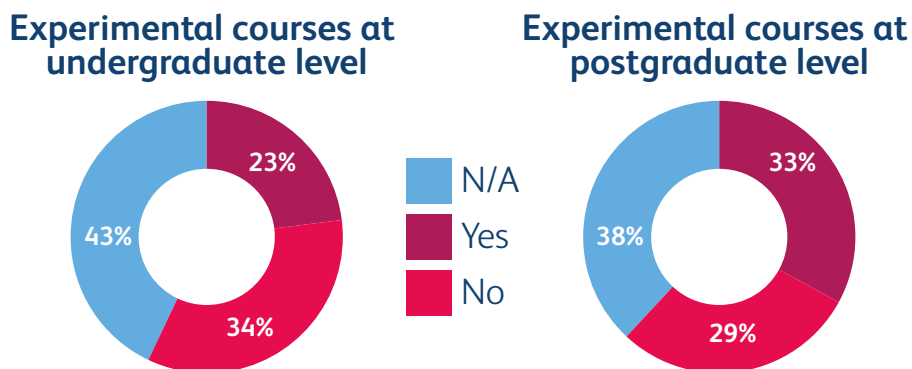


A very low number of risk management courses are being offered by the responding institutions, as either compulsory or optional, both at undergraduate level or postgraduate level.

What does this tell us?

The number of ERM / risk management courses offered as compulsory or optional at the undergraduate level are slightly more in comparison to the postgraduate level. There seems to be more acceptance to introduce ERM / risk management at the undergraduate level in the responding institutions. This could probably be attributed to the fact that postgraduate courses are highly specialized, and institutions may find it difficult to integrate ERM / risk management with their current areas of specialisation.

H. Does your institution provide experimental courses (simulation, case studies, etc.) about ERM and/or any other type of risk management?



Risk management being taught with experimental pedagogy seems to be low at both the undergraduate and the postgraduate levels.

What does this tell us?

Responding institutions that offer risk management as a compulsory or optional course, are seen to focus more on the theory rather than the practice and application of risk management. An area that is so diverse and interconnected requires a detailed understanding of global and local case studies, frameworks, and industry best practices. If risk management has to be inculcated as a skill, then practical case-based learning should be a prerequisite. IRM provides academic institutions in India with a study path that is a combination of the theory and practice of ERM, thereby saving time and efforts of institutions to develop their own curriculum.

I. If your Institution provides experimental courses (simulation and case studies, etc.) about ERM and/or any other type of Risk Management please specify.

Top 5 experimental courses: Undergraduate level	Top 5 experimental courses: Postgraduate level
Case Studies	Case Studies
Simulation	Simulation
Environmental Engineering	Projects
Role-Playing	Role-Playing
Data analytics	Computer-aided hazard analysis

Along with case studies and simulations, responding institutions do offer unique experimental courses in the form of role plays, projects, and environmental engineering to teach risk management in a practical way.

What does this tell us?

Computer-aided hazard analysis and data analytics appear to be the upcoming experimental courses in risk management. Globally, many higher education institutions, use decision-making tools to teach risk rating and assessment. Additionally, risk laboratories and disaster management simulation cells are some of the new areas that could be explored by higher education institutions in India.

3. ERM curriculum in higher education institutions

A. What percentage of faculty members in your institution are involved in teaching ERM and/or other risk management courses?

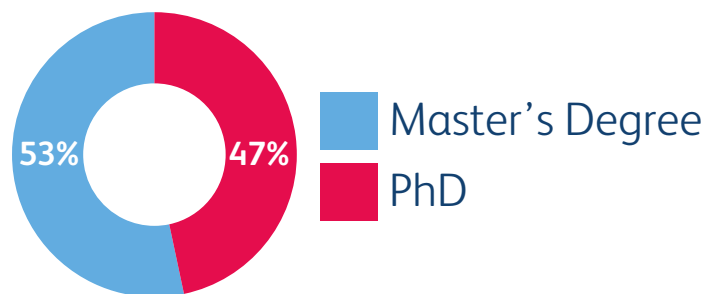
Particulars of faculty members	Percentage
Full-time	72%
Part-time	28%

On average, majority of the faculty members involved in teaching ERM / risk management courses are full-time.

What does this tell us?

While full-time faculty members bring a lot of stability in the teaching-learning processes, ERM / risk management also requires practical industry insights which can be delivered by guest faculty who are specialists in different areas of risk.

B. What percentage of faculty teaching ERM and/or other risk management courses have the PhD or Master's (in any field)?



ERM / risk management courses are taught largely by faculty members holding a Master's qualification as opposed to a PhD.

What does this tell us?

Faculty members at the undergraduate and postgraduate levels, must be sufficiently qualified in ERM / risk management to drive research and academic excellence. For example, many IRM qualified professionals (Levels 1 to 5) who are Certified Members or Certified Fellows have moved into full-time or part-time risk management teaching roles in academic institutions.

C. What professional qualification(s) do the faculty who teach ERM and/or other risk management courses have in your institution?

Top 5 professional qualifications	Percentage
CFA	22%
MTech	13%
CA	12%
IRM	11%
FRM	11%

Majority of faculty members of the responding institutions teaching ERM / risk management courses, hold qualifications in finance, accounts, and/or technology.

What does this tell us?

Institutions should work more closely with professional bodies and create a platform for faculty members to engage in research, case study based learning, sharing of best practices and networking with professional members who have pursued professional qualifications. Furthermore, offering integrated pathways in ERM/risk management in collaboration with professional bodies (For example, financial risk with FRM, enterprise risk with IRM, project risk with PMI, and others) will bring a lot of academic rigour in the delivery of ERM/risk management education.

D. Does the faculty teaching ERM and/or other risk management courses have relevant industry experience in ERM/Risk Management?

Response	Percentage
Yes	39%
No	61%
Average Number of years of experience	8.48 Years

Majority of the responding institutions agree that the faculty members teaching ERM / risk management courses do not have relevant industry experience in the field.

What does this tell us?

Delivery of ERM / risk management courses is more effective when linked with practical, hands-on industry experience. Risk management involves a detailed study of internal and external events, how to manage stakeholders across the enterprise, identifying black swans, grey rhinos and elephants, prioritizing risks in line with the risk appetite of the organisation, devising risk mitigation strategies and implementing a continuous monitoring process. Furthermore, with changing regulations in risk management, understanding the application of these regulations across sectors is important. The IRM has a global network of Certified Fellows who are CROs or risk leaders. Quite a few of these leaders have moved into risk management teaching or consulting.

4. Content and teaching aids for risk management courses

A. Which kind of textbooks and reference books are used for ERM and/or other risk management courses in your institution?



A mix of both national as well as international textbooks are being used to teach ERM/ risk management courses at undergraduate and postgraduate level in the responding institutions.

What does this tell us?

A good mix of national and international textbooks are being used to teach risk management courses at the responding institutions, thus making the curriculum extensive and covering local as well as global frameworks and knowledge. While the Indian textbooks carry a lot of local insights and information on regulatory mandates, the global textbooks focus more on the frameworks in risk management including references to ISO and COSO. Additionally, many global academic institutions also refer to leading risk management books as part of the ERM/ risk management course curriculum. These may include the likes of “The Gray Rhino” by Michele Wucker, “Risk: A User’s Guide” by Stanley A. McChrystal or “Billion-Dollar Lessons: What You Can Learn from the Most Inexcusable Business Failures of the Last 25 Years” by Chunka Mui and Paul B. Carroll.

B. Kindly list the top three books used by your institution to teach ERM and/or other risk management courses

Top textbooks used for undergraduate level	Top textbooks used for postgraduate level
Credit Risk Management by Andrew Fight	Fundamentals of Risk Management by Paul Hopkin / IRM
Credit Risk Management for Indian Banks by K. Vaidyanathan	Principles of Risk Management and Insurance by George E Rejda

These are books most used by responding institutions teaching risk management courses as part of the undergraduate and postgraduate programmes in India. Most of the books referred to by academia focus on financial risk, capital markets related topics, project risk and insurance risk. The Fundamentals of Risk Management is one of the most recognised books for ERM and is referred to by candidates preparing for IRM’s Level 2 examination (IRMCert designation).

5. The academic and business relationship

A. Over the last three years, have students at undergraduate and/or postgraduate levels in your institution been assigned to ERM/risk management internship?

Response	Percentage
Yes	12%
No	88%

Only 12% of responding institutions have assigned their students to ERM and/or risk management-related internships.

What does this tell us?

Since the percentage of ERM / risk management courses delivered at the responding institutions is quite low, the percentage of students assigned to internships in ERM / risk management appears to be low. Globally and in India, a risk management intern’s key responsibilities include assisting the ERM/risk management department or CRO in managing the overall risk management process. Interns may also help performing risk assessment, risk reporting, maintenance of records, conducting risk-based research, interviewing stakeholders within the organisations and more. With the IRM’s robust industry network, institutions can offer the qualifications to their students thereby enhancing their career prospects in ERM/risk management.

B. If the answer to the previous question is yes, kindly list names of three leading companies that engage your students as interns.

Top 10 Companies offering internships in risk management
Tata Consultancy Services
Standard Chartered Bank
ICICI
HDFC
Bajaj Allianz
EY
Zeigler Aerospace
Larsen and Toubro
Deloitte
PricewaterhouseCoopers

It is observed that majority of the companies that offer ERM / risk management opportunities to students from the responding institutions, are from the banking, insurance, IT sectors.

What does this tell us?

It is likely that since select responding institutions deliver only finance/insurance-related risk management courses, industry opportunities for their students are also restricted to finance and insurance areas alone. Hence, it is essential that institutions partner with professional bodies to introduce an ERM career path or develop curriculum to expand the current scope of risk management teaching.

Furthermore, the SEBI recently extended the current risk management committee mandate from 500 companies to the top 1000 listed companies. As per the SEBI notification, the risk management committee should formulate a detailed risk management policy including a framework for identification of internal and external risks specifically faced by the listed entity. The risks include financial, operational, sectoral, information, cyber security, and sustainability (specifically, ESG) related risks and impact.

C. In the past three years, how many of your graduates are engaged in ERM/risk management-related roles?

Graduates	Frequency
1-9	45%
10-23	20%
24 or more	35%
None	0%

Over the past three years, 45% of the responding institutions have observed that only 1 to 9 of their graduates are engaged in ERM / risk management-related roles.

What does this tell us?

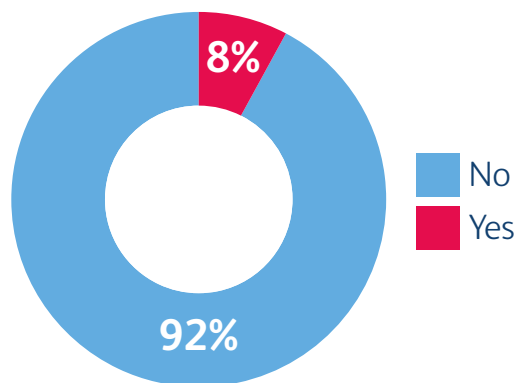
ERM/risk management opportunities can be capitalised if there are formal courses offered by institutions during the formative stage of a student’s higher education journey. While students can gain industry experience and eventually work in ERM/ risk management roles, a formal course at the undergraduate / postgraduate level will provide a foundation to kickstart a student’s career in these areas. Additionally, the lower number of students opting for a career in ERM/risk management could be due to the lack of awareness in this field and also because mathematics and finance has created an entry barrier for a career in financial risk management. ERM is more qualitative and hence institutions should work collectively to drive the importance of ERM education and professional qualifications in order to meet the future demand for qualified risk professionals.

D. If your answer to the above question is other than none, then kindly list names of three leading companies that employ your students.

Top 10 Companies offering employment in ERM/ risk management roles
ICICI Insurance
EY
Deloitte
Tata Consultancy Services
PricewaterhouseCoopers
RBS
Reliance Retail
KPMG
HDFC
Data Patterns

Top Four Industries offering employment in risk management roles	Percentage
Banking and insurance	34 %
Financial audit and advisory	32 %
Information technology	13 %
Combination of sectors	21 %

E. In the past three years, has your institution worked on any industry-university collaborative research projects related to ERM and/or risk management?

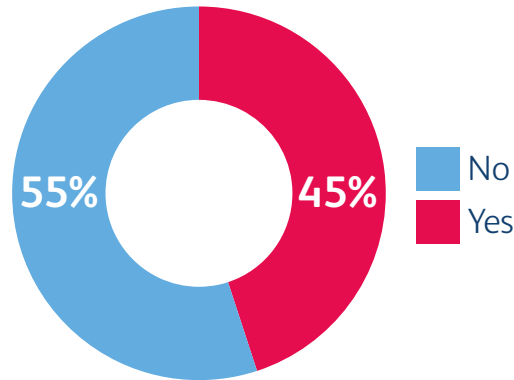


Only 8 % responding institutions have worked on industry-university collaborative research projects in ERM / risk management.

What does this tell us?

For almost all the responding institutions, industry-university ERM/risk management projects appear to be a low priority area, despite increasing complexities in the business environment including uncertain events like climate change, pandemic, cyber-attacks and more. It is also likely that there is not sufficient funding available for these projects within the institutions or industry partners are exploring projects independently without academic partners.

F. Do industry experts offer courses/help in delivering courses in the areas of ERM and/or risk management in your institution?

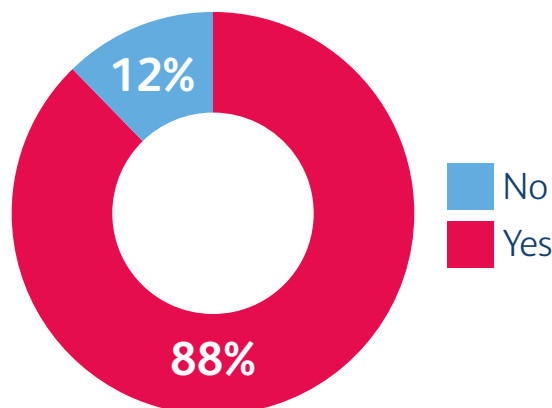


It is observed that 45 % of the responding institutions do not have industry experts offering/ helping in delivering courses in ERM / risk management.

What does this tell us?

It is likely that responding institutions may be finding it difficult to identify industry experts / partners or they are being denied support when approached because they may not have sufficient budgets or the industry expert is not getting internal clearances from his/ her organisation. The responding institutions may have also responded with a “No” because they may not be teaching any ERM/risk management courses.

G. In your opinion, would professional body providing industry experts to collaborate with academic institutions on ERM be helpful?



88 % of responding institutions agree that professional bodies providing industry experts will pave a pathway towards driving excellence in ERM / risk management education.

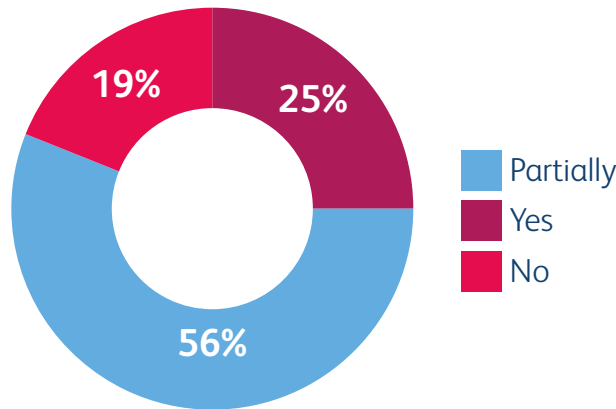
What does this tell us?

The responding institutions clearly believe that collaborating with a professional body shall go a long way in developing ERM / risk management courses for their students. This also indicates an opportunity for the regulators to promote/collaborate with professional bodies that could strengthen the ERM/risk management education in India.

(Please refer to the section in this report titled, “How the IRM can support your institution”, where information about collaboration areas pertaining to integration of ERM is covered in detail).

6. Future risk management trends in Indian higher education

A. In your opinion, can existing ERM and/or risk management courses in your institution meet future market demand?



While 56% of the responding institutions are confident that the existing ERM / risk management courses can meet the future demand fully, 44% think otherwise.

What does this tell us?

Even though majority of the responding institutions believe that the current ERM / risk management courses can meet the future market demand, it is important for institutions to focus on the frequency of curriculum review, collaborations with professional bodies and industry, investment in research projects, and quality of teaching faculty, whether full-time or part-time.

B. If your answer to the previous question was partially or no, kindly share two reasons that indicate the existing insufficiencies in the course curriculum.

Top 5 insufficiencies
No practical exposure
Industry-level knowledge not widely available
No pre-existing courses, they need to be developed from scratch
Available content is more theoretical and focuses on ideal scenarios rather than actualities and current risks
Not a part of the traditional curriculum, hence lot more difficult to integrate with present system

These are the key insufficiencies highlighted by the responding institutions that were not confident about the current ERM / risk management courses being able to meet future demand.

What does this tell us?

The challenges and insufficiencies demonstrate the clear need for a collaborative approach to introduce ERM / risk management education within the present system. Partnering with a professional body like the IRM that has been driving excellence in ERM examinations and professional qualifications for over 30 years, will help institutions address the abovementioned insufficiencies.

C. In your opinion, can the existing number of students at undergraduate and/or postgraduate levels in your institution meet the future needs of ERM and/or risk management of India Inc.?

Response	Percentage
Yes	48 %
No	23 %
Partially	28 %

51 % of responding institutions believe that the existing cohort of students cannot fully meet the future demand of ERM / risk management.

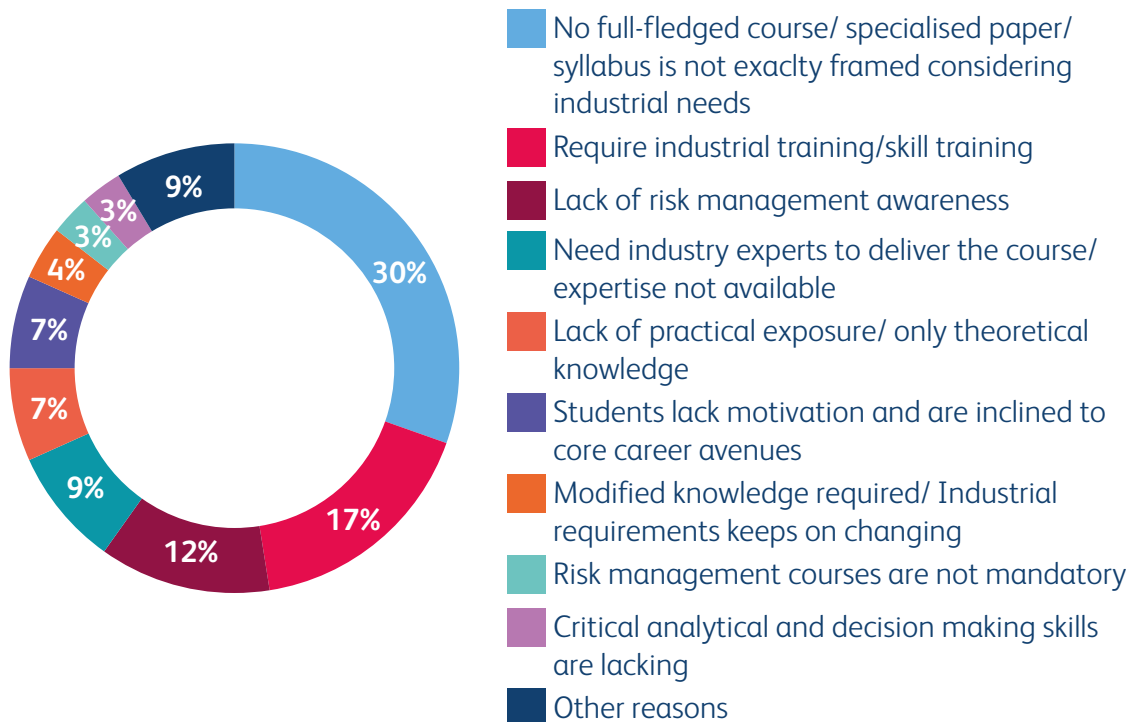
What does this tell us?

There is a huge demand for qualified risk professionals in India and institutions can work with IRM to fulfil the demand for qualified risk professionals. Almost 50 % of the demand in India is at the entry / associate level and balance 50 % at the mid or experienced professionals' level. Furthermore, according to various reports and news articles, risk manager has suddenly become a hot job in the wake of the pandemic. With regulators too mandating organisations to set up risk management functions, this demand is expected to increase every year. IRM qualified professionals who have completed the examinations alongside their graduation/ postgraduation/work are also working across the globe in various sectors including health, energy, pharmaceuticals, education, financial services, defense, retail and more.

According to various recruitment portals, companies like Google, Genpact, Deloitte, Wipro, Grant Thornton, Amazon, JLL, GATI, Goldman Sachs, Accenture are currently hiring risk professionals. This is the average salary of a risk manager in India:



D. If your answer to the previous question was “Partially” or “No”, kindly share two reasons that indicate the existing insufficiencies in the number of graduates suited for the risk profession.



The responding institutions believe that the future industry demand in ERM / risk management cannot be met largely due to accessibility, resource availability, and awareness-related issues.

What does this tell us?

Institutions will need to work more collectively with professional bodies and industry leaders to meet the industry demand for qualified risk professionals in India. For example, integrating IRM’s Level 1 Global Examination in ERM with undergraduate or postgraduate programmes in any field (technology, commerce, management studies, engineering, financial markets, economics, marketing and others) could be a starting point for institutions to address the challenges of practical exposure, awareness among students and industry recognition. Instead of pursuing a graduation alone, institutions could help students enhance their employment and salary potential with IRM’s professional ERM qualifications. The total investment is under INR 6 lakhs and the Level 3 qualification (GradIRM designation) is at par with an international masters or postgraduation. This would serve as a good return on investment with an internationally recognised qualification alongside the students’ regular studies. For more information, institutions can visit <https://www.theirmindia.org/globalqualifications/careerpath>

E. Does your Institution plan to offer new courses covering ERM in the next three years?

Response	Percentage
Yes	50 %
No	50 %

Reasons for not offering new courses in ERM
New courses addition decision from the affiliated University
Decision yet to be taken
The current courses seem to be sufficient at the moment
No plans in the next 3 years
Not aware of such courses yet
If yes, likely courses to be introduced
ERM
Disaster Management
Financial Risk Management
Risk Management
Big Data and Risk Analytics
Green Business
Renewable Energy Management
Failure case studies
Financial Analytics
Industrial safety

In spite of rising uncertainties and lessons from the COVID-19 pandemic, 50% of the responding institutions are still not willing to offer new courses covering ERM / risk management.

What does this tell us?

Institutions are not willing to offer new courses in ERM / risk management primarily because of external factors linked to regulations and awareness / market demand. Working with professional bodies can help institutions address these factors.

The responding institutions that want to offer new courses in ERM / risk management, have expressed interest in focusing on areas like risk analytics, renewable energy, industrial safety, and green business, which is the true essence of ERM.

F. Does your Institution intend to recruit a faculty(s) in ERM in the next three years?

Response	Percentage
Yes	52%
No	48%

52% of the responding institutions are in favour of recruiting new faculty in the area of ERM / risk management.

What does this tell us?

A good number of responding institutions are committed to building excellence in ERM / risk management education by way of investing in new faculty members.

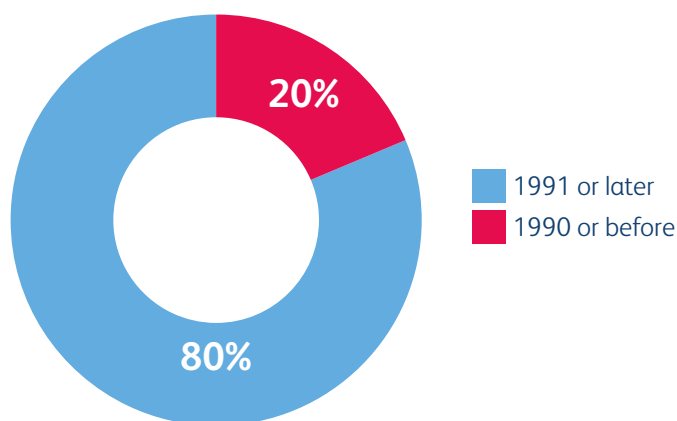
7. The demographic topography of Indian higher education institutions

A. Legal Status of the respondent institutions

Type of Institute	Percentage
Affiliated Institute	60%
Autonomous Institute	14%
Deemed University	8%
State University	6%
Affiliated Institute with academic autonomy	3%
State Private University	1%
Central University	1%
Government Institute	1%
Private University	1%
Others	4%

About 60% of the responding institutions are affiliated to a university. In the current regulatory scenario, the university takes most of the decisions on introduction of new courses and curriculum development for the affiliated institutes. Hence the latter may not have much flexibility for introducing new courses or expanding the scope of research and teaching in the areas of ERM / risk management.

B. Year of establishment of the institution



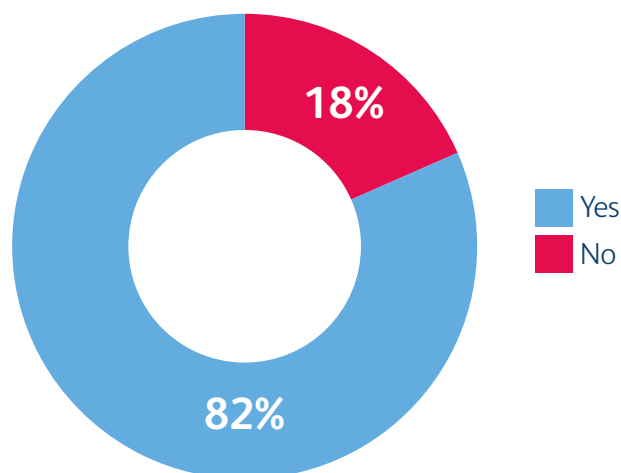
Majority of the responding institutions have been established in the post liberalization period.

What does this tell us?

Even though 80 percent of the responding institutions are 30 years or younger in age, the quantum of teaching, learning, research, internships, and industry collaborations in ERM / risk management has much greater scope for improvement and expansion.

A limitation of this study is that the relatively older universities and higher education institutions have not responded to the survey despite repeated reminders by IRM and AICTE. This could be indicative of either lack of interest in this space, or lack of any priority or focus in the areas of ERM / risk management. A future study is hence necessitated to specifically focus on the older and larger higher education institutions in India to better understand their challenges and explore ways to bridge the gap between the need for ERM education in India and the current situation with respect to teaching-learning and research.

C. Should academic regulators mandate higher educational institutions to have a formal ERM framework?



82 % of responding institutions agree that academic regulators should mandate a formal ERM framework.

What does this tell us?

A regulatory mandate will significantly boost the ERM / risk management landscape in the Indian higher education system. Additionally, institutions shall take advantage of the IRM-AICTE collaboration to include professional ERM education in their course offerings. Many higher education institutions in developed countries have a dedicated CRO and risk management team to continuously evaluate internal and external uncertainties beyond natural calamities and safety issues which are the most common risks. Hence, there could be a mandate for setting up a risk function at every higher education institution where the head of the function shall report into the academic regulator's risk department. A quarterly assessment of risks must be carried out by the institution and submitted to the regulator for review and comments. Risk mitigation plans must be assessed for adequacy and business continuity periodically including a risk management audit that may be carried out by the regulator.

Section 5: The case for risk management education

A Pathway to opportunities

The range of our decisions can be varied, but few have far-reaching consequences and implications. To illustrate my point, we decide on the least obstructive travel route to reach our office on time for an important review meeting to avoid the risk of getting delayed. Routinely, we take decisions on delegating work to our teams. Deciding when and how to ask the manager for a raise or promotion can be sensitive and tricky. Regularly, we make decisions around investments, education and career choices, holiday plans, job change and even marriage proposals.

Mostly we make decisions based on our experience, learnings or just gut instinct. At times we evaluate the pros and cons of our decision deliberately. Decision-making in each situation is about understanding and managing associated risks that usually unfold over time. All our decisions have an element of embedded risk, which we have intuitively learned to deal or cope with. Few people get formally educated or trained as risk managers.

Just as in the personal space, risk management is an integral element to be understood by every business manager in the context of business decisions. Business activities involve decisions all the time. Business decisions range from making the right strategic choices to routine operating decisions. Risk management is pervasive across all businesses. It cuts across all enterprise components, all disciplines, all departments and managers - across all levels.

Upon completing their academic course, our students will join business and industry in one form or another. Therefore, the knowledge of risk management concepts and practices should be assimilated as part of the academic foundation of our students. The Indian economy will offer our students plentiful employment opportunities after they complete their academic years. As our students take up management roles in the industry, they will need to learn and practice the art of decision-making. Students possessing knowledge and competencies of risk management will turn into better business managers and will be able to differentiate themselves from everyone else. Let's contextualise this opportunity.

The Indian economy is poised to grow - but so are the risks!

Indian GDP is currently around US\$ 3 trillion. SandP Global Ratings has projected a 9.5 percent GDP growth for India in 2021-22 and 7.8 percent in 2022-23. The World Bank has pegged the growth at 8.3 percent in 2021-22. Even with modest growth, the Indian economy will be one of the top three globally by 2050. Across sectors, the sheer magnitude of the economic growth and scale potential will fuel the need for having a large number of trained risk managers in our workforce. To emphasise this point, we've articulated the risks and opportunities for the manufacturing, e-commerce, and banking sectors below. These sectors are likely to grow rapidly and will have a significant share in the GDP as well. There will be other critical emerging sectors also.

Manufacturing

The manufacturing sector in India contributes around 14 percent of GDP. India has become one of the most attractive destinations for investment in manufacturing. In FY2021, India received a total Foreign Direct Investment (FDI) inflow of US\$ 81.72 billion. India is poised to achieve its full manufacturing potential over the next two to three decades and benefit from the 'Make in India' policy focus, the realisation of demographic dividends and a large workforce.

While the opportunities are immense, the manufacturing sector remains exposed to many risks. For example, this sector faces risks from the supply chain network being affected by adverse events such as physical disruptions, accidents, trade restrictions or supplier disruptions. Potential risks arising from poor industrial relations, manufacturing technology obsolescence and the impact of the commodity cycle are a few more examples of risk categories for this sector. Needless to say, effective mitigation of all these exposures requires active risk management.

E-commerce

In India, e-commerce has changed the way of doing business. From US\$38.5 billion in 2017, the Indian e-commerce sector is likely to expand to US\$200 billion by 2026. A surge in internet and smartphone usage has sparked growth for most of this industry. Driven by 'Digital India' initiatives, the number of internet connections in India increased hugely to 776.45 million in 2020.

Since e-commerce is heavily technology-intensive, any disruption in the operating technology can immediately impact business operations. The second critical risk for e-commerce relates to information technology and could involve a cyber-attack, security breach or a prolonged network failure which can have significant consequences. Therefore, while the sector is tremendously scalable, it can only realise its full potential with active and integrated risk management.

Banking

The banking sector accounts for approximately 7.7 percent of India's GDP. During FY16 to FY20, bank credit grew at a CAGR of 3.57 percent. During FY16 - FY20, deposits grew to Rs.141.6 trillion (US\$1.93 trillion) at a CAGR of 13.93 percent. According to the RBI, bank credit and deposits stood at Rs.108.6 trillion (US\$1.48 trillion) and Rs.151.34 trillion (US\$2.06 trillion) respectively, as of April 2021. Credit and deposit growth in the banking sector are bound to mirror the GDP growth trajectory.

The key risks that the banking sector deals with are credit risk arising from potential defaults by the borrowers, capital adequacy risk impacted by their non-performing asset levels, sudden catastrophic economic risks and general financial risks. The global financial crisis in 2008 and the global outbreak of the COVID-19 pandemic are examples of operating risks that can intensely impact the banking sector. The risk organisation of a bank is a critical function - also overseen by the RBI as the regulator. Therefore, the need and opportunities for risk professionals in a bank's risk team are enormous.

Risk management as a pathway to pursue opportunities

The strategic objectives of a business organisation influence its priorities and actions. Therefore, a robust ERM framework must support strategy development and performance management. A commitment of the top management to establish the right risk culture sets the tone at the top. The organisation should be clear on its risk profile and the risk appetite in the context of its strategic or business objectives.

Processes around risk identification, assessment of risk severity, risk identification and implementation of appropriate risk response are integral elements of an ERM framework. Once business managers understand the impact an integrated ERM framework can make, they can identify opportunities flowing from the strategic risks - then pursue them and enhance the value-added.

Below I'll share the example of Bajaj Finance, an NBFC engaged in the lending and accepting deposits. As an NBFC, Bajaj Finance gets exposed to credit, fraud, liquidity, market and interest rate risk. However, it mitigated these risks quite effectively by investing in talent, processes and innovative technologies for building advanced risk management capabilities. The effectiveness of their risk management initiatives has enabled them to pursue risks and convert them into growth opportunities. The results are astounding. Bajaj Finance experienced an AUM growth of 35 percent CAGR and PAT growth of 42 percent CAGR between FY2017 and FY2020.

Evolving regulations to fuel demand for a trained risk manager

Governance, risk and compliance management continue to be a subject of intense regulatory focus in India - and rightly so. Recently, SEBI introduced amendments to the Listing Obligations and Disclosure Requirements (known as LODR) about the composition and meeting frequency of the Risk Management Committee. Effective from April 2021, the top 1,000 listed organisations will need to form a Risk Management Committee.

In the same circular, SEBI has also introduced the requirement to have an independent director on the Risk Management Committee. Additionally, the Companies Act 2013 requires an Audit Committee to evaluate the risk management systems as part of their terms of reference.

Due to compliance requirements, business organisations will need to hire more trained risk management professionals. The depth of risk management skills and competencies required to ensure regulatory compliance is bound to expand. Industry, academia and professional bodies such as the IRM can collaborate to create a rich pipeline of risk management talent.

Academia-Industry collaboration

India is poised to grow across sectors. However, people are not yet risk-aware or risk literate to the extent they should be. Awareness, knowledge and competencies need a lot to be desired. There is an immense requirement for trained and skilled resources across all functional specialisations. Risk management skillsets would sit very well with the other branches of management and technical studies. Professional bodies such as the IRM, education bodies and industry participants can collaborate and play a high-impact role in disseminating risk management skill sets.

Universities should consider including appropriate courses in risk management, with necessary credit points across their academic streams. In addition to enrolling in these risk management courses, the students can also take up industry internships in risk management to broaden their learning as part of the curriculum. The industry representatives can consider providing projects around ERM challenges in their organisations as part of these internships. Industry can also consider providing support to the higher educational institutions by co-opting trained ERM managers on faculty teams for sections of the curriculum where their practical experience can add value.

Universities can also consider introducing specialised risk management training programmes as part of the executive education curriculum. Industry participants can sponsor their leaders and executives for these programmes in risk management. Risk management as a subject has enormous practical application. Therefore, every student of risk management needs to acquire conceptual knowledge by means of the relevant exposure.

The risk management professional's role is becoming increasingly sought after. With an increasing awareness of this subject, the CRO's role is emerging as a strategically critical role. Professional finesse, strong leadership capabilities and an innate strategic orientation are the attributes of a seasoned risk professional. The IRM provides a rich grounding and a global platform to budding risk professionals.



Neeraj Basur, CMIRM
CFO of a listed company in India

A Journey to reinforced learning

But they help the human race to reassess the priorities and differentiate 'necessities' and 'wants'. This pandemic has also taught us the importance of adapting to changing situations basis of continuous monitoring of trends. This continuous monitoring helped countries understand the spread and control of COVID. It helped in understanding what is the benefit of vaccination. In the absence of such monitoring, we can only imagine what success (or failure) we would have faced if this such monitoring was not carried out. This could be the best way of understanding the importance of continuous ERM and monitoring around it.

Organisations need to grow their top lines and manage bottom lines. Every decision that an organisation takes has repercussions on both the top and bottom lines. In today's digital world where dynamics change without giving warning, strategies cannot be defined for 5 years. As such, organisations have moved towards one to two-year strategies. Subsequently, it is also important to monitor how organisation decisions are helping them to stay aligned to their strategic objectives. This is what ERM does. And this is why it is extremely important.

ERM is a comprehensive way of looking at how the organisation is aligned to the organisation strategy. It encourages organisations to evaluate risks from various perspectives like operational, business, legal, ecosystem-level risks, people, technology, cyber security, business continuity etc.

Once the organisation initiates the ERM journey, it helps them identify not only risks but also opportunities. As such, it is what the C-Suite needs to be able to take recourse as could be required before the damage becomes significant.

Even after being part of the ERM industry for over 17 years, I personally feel that even ERM is a highly evolving subject. It has a huge scope of maturing and brings more and more value to the organisation. The ERM industry has moved towards data analytics and with such innovations being brought out, ERM as a skill will never be out of demand.

ERM and overall risk management functions need to move towards 'Reinforced Learning' concepts. Let me give an example here. Lane Keeping Assist feature in cars gives a warning in case of a lane departure. It sometimes also takes steps to ensure that the vehicle stays in its line. However, it is important to note that if the vehicle is running well within its lane it will not face any challenges. In case, it does not manage to stay on course, it will get a preventive warning. This is how the risk fraternity will need to move towards. Enable businesses to run without any challenges as long as they are following all the processes. If required give a warning and in case of a major deviation, implement controls without any further delay. This is the aspiration that the risk fraternity needs to plan to move towards. We all are at various stages of maturity in this aspiration. We need a lot of fresh ideas to help us achieve this.



Nirav Doshi

Head - Enterprise Risk Management
National Payments Corporation of India (NPCI)

Section 6: The academic leadership perspectives of risk management

“Risk as a concept has evolved exponentially over the years. Every domain in any organisation, institution or business would have risks in general. What is important is to assess risks from a 360-degree viewpoint. Organisations going through MandA processes, structural changes, internal employee shifts, branding changes - all of them would come with a package of risks which need to be assessed, planned for and worked around before the actual crisis occurs. Doing the right due diligence and involving the right stakeholders is important and all higher education institutes who help students in these foundations are bound to fixate on a secure and promising path.”



Dr. Kanagaraj Ayyalusamy

Professor (Accounting and Finance)

Xavier School of Management, XLRI (Jamshedpur)

“The importance of risk awareness around you and around your organisations has never been so pressing as in the current times. Planning for risk management and crisis management must become the first priority of all businesses and in all the sectors of education.”



Mr. V.M. Bansal

Chairman

New Delhi Institute of Management

“COVID-19 has accentuated the need for risk management culture as organisations struggle with the problem of business continuity. Risk management weaknesses across most global institutions are extremely pronounced today and call for immediate attention. Corporates and business organisations must embrace the ERM approach to managing all key business risks and opportunities to maximise stakeholder value.

Enterprise-wide risk education/literacy, keeping abreast with Industry 4.0 and Skills 2030 requirements is a way forward to equip budding professionals/managers to navigate future challenges and help organisations to stay afloat amidst vicissitudes of time.

As a premier business school in insurance and risk management in India, we have enriched our curriculum by incorporating various risk management courses including that of the IRM. We are also working with IRM India RIG in our humble way to propagate ERM courses to make India a risk-resilient country.”



Prof. Abhijit Chatteraj

Programme Chairperson, PGDM (Insurance Business Management)

Birla Institute of Management Technology (Greater Noida)

“The recent past has shown that recurrent episodes of heightened financial market volatilities and shocks from emergent risks can collapse vulnerable institutions and transmit quickly across globally interconnected entities. Responsiveness and resilience to such events in the future will hinge upon effective risk governance and control systems; driven by a talent pool of people equipped with the necessary know-how, skills and competencies in risk management.”



Dr. Tasneem Chherawala
Faculty in Risk Management
National Institute of Bank Management (Pune)

“The world keeps on changing and keeps on increasing its pace of change. COVID has given an acceleration to this pace in many sectors, giving us a clearer idea of how these changes can affect us and the market.

India is changing way faster than the rest of the world, and its scale and technology can literally disrupt a sector from morning to evening.

The risks for corporates and personal careers alike are huge nowadays, and it is no longer possible to thrive on the status quo of a company or a position, without making proper strategies that keep ERM into consideration.

I would also add that India is home to the largest spirit of entrepreneurship and start-up, with thousands of start-ups coming up every year, giving birth to the highest number of unicorns, but also of companies that close young. Most of these start-ups come out from colleges and business schools. Business schools and colleges must become the places where a sound culture of ERM is created, not only for the management of risk itself but also for the overall health strategy of the company.”



Mr. Alessandro Giuliani
Managing Director
SDA Bocconi Asia Center (Mumbai)

“Risk intelligence is by far one of the most important skills for Industry 4.0. The way companies and organisations were caught unprepared by the current pandemic further highlights why risk management as a skill is the need of the hour. It is important that this subject area is incorporated as a part of not only university-level learning but also high school. We need to teach our future workforce to build organisations which are more resilient and that can happen only when they are taught how to manage the risk, and manage it well before they enter the workforce.”



Mr. Abhishek Gupta
Founder and CEO
High School Moms (India’s Biggest Parent, Student and Educator Community) and
International Alliance of Counselors and Educators (Gurgaon)

“The biggest proactive future investment for the next decade for any industry sector will be risk management. The evolving phase of COVID offered innovative learning ways for higher education institutions to draft a well-defined framework and ensure end to end learning of risk management aspects, especially the decision making for the budding army. Though the realisation by organisations that all functions are coupled and risk in a functional area is transferred automatically to others may be late, yet it has its own significance which can be executed with an active engagement of experts to help aspirants and organisations survive and prosper.”



Dr. Rinku Joshi
Director
Daly College Business School (Indore)

“There is an urgent need for upskilling the existing and the future workforce in the post-pandemic time. Though the skill sets desired through the 4th Industrial Revolution and the current pandemic are mutually exclusive, risk management skills are the need of the hour. Corporates need to train their associates on the new roles and activities; at the same time, academia needs to groom the future workforce on the knowledge and skills desired in the post-crisis world. The requirement for reskilling and upskilling of the current workforce should be analysed by leaders and to be factored in the budget of the annual action plan to deliver new business models in the post-pandemic era. In addition to the technical skills of the associates, the life skills such as; social, emotional, spiritual, adaptability and resilience should be focused on the sustainability of the business and the holistic well-being of the employees. The risk intelligent workforce should respond in dealing with the present situation and managing continuity, recover learning and emerging stronger and thrive for preparing for the new normal. The three key qualities of a risk intelligent workforce should be; risk governance, risk management and risk ownership for the post-COVID world.”



Prof. (Mrs.) Rajita Kulkarni
President
Sri Sri University (Odisha)

“Risk is defined as the effect of uncertainty on objectives. The ongoing COVID-19 global pandemic has brought back focus on managing low probability high impact events that can cause widespread disruption across sectors and have a global impact. Managers require special skills and knowledge to navigate their organisations through these uncertain times. Such times call for exceptional management abilities that cut across boundaries of functional management areas like operations, marketing, finance, and HR. The discipline of ERM provides a body of tools and techniques that help organisations in risk identification, risk assessment, and risk mitigation. Implementation of ERM helps organisations to track both the internal and external business environments and prepare themselves to minimise the impact of foreseen adverse events occurring in their business environment. It thus works as an early warning system that gives the management time to react judiciously to a forthcoming large impact adverse event. On the other hand, ERM can also be used to flag potential opportunities early, so that these can be exploited to the benefit of the organisation. In my opinion, in today’s world every organisation, public or private, established or a start-up, big or small, needs to implement ERM to enhance its capability to successfully negotiate the volatile business environment. ERM has now become an essential tool in every manager’s toolkit.”



Dr. Arnab Kumar Laha
Associate Professor
Indian Institute of Management, Ahmedabad

“Businesses face risks of multiple kinds on a regular basis. Investors expect good risk-adjusted returns and managers need to manage their risks in such a way as to meet the objective of their firms. In this context, the function of ERM plays a key role in any firm. The ERM function includes the planning, assessment, recording, and reporting of risks relating to various activities across the firm. Traditionally, the management of risks was focused on people, processes, and core technologies in a firm. However, the business world is now deeply engaged in dealing with new and serious issues of climate change, cyber technology, and health pandemics. Risk managers need to understand and help manage the impact of such issues on their businesses.

It is important for ERM executives to prioritise their key tasks and focus on them. In this regard, they should continuously interact with colleagues within the firm and outside practitioners and analysts. The assessment of risks and the effectiveness of controls is often a difficult task and ERM managers will benefit from listening to their stakeholders and learning on new developments. The predictive, as well as detective controls, should be thought of, in advance, for normal as well as stressed scenarios. This requires studying the processes, simulating the scenarios, measuring the risks, and sorting on the importance of such risks for the concerned firm.

In short, ERM is a key function that has its impact across the firm and needs continuous refinement as well as empowerment to ensure that the objectives of a firm are achieved without a major shock.”



Dr. Hemant Manuj

Associate Professor and Area Head - Finance
S.P. Jain Institute of Management and Research (Mumbai)

“The socio-economic impacts of the pandemic clearly indicate that risk literacy is the need of the hour and one of the most important future skills in a post-crisis world. Risk literacy helps in enabling individuals to develop risk mitigation skills. A risk literate person is always in a better position to identify, strategise and deal with risk in an informed manner. Since risk is inherently involved in every business scenario, risk literacy must become part of common business parlance. Strategies should be developed to recognise, model and consider cumulative effects of interconnected risks which have a far greater consequence in aggregate.

A structured and holistic approach to ERM will be good practice for enterprises. The pandemic has taught us that the post-crisis world needs to be embraced with dynamic and agile approaches including ERM to manage risks in a better manner to enable us to quickly adapt to the new realities caused by such a crisis. Therefore, the need of the hour is to formulate centralised and coordinated strategies to re-balance and re-energise the economy and to equip our young generation with future skills while creating a risk-intelligent workforce.

I congratulate the IRM India RIG and AICTE for launching the research report on risk literacy and ERM education which will be a very important and useful document for the faculty, students and public at large.”



Dr. (Mrs.) Pankaj Mittal

Secretary General
Association of Indian Universities (New Delhi)

“The business world has become VUCA (Volatile, Uncertain, Complex, and Ambiguous). In the year 2020, the COVID-19 pandemic has changed the definition of doing business. Risk has become an inherent part of the dynamic business environment and has become a natural imperative in the post-pandemic crisis world. Today it happens to be all-pervasive at both a micro and macro level of economy (systematic and unsystematic). There is a need for proper risk assessment, risk monitoring, and risk management in the highly vulnerable areas across all verticals of the business.

The precise role of risk management is to identify and manage all those risks that businesses encounter throughout this volatile journey. Indian and the global economy and its markets are undergoing rapid transformation and the current pandemic has underscored the importance of protecting organisations against future uncertainties and threats. Globalisation and technological innovations are changing the way economic and financial impulses are transmitted across the globe. Therefore, there is a need for a robust risk management system in all verticals of the business to create a risk-proof ecosystem and find alternative avenues for business growth. A career in risk management is a suitable path for many young professionals who require analytical skills, problem-solving skills, and decision-making skills. The roles and opportunities for risk management exist in all sectors and across all domains. Hence, a certification in risk management along with your specialisation will offer you the opportunity to become a risk-intelligent business leader in that area.”



Dr. Pankaj Natu

Director

Thakur Institute of Management Studies and Research (Mumbai)

“Having contributed to starting innovative technology-based programmes in e-Business (2001) and ERM (2010) and with close association with the IT Governance Institute, CIO/CISO groups for the past three decades, I cannot over-emphasise the role of technology and equally the need for heightened alertness to risks associated with it. With a rapid transition to online in recent times, students, faculty and lay citizens alike are unknowingly exposed to many risks such as spam/phishing, intrusion in virtual meets, credit card frauds since the devices they use for their work are also used in banking, online shopping and social media. With emerging technology such as AI, IoT and smart devices in everyday life we are also exposed to these risks. It is, therefore, necessary to create an awareness about these risks and the best practices to minimise both at an enterprise level as well as at an individual level.”



Dr. Pradeep Pendse

In-Charge Director (University Programs) and CTO

Welingkar Institute of Management (Mumbai)

“The last two years have brought into focus the necessity of surviving and succeeding in times of recurrent upheavals and the need for embracing volatility to drive desired change. Fostering adaptiveness is the key today which cannot be done overnight and requires future-focused, goal-directed planning to mitigate risks. ERM today assesses all risks which could be a threat to a company’s financial well-being and opportunities in the market and thus it is becoming a means of change management by understanding an organisation’s tolerance for risk, categorising, and quantifying it.”



Dr. Shivdasini Singh Amin

Associate Professor

Mahindra University (Hyderabad)

“In this VUCA world, nothing is certain except death and taxes. Whether it is turbulence or uncertainty, the risk is in all scenarios. Risk and risk literacy must become part of common parlance.

Unlike basic literacy, risk literacy requires emotional rewiring. Risk literacy is a vital topic for the 21st century. We should encourage and equip students to make informed decisions for themselves. It should be taught from the beginning of elementary school. Let us dare to know - risks and responsibilities are chances to be taken, not avoided. Risk literacy is the need of the hour.”



Ms. Sunanda Rao
General Secretary
National Career Counsellors Network (New Delhi)

“Whether students are starting up a new venture, scaling up a family business or stepping up the corporate ladder, the ability to identify and manage risks in every decision is now a prerequisite to building long-term, crisis-ready sustainable businesses. The skill of risk-based decision making and an enterprise-wide approach to risk management will help entrepreneurs and business leaders convert uncertainties into opportunities thereby enhancing the survival of organisations. The IRM-AICTE initiative will surely go a long way in building risk-intelligent leaders.”



Dr. Indu Shahani
President
School of Design and Innovation and School of Management and Entrepreneurship
(Mumbai)

“The pandemic has brought the certainty of uncertainty into sharp focus and increased manifold the significance of managing the associated risks. The need to develop and hone risk assessment into a discipline in its own right has never been more apparent and its wide dissemination is the need of the hour. Both individuals and institutions need to give priority to building capacities that enable them to manage risks optimally.”



Dr. Rama Sharma
Principal
Hansraj College, University of Delhi

“Throughout this turbulence of the last seventeen months, COVID-19 has reinforced the one constant - the need to learn, adapt, and change. It has also undeniably underscored the need, for organisations, to be better prepared by continuously looking for unexpected outcomes in any unanticipated and unforeseen event. Risk management strategies have been generally operating in a fiercely competitive landscape so far. Today, however, we need greater cooperation in building a socio-economic landscape that encourages people to act in their own best interests. By doing that we will be helping organisations to more effectively navigate the risks that they face.”



Prof. Dinesh Shenoy
Dean, Faculty of Business, FLAME University, Pune

“The biggest challenge that the pandemic has posed to humanity is not confined to health and economy but to the world that was ensnared in conformity. Today risks of all shades and dimensions are surfacing and humanity is struggling to manage, let alone conquer. The latest being engendered is global warming. In the Indian context, insurance and risk are lesser cousins of finance, law, taxation, accounting and barely get noticed in the academic circle.

Very few institutions of repute deal in the co-creation of knowledge on these neglected twins where possibilities for explorations through research and publication is abounding.

Hence this attempt by IRM and AICTE is praiseworthy to disseminate knowledge in various sectors where risk prevails. Financial literacy and risk education are assuming great significance even as we embark on an ambitious goal of creating 100 million additional manufacturing jobs in the Indian economy by 2022.

However, the very essence and foundation of all new business success is to be found in the risk awareness and the conceptual clarity of risk management that the young entrepreneurs are handed out even before they meet the first major crash-land and colossal losses that many a times force them to pull the shutters down on their enthusiastic mission of generating employment and contributing to the GDP.

It is in this context that a structured and scientific format and method of educating the masses is to be taken up in right earnest by all the stakeholders, the most important of which is the Academia at CHRIST (Deemed to be University) an idea that started in 2015, by incorporating risk awareness and insurance education mapped with finance and accounting professionals has been well appreciated by experienced minds from the industry and we are indeed delighted to take forward this journey with the support of key stakeholders and institutions with like-minded goals and vision for the ecosystem and our economy in particular. I place on record my hearty appreciation and good wishes to the IRM and AICTE team on this venture and hope that this opens up new vistas of thought process in addressing the key issues and pain points of this world with respect to challenges in the field of risk management.”



Mr. Biju Toms

Associate Professor and Director, Department of Professional Studies
CHRIST (Deemed to be University), Bangalore

“Today we are confronting unprecedented social, economic and environmental difficulties as a result of rapid globalisation and technological advancements. We cannot anticipate the future, but we must be open to it and prepared to face it. Students need to develop interest, creativity, flexibility to cross over such uncertainty. They also need to learn life basics lessons such as valuing others’ ideas and perspectives, how to face failure and rejections and to look forward in life with positivity.

In general, society has a better understanding of the rewards involved, but a much lesser appreciation of the risks involved that impact the rewards. An understanding of the risk management related lessons has been vital as it enables the students and the community to make informed decisions and this would be the focus area in the emerging digitised world of data. Risk management though has been receiving attention in the financial sector, as a discipline, and is yet to spread across societies and other enterprises. In the absence of an introductory understanding of risks involved, mitigations and how to look at alternatives in terms of risk, the students are devoid of risk literacy. Finance literacy, in my view, is incomplete without risk literacy.”



Dr. Dwarika Prasad Uniyal

Pro-Vice Chancellor
R V University (Bengaluru)

Section 7: The business leadership perspective of risk management

The importance of ERM has grown significantly over the past few years in overall enterprise governance. A robust ERM framework allows entities to achieve their strategic objectives while managing risks effectively, and provide a competitive advantage amongst their peers. Successful companies not only focus on mitigating potential risks but find opportunities amongst the risk landscape and proactively exploit the risk spectrum to their advantage. COVID-19 has further made a strong case for enhanced emphasis on ERM.

Companies are taking great strides to embed ERM effectively and build a robust risk culture. Regulatory bodies are also reiterating the importance of having a strong risk management function within companies and ensuring operational resilience. With the growing importance of ERM and acceptance within the industry, it will be important to incorporate ERM topics in the education curriculum. This will enable the future generation to build enterprises with a strong risk management foundation.



Mr. Vijay Chawla
Head – Risk Advisory
KPMG, India

“The growth of the BFSI segment is very fast with the introduction of innovative and complex products, application of technologies and decision making based on the various sources of data. To make this growth sustainable, there is a need to have proper and timely management of risk across the enterprise and looking at the complete picture of the organisation. ERM is the next level for the success of the financial sector. ERM is needed to be part of the governance, process and culture of the organisation.

To have ERM, there is a huge requirement of a trained and certified workforce. There is a big gap in the demand and supply of well-qualified risk managers. We need to have skilled manpower who can handle risk in efficient and intelligent ways with the use of Risk Modelling and advanced analytics.”



Mr. Rishikant Dubey
CRO
Muthoot Microfinance Limited

“Risk management has gathered attention in multiple ways especially considering the ever-changing scenarios during the pandemic. We have felt the need for risk awareness and management at all levels across the company in identifying the key risks involved, their mitigation measures and minimising their impact. A strong focus on including risk management in all critical functions helps in enforcing accountability across the company. Quality risk reporting helps in adequate disclosure to all stakeholders. Considering this, enterprise-wide awareness and upskilling in risk intelligence is the way forward.”



Mr. Avinash Jain
GM Finance
Wipro Limited

“Risk management for all companies has become one of the critical tools for survival in the current disruptive world. COVID and its impact on life, livelihood and uncertainty have practically tested companies’ preparedness in fighting and surviving such disruption. The ERM process which started as a compliance tool has now become the survival tool for companies across. Right from the prediction of future risks to planning the mitigation and having a robust BCP in case the mitigation fails is a must for businesses across.

Today and the future look very challenging with emerging risks like climate change and fast depletion of resources. Risk management must become a way of life to face, fight, survive and progress in the current dynamic world. Organisations like the IRM will have to play a critical role in this journey.”



Mr. Pankaj Kumar
Chief Internal Auditor
CEAT

“The risk landscape is evolving at a rapid pace and this pandemic has proven beyond doubt that effective risk management is ingrained in the DNA of responsible and successful businesses. It is also clear that for risk management to be effective, it cannot be a matter that only the Risk Management Organisation is tasked with but really needs to be well understood and practised by the entire organisation. In today’s disruptive and competitive environment, risk management needs to be equally agile and dynamic, providing a perspective on strategic risk and enabling risk-based decision making by leveraging scenario planning using data-driven techniques and predictive models; identifying potential crisis events and enhancing the vigilance posture and building resilience by design in critical strategies for the organisation and the extended enterprise. All this requires significant enhancement in risk literacy, risk intelligence and risk culture. These competencies are very relevant today but not widely available or accessible.

In addition to skilling business managers on risk management, there is a need to develop a talent pool to meet the ever-increasing demand for trained risk management professionals. The need of the hour is for educators to include risk management with the management/technical education curriculum and enhance the trained risk management talent pool by providing world -class certification programmes that are recognised and accepted by the industry”



Mr. Santosh Kumar
Partner
Deloitte India

“This is an era of profound transformation globally, wherein businesses are striving to hedge their downside risks in their growth plans, as well as managing external risks simultaneously. ERM has emerged as a critical function to alleviate dynamic businesses and achieve their long-term and short-term strategies. Organisations expect the ERM function to not only mitigate the external and downside risks but also to aid them in harnessing the benefits from the upside.

Business strategies today are designed to meet the expectations of diverse stakeholders including investor communities, regulators, compliance to ESG norms etc. At the same time, risk management is also continuously being integrated with performance management across leading businesses globally.

Hence, it has become critical for every business with good governance practices to:

- > Establish a risk-aware corporate culture
- > Embed risk into daily business decisions
- > Design risk-informed strategies
- > Establish robust and consistent communication channels to drive risk management through all the layers of the organisation

Businesses are also designing advanced risk intelligent systems with embedded risk

analytics to optimise the risk exposures as well as deliver value by successfully embracing the upside risks.

In order to establish and operate an optimised and efficient ERM function, more and more organisations are seeking professionals with deep experience, expertise and formal education in ERM. A formal training programme on ERM includes an understanding of its evolving structural elements and key imperatives of an advanced risk intelligence system. Enhancing ERM skill sets has become vital not only for the next generation looking for better career options but also for existing professionals trying to advance their career in the ERM domain.”



Mr. Sachin Maloo

Managing Director, Internal Audit and Financial Advisory
Protiviti India Member Private Limited“

“Risk is a challenge; risk is an opportunity. The pandemic waves, coupled with accelerated climate change and manifold increases in cyber threats, have brought us to a world where risk literacy has become an urgent necessity, a survival tool for businesses and economies. In the business and economic world, there is growing awareness of the ESG aspects amongst corporates, financial institutions, private equity, mutual funds, etc. The corporations are reporting on five capitals viz. financial capital, manufactured capital, intellectual capital, human capital, and social and relationship capital. While reporting on all these capitals, they have to address the risks associated with each and also evolve strategies to maximise the returns for the stakeholders and ensure the optimum utilisation of the resources at its disposal.

Chartered Accountants have always taken a lead in understanding the changing world, investing in learning new skills required and supporting the business community by providing valuable services in new domains. In the present times, professionals, especially Chartered Accountants, have a golden opportunity to sharpen their understanding of ERM through formal education and offer advisory services in this specialised area. This is an emerging area of professional pursuit for Chartered Accountants; an area that would enable Chartered Accountants to provide crucial support to the business community.”



Mr. Abhay Mehta

President

Bombay Chartered Accountants' Society

(Leading voluntary organisation with Chartered Accountant members across India)

The pandemic proved that we cannot eliminate risk but we can minimise its negative impact on our business. Industry 4.0, driven with technology, asserts the possibility of making the ‘new normal’ a way of life, indefinitely. Blue Dart’s future-ready solutions safeguard our stakeholders’ interests and ensure organisational resilience. This is only possible through enterprise-wide education on risk intelligence. We have engrained a ‘risk-intelligent’ culture that encourages our colleagues to identify risks and respond to them with an effective ‘identify, assess, manage and mitigate’ process flow. This has helped us manage our business with minimum disruption and cost, to protect and preserve the company’s human, physical and financial assets.”



Mr. Savio Mendonca

VP - Internal Audit

Blue Dart Express Limited

“Why there was never a better time than now to have enterprise wide wide risk education as part of the general learning curriculum!

The familiar saying, ‘Change is the only constant’, attributed to Greek philosopher Heraclitus is part of the common folklore. And while the world has always been changing, the onset of COVID-19 has made everyone aware of the possible breakneck pace at which change can take place without any notice. So in essence, what has happened in these challenging times in managing businesses are, among others - improving and automating existing business processes to meet changing needs, improve business continuity management and disaster recovery processes, improve capabilities at stress testing and scenario analysis to have better predictability, renewed focus on technology and also harden our resilience to ward off possible threats coming from those who found the time opportune to exploit possible vulnerabilities to take their pound of flesh!

All these put an unprecedented demand on the risk management domain, which has been able to come up with innovative ideas, new approaches, collaborative models to work with businesses with solutions in managing the rapidly unfolding challenges. These approaches have set up new paradigms of excellence on how risk and business integrate for business optimisation. Among all these challenges still coming up, few important realisations have found common resonance among all thinking professionals. One is that all organisations need to foster a culture of being ‘Risk Aware’ in a structured manner to inculcate and ingrain a risk management culture. Secondly, we must develop a cadre of professionally certified and trained ERM professionals to handhold risk management learnings, processes as a second line of defence. And last but not the least, as a discipline, risk management needs to be part of the essential curriculum at the school stage itself. The existing curriculum anyway includes financial literacy - which talks about savings, lending and investment activities. Financially aware students may be in a better position to appreciate nuances of risk management.”



Mr. Ashutosh Mishra

Chief Risk Manager

National Bank for Agriculture and Rural Development (NABARD)

“In recent times, and particularly, in light of the profound impact due to COVID-19, there has been a greater emphasis on risk management for the corporate sector across the world. It is now imperative for business houses to develop a framework for the identification of internal and external risks faced by them and in particular the financial, operational, sectoral, ESG and regulatory risks. While in India much weightage has been assigned to corporate governance of late, however, it is critical to understand that a robust risk management framework is vital to strengthen corporate governance aspects for any company. In order to address the growing emphasis on risk management, there is an urgent need to have an institutional set-up which could focus exclusively on risk management and risk mitigation as a curriculum. The focus should be to train personnel to identify risks, analyse the risks and develop methodology, processes and systems for risk mitigation and develop sustainable business continuity plans.”



Mr. Indrajit Mishra

Senior Partner

IC Universal Legal, Advocates and Solicitors

“There’s a popular saying - “if you don’t invest in risk management, it doesn’t matter what business you’re in, it’s a risky business.” In today’s changing business and investment climate with increasing technology and digitisation needs - the value of investing in enterprise risk has increased considerably.”



Mr. Pratik Oswal
Head of Passive Funds Business
Motilal Oswal AMC

“In today’s digital age, Intellectual Property (IP) is considered to be a key intangible asset of organisations and businesses. However, organisations often tend to overlook the vulnerabilities and risks associated with a lack of adequate protection and enforcement of IP. Therefore, there is an urgent need for organisations to develop a robust intellectual property risk management framework which allows them to protect their IP assets while balancing their operational and economic costs as well as guard against any potential third party infringement. First and foremost, it is imperative that organisations educate their employees about the importance of intellectual property and the protection of confidential information and trade secrets. It is also fundamental to nurture a culture in organisations that encourages and incentivises IP protection and development. Organisations must enter into robust non-disclosure agreements with their employees and contractors, as well as put in place technological as well as access control safeguards to prevent any threat or leakage of intellectual property or trade secrets. Further, in view of the rising frequency of ransomware and cyber attacks, organisations must maintain and periodically upgrade their IT infrastructure, and other access control and encryption standards to prevent or at least mitigate the risk posed by such attacks.

Additionally, organisations must put in place mechanisms to identify infringements of their IP rights and enforce their IP rights against infringers. Some effective tools to achieve this is to conduct IP registry watch, market watch as well as IP competitive benchmarking. It is equally important to ensure that a brand or a technology used by an organisation does not infringe third party IP rights and therefore it is recommended to conduct clearance searches as well as freedom to operate searches before launching products in the market.”



Mr. Nandan Pendsey
Partner
AZB and Partners

“Companies worldwide are battling to survive and grow in what has continued to be a highly uncertain and volatile business environment. In this post-crisis world, managing risks and uncertainties will be competing priorities for organisations, governments, and society as a whole. India is positioned to be a global supplier of qualified talent. Enterprise-wide risk management will be a critical skill with organisations now looking to build resilience with a risk-intelligent workforce. Organisations have multiple opportunities, though they come with numerous risks and challenges such as cyber attacks, supply chain issues, climate change fraud, digital inequality, and reputation risks. To reduce the impact of these growing uncertainties, Indian organisations, small or large, will have to focus on setting up ERM functions with qualified professionals from institutions like the IRM. I applaud the efforts of the IRM and AICTE to prepare India with risk-readiness and crisis management skills. A sustainable environment is imperative for the growth and successful future of all businesses.”



Mr. Deepak Sood
Secretary General
ASSOCHAM

“Corporates across the entire spectrum have started placing adequate importance on emerging risks, such as cyber, ESG, geo-political, employee wellness and are also skilling their teams to be well versed and combat-ready to face adverse scenarios in the aforesaid areas. However, it is equally important to take cognisance of the fact that risk in itself is a subject that will emerge or rather is emerging as a skill set. Risk experts are poised to be the fulcrum in bringing synergies as well as a holistic perspective on work done by business/function and domain risk management team.”



Mr. Sivaram Subramoniam

Head - Internal Audit
Titan Company Limited

“Owing to the increasing risks of default and cyber crimes, the Indian banking system has become extremely vigilant and proactive in advancing risk management practices especially from a credit risk perspective. However, the real source of risks in the Banking Industry lies at the company / individual level that is being financed by the banks as they are vulnerable to climate change, reputation, financial, competition, technology and many other risks. If these entities do not implement a robust ERM culture, the Banking industry will automatically become vulnerable thereby breaching the risk tolerance of banks. Thus for ERM to be successful, all stakeholders across the value chain will need to work together and this calls for a huge demand in qualified ERM professionals from professional bodies such as the IRM. Kudos to the IRM and AICTE for this ambitious project”.



Mohan Tanksale

Former CMD, Central Bank of India and
Former CEO, Indian Banks' Association

“In a rapidly changing world where big shifts are redefining the future, organisations are taking an agile approach to business continuity and broader risk management. Banks and financial institutions face a complex set of circumstances when it comes to threat management and compliance risk. At ANZ, our social and environmental risk policy sets out the principles and standards to ensure globally consistent management and mitigation of social and environmental risks. For Industry 4.0, which embraces smart and autonomous systems supported by data and machine learning, cybersecurity and financial fraud, are major areas of concern. Risk professionals now play a very critical role in the banking sector. It is a growing area where a lot of work still needs to be done. There are a lot of possibilities in the field of ERM, and having domain knowledge in risk will ensure a thriving career in the banking sector.”



Mr. S V Venkataraman

Managing Director
ANZ Bank Bengaluru Service Centre

“In this ever-evolving volatile environment, organisations need to be firmly focussed on diligently averting risks and creating an enterprise-wide risk management framework. Robust risk management practices combined with risk-informed personnel, form an integral pillar for the success of any organisation.”



Mr. Deepak Viegas

Global Head of Internal Audit and Enterprise Risk Management
Cipla

Section 8: Institutional Profiles

About the AICTE

The AICTE is a statutory body, and a national-level council for technical education, under the Department of Higher Education. Established in November 1945 first as an advisory body and later on in 1987 given statutory status by an Act of Parliament, AICTE is responsible for proper planning and coordinated development of the technical education and management education system in India.

It is assisted by eleven Statutory Boards of Studies, namely, UG Studies in Engineering and Technology, PG and Research in Engineering and Technology, Management Studies, Vocational Education, Technical Education, Pharmaceutical Education, Architecture, Hotel Management, Catering Technology, Information Technology, Town and Country Planning and Applied Art, Craft and Design. AICTE has 8,957 approved higher education institutions with an intake capacity of 2,959,296 in all technical programmes.

AICTE Objectives

- > **Promotion of Quality in Technical Education**
- > **Planning and Coordinated Development of Technical Education System**
- > **Regulations and Maintenance of Norms and Standards**

About the IRM

The IRM (headquartered in the UK) is the world's leading professional body for ERM qualifications and examinations. The IRM has been driving excellence for over 30 years across 143 countries. Because risk is inherent in everything we do, our professionals across the globe come from varied backgrounds - leadership, risk heads, startups, family businesses, consulting, and across sectors including health, insurance, energy, pharmaceuticals, financial services, retail, technology, and others.

As the world leader in ERM education, the IRM provides an ideal pathway (Level 1 to Level 5) for becoming a risk-intelligent leader and certified fellow, recognised across the globe. The designations awarded by the IRM, are the world's most highly respected titles for ERM professionals. Achieving success in ERM, after passing IRM's rigorous qualifications and demonstrating relevant work experience, signifies expertise and proficiency of the essential knowledge and skills needed to manage enterprise-wide risks across sectors and economies, including cybersecurity, supply chain, climate change, reputation, and more.

With the IRM now in India (IRM India Affiliate), candidates can pursue a professional career in ERM alongside their graduation, post-graduation or work. Earn these designations, join a global community and elevate your professional career to demonstrate that you can successfully manage enterprise-wide risks and develop a robust risk culture with resilience and crisis-readiness for your organisation. For more information, visit www.theirmindia.org.

How IRM can support your institution

The global risk landscape is fast evolving, and organisations must be able to respond effectively - often at a moment's notice. Vital to the survivability and resilience of the entire enterprise, organisations are now recruiting professionals who are risk-intelligent and can help organisations mitigate risks across departments.

As the global leader in ERM qualifications, the IRM India Affiliate works with Indian universities and colleges to support the development of a specialised ERM pathway by:

- Incorporating the global Level 1 examination in ERM into the degree/postgraduate programmes and also offer scholarships to select students and working professionals who are alumni members
- Including an IRM workshop and masterclass programme for students and working professionals
- Integrating IRM's Level 1 to 3 qualifications to create a pathway towards becoming a Certified ERM professional.
- Collaborating on select research projects of mutual areas of interest

Contact us at partnerships@theirmindia.org to connect with the IRM India Affiliate.

Reach out to our Partnerships Office to nominate employees for IRM's Level 1 Global Exam in ERM or to discuss your LandD objectives for IRM's internationally certified customised programs.

Appendix: Survey questionnaire sent to Indian higher education institutions

I. Risk Literacy in India

1. Is risk literacy a critical skill for organisational and individual success? Kindly respond using a scale of 1 to 10, where 1 is least critical, and 10 is most critical *

1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>	10 <input type="checkbox"/>
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2. What is the current level of risk literacy in your students? Kindly respond using a scale of 1 to 10, where 1 is least literate, and 10 is most literate *

1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>	10 <input type="checkbox"/>
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3. What component(s) of risk literacy would you like to cover/are already covering as part of the academic ecosystem in your Institution? (can tick multiple responses) *

- Critical thinking and analysis
- Risk-based decision making
- Complex problem-solving
- Resilience, stress
- Tolerance

Any others (please mention the area)

4. Does your Institution have a dedicated risk officer to advise the leadership on institutional risks? *

- Yes No

II. ERM and risk management courses

5. Does your Institution offer ERM courses (including undergraduate and postgraduate courses)? *

- Yes No

6. If your answer to the previous question is yes, kindly list the ERM courses taught in your institution

	Undergraduate	Postgraduate
1		
2		
3		
4		
5		

7. In which specific subject/functional areas does your Institution offer any type of risk management courses? (Can choose more than one) (Choose NA if not applicable) *

- General Management
- Finance
- Marketing
- HR
- Operations
- Information and Technology
- Strategy and Leadership
- N/A

Any others (please specify)

8. How many courses connected with any type of risk management are taught in your Institution? (Write N/A if not applicable) *

	Undergraduate	Postgraduate
1		
2		
3		
4		
5		

9. What are the names of the risk management courses taught in your Institution? *

	Undergraduate	Postgraduate
Risk Management	<input type="checkbox"/>	<input type="checkbox"/>
Credit Risk Management	<input type="checkbox"/>	<input type="checkbox"/>
Financial Risk Management	<input type="checkbox"/>	<input type="checkbox"/>
Risk Management and Insurance	<input type="checkbox"/>	<input type="checkbox"/>
Disaster Management	<input type="checkbox"/>	<input type="checkbox"/>
Environment, Health and Safety (EHS)	<input type="checkbox"/>	<input type="checkbox"/>
Market Risk Management	<input type="checkbox"/>	<input type="checkbox"/>
N/A	<input type="checkbox"/>	<input type="checkbox"/>

10. Are there any other risk management courses offered in your Institution apart from the ones mentioned above?

Name of course	Undergraduate	Postgraduate
<input style="width: 380px; height: 15px;" type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Number of compulsory and optional risk management courses offered in your Institution. (Write N/A if not applicable) *

	Undergraduate	Postgraduate
Compulsory		
Optional		

12. Does your Institution provide experimental courses (simulation, case studies, etc.) about ERM and/or any other type of risk management? *

	Undergraduate	Postgraduate
Yes	<input type="checkbox"/>	<input type="checkbox"/>
No	<input type="checkbox"/>	<input type="checkbox"/>
N/A	<input type="checkbox"/>	<input type="checkbox"/>

13. If your Institution provides experimental courses (simulation and case studies, etc.) about ERM and/or any other type of risk management please specify. (Write N/A if not applicable)

	Undergraduate	Postgraduate

III. Faculty

14. What percentage of faculty members in your Institution are involved in teaching ERM and/or other risk management courses?

The sum of the numbers entered must equal 100.

Full-time	
Part-time (Guest/Visiting)	

15. What percentage of faculty teaching ERM and/or other risk management courses have the following academic qualifications (in any field)?

The sum of the numbers entered must equal 100.

PhD	
Master's Degree	

16. What professional qualification(s) do the faculty who teach ERM and/or other risk management courses have in your Institution? (Write N/A in one of the boxes if not applicable) *

	Mention the course and the number of faculty
CFA	
FRM	
CPA	
IRM	
CA	
ACCA	
Other (please mention the course name and number of faculty)	
Other (please mention the course name and number of faculty)	

17. Do the faculty teaching ERM and/or other risk management courses have relevant industry experience in ERM/risk management? (Select NA if not applicable) *

N/A

No

Yes, how many years per faculty

18. Have faculty teaching ERM and/or other risk management courses in your Institution .presented/ published research papers connected with ERM and/or risk management? If yes, how many (collectively at the Institution level) (Write N/A if not applicable) *

	Conference Presentations	Published Research Papers
National		
International		

IV. Course Content

19. Which kind of textbooks and reference books are used for ERM and/or other risk management courses in your Institution? *

	Undergraduate	Postgraduate
International Professional Textbooks	<input type="checkbox"/>	<input type="checkbox"/>
Indian Professional Textbooks	<input type="checkbox"/>	<input type="checkbox"/>
N/A	<input type="checkbox"/>	<input type="checkbox"/>

20. Kindly list the top three books used by your Institution to teach ERM and/or other risk management courses. (Write NA in one of the boxes if not applicable) *

	Undergraduate	Postgraduate
1		
2		
3		

21. Does your Institution have a dedicated risk officer to advise the leadership on institutional risks? *

Yes No

V. Academia-Industry Collaboration

22. Over the last three years, have students at undergraduate and/or postgraduate levels in your Institution been assigned to ERM/risk management internship? *

No

Yes, how many years per faculty

23. If the answer to the previous question is yes, kindly list names of three leading companies that engage your students as interns

	Company
1	
2	
3	

24. In the past three years, how many of your graduates are engaged in ERM/risk management-related roles? (for example, internal audit, risk consultancy, assurance, actuaries, risk research, industry risk management team, corporate governance, environment and social sustainability, business continuity, disaster management, etc). *

1 - 9 graduates 10 - 24 graduates 25 graduates or more None

25. If your answer to the above question is other than “None” then kindly list names of three leading companies that employ your students in any of the above areas listed within brackets.

	Company
1	
2	
3	

26. In the past three years, has your Institution worked on any industry-university collaborative research projects related to ERM and/or risk management? *

No

Yes, how many projects

27. If the answer to the previous question is yes, kindly list names of three collaborators your institution has worked with.

	Collaborators
1	
2	
3	

VI. Alumni and Industry Contribution

28. Do industry experts offer courses/help in delivering courses in the areas of ERM and/or risk management in your institution? *

Yes No

29. In your opinion, would a professional body providing industry experts to collaborate with academic institutions on ERM be helpful? *

Yes No

VII. Future Trends and Demands

30. In your opinion, can existing ERM and/or risk management courses in your Institution meet future market demand? *

Yes Partially No

31. If your answer to the previous question was “Partially” or “No”, kindly share two reasons that indicate the existing insufficiencies in the course curriculum

1:

2:

32. In your opinion, can the existing number of students at undergraduate and/or postgraduate levels in your Institution meet the future needs of ERM and/or risk management of India Inc.? *

Yes Partially No

33. If your answer to the previous question was “Partially” or “No”, kindly share two reasons that indicate the existing insufficiencies in the number of graduates suited for the risk profession.

1:

2:

34. Does your Institution plan to offer new courses covering ERM in the next three years? *

If Yes, kindly list the name of the new courses:

If No, please give reasons

35. Does your Institution intend to recruit a faculty(s) in ERM in the next three years? *

If Yes, kindly list the name of the new courses:

If No, please give reasons

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