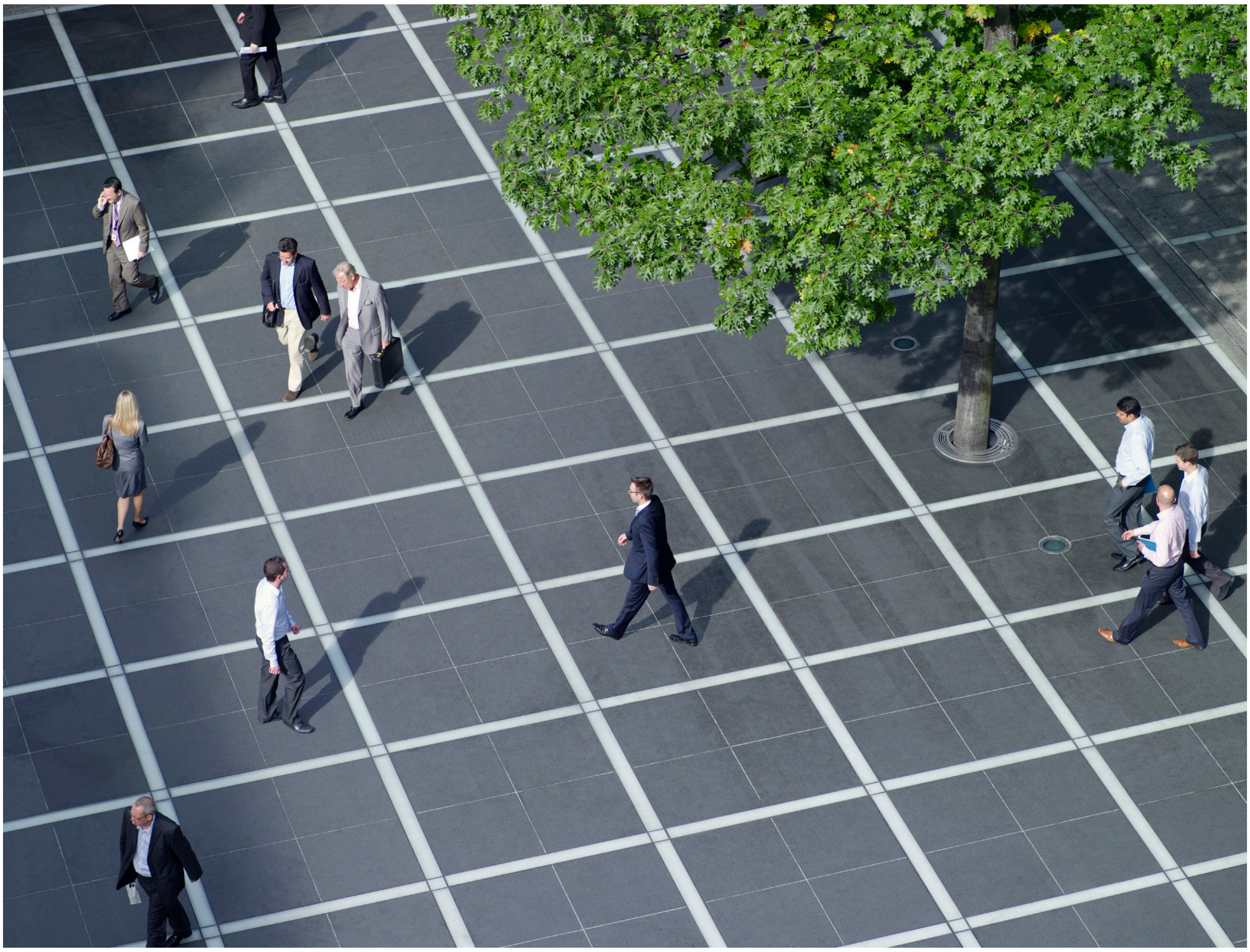
Grey swans: Transformation of risk in an interconnected world



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Foreword

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The risk landscape for organisations the world over and in India is becoming complex. The risks of yesterday are extant and new risks have emerged on the horizon. These include risks arising from increasing interconnectedness of financial markets, supply chains, information pathways. The threats from disruptive technologies, societal shifts and a complex regulatory environment are also adding to the risk landscape. 'Expect the unexpected' has become the new mantra for organisations. As a result, 'black swans' signifying high impact but rare risk events are today turning grey, that is, high impact events are less rare. Interconnectedness is also leading to cascading effects as one risk event triggers another with multiplied impact.

So, are Indian organisations seeing the grey swans? We undertook a survey of more than 80 organisations on risk management. It revealed that the organisation's risk management agenda continues to be occupied with the 'here and now' of risks. The top risks identified by risk professionals do not seem to include key sources of grey swans. The focus on 'here and now' has also perhaps restricted organisations to see risk management as a key lever for 'value protection' or 'value enhancement'. As orgainisations have institutionalised basic risk infrastructure, it appears that risk management is largely seen as a cost driven by regulations or good practice as against a source of value. Though most respondents to our survey do see value in strengthening risk management and also recognise the need to strengthen the risk management infrastructure, surprisingly a majority do not plan to increase their investments for strengthening risk management capabilities.

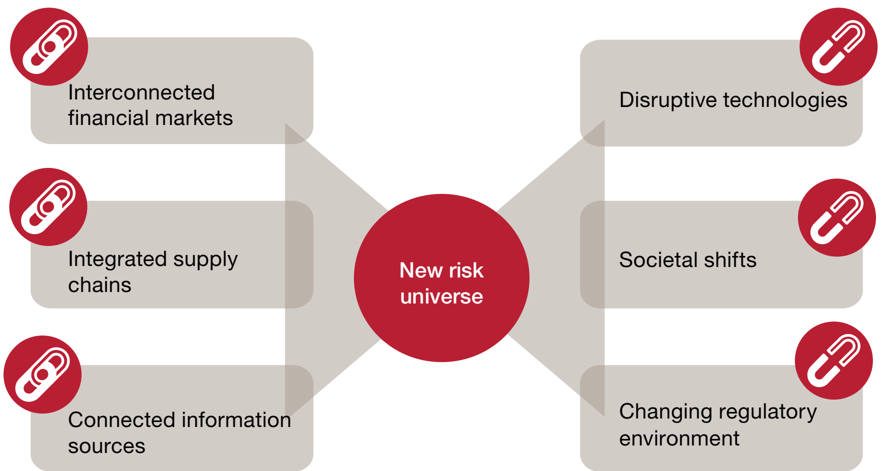
To navigate in the fast evolving risk landscape, organisations need to work on a two-pronged approach, focussed on strengthening their current risk management programme and building risk resilience. While a strong risk management programme will help organisations deal with the short term 'known known' risk landscape, an institutionalised process for building resilience would be key to manage the 'known unknowns'.

In this report, we reflect upon the current state of risk management in India through our survey findings in the context of the fast changing risk landscape that features many 'grey swans'. We are delighted to share this publication with you and hope you will find it insightful and enjoyable.

Heart of the matter: The grey swan effect

Risk landscape is evolving fast with increasing uncertainty

In the recent past, large-scale calamities, both natural and man-made, that were once thought unlikely, distant, or isolated; climate change, food security, energy supply volatility, overhaul of technology, and a global liquidity crisis, have manifested and changed the course of business for many organisations. As the world evolves continually, a host of opportunities arise constantly. With them, however, appear new 'emerging' risks. The macro-economic environment remains challenging and global operating models have added a mix of efficiency and complexity to virtually every aspect of business. Technology continues to connect us faster and with more ease, but maintaining volumes of data and keeping levels of consistency is ever harder. Regulatory requirements are increasing, both in terms of the sheer number of regulations and also in the levels of specificity. Consumers are better informed and more demanding. And competitors, both new and old, are looking for ways to expand their market share at a time when growth remains stagnant at best. All these factors have influenced the risk landscape in the past. However, in today's dynamic business environment, there seems to emerge a regular pattern surrounding these. Organisations are finding it increasingly difficult to map the fast-paced risk landscape.



Increasing interconnectedness is leading to cascading impacts

Interconnected financial markets

Financial markets today have become more integrated due to the complex interplay of various factors such as increasing global trade, the growth of financial intermediaries across geographies, linkages among market participants and the changing preference of savers and investors for financial instruments. As a result, the impact of events such as liquidity crunch, interest rate fluctuations and volatile commodity price risks have grown manifold due to the cascading effect across geographies.

Financial markets in India are continually integrating with the global financial system. Until the early 1990s, India's financial sector was tightly controlled; interest rates were administered, the flow of funds was restricted, foreign exchange was linked to the basket of currencies and the secondary market was dominated by government securities. Today, the gross capital flows as a percentage of GDP stands at around 60% while the net capital flows are at about 4% of GDP[1].

1. Source: 'Certain Uncertainties, Uncertain Certainties: India in an interconnected world' Harun R Khan, Deputy Governor, Reserve Bank of India, 07 Oct 2013

The global financial crisis in 2007–08 acted as the trigger for debt rolling in the Euro Zone and the growth declined sharply.

Starting from Greece and later Ireland, Portugal, Spain and Italy, these Euro Zone economies have witnessed a downgrade of their sovereign debt rating, fears of default and a dramatic rise in borrowing costs. These developments threaten other Euro Zone economies and even the future of the Euro. Given the large economic weight of the Euro Zone in the globe, the widespread impact of the crisis across economies poses a serious concern to organisations across the globe.

Integrated supply chains

As the world economy gets more connected, organisations look beyond their political boundaries to tap new markets, leverage cost arbitrage and leverage economies of scale to enhance competitiveness. They have innovated their business and operating models to source goods, services, labour and material from overseas and service international markets. As a result, organisations across the globe are becoming more and more interconnected – global supply chains are now a reality. Consequently, any disruption in one part of the world now is more likely to impact the other regions than ever before.

In September 1999, global semiconductor prices nearly doubled following an earthquake in Taiwan, a key centre for supply of semiconductors[2].

Hurricane Katrina when it lashed the US Gulf Coast in August 2005, the devastation included the supply chains of thousands of companies that relied on petrochemical products as the raw-material sources were concentrated in that area.

Indian auto parts manufacturers are facing the heat of global automotive sector slowdown. Export revenue growth of Indian OEMs supplying auto parts to Europe has dropped from 25% in 2011-12 to 6% in 2012-13 due to the slowdown of the European auto market[3].

2. Source: SESHA: Semiconductor Environment Safety & Health Association, Report on 'Taiwan's 921 quake and what it means to the semiconductor industry'
3. Source: Automotive Component Manufacturers Association of India (ACMA) Annual Report 2012-13, PwC Analysis

Information interconnectedness

The information that we are generating is growing at a phenomenal rate both in terms of value as well as volume. It is now more easily available and quicker than ever before. The internet, mobile, various online applications and social media channels such as Twitter, YouTube and Facebook have accelerated the pace at which information pertaining to companies, products and services is made available in the public domain. While the information and the platform are of significant use to the organisation, the associated risk of misuse and snowballing of negative opinions cannot be ignored.

Brand and reputation risk from misuse of social media

In 2013, Burger King's Twitter account was hacked[4]. The company's picture was changed to a rival company's profile picture. The hacked account even displayed an announcement that the company was sold to this rival.

4. Source: 'Burger King Twitter account 'hacked' with McDonald's logo', BBC News, US. Feb 18, 2013

As the cyber world proliferates and organisations increasingly connect virtually; methods of breaking into systems have multiplied and have become more sophisticated, significantly increasing the number of cyber incidents over the years.

In India, the number of cyber crimes reported is expected to increase to 2636 in 2013 as compared to 288 in 2008.

Nearly 14,000 websites were hacked by cyber criminals till October 2012, an increase of nearly 57% from 2009[5].

5. Source: National Crime Record bureau - 'Crime in India' report, 2012

Interconnected risk events

As the business environment is turning more complex and dynamic, the impact of risk is not limited to a specific department, function, business unit, organisation or territory. A risk originating from one event results in the self-amplification of the chain of events.

In 2003, the blackout in North East America left 50 million people without electricity for about 48 hours . The sudden breakdown of one power station caused a cascade of switch-offs of other stations, in order to avoid the overloading of one station. With the breakdown of these power stations, gas stations could not pump fuel due to lack of electricity. As gas pumps did not function, there was an explosion at one of the oil refineries, requiring the surrounding population to evacuate.

6. Source: Electricity Consumers resource Council, report on 'The Economic impacts of the August 2003 Blackout' <http://www.elcon.org/Documents/EconomicImpactsOfAugust2003Blackout.pdf>

New emerging risks

Emerging disruptive technologies

An article in Newsweek (1995) that discredited the myth of the internet stated "The truth is no online database will replace your daily newspaper, no CD-ROM can take the place of a competent teacher and no computer network will change the way the government works." Today, the internet is addressing all these and more.

The rate at which new emerging technologies are being adopted has significantly accelerated. A case in point is the immediate espousal of social media by people and organisations. The inception of the concept coincided with the dawn of the new millennium. What started as an easy way to interact with people with similar interests and keeping in touch with friends, has now turned into a powerful tool for organisations which if misused, has the potential to damage their reputation in real time.

The use of technologies such as pervasive computing, enterprise social networking and cloud computing, is only the tip of the iceberg with relation to the emerging risks which can potentially complicate the risk landscape. With humans investing in legitimate efforts to set up a colony in Mars, the canvas has just got bigger.

Emerging societal shifts

Our society has undergone radical shifts in various spheres such as demographics, urbanisation, family structures and behavioural changes. These bring along with them new 'emerging' risks. The closure of the DVD retail chain Blockbuster in the US is one such example of behavioural change which has resulted from the shift in customer preference from DVDs to streaming services such as Netflix.

Societal shifts: India

Changing customer profile

Larger and younger: At present, the median age in India is 26 years; it is projected to be 26.6 years in 2015, 28 years in 2020 and 29.7 years in 2025[7].

Increasing urbanisation

Presently, 30% of India's population lives in urban areas. According to the United Nations' World Urbanisation Prospects report, the urban population will increase at a rate of 2.4% annually from 2010 to 2025[8].

Increasing discretionary spending

In India, spending on discretionary goods has increased from 45.8% of total expenditure in 2000 to 57.9% in 2010[9].

Rise of nuclear families

Three in five households in India are now nuclear with 63% of households being nuclear in urban areas and 59% in the rural[10].

7. Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2012 Revision,2012, http://esa.un.org/unpd/wpp/index.htm

8. Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2012 Revision,2012, http://esa.un.org/unpd/wpp/index.htm

9. Source: Euromonitor International, Euromonitor International from national statistics, 2011, http://blog.euromonitor.com/2011/07/regional-focus-more-discretionary-spending-by-households-in-asia-pacific.html

10.Source: Ministry of Health & Family Welfare, Report on 'National Family Health Survey', 2005-06

Complex regulatory environment

As businesses today operate in networks spanning multiple locations and entities, regulatory compliance requirements have become more complex. The quantum increase in the number of regulations an organisation has to comply with is further adding to this complexity and increasing the cost of compliance. The number of manufacturing related regulations in the US, for instance, has gone up from 2187 in 2012 to 2302 today. This translates to around 2.2 regulations per week[11]. Since 1998, there has been a 44% increase in the number of regulations affecting the manufacturing industry. Regulatory costs have increased at an average of 7.6% per year[12].

It is imperative for organisations doing business beyond their political boundaries to meet regulatory compliance requirements at all three levels; local, national and international.

11.Source: Manufacturers Alliance for Productivity and Innovation (MAPI), report on 'Macroeconomic Impacts of Federal Regulation of the Manufacturing Sector'

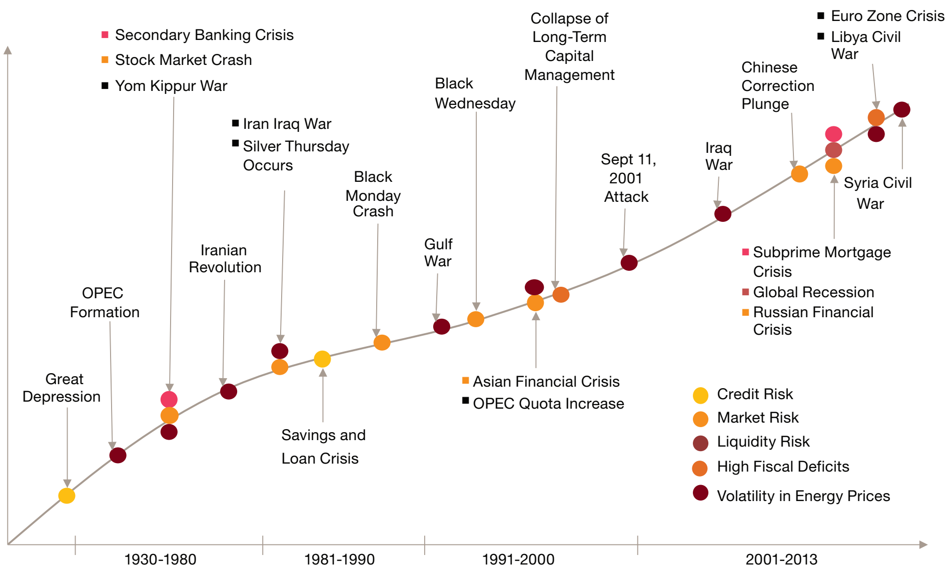
12.'Increasing Number of Regulations Challenge Manufacturers', industryweek, Oct 24, 2013 http://www.industryweek.com/regulations/increasing-number-regulations-challenge-manufacturers

Emerging grey swan effect

In the past, we have seen risks which had a large impact, were hard-to-predict and were beyond the realm of normal expectations; what the philosopher-epistemologist Nassim Nicholas Taleb calls 'black swans' in reference to the fact that Europeans once believed all swans to be white–until explorers in Australia discovered black ones. However, some of these large-impact and low-likelihood events are now more frequent leading to the phenomenon of grey swans.

Between 1930 and 2000 eight major financial crisis events have occurred. From 2001 till date, there have been five incidents of financial collapse across the world.

During 2001-13, five major events impacted the energy price volatility as compared to four major events from 1930 to 2000.



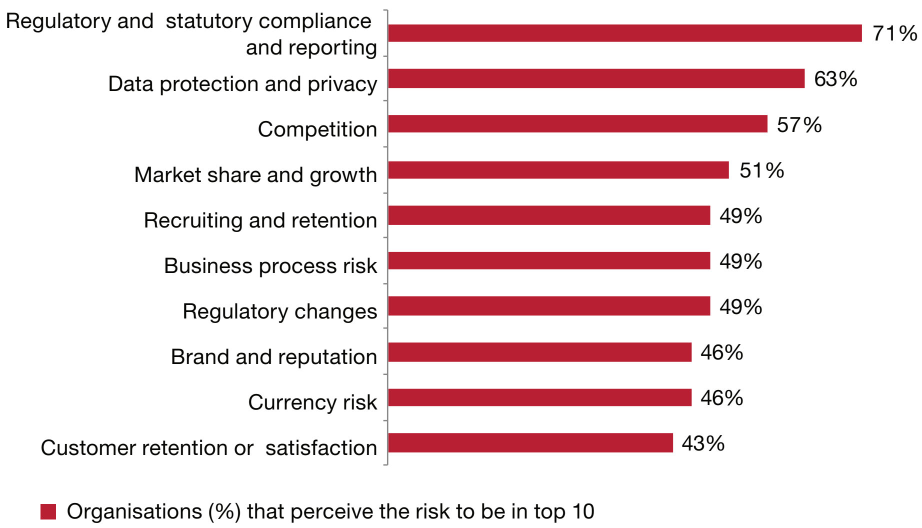
In summary

Given the changes that have surfaced in the rapidly evolving risk landscape due to increasing interconnectedness (e.g. integrated financial markets, information interconnectedness, integrated supply chains), new 'emerging' risks (emanating from phenomena such as emerging disruptive technologies and societal shifts) and complex regulatory environment, organisations not only have to manage known risks but also have to become better prepared to manage grey swans (known unknowns). As a step in this direction, organisations today will have to look beyond their traditional approaches of risk management and start building risk resilience into their systems in order to either anticipate and respond to or absorb and rebound from the high impact grey swan events.

Are Indian organisations seeing the grey swans?

We observe that globally organisations are modifying their risk management strategy from internal to external, operational to strategic and bottom-up to a top-down approach. PwC's 16th Annual Global CEO Survey titled *Dealing with disruption – Adapting to survive and thrive* provided insights on how senior leadership is actively working on effectively tackling the grey swan phenomenon. Our Risk Management Survey India 2013 reveals that organisations are yet to shift their focus from ' here and now' risks to 'grey swan' type of risks.

Q. What are the top 10 risks for your organisation?



Source: PwC Risk Management Survey – India, 2013

Divergence in CEO view and risk professional view of top risks

The Global CEO survey reveals that Indian CEOs rate the availability of skills, inadequacy of basic infrastructure and increasing tax burden as the top three risk areas. Increasing protectionism by foreign governments, bribery and corruption and exchange rate volatility are also key concern areas.

The top three risks as polled by risk professionals (Risk Management Survey – India, 2013) are regulatory compliance, data protection and competition. Forex risk and availability of talent are the two of the top six CEO key concerns that appear on the radar of risk professionals and by proxy perhaps the risk management programme.

So, is there a divergence in what risk management programmes deliver versus what truly concerns CEOs?

Key concerns of Indian CEOs [13]

- 81% Availability of key skills
- 75% Inadequacy of basic infrastructure
- 75% Increasing tax burden
- 77% Protectionist tendencies of national governments
- 74% Bribery and corruption
- 74% Exchange rate volatility

Key concerns of risk practitioners [14]

- 71% Regulatory and compliance reporting
- 63% Data protection and privacy
- 57% Competition

[13] Source: PwC's 16th Annual Global CEO Survey titled 'Dealing with disruption – Adapting to survive and thrive'
[14] Source: PwC Risk Management Survey – India, 2013

Are organisations occupied with the 'here and now' of risks

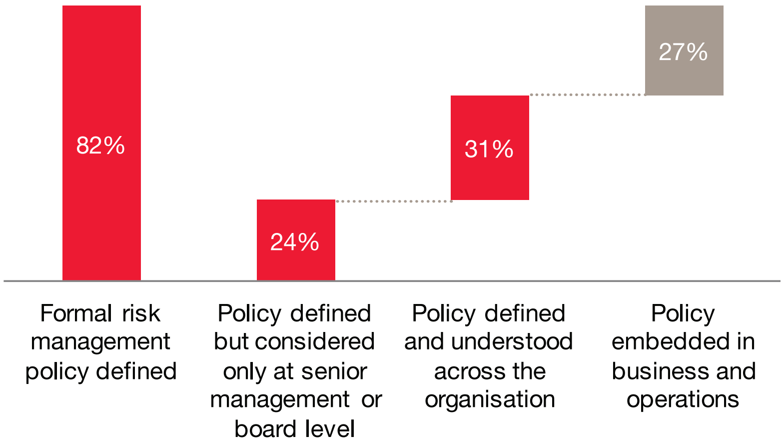
The possible emergent areas for grey swans in India include political uncertainty, emerging disruptive technology, natural disasters, etc. Surprisingly, these figure on the risk radar of a very small number of respondents. Only 20% have identified political uncertainty, 29% highlighted emerging disruptive technology and none have marked natural disasters as their top risk priorities. Among the top 10 risks identified by respondents, currency risk is possibly the only risk that could be a source of grey swans. Typically most of the risks are the 'here and now' of risks.

The leadership tasked with undertaking the risk management for the organisation is occupied with the high predictability areas

Grey swans tend to appear across the spectrum of an organisation's ecosystem. The more complex the ecosystem of an organisation, more are the grey swans that it accosts. Irrespective, it is observed that grey swans tend to appear more frequently and are likely to be in areas where predictability is low or difficult. Thus, leading organisations across the globe expect their senior leadership to concentrate on these areas where there exist more 'known unknowns'. The respondents to the survey did not report a focus on these 'known unknowns'.

Current state of risk management

Q: Do you have a formal risk management policy defined in your organisation?



Source: PwC Risk Management Survey – India, 2013

Most respondents do not have a risk management policy embedded in their business and operations

While most organisations have a risk management policy in place, only 27% of the respondents have embedded the policy in their business and operations by aligning it with their objectives, operating procedures and performance measures.

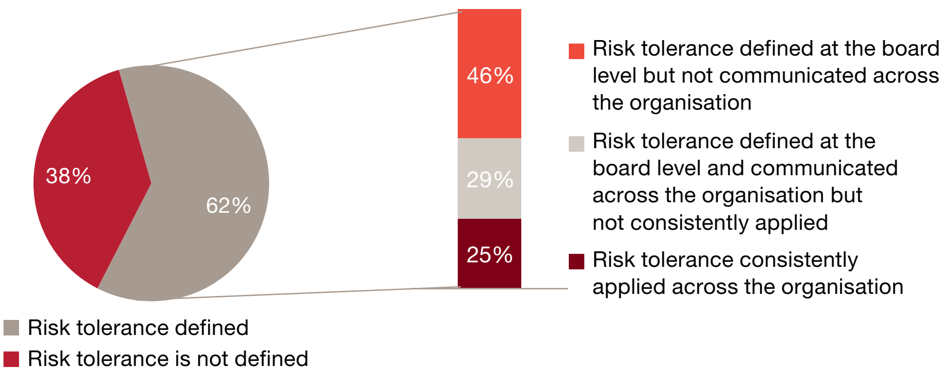
Do organisations see true value in risk management in India or is it largely driven by regulations?

The Companies Act, 2013 and other regulatory requirements such as Clause 49 of the listing agreement or other industry specific regulations require organisations to have a risk management programme. Multinational companies operating in India are also largely guided by their group risk management policies.

As mentioned above, only 27% of the respondents have the risk management policy embedded in the business and operations.

So, do most organisations tend to see risk management as a cost of compliance rather than a real defence in terms of 'value protection'?

Q: Do you have risk tolerances defined in your organisation?



Source: PwC Risk Management Survey – India, 2013

Risk tolerance is not embedded in business

As volatility and uncertainty in the economy increases and exposes organisations to risks, the latter have also been compelled to think how much they can endure in order to achieve their objectives. In today's changing business environment, it is important to align business strategy with the organisation's risk appetite. As an organisation decides on its objectives and its approach to achieving strategic goals, it should consider the risks involved, and its appetite for such risks. It is important that the management and board take into account the potential impact of changes in the organisation's strategy in light of its risk appetite and tolerance levels.

Our survey results revealed that almost 38% of the organisations surveyed have not defined risk tolerances. A further 46% of the respondent organisations that have defined risk tolerances, have not communicated it across the organisation.

Eighty four per cent of the respondents do not consistently consider risk tolerance at all levels while taking important business decisions.

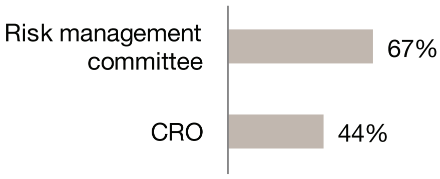
So, do most organisations have a challenge with regards to risk-based decision-making at all levels that is consistent to the overall risk appetite of the organisation?

Lehman had been exceeding the firm-wide risk appetite on a persistent basis and paid the price[15].

Lehman took excessive risk exposures in order to make a profit. In doing so, it increased the amount it was prepared to lose as a result of its investments from 2.3 billion USD to 4 billion USD. This constituted a 74% increase in its risk limits, enacted during a declining market. As these decisions were not aligned with the bank's overall risk appetite, it lead to its failure.

15.Source: Mark Denbeaux, Director, Seton Hall Law Center for Policy & Research, 'Lehman Brothers: A License to Fail with other People's Money'

Q: Does your organisation have a formal chief risk officer (CRO) or a risk management committee?

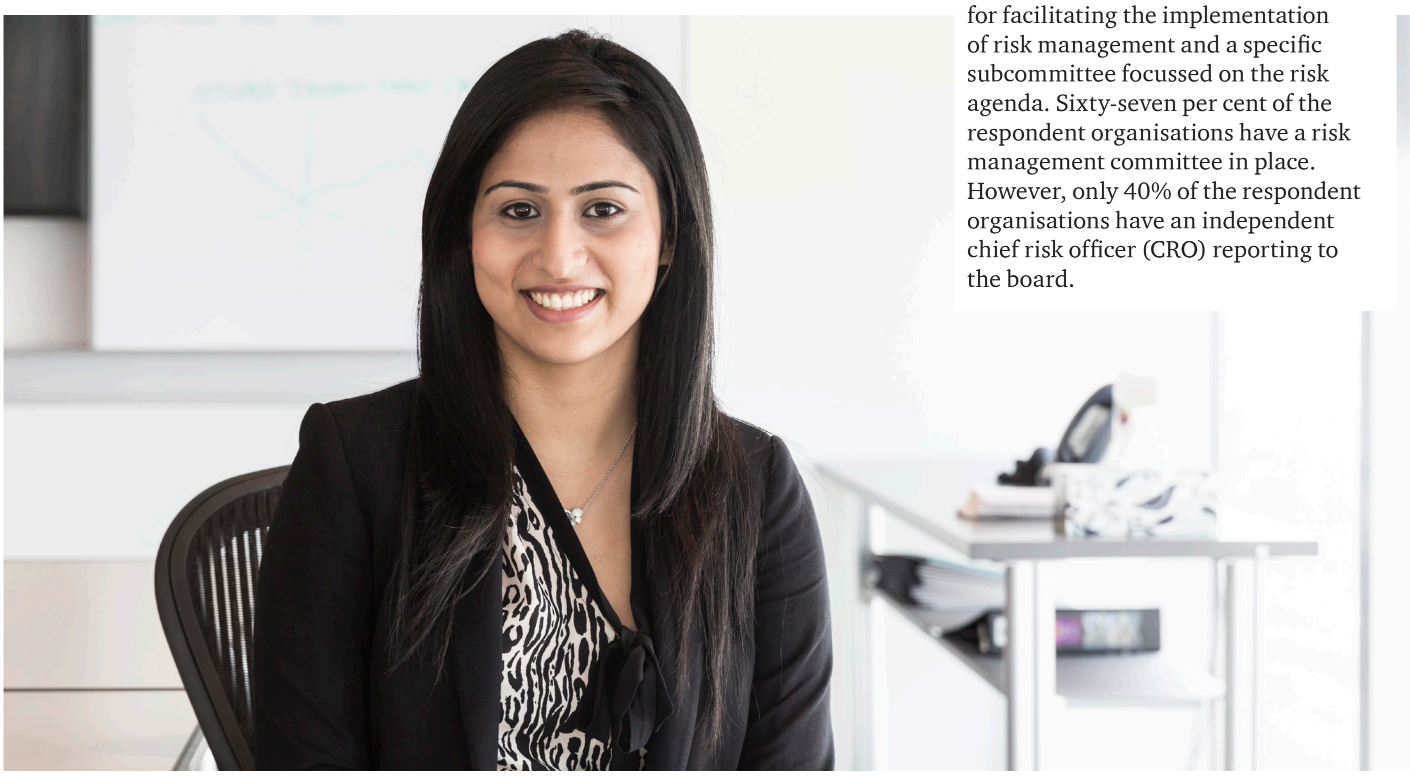


40% *Organisations have an independent CRO reporting to board*

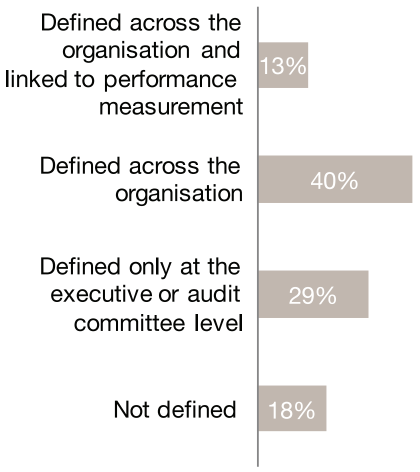
While majority of the respondents have risk management committees, only two-fifths have an independent CRO reporting to the board

The Enron collapse established that the pursuit of profit without commitment to good-faith business principles and responsible business behaviour comes at a high cost to shareholders. The global financial crisis in 2008 exposed a number of governance-related weaknesses and flawed institutional structures that resulted in firms' failure to understand the risks they were taking. Earlier, the boards were relying merely on the risk reports from the CEOs and CFOs to form their view on the risk profile of the organisation and did not pay sufficient attention to risk management or set up effective structures, such as a dedicated risk committee, to facilitate meaningful analysis of the firm's risk exposures and to constructively challenge the management's profit-seeking decisions. However, boards have realised that to achieve a fair understanding of the risks, they need to interact with the senior executives who are best-acquainted with the risks and also have an independent custodian or facilitator of the risk agenda.

In India, an increasing number of organisations have started to create a senior executive position for facilitating the implementation of risk management and a specific subcommittee focussed on the risk agenda. Sixty-seven per cent of the respondent organisations have a risk management committee in place. However, only 40% of the respondent organisations have an independent chief risk officer (CRO) reporting to the board.



Q: For managing risks, are roles and responsibilities formally defined in your organisation?



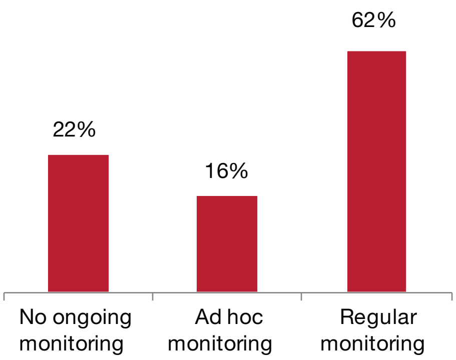
Source: PwC Risk Management Survey – India, 2013

Responsibilities for managing risks have been defined by most respondent organisations but not linked with performance

Due to the increased focus on business performance, organisations usually define key performance indicators (KPIs) to ensure that boards and the top management can regularly review the performance of their organisation against defined business objectives. Organisations with relatively mature risk management practices also define accountabilities and responsibilities to manage risks associated with defined business objectives. The conflict between achievement of business objectives and risk if managed effectively will encourage smart risk-taking behaviour across the organisation.

Organisations need to encourage risk-based decision-making. If not linked with performance, it will more often than not lead to profit-seeking business decisions that ignore risks. Our survey reveals that only 53% of the respondent organisations have accountability and responsibility towards risk management defined below the executive or audit committee level. Further, only in 13% of the respondent organisations is effective management of risks linked to performance measurement.

Q: Do you have a structured process in place for the monitoring of compliance to a risk management framework?



Source: PwC Risk Management Survey – India, 2013

Financial services and telecom organisations: Ahead of the curve

While a large number of organisations (62%) have defined processes for regular monitoring of compliance as part of their risk management (RM) framework, financial services and telecom firms perform better than their peers. The survey reveals that 88% of the respondents from financial services and 67% of respondent telecom organisations have processes defined for continuous monitoring of compliance as part of their risk management framework.

Q: What can be done to further improve existing risk management practices?

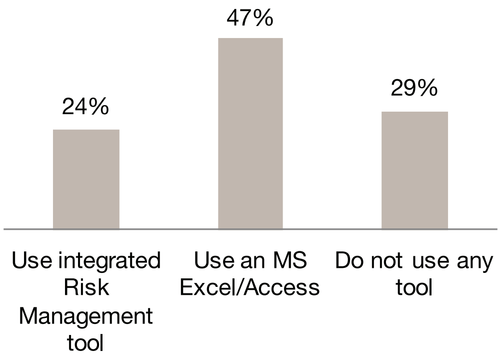
27% *Developing positive risk culture*

Source: PwC Risk Management Survey – India, 2013

Organisations see positive risk culture key to further improve risk management practices

Some organisations are ill-prepared to manage risks not because they have not implemented risk management practices but because the organisation could not develop a strong risk focussed culture. Such a culture would mean that employees know what the company stands for, the boundaries within which they can operate, and that they can discuss and debate openly which risks are necessary to be borne in order to achieve the company's long-term strategic goals. Risk culture forms one of the underlying foundations for effectively managing risks across the organisation. The survey shows that 27% of the respondent organisations consider developing a positive risk culture as key to improving risk management within the organisation.

Q: How is technology leveraged for managing and reporting risks at your organisation today?



Source: PwC Risk Management Survey – India, 2013

Lack of integrated risk management tools for managing risks effectively

Risk management tools enable the management of the risk universe and the process to identify, measure, evaluate and mitigate risks. We find that 47% of the respondent organisations are still using basic tools such as MS Excel and Access for risk management while only 24% use integrated risk management tools for managing their risks. The survey also reveals that usage of risk management tools have gained prominence mostly in financial services firms, where 75% of the respondents have consistently used these tools for managing and reporting their risks.

How prepared are organisations for the future?

Key problems faced by organisations today

31% *Difficulties in identifying and responding to emerging risks early enough*

Source: PwC Risk Management Survey – India, 2013

Organisations are struggling to anticipate and assess 'emerging' risks

The risk landscape has morphed into something unrecognisable from what it was a decade or two ago. With increasing interconnectedness and concentration of the global markets, new high-impact risks have changed the global risk landscape significantly and organisations have failed to anticipate and assess such new 'emerging' high-impact risks. The survey reveals that almost 31% of the respondent organisations feel that one of the key problems faced today is to identify, assess and respond to the emerging risks early enough ensuring smooth functioning of business operations with minimal disruptions.

Few organisations use advanced risk management techniques

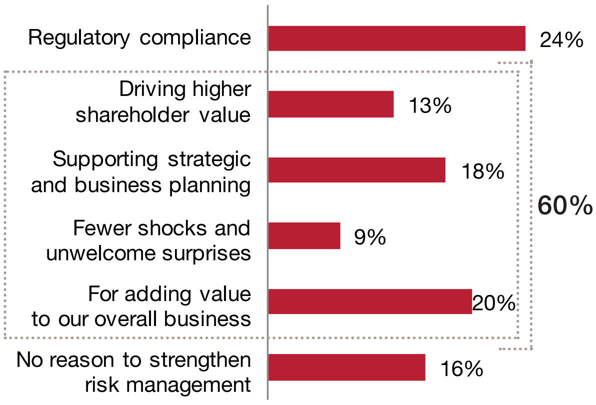
Organisations using qualitative and quantitative techniques

Source: PwC Risk Management Survey – India, 2013

In order to anticipate and assess emerging risks, organisations need to regularly perform a thorough scan of characteristics and changes in the environment in order to identify events that may have impacted the organisation's shareholder value in the past or may impact it in the future. Advance risk models such as scenario planning and horizontal scanning processes need to be implemented in order to identify specific issues of concern and potential future issues by tapping information sources that are most likely to record the emerging stages of an issue's development. Stress-testing is another important technique for scenario contingent analysis of the risk of an organisation: it can help such entities to put in place capital contingency measures, develop a firm's risk appetite, drive strategic business planning, set risk limits, identify portfolios' vulnerabilities and opportunities in terms of risk-return trade-offs and determine the optimal timing of strategic decisions. The survey reveals that of the organisations that undertake risk assessment only 11% of the respondent organisations use advanced quantative techniques for risk management.

Organisations not ready to pay for the value they see in strengthening risk management

Key reasons for strengthening risk management in your organisation



Source: PwC Risk Management Survey – India, 2013

How do you anticipate the level of investment in risk management will change at your organisation over the next three years?

69%

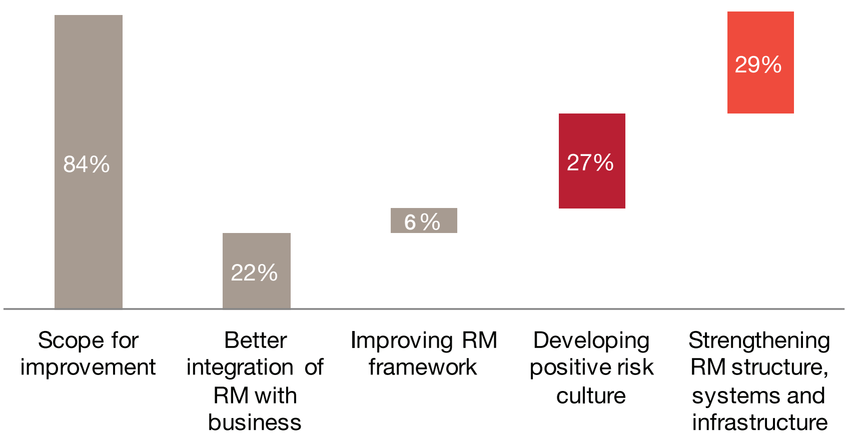
of the organisations are planning to keep the investments towards risk management the same or marginally increase

The rapidly evolving risk landscape and highly uncertain macroeconomic environment warrant organisations to increase their focus on risk management. Sixty per cent of the respondent organisations see value in strengthening their risk management capabilities. However, 69% of the organisations plan to keep their investments at the same level or only marginally increase them over the next three years to unlock the potential value of risk management.

Scenario planning at Royal Dutch Shell [16]

The British-Dutch global oil company Royal Dutch Shell puts to practice advanced techniques such as scenario planning as portrayed by six vivid tangible scenarios for economic growth, oil supply and prices. The scenario foresaw a disruption in oil supply and production. Shell undertook contingency planning, to define what the company would do if this scenario occurred. As a result, when the Yom Kippur War broke out on 6 October 1973, oil prices quadrupled and drivers queued up for gasoline in America and in Europe, Shell was better prepared than its competitors.

Q: What can be done to further improve existing risk management practices?



Source: PwC Risk Management Survey – India, 2013

Most organisations see scope for further improvement in risk management

While 29% of the organisations feel that structures, systems, controls and infrastructure required to manage risks need to be strengthened, 27% have cited the need to develop a positive risk culture across the organisation in order to translate their risk management practices into action. Twenty-two per cent of the organisations consider that the level or percentage of integration of risk management with the business needs to be improved in order to encourage risk-based decision-making. Sixteen per cent of the organisations seem to be satisfied with their existing risk management capabilities and see no significant changes in the near future.

Organisations seem to recognise the value and the need to improve risk management but are unwilling to invest

What this means to your business

In the present day, large impact and low likelihood events have become more frequent and require organisations to think beyond business-as-usual. Accordingly, entities and firms need to develop a strong risk management programme which serves as a key lever for value protection rather than just being driven by compliance requirements. However, just a strong risk management programme will not be sufficient for organisations to anticipate and prepare for grey swans as these programmes typically focus on short-term known risks. Organisations will also need to institutionalise a process to build risk resilience and thereby embrace medium range scenario planning to identify, analyse and plan for disruptive 'grey swans'.

Strengthening current risk management capabilities

Closer alignment of business and risk strategy for better risk reward trade-off

Organisations need to align strategy to risk imperatives for improved business decisions. The risk strategy needs to be internally subjected to the organisation's predefined risk appetite and tolerances. Thereon the risk strategy needs to become integrated within the decision-making framework. This will help organisations undertake suitable trade-off decisions between risks and rewards.

Imbuing risk awareness in the mind-set, behaviour and overall culture of the organisation

A static risk culture focussed on compliance to regulatory and internal framework will not help organisations effectively navigate the evolving risk landscape. It is important for organisations to focus on building a risk-aware culture.

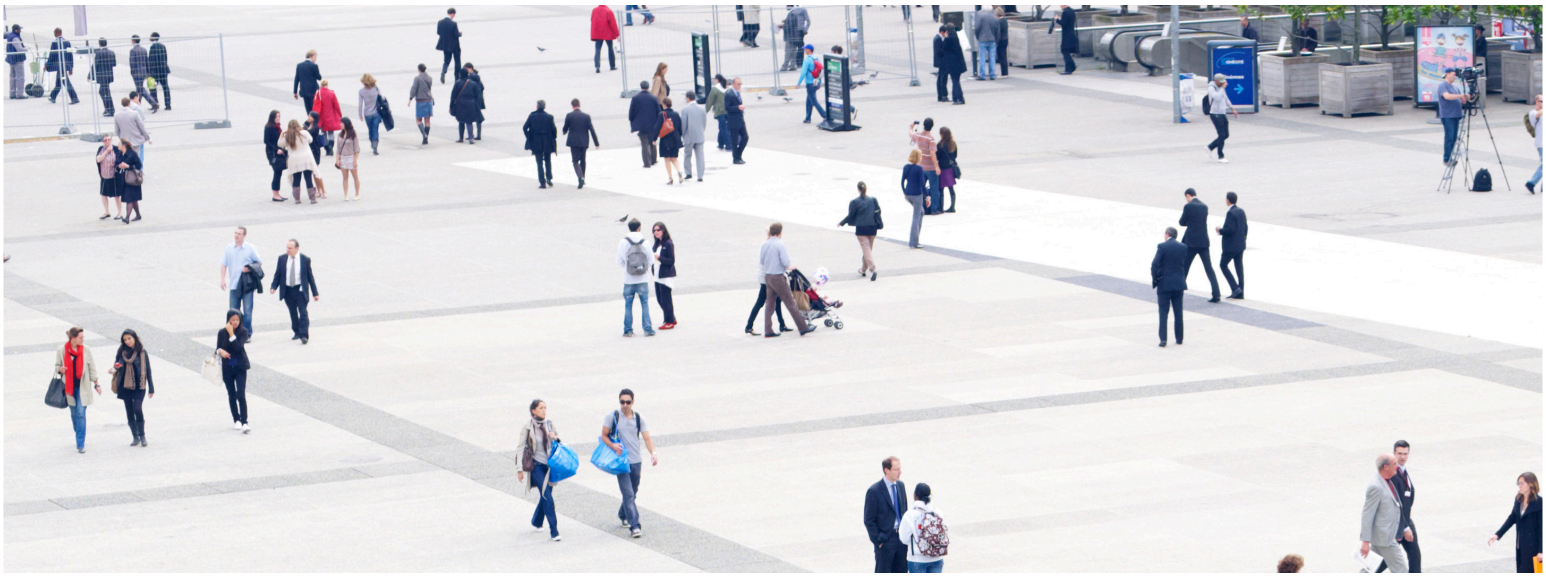
Stakeholders need to understand that risks are not to be avoided, but to be proactively identified, understood and responded to in alignment with the organisation's business strategy. And while doing so, aim to transform risks into opportunities.

Leveraging technology for effective risk management

Risk management tools enable the management of the risk universe and the process to identify, measure, evaluate and mitigate risks. Organisations currently using basic tools like spreadsheets for risk management need to leverage advanced tools for risk identification, risk modelling, risk analytics and risk management. There are a number of sophisticated tools available for risk management for industries and for functions which can be customised to meet the organisations' specific requirements. Expenditure on risk management technology needs to be seen as an investment where the payoff outweighs the expenses.

Linking risk and performance for smart risk-taking

Aligning risks with performance metrics enables organisations to improve the quality of business decisions and business outcomes. Organisations need to ensure that risk related indicators are part of the strategic plan or the organisational scorecard and that relevant metrics feed into each individual's performance scorecard or plan. This alignment is crucial as this will also set the stage for discussions on risk tolerances, risk profiling, risk appetites, risk indicators, etc. ensuring that in the process the organisation's risk culture is strengthened.



Building risk resilience for managing grey swans

Thinking beyond business-as-usual to manage new ‘emerging’ risks

Organisations need to adopt an integrated approach that will consider cross-organisational implications and impact due to risks. Accordingly, organisations will need to go beyond traditional risk management and look at institutionalising processes to address disruptive risks. Ensuring an institutionally sound environment to mitigate new risks or even looking to turn impending risk into opportunity will keep organisations ahead of the curve.

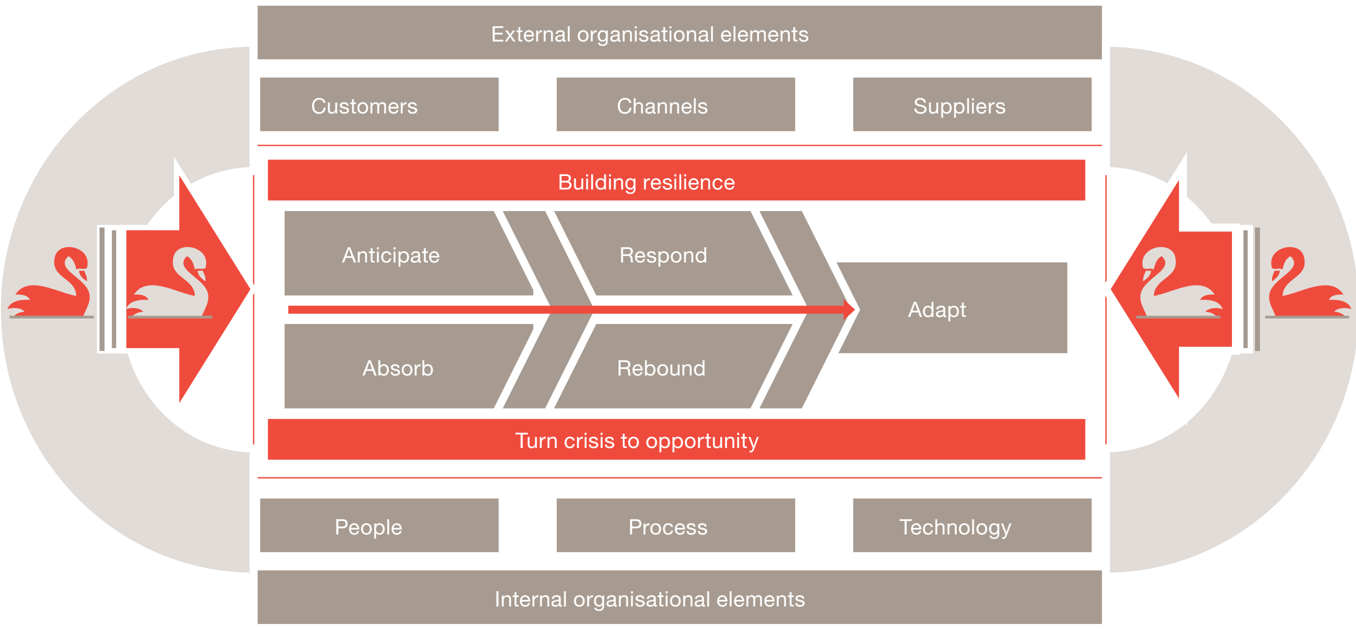
Building risk resilience to prepare for grey swans

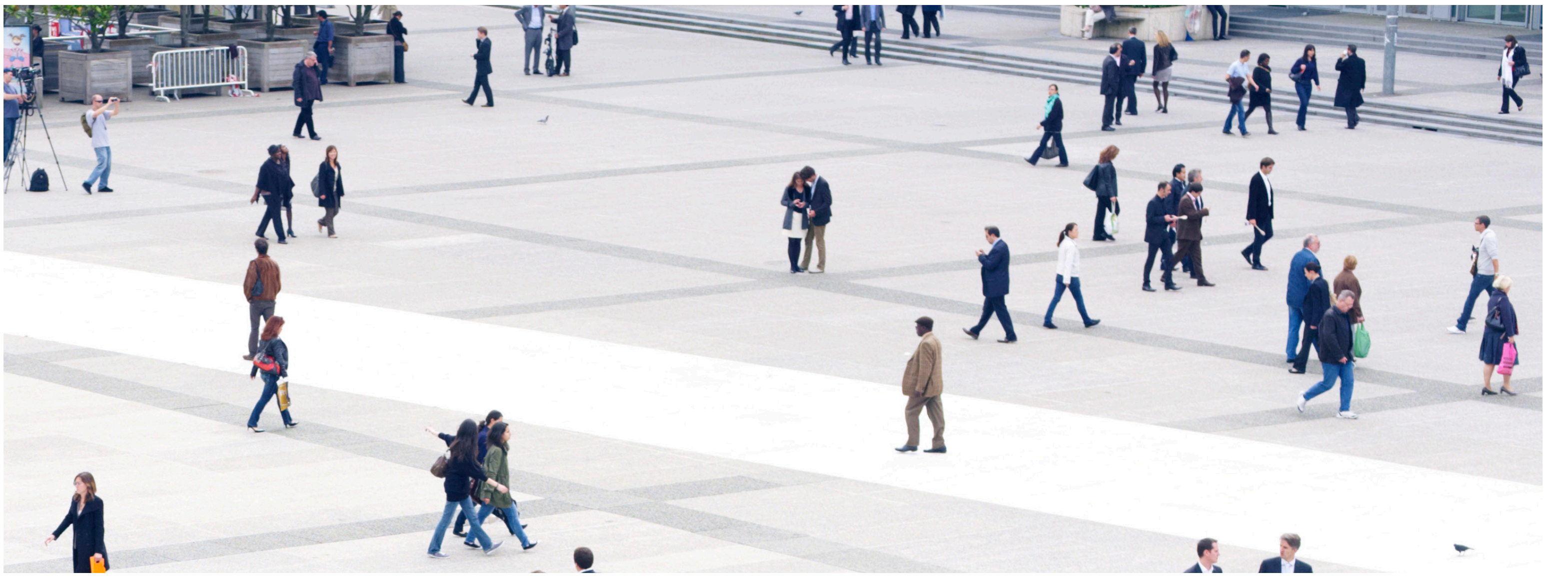
Managing the ‘grey swan effect’ calls for organisations to proactively engage with multiple layers of business — management, customers, strategic partners and regulators. Organisations need to identify the sources of grey swans through an early warning system and establish a mechanism to evalute the implications of these events and prepare adequate responses to the same to stem the downside of the risk and leverage on the upside opportunity.

Based on the nature of grey swans, organisations will need to put in place either an ‘anticipate and respond’ or an ‘absorb and rebound’ framework.

At times, grey swans provide early warnings and accordingly, an ‘anticipate and respond’ framework (such as in the P&G case study) will help organisations prepare an appropriate response — perhaps even benefit from the event by tapping the upside opportunity.

In certain cases, grey swans strike organisations without early warnings either on account of their nature or because the current risk indicators are not adequate or evolved enough to identify them beforehand (such as in the Ericsson-Nokia case study). In such cases organisations need to have the capability to absorb the shock and act in order to rebound back to business-as-usual and if possible create an opportunity out of the crises.





Case study: P&G - Turning risk into opportunity

When Hurricane Katrina lashed the US Gulf Coast in August 2005, the devastation engulfed the supply chains of thousands of companies that relied on petrochemical products with raw-material sources concentrated in that area. P&G's supply chain accounting for more than half its production in New Orleans was also affected by the calamity.

How being risk resilient helped P&G

Any hurricane entering the Gulf of Mexico automatically triggers a series of emergency measures in P&G, including the transfer of inventory to distribution centres outside the New Orleans area, the sending of inventory backup tapes to headquarters in Cincinnati, Ohio, and the advent of hurricane shutdown procedures.

Risk turning into an opportunity

P&G was the first business back in operation after the disaster with its volume share of the coffee market 6% higher than in the pre-Katrina days. P&G's plans and actions were sufficient to restore operations within a relatively short period of time.

Case study: Ericsson and Nokia - a classic case of supply chain disruption

On 17 March 2000, lightning struck Philips's radio frequency chip manufacturing plant in New Mexico. Fire triggered an extensive chain of downstream consequences for large electronic companies, Nokia and Ericsson. Philips was at that time a key supplier of radio frequency chips for both Nokia and Ericsson.

Ericsson: Suffered huge losses and withdrawal from the cellphone production market due to many months of lost production

- Slow reactive response

Nokia: Recovered from the disruption and benefitted from Ericsson's inability to ship high-end models and conquered market space

- Established a sense of urgency, in case the situation would worsen
- Daily monitoring of the production status instead of the previous weekly check after the incident
- Reconfigured its basic phone to accept slightly different chips from suppliers in Japan and the US
- Tied up spare capacity at other Philips' plants

Appendix: About the Risk Management Survey 2013

The Risk Management Survey 2013 conducted by PwC India across a section of leading organisations in the country examines current state of risk management practices and explores the preparedness of such entities for effectively managing their risks.

The key areas examined in this survey included the following:

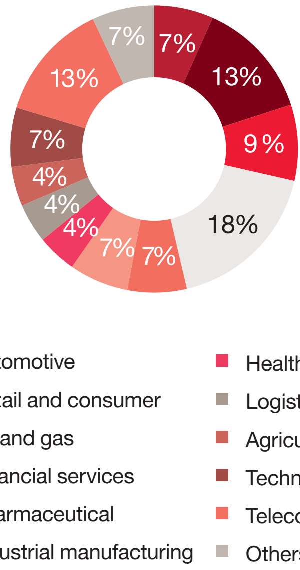
- Current risk landscape
- Alignment of risk and business strategy
- Risk governance
- Risk management process for identification, assessment, mitigation and monitoring of risks
- Use of tools and technology for managing risks
- Risk culture

The survey was conducted using a structured questionnaire administered online. Respondents were invited to participate in this survey via emails. The results discussed in this report are based on responses from participants (risk management practitioners) from leading organisations across 13 industries. All figures and graphics in this report are sourced from survey results, unless otherwise mentioned. We have received over 80 responses to the survey.

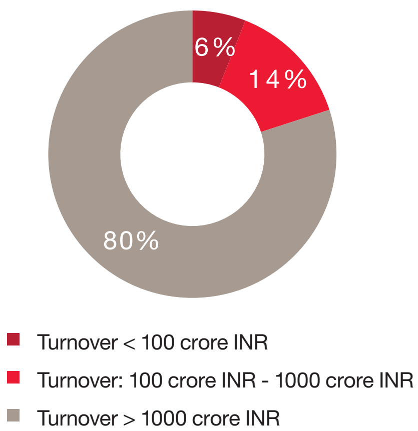
Survey respondents: Profile

- Sixty-three per cent respondents are public companies while 37% are private companies.
- Eighty per cent of the respondents are from organisations with annual revenues greater than 1,000 crore INR.
- The respondents belong to diverse industries.
- Sixty per cent of the respondents are present in more than 10 states in India.

Respondents: Industry sector wise



Respondents: Company turnover wise



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About PwC

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