

Risk Management – The mantra to survive in the De-tariffed Market- How corporate can leverage the RM principles

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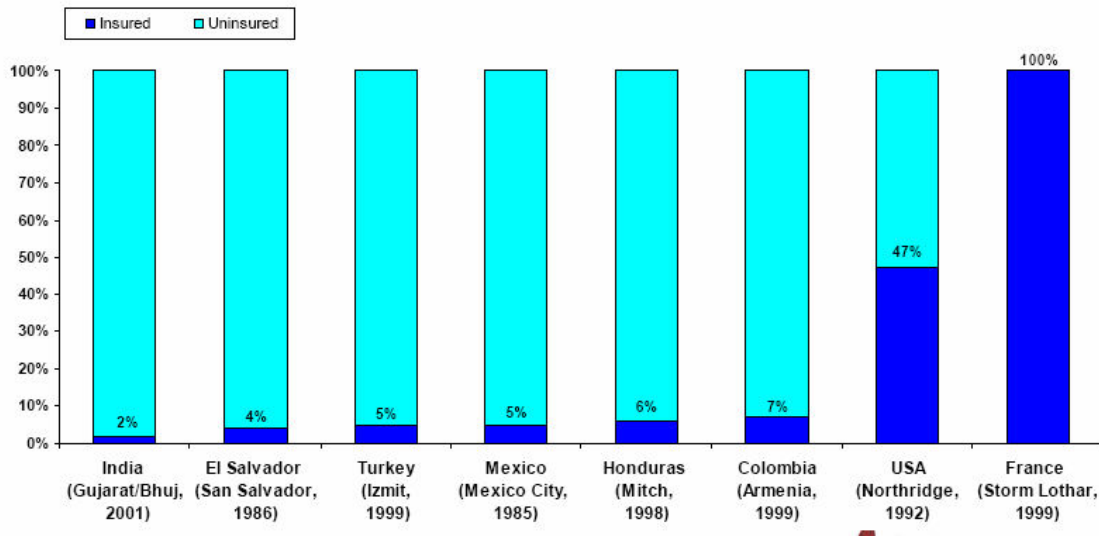
De tariffed Market is a new phenomenon being experienced by Indian corporates. So far corporates have witnessed only price reductions making many believe that this situation is going to continue. But as the markets mature insurers will start insisting on better Risk Management practices. This article examines the current trends in the Indian Market.

Traditionally in India, buying Insurance was seen more as a finance function rather than part of holistic risk management approach. Insurance was driven by either statutory or as part of lending institutions requirements. For example, in a major disaster like Gujarat Earth quake only 2% of the people had insurance cover. Please refer the table below:

Consequences of Low Insurance Penetration

Insured versus Total Economic Loss from Major Natural Disasters

Source: Gurenko, Eugene. Catastrophe Risk and Reinsurance: A Country Risk Management Perspective, Risk Books, London 2004.

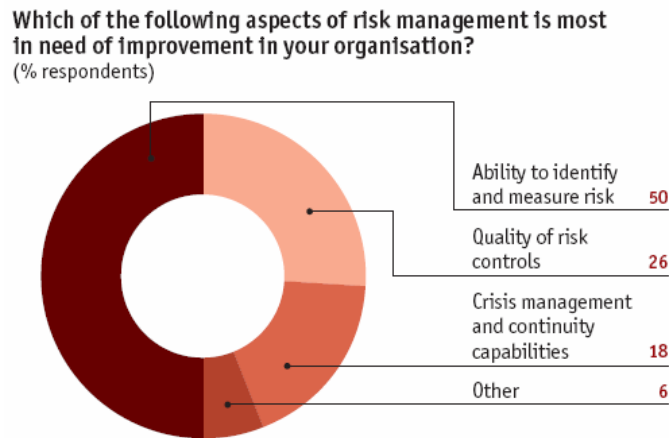


With change in technology like automation, globalization the risk profile of a company is fast changing. However, not many companies are adopting the proven risk management principles of identification, assessment, control and transfer into their operations and planning. Projects are getting started without taking into consideration the environment impacts, acquisitions are happening without following proper environment due diligence principles.

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While due importance is given to designing and marketing of products, the general storage and handling practices, packing is neglected resulting in huge transportation losses. While the average losses across the world during transportation is less than 5%, in India it averages more than 10%.

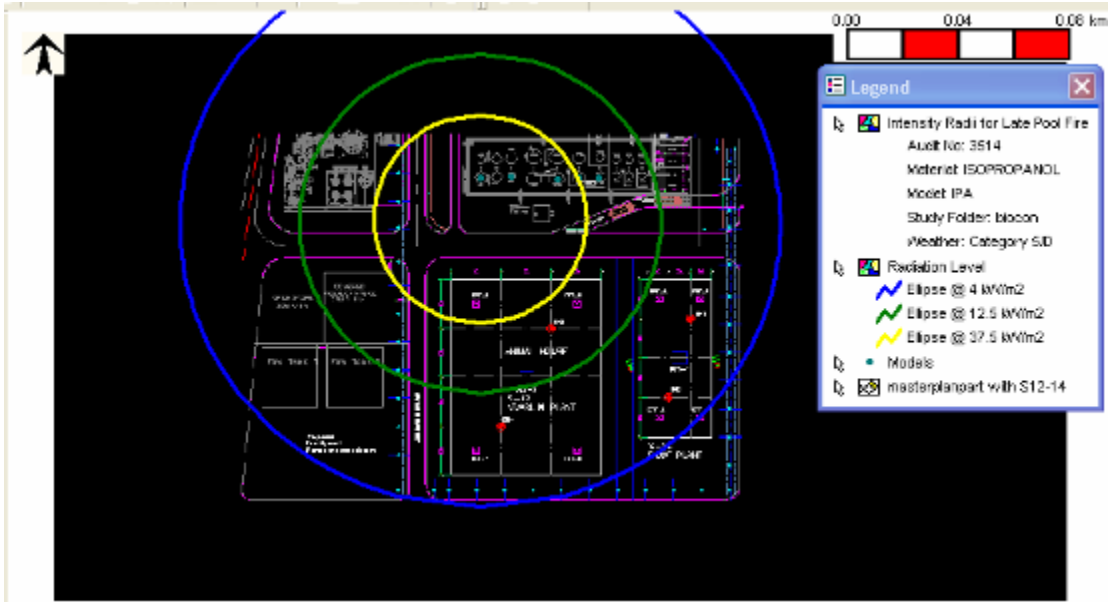
Now the question that arises in everyone's mind "why Indian corporates are failing to adopt risk management principles?" –What is considered so important outside India why is that it is not being followed?. The answer to this is not straight forward. It is combination of lack of awareness, lax implementation of laws, absence of insurance drivers and absence of other deterrents. A survey by Economist indicates that 50% of the corporates feel that they lack the ability to identify and measure risk.



In addition to tangible losses, intangible losses such as reputation risks are gaining importance. Contaminated food or toys containing obnoxious substances can have dramatic consequences for producers, as can business interruption, where a company might be forced to suspend production for weeks or even months, possibly losing customers to competitors as a result. Whilst the loss itself and running costs during the interruption can be insured, the loss of customers or market share cannot.

However, the awareness is not uniform across. Corporates which are exposed to global practices are observed to be adept in adopting new practices. Many are adopting what is called ALARP (As low as reasonably practicable) principle. This principle was first popularized in UK in 1974. For a risk to be ALARP, it must be possible to demonstrate that the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained. How do successful corporates address the Risk by adopting ALARP? The risk management exercise starts with addressing the risks at the drawing board stage itself. The following example illustrates the advantage of using advanced risk management techniques in siting the various facilities.

The biotechnology firm had a solvent tank farm which consisted of storing solvents like Hexane, Toulene, Benzene,IPA etc. Quantitative risk assessment was carried out to determine the damage distances due to catastrophic failure of IPA tank.



Damage distances downwind (in meters) due to rupture of facility and ignition leading to pool fire:

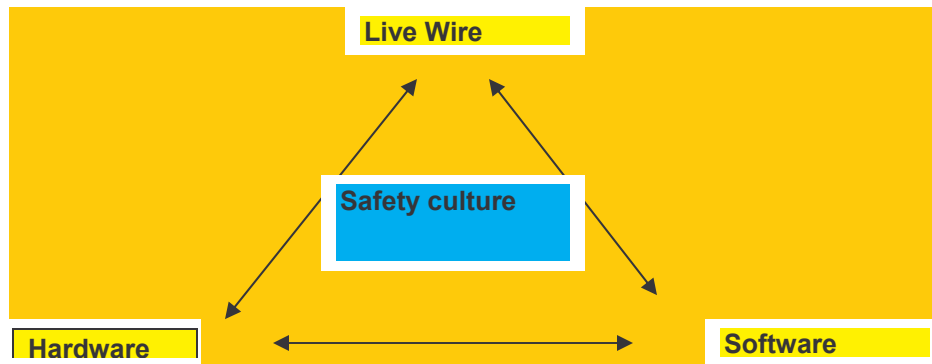
S No	Facility	37.5 kW/m ²	12.5 kW/m ²	4 kW/m ²
		D 5 m/s		
1	Rupture of Isopropyl alcohol tank	51.7	77.1	117

When the damage curves were actually plotted on the plot plan it was discovered that fire pump room was falling within the damage distance. Following this study, the location of fire pump room was changed. If this exercise was not carried out, the fire pump room would have been located in an area, which would have suffered damages due to fire, resulting in catastrophic losses.

In one more case involving a major refinery, fire water network analysis was carried out using latest software. To the surprise of everyone, it was discovered that existing fire water network cannot meet the OISD requirements of fire water demand for two simultaneous fires. This particular refinery had 28 fire pumps and more than 50 kms of fire water network. While the normal routine tests do not tell you the latent design defects, use of sophisticated software to do simulation studies will help corporates to identify the problems at an early stage. These types of assurances help Insurance companies to determine the risk profile of the company.

Rapid advancement in science and technology led to development of very sophisticated plants which require almost nil intervention (e.g. Gas turbines) for extended period of time. Today, technical measures for preventing and fighting fires are no longer seen as sufficient to guarantee the safety of an industrial risk; and by same token routine survey by a risk surveyor is no longer adequate for assessing the quality of risk.

In more recent years, high risk industries like Petrochemical started focusing on human risk behaviour. Introduction of human risk factor into the risk management function has far reaching consequences. It increases the number of basic approaches from two to three, changing the simple dual relationship of technical and organizational to a triad. This leads to the concept of measuring safety culture, most famous being the Swiss Re's SMAPI (Safety Management Audit in Process Industry).



Tools like PSM (Process Safety Management) Audits have become vogue world wide. (In PSM, the word process goes beyond the production process itself to include in the widest sense all processes directed at achieving a specified goal).

Apart from the above, Insurance companies are increasingly looking towards the preparedness of the corporates to face disruptions. Well laid out BCP plans supported with appropriate supporting structures are a necessity for a corporate to showcase that it is prepared for any eventuality. A typical BCP plan not only addresses the normal threats but prepares the organization for low frequency but high impact events.



Many managers have so far been insufficiently aware of the changed risk profile of their company because in most cases information is not available. As a result, they unwittingly expose themselves to higher risk in pursuit of overriding goals such as growth and increased profits.

An understanding of the need for holistic risk management is developing only gradually, especially in small and medium-sized companies, but in future, companies of any size in all sectors of activity will have to address the issue of holistic risk management, i.e. risks

will not be considered separately, but as a whole. This paradigm change is supported by the following arguments:

- New types of risk and chains of cause and effect can no longer be properly managed using traditional separate assessment.
- Decision-makers in companies need a clear understanding of the overall risk situation and the effectiveness of any possible action they might take. In the context of risk management, they must be in a position to carefully consider and decide which risks to retain and which to transfer.
- Risk culture is changing. At many companies, an exclusively negative perception of risk is giving way to a desire to manage opportunities
- Cost of risk transfer has become dynamic- insurers are pricing the risk based on quantitative methods rather than perception or previous records. (e.g. use of earth quake damage models, flood risk models to price the covers based on the location of the risk)

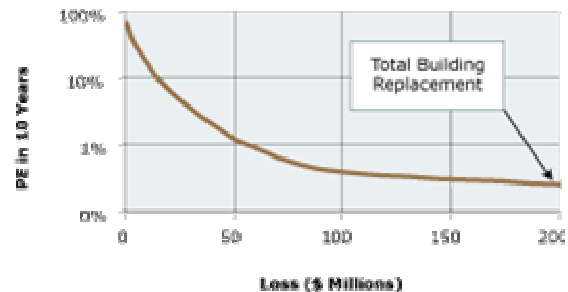
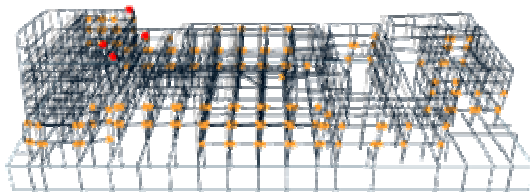
Indian corporates have a long way to go in adopting holistic risk management approach in addressing their risks. De-tariffed market is expected to give the necessary impetus to systematic approach to managing risks and attention of top management. By adopting state of the art tools for de risking Indian corporate can immensely benefit in de risking their operations.

Case Study:

Emerging trends in Risk Modeling:

Some of the Risk Models developed has helped the insurance companies to redesign their insurance policies to cover adequately and avoid excess premium paying. An example is the Risk Model developed by AIR for a large shopping mall operating in San Francisco at one location only valued at \$200M. Visitors number in the tens of thousands on any given day.

The Analysis was done with an objective to evaluate the structure's ability to withstand a major earthquake and quantify losses due to structural and contents damage and business interruption.



On the basis of the analysis of results, the most appropriate risk mitigation strategy for the owner was a combination of a \$3M partial retrofit of the building and insurance coverage for only 50% of the full replacement value of the building, with a 10% deductible. This new strategy resulted in an \$800,000/year reduction in insurance premium. The internal rate of return of the risk mitigation investment was 12%.

NOTE: This Article has been presented in the Summit of National Insurance Academy published in NIA Souvenir.