

## **A Practical Approach to Insurance Risk Engineering**

It is both an honour and privilege to have been invited to and with others, attend and address this internationally famous institutes conference.

I must admit that I found the conference banner of Catastrophe Events - A Challenge, actually a challenge in itself, however and dare I say a challenge in a most positive and interesting way.

Whilst my fellow speakers are all internationally recognised experts within their own specialised fields, myself and by providing a broad property all risks insurance risk management facility must and in reality, represent the proverbial jack of all trades and master of none.

It would perhaps have been an easy option to talk about what I and many others do on a day to day basis, that is, property all risks insurance risk engineering, however and as I previously alluded to, there was an interesting challenge here.

A subject that is very close to my heart is how the person in the field effectively or dare I say even ineffectively, relates insurance risk engineering matters to the client. In addition, why is it in theory that clients who may share common risks and exposures act and if I may use the well known idiom, as though they were poles apart?

Still and after many years working in the field it never ceases to surprise me when some clients may display and without prompt a genuinely enthusiastic appetite for embracing an effective risk management strategy whilst conversely and to be brutally honest, there are those who are totally disinterested.

My thoughts were drawn towards how perhaps the client views their susceptibility to natural disasters and how possibly these views dovetail with recognised insurance risk engineering strategies and practices.

Perhaps a challenge and as they say with an apology for the use of a second idiom, you can lead a horse to water but you cannot make it drink.

I mentioned what I thought was a potentially interesting subject to some of my working colleagues within the US, Europe and the Far East and it was brought to my attention, the presence of a paper prepared by an internationally known North American based insurer, where they had sought to examine the reasons why some organisations prepare for the risk of natural disasters and why others do not. The objective was to determine the human perceptions and behavioral barriers that sometimes obstruct and impair organisations from addressing their vulnerabilities to say natural disasters.

I have drawn extremely heavily from this paper and which in my opinion is a quite inspirational and masterly piece of work and toward which I would like to openly acknowledge.

Despite internationally readily available and internationally easily accessible multi media that regularly reports on the high human and financial costs of natural disasters, it is recognised that many do little to address their vulnerability through physical risk management practices.

Often the human mindset plays an important role in natural disaster awareness and potential or subsequent management and control.

Unfortunately and on a regular basis, denial comes into play as the process where a company convinces themselves that they will be unaffected by a natural disaster. Even with scientific data arguing otherwise, there are those who totally deny the possibility of an occurrence.

It is also interesting to note that when a natural disaster occurs and when purely by chance a company is left unaffected, their thinking may be that the worst has passed, although the risk of a more severe event has not changed.

A practical approach to risk engineering puts forward some basic ideas towards possibly suggesting ways that companies may have a better appreciation, understanding and change in organisational decision making behaviour with regard to natural disaster awareness.

A key objective must be to prompt persons to become more aware of the mind set factors that affect business decision making and to take action today in order to prevent or reduce the human, physical and financial cost of natural disasters tomorrow.

Whilst of course a company cannot prevent a natural disaster from occurring, it can however prevent or reduce the risk of damage by implementing proven risk engineering solutions to hopefully ensure smooth and effective business continuity. The consequences of inaction demand a greater understanding of the perceived obstacles to natural disaster risk engineering.

With a growing population and multiple series of infrastructures, the world's exposure to natural hazards and disasters is inevitably increasing. With this in mind, it is reasonable to expect that companies located within natural disaster prone areas to anticipate and furthermore respond. This by implementing physical risk improvements to their key business facilities to prevent or to reduce the human, physical and financial cost of natural disasters.

Unfortunately, the opposite by doing little or nothing is often encountered and many companies quite simply fail to consider how they may be at risk.

It is a well known and well used fact that more than 50% of the world's population now lives within urban areas and there is no evidence to suggest that this trend will anything but continue. It has even been suggested by the year 2030, the number will possibly rise to nearly 60% and which may represent 3.9 billion people.

These are startling statistics.

Again, many companies fail to understand the risk of natural disasters and there is often a worrying gap between the level of natural disaster exposure and the level of effective risk engineering being in place. On many occasions companies either underestimate the extent toward which a natural disaster exposes them or they overestimate the efficacy of the level of risk engineering actually in place.

May I suggest that insurance companies absorbing the costs of many natural disasters certainly do not underestimate the risk?

A natural disaster can of course affect a company beyond that of property damage and loss and whilst risk engineering and risk management is not always willingly embraced, these natural disaster losses may be preventable and companies that realise this have potentially a competitive edge.

Within a practical approach to insurance risk engineering, a fundamental question to be asked must be why are some companies not protecting their facilities to withstand the expected loss scenario of a natural disaster?

It is odd that some companies seem reluctant to invest in natural disaster risk engineering strategies when the long term benefits are so blindingly obvious, although in fairness it must be said that some companies do readily prepare for risk whilst again, others do not.

Perhaps there is a natural human mindset which is a key and deciding factor as to why companies often ignore the risk of a natural disaster and which may be in ignorant bliss be wrongly supported in the mistaken beliefs that:-

- my company will never suffer from a natural disaster
- if a natural disaster occurs, it will affect others and not my company
- if a natural disaster occurs, the affect on my company will be minimal

The greater time elapses without a predicted natural disaster, the greater is the companies false sense of security. When a natural disaster does occur and the said company suffers none or little damage, then they are at risk of adopting a false sense of being totally immune. In addition, it is easy to adopt the ridiculous attitude that once a natural disaster has occurred, that it will not happen again or at least not for a long time in the future.

It is the mindset of a gambler by the misconception that what has recently occurred will affect what will occur next, even if the two events are quite independent. In the context of a natural disaster, once a catastrophe occurs, many people believe that the chance of a repeat is remote and may be less inclined to prepare for the event.

This mindset it may be argued is a justification for not having to face up to reality.

It has been suggested that many companies put an overly heavy emphasis on disaster recovery and business continuity planning when perhaps they should be more focused on an effective risk management programme, which may reduce the priority, although not the importance, of both the disaster recovery and business continuity programmes.

There is often wrongly perceived high costs associated with an effective risk management programme and often companies fail to consider that this investment will provide a high financial benefit and high degree of value over an extended rather than short period of time.

A large proportion of the potential loss from a natural disaster is preventable and many companies think that the risks and resulting losses are quite beyond their control and this unfortunately often leads to a fatalistic attitude and inaction. Quite simply, whilst a company cannot prevent a natural disaster such as flooding, it can implement a loss prevention strategy and in order to reduce the risk. Companies do not always have to be victims and they can exert a degree of control within a natural disaster scenario by the implementation of proven risk engineering strategies.

A company may however argue though that they are actually adopting a positive risk management philosophy by recognising and then transferring the risk, by being insured. It is of concern though that a company often feels that by recognising and then transferring the risk, that there is no longer a need toward attempting to prevent and control their natural disaster exposure.

It is always worth suggesting to a company that a risk identification and risk protection programme and if implemented in connection with a natural disaster, would in the event of an incident dictate that the loss would dare it be said, be a minor distraction rather than a major devastation.

A practical approach to risk engineering would hopefully prevent:-

- risk underestimation whereby even when a company is aware of the risk, they firmly believes that they will never suffer a natural disaster
- procrastination as the quite natural tendency to postpone taking actions that requires an investment in both time and money
- short term focus as the difficulty of correlating the cost benefit advantages of investing in natural disaster planning
- hyperbolic discounting by companies over emphasising the immediate considerations, rather than the long term benefits of investing in natural disaster planning

Natural disaster risks are real and they will happen and they are not probabilities, thresholds, models or likelihoods. Companies should anticipate the worst and prepare for the worst in advance and the wrong philosophy is one of whether a natural disaster will ever happen, because it will.

It is of course sometimes extremely difficult to persuade a company that they should address the issue of natural disaster planning when the same company is long established and quite simply has never suffered a loss.

Pretending that there is actually no risk of a natural disaster will of course not make it disappear, however there are thankfully ways to try and overcome the tendency by some to avoid well documented scientific facts. Perhaps what separates the companies who prepare for natural disasters from those who do not is a mindset acceptance of the fact that a natural disaster could indeed occur.

Some would argue that such companies tend to inherently have a high degree of ethical behaviour, integrity and perhaps most importantly, the courage to face reality and effectively deal with it.

These companies seem never to ignore the fact they are potentially vulnerable to a certain natural event which in stark and brutal reality could jeopardise their very existence.

It may be argued that the majority of all property losses are preventable and companies should consider any physical risks as a future reality rather than a probability. Risk improvement through a practical approach to loss engineering can help ensure that if a natural disaster occurs, it will not overly impact on the business of the company.

A practical approach to insurance risk engineering accepts that natural disasters do of course occur, however that potential losses may to a high degree be controlled and reduced if the appropriate resources to address the incident have been previously employed.

To finish and to make reference to a practical approach to insurance risk engineering, perhaps a key underlying feature is how we would like for any company to perceive risk in an objective context by removing any subjectivity.

This should not however be technically difficult, onerous or complicated.

Having said that, it must be recognised that insurance risk management still is and must remain a disciplined and structured approach to managing an uncertainty related to a threat, through a sequence of human activities.

I do not wish to be patronising and we are of course all aware toward the rudimentary features of property all risks insurance, however these human activities perhaps should include:-

- risk identification, risk assessment and risk prioritisation
- a strategy development to manage by minimisation, monitoring and to control the probability and/or the impact
- the mitigation of the perceived risk or risks, using various sources

It may be argued that insurance risk management is simply the practice of systematically selecting cost effective approaches for minimising the effect of threat realisation to the organisation.

Risk can never be fully avoided or mitigated simply because of financial and practical limitations and therefore all organisations have to accept some level of residual risks.

Insurance risk management methods, definitions and objectives will of course vary widely according to the insured risk context, although there are still common working strategies to manage the risk and not being disaster specific to include:-

- the design of a new business process with an adequate built in risk control and containment measures essentially from the start
- periodically re assessing risks that are accepted in ongoing processes as a normal feature of business operations and by modifying mitigation measures
- sharing or transferring the risk to another party by outsource or insurance
- avoidance of the risk by eliminating, withdrawing from or not becoming involved
- reduction by reducing the negative effect of the risk
- retention by accepting some or all of the consequences of a particular risk

Once risks have been identified, it is felt that they must then be assessed as to their potential severity of loss and to the probability of occurrence.

The objective of insurance risk management is to reduce different risks related to a preselected domain, to what could be considered an acceptable level.

In ideal risk management, a prioritisation process is followed whereby the risks with the greatest loss and the greatest probability of occurring are handled first and risks with lower probability of occurrence and lower loss are handled in descending order.

As we all know, methodology includes although not exclusively so:-

- identify, characterise and assess threats
- assess the vulnerability of critical assets to specific threats
- determine the risk (i.e. the expected consequences of specific types of attacks on specific assets)
- identify ways to reduce those risks
- prioritise risk reduction measures based on a strategy

It was earlier suggested that perhaps a key underlying feature is how we would like for any company to perceive risk in an objective context by removing any subjectivity. Again and to be effective, a risk engineering programme should not be technically difficult, onerous or complicated.

In theory, the effective implementation of insurance risk management should:-

- create value
- be an integral part of organisational processes
- be part of decision making
- explicitly address uncertainty
- be systematic and structured
- be based on the best available information
- be bespoke
- take into account human factors
- be transparent and inclusive
- be dynamic and responsive to change
- be capable of continual improvement and enhancement

We may now have almost come in complete circle by asking the question, why some organisations prepare for the risk of disasters and why others do not. Again we have the human perceptions and behavioural barriers that often obstruct and impair organisations from addressing their vulnerabilities to say natural disasters.

So, what do I get for my money?

Well actually quite a lot and it may be suggested to organisations that by embracing an insurance risk programme that they may possibly:-

- increase productivity and cost effectiveness
- increase profits
- better utilise and save resources
- upgrade the quality of any service, brand value and company reputation
- prevent or reduce any legal liability and therefore, increase the stability of all operations and day to day activities
- protect person from harm
- protect the environment
- enhance the ability to prepare for various unforeseen circumstances
- enable a company to be fully aware as to what their insurance company expects and to ensure that there is no unintentional Breach of Warranty or Non Disclosure of a Material Fact. Both which could possibly negate an insurers liability in the event of a claim
- assist in clearly defining insurance needs

Just to mention that where insurance risk management tends to be pre emptive, business continuity planning is there to deal with the consequences of realised residual risks. The necessity to have a business continuity plan in place arises because even very unlikely events will occur, if given enough time.

This has of course been previously mentioned.

Insurance risk management and business continuity planning are often mistakenly seen as rivals or overlapping practices. In fact and it may be argued that these processes are so tightly tied together that such separation seems at times artificial. For example, the insurance risk management process creates important inputs for the business continuity plan (assets, impact assessments, cost estimates etc.) and the insurance risk management also proposes applicable controls for the observed risks.

Therefore insurance risk management covers several areas that are vital for the business continuity planning process, however the business continuity planning process extends beyond the insurance risk management pre emptive approach and assumes that the disaster will happen at some point.

It is worth remembering and reminding ourselves though and whilst some of us may like to think otherwise, having in place an effective insurance risk management and risk engineering programme will never eliminate all risks.