

Risk Improvement Online

A new method for property and liability risk evaluation and reduction, in large corporate groups

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Abstract:

This Paper describes new ways of risk management with rational tools to evaluate risks and invest in loss prevention measures in order to reduce the probability of losses and / or to minimize their consequences.

It relates to the main insurable operational corporate risks, such as fire, natural disaster, malevolence, environmental liability, product liability, machinery breakdown, etc.

Corporate benchmarking strongly enhances motivation toward a general improvement.

Online method allows a widespread coverage in risk locations worldwide, at minimal costs.

Keywords:

Risk evaluation, risk improvement, industrial risks, online risk management

I. Introduction

To evaluate risks and invest in loss prevention measures in order to reduce the probability of losses and / or to minimize their consequences is a necessity for insurers and for corporate groups.

This is a way to improve profitability in a highly competitive world.

However reducing risk also has a cost, and finding a good balance between costs and benefits is a delicate exercise, especially when the probability of events that we are talking about is small, but with consequences that might be catastrophic.

Bringing solutions that make this exercise easier is the aim of this online risk improvement tool.

II. General

A. What is "Risk Improvement"

ISO 3100 defines some risk management terms like risk management, risk assessment, risk identification, risk analysis, risk evaluation, risk treatment, but does not mention risk improvement.

However, risk improvement is quite frequently used by occidental insurers. We can say that it corresponds to risk treatment except for the risk transfer and risk retention aspects.

We include for instance:

- Minimizing the likelihood (probability, frequency,...)

- Minimizing the consequences (gravity, loss expectancy,...)

B. How to achieve risk Improvement

This is achieved by organizational measures

- Increasing risk awareness among employees, managers, subcontractors, by bringing to their attention examples of past catastrophes , by explaining the risks, ...
- Encouraging better risk control procedures
- Developing emergency planning
- Thinking about Business Continuity Planning , ...

Or can be achieved by physical measures

- Hazard detection systems (like flood warning, fire detection, intrusion detection, leak detection, gas detection,...)
- Protection systems (like flood dikes, automatic sprinkler protection, fences, tank retentions, explosion vents, ...).

C. Rational aspects of risk management

Deciding where to allocate resources for risk improvement is a very difficult task, because there is a huge uncertainty regarding the probabilities for adverse events and their consequences

However, balancing the costs of efforts versus the risk reduction result will always be kept in mind!

Balancing the costs should be a permanent « subroutine » when considering investments (or

lack of investment) along the risk reduction process.



Figure1. Decision Factor

By balancing the costs, we mean comparing the potential savings and the investment costs of prevention or protection measures.

$$\begin{aligned} \text{Potential loss savings} = \\ & (\text{Loss expectancy before protection}) \\ & \text{minus} \\ & (\text{Loss expectancy after protection}). \end{aligned}$$

The Decision Factor may include various topics, such as:

- Indirect losses, i.e. loss of market share
- Corporate or Brand image
- Frequency of occurrence
- Ethical values
- Legal responsibilities
- Corporate financial strength
- Etc.

This logic underlies all the Risk Improvement Process.

III. Online solution

A. Specifications for online solution

Items to include in specifications are:

- Who is the decision maker (risk manager, insurer, ...)
- What are the priorities and parties involved
- Are they specific goals / objectives
- What is the population of risk locations (a certain amount of consistency is required regarding site activities)
- What types of perils are we aiming at (Flood, Seismic, Fire, Machinery Breakdown, Business Interruption, Environmental liability, ...) or a mix of those
- Who will be the stakeholders in the process (Corporate or Divisional Managers in Finance, Safety, Environment,...)

B. Building the system

Building the system includes:

- Deciding what type of perils will be concerned
- Using the specific inputs from corporate experience like loss lessons, QSHE management systems objectives, ...
- Creating a benchmarking grid and dedicated improvement resources like internal or external guidelines, loss examples, pedagogic video-clips, ...
- Internal reviewing, pilot tests and improvement cycle before issuance of final matrix version

Creating a benchmarking grid that is information rich and really appropriate to the type of occupancies that are considered is one major task to obtain a positive result at the end of the exercise. It has to be designed in such a way that the site users can in the same time understand what the risks are and how they could improve their situation locally.

C. Launching the system

Launching the system includes:

- Communicating to motivate the people involved
- Making the evaluation questionnaire available to local managers in charge
- Following the completion schedule
- Checking that the process is smooth and communicating on further issues if needed
- Gathering results and finalizing the rating tool

D. Results

This is a real case result, where each number represents one production site:

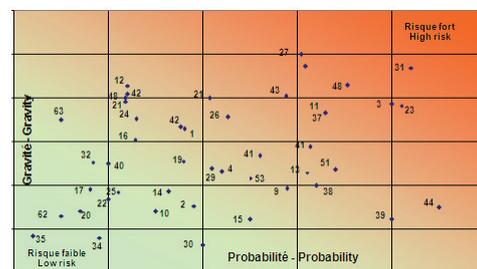


Figure2. Real Benchmark Result

And this real case did reveal a surprise. This corporate benchmark revealed that, on average, the sites operated on BOT (Build-Own-Transfer) contracts were better protected than sites operated as a mere operator. The occupancy was related with public and industrial waste elimination.

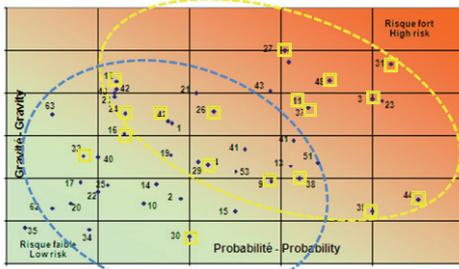


Figure3. BOT vs Operator
 With Courtesy of Suez Environment Risk Management
<http://www.suez-environnement.cn/cn/china/>

The blue left oval being B.O.T. sites and the yellow right oval being operated sites.

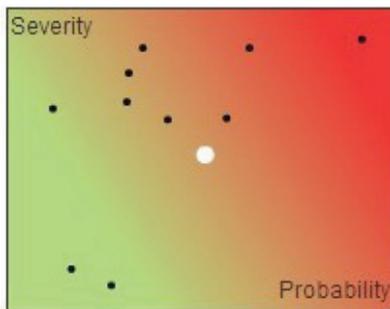
This difference can be explained by the fact that when the company is in the BOT situation, the decision process for capital request is much shorter that it is in a case where the client is bearing the cost of the investment.

These findings are also a good indication that there is a correlation between the industrial reality and the risk benchmark tool.

E.Improvement

Once all the sites of the group have gone through their online risk evaluation, each one of them can access the global benchmark. They are then able to simulate steps toward improvement and robustness and also compare their own score to the group's average.

“Transparent” benchmarking among the various sites of a group is a very efficient way to generate incentive for improvements at various levels of the corporation.



"Before" and "After"

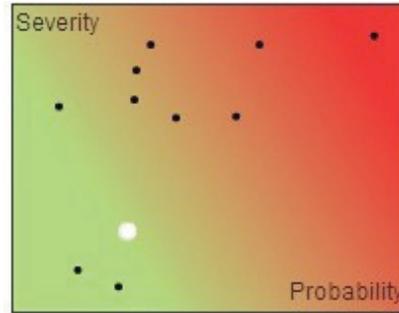


Figure4. "Before" and "After"

The immediate visualization of risk improvement that can be obtained by improvement in organization or protection is also a real innovation in this field.

IV. Conclusion

New ways of risk management are now available, with rational tools to evaluate risks and invest in loss prevention measures in order to reduce the probability of losses and / or to minimize their consequences.

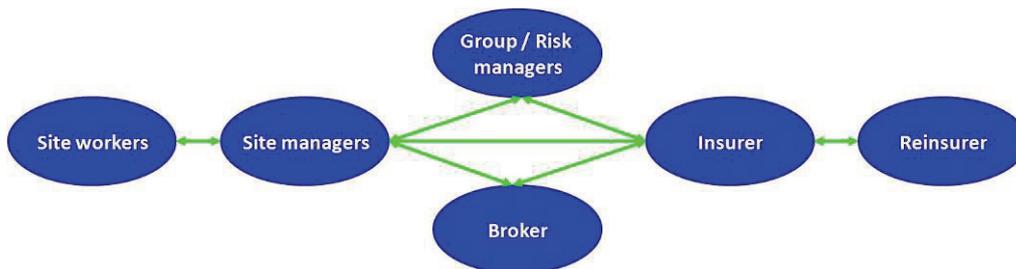
These Online Tools are creating a “transparent link” from site workers up to reinsurance underwriters in the process of risk evaluation.

Risk improvement is the key objective, but the online process also induces extra benefits: time and energy outlays, financial costs and environmental impacts are insignificant compared to those involved in conducting an onsite inspection.

This is a real disruptive innovation.

That is: anyone in this “risk chain” can understand why a site is rated “good” or “poor” and how it could be improved.

This may not be the case when risk gradings are decided by auditors during site inspections.



Acknowledgment

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And we have to thank all risk managers, insurers, safety manager, production managers, ..., etc. for having given us the opportunity to develop our loss prevention experience over the years.

References

We might cite many risk management or loss prevention standards and guidelines, some of them being proprietary though, but we will only mention two:

ISO 3100 Risk management — Principles and guidelines - www.iso.org

NFPA 551 Guide for the Evaluation of Fire Risk Assessments

NFPA 1600 Standard on Disaster/Emergency Management and Business Continuity Programs – www.nfpa.org