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RISK MANAGEMENT DECISIONS IN THE CONSTRUCTION INDUSTRY

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1. Introduction

Hazardous events can befall any organization and have an adverse effect on that organization's financial well-being. The hazard may be physical, such as fire or theft, which would affect an organization directly, occupational injury or illness to employees which could result in reduced output, injury or damage to third parties or third party property giving rise to a claim for compensatory damages, or a fine due to non - compliance with statutory regulations.

Most organizations operate some form of control over hazards, possibly a formal system, but often one that just happens, many are content to rely solely upon limited controls by insurances.

In the early 1990s the construction industry became more generally aware of a management approach to dealing with hazard, already assimilated by certain other areas of commerce and industry, called risk management. The basic processes are actually quite simple: hazards are identified; the consequences and probabilities of occurrence are assessed; priorities established; the resulting risks are eliminated or reduced and then provision is made residual risks.

It has become apparent that risk management can be an effective formalized system with which to address and manage a whole range of hazardous activities to which an organization can be subjected. Far from being yet another non - productive management overhead, risk management can be used highly successfully to plan ahead to reduce adverse effects on company profitability.

Effective risk management provides:

- an increased awareness of the consequences of risk,
- a focus for a more structured approach to risk management,
- more effective centralized management control,
- better risk information transfer between those concerned with and those responsible for such matters and, most importantly,
- reduced long - term loss expenditure and hence corresponding increased profits.

2. Hazard, risk and commercial risk

The worlds „hazard" and „risk" are often used interchangeably. Strictly speaking a hazard is usually considered to be something that might be wrong with adverse consequences, whereas a risk is the multiple of the cost of that hazardous consequence and its possibility of occurrence. Risk analysis is the identification and assessment of the likelihood of hazards occurring and the consequences of occurrence. Sometimes the identification of appropriate alternative ways of eliminating or reducing the risk or reducing its impact is included within the definition. Risk analysis is therefore a significant initial part of the risk management process.

The foregoing definition of risk management should indicate that it has a strong commercial basis. Like any other commercial activity, it must normally compete for organizational funds in the same way as other demands for those funds, for example the purchase of new equipment or machinery. There will almost be a need to show that there is a potential better net gain to an organization in undertaking proposed risk management procedures, compared with the net gain of using the money on something else or investing it directly elsewhere.

This may not mean that the objective is always to obtain the best short - term commercial rate of return. For example, it may only be in the longer term that the creation by risk management expenditure of a public perception that an organization is safe, economically aware, or pollution conscious will result in increased sales

or share price. Alternatively, an organization might have a strong commitment to health and safety of employees well beyond its statutory obligations and which cannot be shown to be justified in monetary terms alone. Thus, risk management is always a servant of corporate policy.

The hierarchical risk structure shown in Figure 1 provides the basis for classifying risks within a project. This figure allows the separation of risks into those that are related to the management of internal recourses and those that are prevalent in the external environment.

External risks are those which are relatively uncontrollable, including inflation, currency exchange rate fluctuations and legislative changes.

Because of their uncontrollable nature, there is a need for the continual scanning and forecasting of these risks and for the development of a company strategy for managing and controlling the effects of external forces. Internal risks are relatively more controllable and will vary between projects. Examples of internal risks include resource availability, experience in the type of work, the location of the project and the conditions of contract. Internal risks have been separated into two subgroups: global risks, witch affect individual work packages; and local risks, which affect individual work packages within a project. Each work package is treated separately, as no two work packages have the same level of risk, even if they are superficially similar.

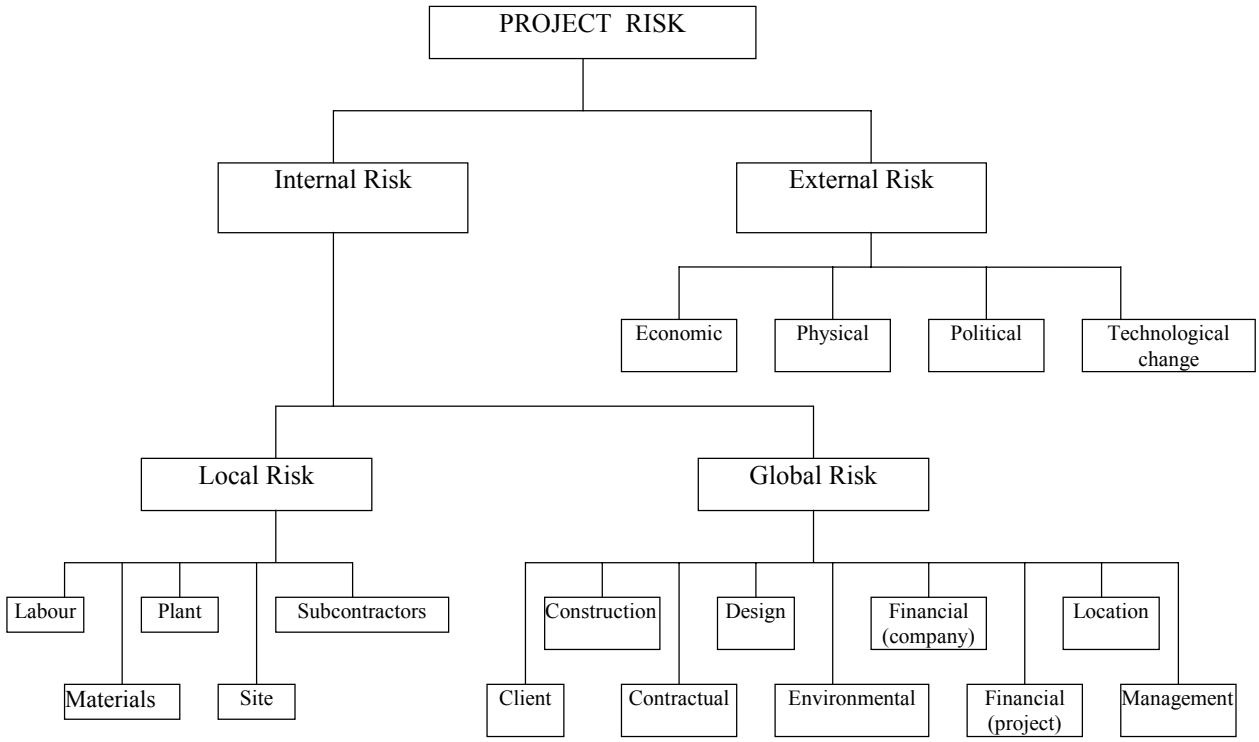

Fig 1. The hierarchical risk breakdown structure

3. General commercial risks

Many of the hazards associated with commercial undertakings are obvious: equally obvious may be possible ways of eliminating, reducing or transferring them. For example, one solution is insure as many as possible. As will be seen later, this may not always be the cheapest or most effective way of managing risk. Identifying hazards is an essential part of a structured approach to risk management. The following list identifies many of the hazards in the corporate risk environment. The list may be considered somewhat tedious. However, it does give an effective illustrations of the wide range of hazards that might need to be managed. For example it include: liability for death, injury to person or damage, building and other property loss and damage (fire, theft, explosion, frost, windstorm), criminal risks and many other.

4. Risk management

Risk management involves risk analysis, control, transfer and financing. Figure 2. Gives an overview of these processes. An organization's risk management programme will usually involve a combination of the principal elements.

Periodic review of an organization's exposures and its risk management programme mix is needed because, for instance exposures and insurance financial market conditions change. In addition, as always necessary for good management the effectiveness of the programme should be audited.

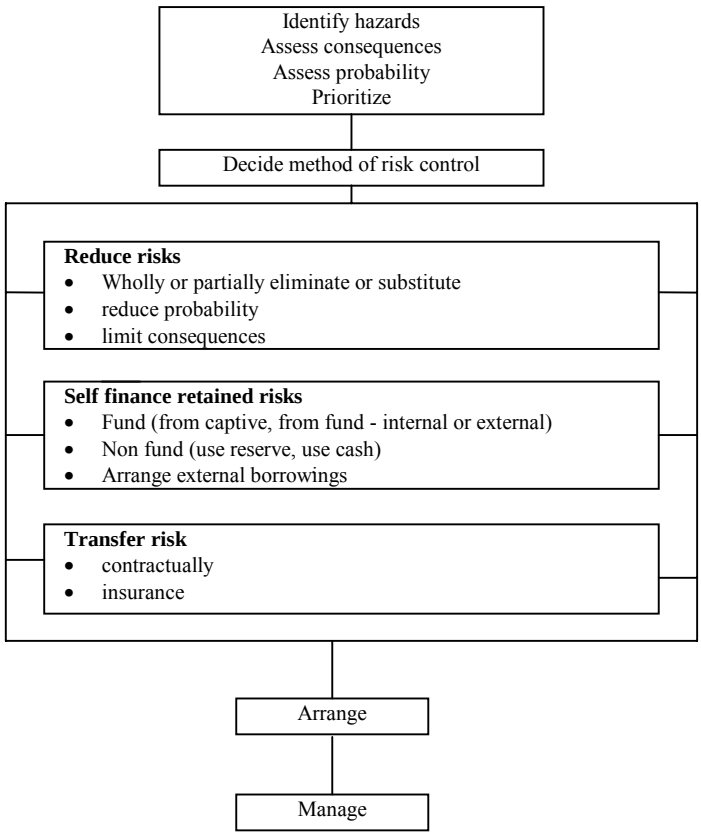

Fig 2. Overview of risk management practices

Table 1. Relationship between company risks and risk management solutions

Type of loss	Frequently	Severity	Predictability	Impact	Solution
Trivial	Very high	Very Low	Very high	Negligible	Non insurance
Small	High	Low	Reasonable Within 1 year	Insignificant	Self insurance
Medium	low	Medium	Reasonable Within 10 years	Serious	Part insurance
Large	Rare	High	Minimal	Catastrophic- affects continuing viability of company	Insure

5. Risk management decision

The risk financing options available to an organization to management and its residual risks is very difficult problem. Often it is a subject of management decision. Which option or combination of options will be chosen finally depends upon many issues including the organization's policy, financial strength, size, the risks it can afford to self - finance, as so on. Table below gives typical relationships between different sorts of organizational risks and commonly valid corresponding risk management solutions.

The actual risk management programme adopted by an organization will be the result of a detailed investigation of the organization past, current and future risk exposures.

6. Summary

It will become clear that risk management is merely a mirror image of general commercial management. The latter is concerned with the identification and implementation of profit making opportunities whilst the former is concerned with reducing the opportunities for, and consequences of, loss. Thus, a longer term view is that risk management should be subsumed within, and be an integral part of the general management process of all efficiently run organization, with all line managers having identified responsibilities for the risks in the areas in which they operate.

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