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**CHAPTER 7**

 **RISK**

Risks is sometimes inevitable at any stage in a project. Some risks are associated with particular tasks and others emerge from outside the project and can manifest themselves without warning. Most times, a risk event that occurs late in a project can be costly in terms of time and money than a similar event nearer the start of the project. This is because as time passes there will be a greater value of work in progress and higher sunk costs at risk of loss or damage. However, for any project that is complex and large, a risk management strategy must be developed, first to identify as many potential risks as possible and then to decide how to deal with them and also a risk manager is always appointed, that devotes his/her time to ensure a comprehensive risk strategy is always put in place and then reviewed from time to time throughout the project to ensure that it remains valid.

**IDENTIFICATION OF RISKS**

To Identify Risks, some tasks will not be completed in line with their duration estimates and budgets. Some might exceed their estimates, whilst others could be finished early and cost less than expected. **Brainstorming** is an effective technique for considering many aspects of risks. **Risk Analysis** can be either

1. Qualitative Analysis (process of assessing individual project risk probability of occurrence and impact against a pre-defined scale).
2. Quantitative Analysis:(This is a numeric estimate of the overall effect of risks on the project objectives such as costs and schedule objectives and the result provides insight to the likelihood of project success).

**RISK REGISTER**

When all risks have been identified, listed, assessed and ranked it is time to consider what might be done about them and it is required that all potential risks should be listed in a risk register; document used a s a risk management tool to fulfill regulatory compliance acting as a repository for all risks identified and includes additional information about each risks such as nature of the risks, references and owner etc.

 Risk registers should always be reviewed and updated regularly throughout the life of a project.

**METHODS FOR DEALING WITH RISKS**

 When risks have been identified, assessed, ranked and registered, consideration has to be put into place on what to be done about them.

1. Avoid the risk – The only way to avoid a risk is to abandon the possible causes, which could even mean deciding not to undertake a project at all.
2. Take precautions to prevent or mitigate risk impact – This is a most important part of risk management, requiring the active participation of all managers and staff. All preventive measures are always followed throughout all parts of the organization. It requires the creation of a risk prevention culture, covering all aspects of project tasks, health and safety, and consideration for the environment.
3. Accept the risk – Numerous small things that can go wrong during the course of any project, and most of these risks can be accepted in the knowledge that their effect is not likely to be serious, and that they can be overcome by corrective measures or preplanning.
4. Share the risk –Sharing a risk big enough to ruin one company might reduce its impact to little more than a temporary inconvenience
5. Limit the risk –. It may be possible to divide the project into a number of stages for this purpose: indeed, the process is sometimes called stage gating.
6. Transfer the risk – Some risks, or substantial parts of them, can be transferred to another party on payment of a fee or premium.

**INSURANCE**

The financial impact of many risks can be offset by insuring against them. The client pays the insurance company a premium for this service, and the insurer might itself choose to spread the risk by sharing it with one or more other insurance companies. Customers are either ‘retail’ or ‘commercial’.

 A retail customer is a ‘natural person’ (policyholder or potential policyholder) acting outside their normal trade or profession while a commercial insurance customer is someone acting within their normal profession

 Greater protection and more information are provided to a retail customer than to a commercial customer because the commercial customer is deemed to have greater knowledge.

**CATEGORIES OF INSURANCE**

1. legal liabilities
2. protection against loss or damage to property, including temporary works and work in progress, owned construction plant, hired-in plant.
3. cover relating to personnel;
4. pecuniary loss.

 Policies may combine cover for two or more of the above classes of risk.

**OBLIGATORY INSURANCES**

Legal requirements oblige companies to obtain adequate insurance cover against some risks. These obligations arise either from various government laws and regulations or from conditions contained in a binding commercial contract.

**Statutory Requirements**

At the top of the insurance shopping list are those items which must be insured in order to comply with laws and regulations. Employers are obliged to insure their employees against injury or illness arising from their employment (Employers’ Liability Insurance) and every employer has to display a valid certificate on its notice boards to show that such insurance exists. No project which includes the installation of such equipment should be handed over to a client without the relevant documents or examination and the accompanying inspection certificates. If the correct documentation is not supplied, the client will not legally be able to operate the equipment.

**Contractual Requirements and Other Legal Liabilities**

 In commercial and industrial projects, its certain that some responsibility will be placed upon the parties to insure against several risks. Liability insurances are required for: compensation to persons for bodily harm (employees of either party, others working on site, visitors and members of the public property loss or damage etc.).

Other Risks That Can Be Covered by Insurance

 In addition to the statutory and contractual requirements, there is a range of other risks against which a contractor might be required to insure,

1. Contractors’ all risks insurance for projects

All risks insurance cover provides protection during the works, until the project is complete and handed over to the customer. Thereafter, insurance becomes the customer’s responsibility.

1. Decennial (latent defects) insurance

Which can cover a period of up to ten years, is designed to insure against damage to premises caused specifically by an inherent defect in the design, materials or construction of a project.

1. Accident and sickness insurance

Provisions for personal accident, sickness and medical expenses insurance will need particular consideration when employees are required to travel, home or abroad. Those working on in foreign countries will expect to be adequately covered for the higher risks involved, and such cover will have to be extended to spouses and children if they are also allowed to travel.

1. Key person insurance

 Offers kinds of protection to an employer against expenses or loss of profits which result when injury or death prevents one or more key persons from performing the duties expected of them.

1. Pecuniary insurance

Are designed to protect a company against financial losses from a variety of causes. Risks that can be covered include embezzlement, loss through interruption of business, and legal expenses.

**Risks Which Cannot Be Covered by Insurance**

 A person cannot benefit personally from a claim for loss or damage to property not belonging to them. These items must, be excluded from the insurance portfolio.

**OBTAINING INSURANCES**

 Insurance can be sought directly from an underwriter, or through a broker; preferably one with a good reputation and experienced in the insured’s type of project activity. The insurer will need to be supplied with sufficient information for the risk to be adequately defined, and the contractor will be expected to inform the insurer of any change of circumstances likely to affect the risks insured.

**PLANNING FOR A CRISIS**

Some risk events can have such a potential impact on a project that special crisis management contingency plans must be made. Such contingency plans can extend to projects that would need to be set up specially and rapidly to deal with the sudden crisis, for example in areas that are particularly liable to epidemic diseases, famine, flooding, hurricanes, earthquakes or other natural disasters.

**ORGANIZATION**

The first step in devising a contingency plan is identifying the key people who will take charge of the crisis management project. These people will constitute a sleeping organization, ready to awake at a moment’s notice in case of need. A team leader must be appointed that will manage the project should it become live. This group of key people might be called the crisis action committee.

**CONTINGENCY PLANNING**

 The committee might have to arrange for emergency funds, stores and special equipment to be stockpiled at least located against the time when they might suddenly be needed

**TABLETOP AND OTHER EXERCISES**

 A tabletop exercise can contribute to this process, where the members of the action committee carry out a role-playing exercise to consider as exactly as possible what might happen and what they themselves and their subordinates might do should the crisis happen.

**CHAPTER NINE**

An effective organization will have clear lines of authority and every member of the project will know what he or she is expected to do to make the project a success. This is part of the management communication framework needed to motivate all the staff employed. A well-motivated group can be a joy to work with. A badly informed group, with vague responsibilities and ambiguous levels of status and authority, is likely to be poorly motivated, slow to achieve results, costly to run and extremely frustrating to work with. The complement of good management communications is the provision of adequate feedback paths through and across the organization. These facilitate cooperation and coordination. They allow progress to be monitored and difﬁculties to be reported back to executive management. They should also give all participants access to the relevant experts for advice or instruction on technical and commercial difﬁculties. There will be employees who feel aggrieved when they ﬁnd that their names are not included on the chart, which they perceive as a personal insult. Those people will believe that they have been overlooked and that their roles and are not appreciated as being sufﬁciently important. The issue of a new organization chart can also give rise to feelings of envy or injustice when individuals feel that their particular box should have been placed higher up in the hierarchical pecking order. At least one company has attempted to solve this problem by issuing circular charts, but that is a not a complete solution because those nearest the outer rim of the circle might feel that they should be nearer the center. Work scheduling and control must take into account all the activities needed to bring the project to a successful conclusion (including all the software tasks, such as writing computer programs and preparing operating and maintenance instructions). Some of the items purchased by the company as part of the project must themselves be considered as special, and they too will have to be brought into the control function. Some of those purchased items might be sufﬁciently complex for their suppliers to manage their design and manufacture as projects in their own right. Cost control (a basic factor in achieving proﬁtability) has become more complex. Cost and management accountants are not the only contributors to this process; they must be helped by specialists who can deﬁne the total work content in detail and then report on achievement and cost implications as the project proceeds. As instructions are issued within departments and from one department to another, information must be fed back along the communication channels to signal the results obtained as each instruction is carried out. These feedback data are used to correct any errors discovered in the design drawings and for the essential task of controlling the general progress of the project. The weak matrix can encourage conﬂicts. For example, different project managers might compete with each other in claiming attention and resources for their own projects, and they can also come into conﬂict with the departmental managers over the allocation of people, machines and other facilities to project tasks. An additional complication is that functional departments usually have work, both routine and occasional, that is not connected with any current project. The departmental managers might decide, without agreement from the project managers, to give non project work priority over project tasks. The ‘balanced matrix’ (or overlay matrix) is very similar to a weak matrix and is sometimes described as such. In the balanced matrix, there is a declared balance of power and authority between the project managers and the functional department managers. Project and functional managers are expected to collaborate constructively and allocate personnel and other resources to tasks according to genuine priorities to ensure the successful outcome of all projects. This is perhaps the most common form of matrix. It is elegant in theory and has many advantages over other forms of organization. It is not however, as some have claimed, a universal solution for all projects. All organization forms have their advantages and disadvantages. In a ‘project matrix’ the authority of each project manager takes precedence over the authority of the functional managers, at least as far as the allocation and progressing of work is concerned. In a ‘second ment matrix’, which is the strongest form of the matrix, the functional managers must nominate and assign members of their departments to work full-time for the project managers. The people assigned report principally to their respective project managers for as long as each project manager needs them (although they might have to remain physically located in their home departments). The resulting task force should be a powerful and effective management team, with all the expertise and authority needed to give the project the best chance of success. Although the project might still depend on the use of resources and facilities shared with other work, the seniority of the task force members will ensure that all critical project tasks get top priority. Suppose, for instance, that the machine shop is represented on the task force by its manager or a deputy. Then, when a critical project task requires the use of a machine that is used heavily for other work, the project task force leader is provided with a direct line of authority over the use of that machine through the senior machine shop delegate who is serving on the task force. It must be said that project managers do not always enjoy the luxury of being able to organize their own workforce. They are more likely to be appointed to an organization that either exists already or has been established by more senior managers. In both cases the project manager has to accept the organization as a fait accompli. For some management and IT projects carried out for UK Government departments, even the senior management may have to suffer the restriction of being forced to work under PRINCE2TM. In any project organization that is complicated by the number of different participating companies, it makes sense to nominate one individual in each sub organization (including the customer) as the principal local information and communications coordinator. Each sub organization within the overall project organization is likely to have its own project manager and they will often be able to nominate and supervise an appropriate information coordinator. These coordinators can ensure that all signiﬁcant incoming documents and other communications are directed to the responsible recipients for action, followed up where necessary, and recorded for safekeeping and subsequent retrieval. E-mail and other electronic messages are a little more difﬁcult to control and can bypass ofﬁcial communication channels but provision should be made in procedures for all material with contractual or signiﬁcant technical content to be seen by the coordinator.