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Understanding the Concepts

1.0 The Necessity for Problem-Solving and Decision-Making

We are forced to make decisions in our everyday lives. We must decide what to eat, how to dress, where to go, when to go, and even who to socialize with. We may make thirty or more decisions a day. Some decisions, such as personal investment decisions, may be critical, whereas other decisions may be just routine. Most of these types of decisions we make by ourselves and usually have confidence in the fact that we made the right decision. And for some of the decisions, we can expend a great deal of time thinking through them.

But once we get to our place of employment, the decision-making process changes. We often must involve many people in the process; some of whom we may never have met or worked with previously. The outcome of the decision can affect a multitude of people, many of whom may be unhappy with the outcome. The risks of a poor decision can lead to catastrophic consequences for the business. People that are unhappy with the decision and do not understand it may view you now as an enemy rather than as a friend.

When we make personal decisions, we usually adopt a "let's live with it" attitude. If the decision is wrong, we may try to change it. But in a business environment, there may be a significant cost associated with changing a decision. Some business decisions are irreversible.

But there is one thing, we know for sure in a business environment: anybody that always makes the right decision probably is not making enough decisions. Expecting to always make the right decision is wishful thinking.

Problem-solving and decision-making go hand-in-hand. Decisions are made when we have issues accompanied by choices to make. In general, we must have a problem prior to making decisions. But there is a strong argument that an

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understanding of decision-making is needed and used as part of identifying the problem and developing alternatives. This is why most books discuss problem-solving and decision-making together.

1.1 Problems and Opportunities[1]

Problem-solving usually begins with the identification of a problem. A problem is a question raised for inquiry, consideration, or in need of a solution. Failure to meet product quality standards during manufacturing is a problem. Inventory shortages during a production run are a problem. Having resources assigned to a project that lack the necessary skills is a problem. These problems, if viewed positively, can become an opportunity for the astute manager rather than just a problem.

Not all problems require solutions. If you lack sufficient resources to maintain a schedule, senior management may allow the schedule to slip rather than hiring additional resources or reassigning resources from other projects that may have a higher priority.

An opportunity is a favorable chance for advancement or progress. If a company's manufacturing process fails to produce a quality product, then the opportunity exists to improve product quality through

- Review of the product design process
- Analysis of manufacturing engineering standards
- Assessment of quality inspection techniques
- Evaluation of adequacy of manufacturing management
- Investigation of motivation and commitment of manufacturing personnel to implement adequate quality policies and procedures.

The difference between a problem and an opportunity depends on the beholder. However, problems and opportunities should be differentiated. David B. Gleicher, a management consultant, distinguished between the two terms in the following way: A problem is "something that endangers the organization's ability to reach its objectives, while an opportunity is something that offers the chance to exceed objectives."[2]

Peter Drucker made it clear that opportunities rather than problems are the keys to organizational and managerial success. He observed that solving a problem merely restores normality; but results must come from the exploitation of opportunities. He linked exploitation of opportunities to finding the right things to do and concentrating "resources and efforts on them."[3]

1 This section has been adapted from Cleland and Kerzner (1986).
2 Cited in Stoner (1982).
3 Drucker (1964).

Identifying problems or opportunities is a key activity of all managers, including project managers. Successful managers do not wait for someone else to tell them what to do; they must find ways to figure that out for themselves.

There are early warning signs and situations that can alert managers to possible problems (issues or opportunities). First, when the project team is expected to perform differently than they did in the past; second, when problems occur resulting from a deviation from an existing plan and no previous history exists; and third, when competitors are outperforming your organization.

1.2 Research Techniques in the Basic Decision-Making Process

Human performance in the way we address problems and make decisions has been the subject of active research from several perspectives. There has been significant research in this area, and most results are part of four perspectives. The four basic perspectives are:

- The psychological perspective
- The cognitive perspective
- The normative perspective
- The problem-solving perspective.

From a psychological perspective, it is necessary to examine individual decisions in the context of a set of needs, preferences an individual has, and values desired. From a cognitive perspective, the decision-making process must be regarded as a continuous process integrated in the interaction with the environment. From a normative perspective, the analysis of individual decisions is concerned with the logic of decision-making and rationality as well as the invariant choices it leads to.

Yet, at another level that is perhaps more closely aligned with a project environment, it might be regarded as a problem-solving activity which is terminated when a satisfactory solution is found. Therefore, decision-making is a reasoning and/or emotional process which can be rational or irrational and can be based on explicit assumptions or tacit assumptions. It is often impossible to separate discussions of decision-making from problem-solving. Yet both involve selecting among alternatives. The focus of this book will be the problem-solving perspective, although, in a project management environment, we could argue that all four perspectives somehow interact in the way we make decisions.

1.3 Facts About Problem-Solving and Decision-Making

There are several facts or generalities that we consider when discussing problem-solving and decision-making:

- Businesses today are much more complex than before and so are the problems and decisions that must be made.
- Problem-solving techniques are used not only to solve problems but also to take advantage of opportunities.
- Today, we seem to be flooded with information to the point where we have information overload and cannot discern what information is actually needed or useful for solving problems.
- Lower to middle levels of management are often valuable resources to have when discussing the technical side of problems. Senior management is valuable in the knowledge of how the problem (and its solution) relates to the overall business and the impact of the enterprise environmental factors.
- Problem-solving today is a core competency, yet most companies provide very little training for their employees on problem-solving and decision-making.
- The project team may be composed of numerous subject matter experts, but the same people may not be creative and capable of thinking creatively about solving problems.
- The people who created the problem may not be capable of solving the it.
- Few people seem to know the relationship between creativity and problem-solving.

1.4 Who Makes the Decision?

Problem-solving and decision-making may not be performed by the same person. As an example, the project manager may ask the project team to assist in identifying alternatives for resolving a problem, or the project manager may perform the activities alone. However, the final decision on which alternatives should be taken may be made by executives, the project team, functional managers, or stakeholders. As such, when discussing decision-making in this book, we use the word "manager" as the person making the decision, and it could represent different individuals other than the project manager. Usually, the people involved in the decision are the ones who will be affected by the outcome.

1.5 Information Overload

Today, there seems to be an abundance of information available to everyone. We all seem to suffer from information overload thanks to advances in information system technologies. Our main problem is being able to discern what information is critical and what information should be discarded or stored in archives.

For simplicity's sake, information can be broken down into primary and secondary information. Primary information is information that is readily available to us. This is information that we can directly access from our desktop or laptop. Information that is company sensitive or considered proprietary information may be password protected but still accessible.

Secondary information is information that must be collected from someone else. Even with information overload, project managers generally do not have all the information they need to solve a problem and make a timely decision. This is largely due to the complexity of our projects as well as the complexity of the problems that need to be resolved. We generally rely on a problem-solving team to provide us with the secondary information. The secondary information is often more critical for decision-making than the primary information. Many times, the secondary information is controlled by the subject matter experts, and we must rely upon them to tell us what information is directly pertinent to this problem.

Collecting the information, whether primary or secondary, can be time-consuming. Information overload often forces us to spend a great deal of time searching through information when this time should be spent on problem-solving.

1.6 Getting Access to the Right Information

The project manager's challenge is not just getting the information but getting the right information in a timely manner. Sometimes, the information that the project manager needs, especially secondary information, is retained by people that are not part of the project or the problem-solving team. An example might be information related to politics, stakeholder relations management, economic conditions, cost of capital, and other enterprise environmental factors. This information may be retained by senior management or stakeholders.

Because timing is essential, project managers should have the right to talk directly with anyone they need to converse with to obtain the necessary information to solve a problem. Having to always go through the chain of command to access the information creates problems and wastes valuable time. Information is often seen as a source of power, which is one of the reasons why sometimes the chain of command must be followed in some companies.

Behind every door in a company is information of some sort. Project managers must be able to open those doors as needed. If project managers do not have access to those doors, then there are two options: follow the chain of command and hope that the information is not filtered by the time it gets to you, or invite the person with this information to attend the problem-solving meeting. Based on where the person with the information resides in the organizational hierarchy, their availability or willingness to attend the meeting is determined. The higher up they reside, the less likely they will be able to attend your meeting in the near term. The project manager's accessibility to information is critical.

1.7 The Lack of Information

Even though we have information overload and access to secondary information sources, there is no guarantee we will have readily available all of the information we need. People that need to make decisions must accept the fact that they generally will not have all of the information they need on hand. This can happen at all levels of management, not just on projects. We must be willing to make the best possible decisions based upon the information we have at that time, even if it is partial information.

Too often, we rely on the chain of command for getting the information to help resolve a problem. If people believe that "possessing information is power," access to the needed information can be a problem especially if they withhold some of the information. Because of the criticality of the project's constraints, time is not necessarily a luxury. Project managers must have the right or authority to access those who possess the information. This assumes, of course, the project manager knows where the information resides. This is sometimes the greater challenge, especially if the needed information is nowhere to be found within the company. We must go outside the company to get the critical information.

Problem-solving is most frequently based upon the best available information. Having all the information needed to make a decision is wishful thinking.

Discussion Questions

1. Why must problem-solving and decision-making be discussed together?
2. How do you differentiate between a problem and an opportunity? Can guidelines be established for differentiation?
3. When competitors are outperforming your organization, is this a problem, an opportunity, or possibly both?

4. Problem solving is considered as a "core competency" for future project managers. Why has this recognition not happened sooner?
5. In the future, will project managers be expected to make more or fewer decisions by themselves, and why?
6. What are the differences between primary and secondary information?
7. Why have project managers been challenged by not being able to get access to the right information in a timely manner?

References

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