

Chapter 2

Information System Scm Rationality in the Decision Making

Hemin Da

Abstract Decision making is the critical key to the survival of an organization, more so in this present time where we see economic boundaries between country crumble and businesses become more complex, global, and knowledge-driven. Managers need to ensure that their organizations are continuously innovated and improved in order to achieve and maintain a sustainable competitive edge. Managers realize that if their organizations are to survive in this dynamic and uncertain environment, they have to make decisions concerning new business opportunities, products, customers, suppliers, markets, and technical developments. This clearly indicates that the most important managerial attribute is the ability to make the right decision. The outcomes of the decisions will be used as the benchmark to evaluate whether managers are successful or not. Therefore, the question that arises is how managers make decisions and whether they are rational or irrational.

Keywords Rationality • Model • Decision making • Real world

2.1 Introduction

The decisions, made by Managers when dealing with complex problems and issues occur every day in the life of an organization, can have serious, far-reaching consequences throughout the organization if not properly thought through. This is the reason for the existence of decision making models. Decision making models are logical, systematic, and methodical approaches to problem solving. Many decision making models exist. According to Lahti [1, 2], there are four groups of decision making models that can be identified. The models are the rational,

H. Da (✉)

School of Management, Shanghai University, Shanghai 200444, China
e-mail: dahemin@hrsk.net

political, process, and garbage can models. Each model possesses distinct advantages and disadvantages over the other models which is not the focus of this paper. We focus here on the rational model, which is the baseline against which other models are compared [3]. The model follows a scientific, methodical, and rational approach to decision making. The model follows a step-by-step process which decision makers use in the quest to solve a problem. The steps followed by the rational model, as defined by Robbins [4] are:

Define the problem; the first step of the model involves the process of defining the problem or goal. The necessity of this step is underscored by the fact that an assumption of the model is that decision makers will have the same frame of reference regarding the definition of the problem.

Identify the decision criteria; Decision makers in step two, are required to establish objective criteria to assess the solutions formulated in the first step. The criteria will also be used to evaluate the failure or success of the chosen solution.

Weigh the criteria; Step three of the model requires that decision makers mathematically weigh or rank the criteria formulated in step two.

Generate alternatives; the gathering of information on alternative solutions occurs in the fourth step. This involves active searches for information on solution alternatives. As previously stated, the model assumes that all alternative solutions are readily available.

Rate each alternative on each criterion; the fifth step of the model involves rating the solutions using the ranking criteria established in the fourth step. And

Compute the optimal decision. Selection of the optimal solution occurs in the sixth step of the model. The optimal solution is chosen according to the ranking established in step five. According to the model, the decision chosen in this process will be the most optimized decision.

2.2 Practice of the Decision Making Rational Model

Decision making is a process that has been derived from reasoning. It is a process that uses such methods as brainstorming, benchmarking, mind mapping, and flow-charts to reach a decision. Decision making follows a series of six essential steps to identify, evaluate, and solve a problem. It also includes a method to evaluate the final decision and measure the impact of that decision. In this part we will analyze the real-world application of the rational model.

2.2.1 Technology Stress

The demands from electronic communications include the deluge of e-mail messages related and unrelated to work, voice mail, and a constant pressure to stay connected inside and outside of office hours. Technology provides employees,

customers, and entire organizations to disseminate information worldwide in real-time or near real-time. Technology and communication systems are often burdened with a volume of information that far exceeds the ability of organizations to manage it or employees to assess it. These stresses can lead to workers feeling pressured with too many demands on their time.

These issues, in turn, affect the overall level of stress in an employee's personal life. Maintaining the balance between ever-increasing demands at work and the need for a well-rounded life outside of the office provides additional stress for nearly 50 % of workers, according to the "Technology Increases Workplace Stress, Tipping the Scales of Work-Life Balance" [5]. The pressures created by technology do more than add stress. More than 57 % of workers surveyed report that the added stress from work affects quality time with their families "somewhat" or "a great deal" [6].

In closing technology's impact on workplace stress today is undeniable. Ever-accelerating innovations in technologies, as well as new generations of Americans accustomed to pervasive technology, may alleviate the stress caused by technology in the future. Regardless of any future impact, workplace stress will continue to require innovative solutions for organizations that seek to create a satisfying and motivating work environment.

2.2.2 Real World Problem

The situation occurred while one engineer was employed as the chief systems engineer at a professional services firm that specialized in wireless local area network engineering. He was assigned by the company as the lead systems engineer in a project at the largest options trading floor. The primary mission of the project was to implement a wireless network that would be utilized by the floor traders to access back office applications using pen-based handheld computers.

The complexity of implementing the wireless network was made exponentially more difficult by the fact that there was no regulation of wireless network devices, a.k.a access points on the trading floor. This lack of regulation created a trading floor environment in which member firms were allowed to install their own access points anywhere on the trading floor. The radio technology used by the access points allowed for the interference free operation of 15 colocated access points. The lack of access point regulation resulted in the implementation of over sixty access points by the time we began the project.

One of his first tasks was to determine the optimal method with which to migrate member firm users from their own access points to the shared network.

A task force consisting of member firm representatives, exchange representatives, and his team of systems engineers were involved in the decision making process. The steps of the rational model were followed in the decision making process, though not in the order that was earlier described. The formulation of

objective evaluation criteria and the creation of the ranking system occurred after the gathering of alternative solutions.

As a group, they defined the problem and our goal which was to determine a migration solution which has minimal impact on the operation of the existing member firm access points and implemented backup mechanisms on a per user basis to guard against migration problems.

Next, they were able to identify three alternative solutions using various tools including surveys, interviews, and brainstorming. Once these solutions were identified, they agreed upon a list of criteria with which to evaluate the alternative solutions, inserted the criteria into a matrix, and assigned a weighted point system to each of the criteria.

In the end, the group decided on a migration solution where users would be incrementally migrated from their own wireless network into the shared wireless network. The solution was implemented and occurred over a period of 6 months which was 1 week behind the schedule that they had set.

2.3 Lessons and Findings

From these examples Managers can learn

That gaining a better understanding of how problems can be solved and decisions made is essential to the critical thinking process. They should evaluate and challenge the thoughts and ideas that occur. Clearly, the more information the decision maker has, the better the decision will be. One cannot make responsible decisions until one has enough information.

Decision making is an everyday part of both a person's business and personal life. The size and the consequences of these decisions can vary greatly, but all are required to be made. Decision making models can help provide a person a process with which he or she can engage to help reach a decision. One of these models is the Rational Model. The benefit of using the Rational Model to reach a decision is that it is easier to justify and defend a decision, due to the complexity and the thoroughness of the processes involved. The Rational Model is useful for developing a strong business case for why a specific course of action should be considered anytime a major business, or even personal decision must be made.

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