
What makes the Technology Strategic Decision Making More Well-organized?

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Abstract

The study aims to find out the factors which have a strong impact on technology-related decisions making. After a deep literature review, various factors that have a great influence on decision making were found out. These are experience, intelligence, information availability, and organizational capabilities. The research is based on a review of literature related to the subject and its analysis. It recommends that for making strategically suitable decisions, the decision-makers should have attributes like individual experience, intelligence, and availability of information and capabilities of the organizations to make suitable decisions. The study adds a much clear picture of the elements and their association with technology decision making. And can be used for the development of a decision-making model for any technology industry during high uncertainty.

Keywords: Intelligence, Experience, Information, Organizational Capabilities and Strategic Decision making.

1. Introduction

Organizations are totally dependent on the type and use of technology in the modern world. Without new technology and innovative services and products, organizations do not serve in such a technological era of today. The questions need to be addressed are: Why organizations fail? Why new organizations capture markets and push the old ones to disappear? What is necessary for maintaining a good position in the market? The answer to the above entire question is “Due to their Decisions” [1] Decision making is perhaps the most influential and critical factor of all which have a strong impact on all of the operations of an organization. All of the activities of a firm are strongly correlated with this function. Correct and timely decisions can make a firm more productive and profitable while wrong, and inappropriate decisions can end even the existence of a firm and ultimately leads to the organization disappear from the market. It will be not wrong to say that everything the organization produced and offers and every activity organization do, depend upon the quality and maturity of its management decisions. Due to the above importance and severity of

decision making, there are many factors that constantly affect the process of DM. Among them political, economical, geographical, and social forces are the most important and critical. Therefore there is a strong need to address the factors which are problematic in DM and those which are necessary for making good and strategically suitable decisions. Organizational decisions are often group decisions and each member of the group has different opinions and different values for each choice. Thus reaching to a common and specific point is a difficult and most significant matter. Usually, members reach a common point through the process of consensus over different alternatives [2]. There are many researchers who proposed mathematical methods for collective judgments and decisions. Some important among them is simple averaging, [3], geometric mean [4], “The analytical hierarchy process [5] and the fuzzy set theory [6]. Another type of approach was also developed which was based on consensus-based information for supporting the process of consensus-building [7]. All of the above methods and models have their own limitations and benefits. Many of the research studies focus on the process of decision making, not on the elements necessary for effective decisions. There is still a need that the factors which have a strong influence over the process of decision making and strategy planning should find out and need to be addressed according to the need of contemporary developed and competitive markets. Unfortunately, the main problem is there are no details of the factors that are necessary for suitable and correct decisions. This research tries to find out various factors that have a strong influence on DMP. It aims to address the elements which not only influence the process of strategically suitable decision making but through which the process should be made effective and according to the need of telecommunication and other industries markets.

2. LITERATURE REVIEW

There are many factors that have a direct or indirect relationship with the management of technology. It is impossible to address all of them in a single study. This research tries to concentrate on the most important aspects which are necessary for effective and efficient use of telecommunication technology. The quality of telecommunication technology management depends upon the individuals who make decisions about the organizations and the organization for which the decisions are made. The literature review below illustrates both of them deeply.

2.1 Experience

Experience is defined as skills and knowledge obtained by an individual through participation in that work etc [8]. Normally it refers to the procedural knowledge of something. It can be also gained through on-the-job training. Experience may also refer to something which is strongly related to mental abilities or something that occurred physically i.e. humans continuously gain knowledge while interacting with nature and the environment, and when a worker does work, gains experience [9]. There are many types of experiences: Physical, Mental, Social, and Subjective. The environment changes continuously; give an opportunity to humans of getting experience from their observations. In term of an organization or firm, knowledge and skills which come to the mind of an employee from the environment of the organization are a physical experience [10]. This type of experience is

gained either from nature or environmental interactions or from family, colleagues, friends, managers or working environments. The experience involves improvement in the mental power etc in the area of thoughts, memory, perception, etc is a mental experience [11]. It is the combination of mental, will, emotions, and all other aspects associated with the consciousness of humans.

Experience comes from the social interaction of someone with the society is called social experience. There is a saying that a human is a social animal and it's the reason that he cannot survive in isolation. But needs social contact with the surroundings which trains him with various codes of conduct. As employees cannot work in isolation from the rest of the organization employees he/they became aware of different types of lifestyles, norms, social responsibilities, etc. this type of experience he/she obtains is a social experience [12]. Experience plays an important role in a workgroup. Employees having experience are more productive and skilled than those having no work experience [13]. There are many researchers who agree upon the fact that experience changed the world from pre-modern to modern to post-modern [14]. When an employee enters an organization, he/she begins to interact with supervisors, managers, environment, customers, etc. These elements have a strong influence on his/her life and work, and what he/she receives through this interface is known as employee experience. The way of working and behavior of the worker comes from this experience [15]. It is very necessary to manage the employee experience for the betterment of the organization. And it is this experience that leads to a firm's internal strategy and external strategy regarding its internal customer and external customer [16]. Experience, in its any form has a strong combination with the way human acts. If someone is physically well experienced, he will be more productive in doing things involve such practices. The same is the case for mental experience also. All of the scientists, saints, etc. use their mental capabilities for getting great things. This is perhaps the skill having links with the depth of the universe and reality. The social experience is also equally important for any selection. As we human starts seeking knowledge from the lap of a mother till our last breath. Everything comes from the interaction of a human and society is a base for making the coming choice. Without enough experience in the telecommunication industry, it is very difficult for management to plan effective strategies for their organization and make valuable decisions regarding the technology need for the present day and services and products they offer in an open market.

2.2 Intelligence

No one is similar to any other one but every individual differs from others in one way or another way. Some people are more influential and effective in making strategic decisions than others. Mostly the decisions taken by management fails in achieving the objective for which the decisions are taken. Interestingly the intentions of the management are also positive but their decisions fail to fulfill the required quality of getting the goals. This originates many questions in our mind like why their decisions fail in obtaining the specific objectives. The answer is due to lack of intelligence. Intelligence is defined as the capability of reasoning, planning, thinking, solving complex problems, and the power of learning in an individual [17]. The definition clarifies those elements which have an apparent and hidden positive relationship with decision making. Human beings are not similar but

differ in every aspect of life from one another. Some individuals may understand complex issues more quickly than others. The abilities of thinking, reasoning, and reaching a solution of a person differ from other persons. This makes the actual definition of intelligence more complex and wide. Every researcher defines it in his/her own way [18] which is itself an interesting subject for other researchers. As intelligence is a complex brain's product so it's hard to depart it from mental activities. But it itself is the framework for them. Intelligence is the sum of competencies which are helpful and necessary for objective acting, rational thinking and for effectively dealing with surrounding. In other words, it is the ability of an individual to respond objectively and logically to his/her external environment [19].

Some researchers have defined and consider intelligence "a process of getting, accumulating, arranging and reusing of existing knowledge in solving complex problems and in creating new knowledge [20]. They have focused on the whole process as itself a choice making. Up to some point they deserve to agree with. Because its intelligence which differentiates human from others.

Human intelligence is very important for problem-solving. It is the collection of those competencies which enables an individual to respond and resolve different types of issues and problems appropriately and effectively. The solution must be for the betterment of individuals and organizations. Through the intelligence market, required products can be developed and strategically suitable new knowledge can be created [21]. In other words, intelligence creates wisdom. Intelligence is the power of an individual to modify the present operations and functioning and to adopt organizationally and environmentally acceptable executions to fulfill the changing and market required demands of life [22]. In other words, it plays an important role in deciding which technology should be used to satisfy the need and wants of the contemporary market, and how the technology should be used effectively.

2.3 Organizational Capabilities

Organizations are not the same in all of their attributes. They differ from each other regarding their strategies, goals, and capabilities. Some organizations have a powerful position in a particular market while some have a satisfactory. Most of the time there are some other organizations that are planning to enter into the market with the services already existing in the market or with new services and products of a particular sector. In today's developed and developing world, every organization faces strong competition in their market; and their position and entry depend upon the decisions they take for that particular action. Making decisions is not possible without the full support of an organization's environment and its capabilities. Capability means the ability to do something. In the context of OC, it means the ways of dealing with daily and long-term problems of an organization [23]. Different organizations have different problems and issues, which are based on their objectives and goals. Even they differ from one another if they belong to the same category and offer the same services and goods. Capabilities of the firms are those specific ways that are continuously developed in the firms. Therefore, it is defined as "A particular way of dealing with a firm's problems and issues. The capabilities of a firm are strongly related to the knowledge present in the firm. Firms that

have a rich environment of know-how of doing and dealing with specific problems seem to be deal with accurately and effectively [24]. Capabilities development is a quite slow but continuous process and requires a very long time for its development. They come into being from the firm's experience, strength, and knowledge from time to time.

Capabilities are not only important for dealing with the organization's problems but they are also one of the main sources of getting a competitive advantage over the competitors in the market. It enhances competitive strength and sustains a firm's competitive edge [25]. As it is clear that OC is important for getting a competitive advantage and for resolving the issues in a much better-sophisticated manner. The decision-maker needs to keep in mind the OC while making any decision. He must not under-estimate the OC for obtaining a position and also not ignoring any deficiency which can be problematic for achieving a goal. OC is very important in solving the prevailing problems and for availing of the coming opportunities. There are two main types of problems and it is highly important for organizations to deal with them. The first one is to develop new resources and to try new alternatives. The second one is to use the available resources effectively. In other words, either management develops new long-run strategies for the betterment of their organizations or makes such a process that increases the present organizational performance. [26]. It is clear that the organization's management is always making decisions about something for the betterment of the organization. The above literature survey concludes that organizational capabilities are very necessary and important for any organization's performance and existence. Every organization has to adopt such strategies inside their organization which not only increase its performance but also increase its decision capabilities.

2.4 Information

This is an important element of decision making that has a strong relationship with decision making. Decisions are made according to the available information regarding a service or products, in an organization. Information is not only the most valuable input in the decision-making process but it is the most vulnerable also particularly due to the development in the information and technology sector. This development, on one hand, gave a lot of prospects to decision makers in analyzing the available information but on the other hand originated many issues associated with information. Business organizations are facing tremendous challenges in the modern age. These challenges come from organizational inside and outside environment. Therefore organizations formulate their strategies in such a manner to answer the difficulties, issues, and challenges in an effective manner. In order to formulate market-based organizational strategies, information about the customer, market and all other elements are extremely needed. Availability of information means access to information at the required time by the right person. There may be some interruptions that may disturb the information available but organizations have to solve them. Without sufficient and relevant information, organizations cannot run. The same is the case for the human mind. There is a need for information in organizational operations, supply chain management, and decision making [27]. Information availability gives the opportunity of making strategically suitable decisions that are customer-focused, market-oriented, and visionary. It transforms any non-profitable operation into

profitable and increases the value of the firm through its proper use [28]. Through information, an organization can satisfy its customers in a much better way and can get a highly acceptable return from its decisions [29]. To summarize our review, we will define information as any indication or knowledge which can be analyzed and on the basis of which someone can make a choice. So if the information is correct and beneficial for making a decision, then the quality of the decision will be suitable. So the quality and quantity of information have tremendous importance for framing a plan.

2.5 Strategic Decision Making

Strategy of a firm is high-level planning for achieving its objectives in a highly uncertain environment. In other words “a chain of decisions” is a strategy [30]. It is important to understand the internal and external issues and challenges of a company and derive solutions to the problems for the accomplishment of its goals. This process is called strategic management. Objectives, policies, and planning for achieving the objectives are all part of strategic management [31]. It is crystal clear that there is a lot of work done by researchers and thinkers regarding alternative strategy, but unfortunately, too little effort has been done over the factors and elements which have direct or indirect influence over the making of strategically suitable decisions [33].

Decision making is a selection process in which an action course is selected from many alternatives. A final choice is produced through the process [34]. It is not necessary that the final choice must be a course of action, but it can be an opinion also. Therefore the process of decision making is defined as “the selection of a choice among two or more alternatives and choices.” There are many factors that contribute to the DM process. Among them, the important are its logic and its output or goal [35]. A human being like every other animal makes hundreds of decisions on a daily basis. The only difference is human makes them after proper and reasonable analysis of various factors. Decisions are made when its time comes by analyzing its benefits and costs [36]. These decisions are important for making customer relationship, which is not only important for the survival of the organization but also for providing valuable information or knowledge for further planning [1].

Management makes decisions with the help of knowledge and information available for the problem to be solved or for a decision to be made. This shows the need for information and its strong relation with the analyzing of alternatives and DM [37]. But it should be kept in mind that the overload of information may spoil the worth of decisions because too much information requires high skills, tools, knowledge, and technology for its user and assimilation [38]. Usually, decisions are made by considering Rational Choice Theory into account [39]. Again for choosing a choice sufficient knowledge and experience are required [40].

So it can be summarized that decision making is a mental activity strongly associated with human experience, intelligence, knowledge, and the organizational goal for which the decision is going to be made. In other words proper mental and experiential capabilities are required along with sufficient knowledge for making a suitable choice.

3. DISCUSSION

The research discusses the elements which contribute to the process of strategic decision-making. Most of the researches shed light on the external environment where decisions are to be made. This study is completely different from the previous researches and concentrates on the internal elements of an organization that makes the decisions and plans its strategy. These aspects are further divided into two groups. The first one is about the individual who makes decisions and the second one is regarding the organization for which the decision has to be made.

Decision making in general and technological choice decision making in the contemporary bombardment of information is a quite difficult process and needs a lot of efforts. The review further enforces the ideas that the reviewed elements contribute to decision making. Things like competitive advantage [41], information [42], Knowledge sharing process [43], and the role of knowledge management [44]. Selection and usage of modern technology are also one of the challenges of modern time. Organizations not only need to select suitable technology but also the one upon which the users also trust [45, 46, 47, 48, 49]. These make it clear that decision making is becoming more difficult day by day.

It is necessary for top management of any organization to include highly intelligent and experienced people in the decision making teams. Without proper experience and analyzing skills, it is hard to make suitable and strategic decisions [50]. Decision-makers should not only have an educational background but they should have the power to distinguish between good and better. Choice of the best alternative is only be achieved through the best decision. Intelligence is the ability of a decision-maker to reasoning which will give him many better choices in decision making. Intelligence will also help in planning obtainable objectives and the possible way of obtaining them. Therefore the decision-makers' teams must have intelligent persons having different backgrounds who have the ability to think rationally, differentiate between good and best objectives; and solve complex problems effectively. Intelligence is not sufficient for making strategic decisions. The experience of a decision-maker has also a great contribution in this context [51, 52]. For example, experienced people know about the possible problem they may face after a particular step taken. People who have no experience in a particular field will make less effective or ineffective decisions for the field. Experience gives a decision-maker the skills how to handle a specific issue and how to design a strategy for overcoming the issue; and how to develop a better strategy than others in the market.

Not only the decision-making process is influenced by the individual who makes decisions but there is also a major role of the organizational environment over the process. If the organization lacks the capabilities to face the challenges then how better its decision-makers are, their decisions will not work accordingly. This is the duty of an organization that all of the necessary information should be made available to the decision-makers at the right time and at the right level. Without the availability of information, the process of decision making will be affected and the decisions will not fulfill the needs and demands of the organization. In addition to the availability of valuable information, organizational capabilities are also important. The organization should have the characteristics not only to take effective decisions but also to implement them efficiently. Therefore organization should have the capabilities to run towards its vision and to implement its strategy and decisions.

4. CONCLUSION

The above discussion shows that the strategic decision-making process is influenced by two types of factors. The first type is associated with the person who makes the decision, and the second is associated with the organization in which and for which the decisions are to be made. Individual factors like intelligence and experience are very essential for strategic decision making. Without these attributes, the whole decision-making process and its quality are on the stack. For strategy planning and strategic decisions, the most influential factors come from the people who make such decisions, which are of course their abilities, skills, and the power of reasoning and solving any type of problem. Experienced employees know the method of managing and solving the organization's complexities and matters more easily and accurately. Additionally, the intelligence and talent of the maker are also requirements of the strategic decision-making process. If the intelligence level of a decision-maker is low, ultimately the probability of good decision and suitable strategy formulation will be low. Shortly, without enough power of mind and intelligence SDM is just a dream. Besides individual attributes, organizational aspects like information availability at the right time and the right place are also of immense importance for strategic decisions. In the absence of the right information for a decision, it is not only difficult to make a strategic decision but also may lead to inappropriate strategic planning and decisions. Organizational capabilities have also a tremendous impact on the quality of decisions. If the management or decision-makers know that the organization is capable of obtaining specific goals, they will certainly make strategic decisions for taking actions otherwise such decisions will end the being of an organization. Therefore organization's management should keep the status of their organization while taking strategic decisions

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