

Compare and Contrast Two Models of Strategic Decision-Making

——Game Theory and Attribution Theory

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Abstract: This paper analyzes the main characteristics of Game Theory and Attribution Theory and investigates their advantages and limitations in specific decision-making fields. The purpose of this paper is to explore and evaluate the roles of these two theories in different stages of strategic decision-making, with a view to better guiding the formulation and implementation of strategic decision-making.

1. Introduction

Strategic decision-making model is an effective analytical tool because of its guiding significance. As one of the models, Game Theory has attracted wide public attention. It is called “interactive decision-making theory” by Oman, the Nobel Prize winner of economics. Game Theory is a theory which studies the rational decision-making behavior of interdependent but interactive decision-makers and the balanced results of these decisions. Based on mathematics, it emphasizes the rationality of science. And it is a theory and method for studying phenomena with the nature of belligerence or competition. The optimal decision-making and equilibrium theory that it emphasis is widely used in economics, management and many other fields.

What’s more, it is gratifying to note that Attribution Theory is playing a more and more important role in strategic decision-making. Attribution Theory is a theory which explains the causation of behavior. “Attribution” is a psychological concept. Essentially, attributing is a process of social judgment. It refers to the process in which people analyze the actions of others or themselves and point out their nature or infer their causes. Attributing is helpful in investigating the dynamic feature of organizational behavior in a more comprehensive way, thus guiding the formulation of optimal decision-making. At the same time, in order to further modify and improve the decision-making and make better decisions, decision makers should explore the reasons from the implementation of the plan.

The author uses comparative method to analyze the main characteristics of the two theories and investigates their advantages and limitations in specific decision-making fields. The purpose of this paper is to explore and evaluate the roles of these two theories in different stages of strategic decision-making, with a view to better guiding the formulation and implementation of strategic decision-making.

2. Similarities and Differences between Game Theory and Attribution Theory

2.1 Similarities

1) Both of them are theoretical tools which are usually used in strategic decision-making and play a role in a certain stage of strategic management. They are widely used in fields such as economics, management and so on. Game Theory can not only be used to analyze the reward and punishment system and brain drain in the human resource management of enterprises. “Prisoner Dilemma” and “Intelligent Pig Theory” can also play a good role in enlightening the competition between enterprises. Attribution Theory provides help for managers to make decisions or execute decisions correctly, which can guide the managers to make optimal decisions. Especially, the development and utilization of human resources can mobilize the enthusiasm of employees so as to promote their work efficiency and economic efficiency.

2) Both of them take the action of organization and individual as the research objects. They are models of deciding action. Game Theory studies the form and consequences of “fighting with wisdom” between people. When there is a conflict of interests between people, the benefits each gets depends not only on the actions they acquire, but also on the actions taken by others. Everyone needs to make the most beneficial response based on others’ choice of behavior. Attribution Theory infers the process of the cause of the behavior from the result of the behavior and emphasizes the review and analysis of all aspects of the decision-making process.

3) Both of them emphasize the screening and feedback of information. Game Theory determines the optimal strategy through the identification and analysis of information while Attribution Theory confirms the root cause by screening the information in the stage of evaluation and selection of the plan.

4) Both of them emphasize the integrity. Game Theory and Attribution Theory emphasize the continuity and the history of the behavior events, both of which take the decision-making behavior as a whole. In the game, the strategy and payment of anyone in it cannot exist independently. In the process of attributing, it is necessary to comprehensively analyze the causes and consequences of the behavioral process because no organization or department is immutable. It is constantly changing and modifying in action.

5) Both of them pursue rational judgment and try to use scientific methods to prove the reliability of the theory. Game Theory is based on mathematical model and emphasizes rational search for optimal scheme and model. With the comparative analysis of the external situation and the internal personality, Attribution Theory develops the “reference point” model of Kelly so as to realize rational attributions. What’s more, it tries to use the theory of success or failure of attributive source, stability and controllability to ascribe.

2.2 Differences

1) The theoretical bases are different. Game Theory is a decision-making model based on mathematics. Attribution Theory is mainly based on experience. The reason itself cannot be observed directly. It is the subjective inference of the cause of the event or phenomenon, which belongs to the category of social psychology.

2) The contents of the discussion are different. Game Theory considers the predictive and actual behavior of individuals in the game or the behavior with competitive or antagonistic nature, and studies their optimization strategies. Attribution Theory focuses on the process of people’s understanding of causality and the psychological significance of attributions to people’s subsequent behavior.

3) The focus of strategic choice is different. Game Theory aims to make ingenious strategy but

not solution. It emphasizes the forever dominant strategy, the abandon of the inferior strategy, and always selects the strategy according to the equilibrium of Nash. Attribution Theory discusses the reasonable analysis and emphasizes the key reasons so as to guide organizations and individuals to better adjust their self-psychology and state in order to promote development.

4) There are differences in the scope of application. Relatively speaking, Game Theory is more widely used. With the further development of Game Theory in the 21st century, especially the Nobel Prize in economics has fell on mathematics many times, we can say that Game Theory covers almost all fields, and its application in economics is the most prominent. However, there is still a problem of insufficient research in Attribution Theory. It is mostly used in psychology, criminal law, morality, decision-making, education and so on. There are also some dabbles in the field of economy and management, mainly in the aspects of attributive incentive, attributive management and attributive decision-making, such as mobilizing the enthusiasm to work and study through the attribution of events, resolving contradictions and conflicts through attributions, and improving the quality of decision-making through attributions, etc.

5) Other differences. There is information asymmetry in Game Theory. That is, different participants may have inconsistent knowledge of the characteristics and actions of other participants. In addition, Game Theory needs to consider the impact of other decision-makers on their own interests. The uniqueness of Attribution Theory lies in the reversal of its attributive mode. Different from the thinking mode from motivation to behavior, Attribution Theory is based on the result-oriented, boils down to the reason, and then deduces its follow-up behavior. In this sense, attributions can be regarded as an information feedback process. It is unclear whether this feedback is beneficial or not. But it is undeniable that people do adjust their behavior to attributable information.

3. Strengths and Limitations of Game Theory and Attribution Theory in Decision-making Management

3.1 Advantages and Limitations of Game Theory

Game Theory is most directly and commonly applied in the field of competition. Game Theory makes it possible for enterprises to realize the optimization goal of economic significance to the greatest extent. The Law of Survival in terms of Market-Oriented Economy is the maximization of economic interests, and the key to Game Theory Analysis is to find out their own optimal responses based on others' given choices. These two have a high degree of coincidence. What's more, Game Theory greatly ensures the effectiveness of strategic decision-making, with the scientific mathematics basis being a great advantage of Game Theory. It is based on rational scientific analysis thus provides effective theoretical guidance for enterprises, and then strongly supports the formulation of enterprise decision-making. In addition, Game Theory provides a variety of models for enterprise decision-making. Whether it is "prisoner dilemma", "intelligent pig game", "chicken fight game" or "repeated game", it provides an effective theoretical model for enterprise competition. It is an effective tool for economic analysis.

On the other hand, Game Theory guides modern competition to form correct ethical values to a certain extent. While protecting the economic interests of enterprises, it emphasizes the cooperative consciousness of enterprises and makes the competition of enterprises develop in a healthier direction. For example, "prisoner's dilemma" and "repeated game" make it possible for enterprises to attach importance to cooperative behavior and corporate reputation.

The disadvantage of Game Theory is a problem of disconnection between theories and practice. And there is a gap. This is derived from a concept that Game Theory is an abstract analytical tool which emphasizes on theory. First, Game Theory holds that people are rational, that is, everyone

will maximize their own interests under constraints. This is the basic premise of Game Theory. However, it is often used to evaluate the limited vision. At the same time, people of different nationalities, cultures and beliefs often have different values, and their “rational” standards may also be different. Second, in the real social and economic environment, the lack of adequate understanding of the relevant information can be seen everywhere. Due to the lack of general means to deal with incomplete information, Game Theory was severely criticized in the early days. It is considered that the conclusion loses its practical value because of lacking in realistic basis for its analysis. Third, according to Game Theory, first of all, the goals and gains and losses of the participants should be converted into data, but in the actual situation, a large number of factors belong to the spiritual, emotional and other aspects cannot be measured by numbers.

3.2 Advantages and Limitations of Attribution Theory

Attributions play an important role in the daily management of enterprises, which is helpful to determine the objectives and internal management of enterprises, and at the same time, to guide the adjustment of decisions. First, it is helpful to formulate the strategic objectives of the enterprise, comprehensively analyze the internal and external environment, and formulate the goals that are suitable for the development of the enterprise. The application of Attribution Theory can fully analyze the internal and external situation. Enterprises must use attributions to collect relevant information. After analyzing, they will combine with their own situations to make an effective goal. Second, it is helpful to the adjustment and modification of decisions. In the process of decision implementation, the behavior result of the previous decision must affect the subsequent decision, and the attribution of the previous success or failure results plays a key role in the subsequent decision making. Managers should analyze the reasons for success or failure of decision-making so as to further modify and improve the decision-making in order to make a better decision. Third, it emphasize on incentive internal management to help managers make decisions. In performance management, attributions help managers to stand in a fair position and reasonably attribute the success and failure of employees. Strategic decisions are made conducive to the development of enterprises and employees by attributing to the organization and employees.

The “biggest problem” of Attribution Theory is that it is not a set of verifiable sets of theoretical viewpoints and experimental results that are consistent and interrelated. Lacking in a common theoretical focus, it is theoretically loose and does not form a unified system. In addition, Attribution Theory embodies limitations such as fundamental attribution error, observer difference, self-serving bias, cultural bias, defensive attribution hypothesis and so on.

3.3 Argument

The advantages of Game Theory are greatly reflected in the field of enterprise competition, especially in the strategic choice and decision-making implementation stage, in which it plays an obvious part. It helps enterprises to list a variety of strategic choices effectively, meanwhile, analyze and identify various strategic choices, and finally make decisions, formulate and implement strategies.

Comparative analysis shows that the advantages of Attribution Theory increase the internal management level of the enterprise. Whether the enterprise objective is formulated or not, whether the employee’s incentive or the manager’s strategic is adjusted after the decision execution or not, attribution plays a corresponding role. It is highlighted in the development stage of strategic objectives and the feedback evaluation stage after decision execution. It helps businesses better understand their strength and where they are.

For the decision model, the key is to see which model plays a more important role in the

formulation and implementation of decision making. In contrast, Game Theory plays a more important role in the formulation and implementation of enterprise decision-making, and the effect is more efficient. In this sense, Attribution Theory is more an auxiliary means and tools. Attribution helps to make decision-making. It comprehensively analyzes all kinds of reasons, and provides reference information for decision-making. Game Theory is supported by scientific analysis and theory, and its foothold is the optimal in equilibrium state, which highlights the actual effect of decision-making. Therefore, the advantages are more obvious and the scope of application is wider.

4. Conclusion

Based on the research, we find that the two models serve different stages of strategic management in guiding and helping the formulation of strategic decisions. Game Theory has a prominent effect in the stage of strategic selection and decision-making implementation. Attribution Theory plays an obvious role in the evaluation stage after the formulation of strategic objectives and the implementation of decisions. Game Theory is more widely used in the field of enterprise competition and Attribution Theory is more common in the internal management of enterprises.

But it should be noted that decision-making is an activity that emphasizes behavioral continuity and history, which requires enough rationality. The competition in economic activities is not only the contest of strength, but also the contest of strategy. In this case, the survival and development of the enterprise must be related to the scientific theory, which is necessary to analyze and determine the position of the enterprise in the competition and study the favorable competition strategy. In this sense, the practice of Game Theory will make the decision-making process more reasonable and rational. It is worth mentioning that attributions play an increasingly prominent role in the decision-making process, which is helpful to understand the dynamics of organizational behavior more comprehensively, so as to guide the formulation of optimal decision-making.

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