

*Short Communication*

## Anti-rational decision making

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In this research, the situations of university entrance examinations simulate the conditions of decision-making behavior. Based on the analysis of the above information that is empowered by a series of interviews, a new idea about the behavior of human beings in decision-making is developed. "Antirational decision making" expresses that the limitation of rationality could lead to decisions which have worse results than random decisions or even inaction. Antirational decision-making in fact is based on a "logical fallacy" that is accepted (and sometimes believed) by individuals. Special properties of entrance examinations prepare acceptable validity and reliability for our survey.

**Key words:** Antirational decision making, bounded rationality, rational decision making.

### INTRODUCTION

Two approaches of decision-making issues have had impressive effects on organization and management theories. In the first approach only the optimum decisions were valuable. At one extreme there were thinkers who attribute to "economic man" a preposterously omniscient rationality. Economic man has a complete and consistent system of preferences that allows him always to choose among the alternatives available to him; he is always completely aware of what these alternatives are; there are no limits on the computations he can perform in order to determine which alternatives are the best; probability calculations are neither brightening nor mysterious to him" (Simon, 1957).

As written above, the first approach emphasizes the complete rationality in the behavior of decision-making (Morcol, 2007). On the other extreme, Simon (1957) explains the theory based on reality as the intended and bounded rationality of the behavior of human beings who sacrifice because they do not have the wits to maximize. Therefore, because of limited capacity of human mind and also, complexity of environment, decision-makers cannot analyze (or consider) all aspects of the problem, so the results are "good enough" rather than "optimum" (Simon, 1957).

However, some other evidences admit that limited rationality also has different effects on decision-making behavior. To have complete perception of human decision-making, the results of these evidences are considerable.

### DISCUSSION

As discussed in a complementary approach, limit of rationality is from the inability of the human mind to bear upon a single decision in all aspects of value, knowledge, and behavior that would be relevant. Human rationality operates within the limits of a psychological environment. This environment imposes on the individual as "givens" a selection of factors upon which he must base his decision (Simon, 1957).

But limits of rationality seem to have more disturbing effects on decision results. In other words, because of all mentioned reasons, individuals make antirational decisions that have worse results than the random decisions or even inaction. Based on everyday life experience, it is not difficult to imagine the decision which has unexpected results.

A special event was prepared for a suitable research situation that helps to have better perception of "Antirational Decision-Making". Every year there is a wide spread and scientific exam specialized for applicants of Iran universities. The applicants are individuals who have passed 12 years in different educational stages. The external validity of this research is supported by the large number of participants (between 1100000 - 1350000 ones every year). In addition, the results of the exam are precisely calculated by the "national organization of educational testing" (NOET) and it prepares the research-required internal validity. The research empowers its

method reliability by analyzing different year's data in the period of 2003 to 2007. As described before, the questioning method of these tests helps in simulating and investigating decision-making behavior.

The yearly exam contains 44 collections of four alternative questions. According to contents and aspects of the questions, participants choose one of the quadruplet alternatives. Every answered collected by the participants is considered as a sample. So, there is a useful resource of data to develop the research.

Meanwhile the test's policies are based on omitting the effects of random answers. Hence, in grading the answers to questions, every correct answer (correct selected alternative) has +1 score and every wrong answer has  $-1/3$  score. Obviously, every question has one correct alternative and three wrong alternatives. Therefore, according to the following calculations the mathematical "expected value" of each alternative is zero:

$$(1 \setminus 4) \times (+1) + (3 \setminus 4) \times (-1 \setminus 3) = 0$$

### Expected value

It means if a collection of question's alternatives is selected randomly, the additional scores will be zero.

In a rational way it is supposed that every participant (here as a decision-maker) based on his/her information, considers different aspects of each question (problem) and selects the best alternatives among all available alternatives to him/her.

According to "bounded rationality" the behavior of the decision-maker (participant) would not be commonly optimum. Because of limitations it would be "good enough" or "satisfactory". Although, the above-mentioned decision-makers are not totally optimizers; they can make "good enough" decisions. Therefore, they must obtain a positive score (more than zero). Mathematically explained by the bounded rationality idea, the scores would not be the highest possible (optimum) score usually but they must be surely positive scores (The score of random answering or not answering equals zero).

NOET (in charge of the National University Entrance Exams) gave this research some useful information (NOET, 2004a, b; 2006; 2007a, b). There were some complete and also positive scores obtained by participants by adding their questions collection score. It confirms the two well-known approaches (complete rational and bounded rationality) in interpreting behavior of human decision-making. Also after analyzing this information, it was discovered that in 2007, 12% of participants obtained negative scores (below zero) totally and the average of negative scores from 2003 to 2007 equaled 4.7% of participants. It means some decision-makings had even worse results than random answering or not answering at all.

It is significant that the complexity of exams has influenced the results. For example 15.5% of participants had negative scores in one of the collections in 2007. This phenomenon of decision-making cannot be explained by the two mentioned approaches. It is what is named as "Antirational Decision-Making". Referring to some of the participants interviewed; reasons for their wrong answers were questioned. They admitted that they did not consider all aspects of the problems. It is noticeable that some of the participants insisted on their wrong answers just because of their incorrect reasoning. Therefore, the idea of antirational decision-making can complete the other theories of decision-making. It explains inability of human mind to consider all relevant aspects of values and knowledge, makes him decide on "logical fallacy". It may have worse results than haphazard decisions. Thus, in some occasions it is necessary to change our views. For instance, in some cases "crazy monkey" is the metaphor of random decision-making as the negative benchmark. But this research showed the variety of acquired utility of human decision-making ranging from optimum to a satisfactory and even "completely undesirable"! Sometimes individuals have no wits to maximize and no wits to satisfy!

### CONCLUSIONS

To have a complete perception of human Decision-making behavior, all three explained aspect should be taken into consideration. Examination of these papers will provide useful guidelines for the interpretation of human rationality. It would be practical, by depicting the more aspects of actual properties of human beings.

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