

DECISION-MAKING PROCESSES FOR INTELLIGENT AGENTS

Inga LISNIC, Sergiu SCROB, Irina COJUHARI

Technical University of Moldova, Bd. Ștefan cel Mare, 168, MD-2004, Chisinau, Republic of Moldova

The purpose of this article is to harmonize decision-making processes. The theory of decision-making is a totality of methods (mathematical, intuitive or otherwise) designed to find the best possible variants that allow to avoid exhaustive search of all alternatives. Normally the decision involves the allocation of the necessary resources and is the result of processing the information and knowledge that is achieved by a person (or a group of people), who is empowered to choose and is responsible for the quality of the solution adopted to solve a particular problem or situation. This definition highlights three elements of the selection process: the problem, which needs to be solved, the person or collective body that makes the decision, the multitude of alternatives from which the choice is made [1]. If one of these elements is missing, it is not a process of choice. The factors that influence the decision-making process have a wide range: from very subjective, conditioned by the competence, intuition, life experience and the degree of information of the decider, to the objective ones, such as the process model and the methods of use. The field of science, which deals with decision making, is still in training - it is an interdisciplinary field, in which methods of management science, optimization, information technologies, psychology, etc. are accumulated. Each author examines the problem, making decisions through the perspective of his own experience, knowledge and conception of the world, his vision on the examined system, the arisen problem and the objectives that he sets. The following components of the decision-making process can be highlighted: the object (system, examined process), the subject (the decision maker) - the one who has the right and the obligation to make the decision who establishes that the system (the process) does not work in the way it was conceived or that it must be transformed in order to obtain new qualities and characteristics, the one which organizes the decision-making process. Decision-making process includes [2]:

1. The problem, the elements of which are: objectives, the criteria, the decision-making environment, which includes information about the object (system) and the environment in which the object (system) works, the restrictions, in which the problem is solved.

2. Alternatives (variants, strategies).

3. The method of choosing the alternative, which to a large extent, satisfies the objectives set and the calculation of the consequences. Any decision is made in order to improve the organization's activity, in order to achieve some objectives. Therefore, in order to achieve the intended purpose, the decision-making process must be followed by two further components:

4. Further analysis of the chosen decision, its consequences and elaboration of a plan for its implementation.

5. Carrying out measures to make the decision and mitigating the unfavorable consequences.

Keywords: *decision, process, system, intelligence*

References

1. FILIP, F.G. *Sisteme suport pentru decizii*. Editura tehnică, București, 2007.
2. GAINDRIC, C. *Luarea deciziilor. Metode și tehnologii*. Știința, Chișinău, 1998.