DECISION SUBSTANTIATION METHODS

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Seen in the context of the intense preoccupation existing in our country for improving the management methods and techniques in various sectors of economic and social life, the initiative of the Military Publishing House of publishing a book comprising the main decision substantiation methods is welcome and appreciated.

The book aims to spread among the military staff and implicitely among specialists in the economy the main decision modelling methods and it is intended for those wishing to know and effectively turn them into practice, a reason why it lays no emphasis on some abstract contributions in this field.

This work differs from those published in our country so far through the approaching way, the scientific level and especially the viewpoints in keeping with which solutions are suggested for applying the world experience in this field to the specific conditions of our country. Worth mentioning is the authors' contribution to approaching and developing methods which are less implemented in our country and even at an international level. The examples tackled exclusively belong to the field of military science, considering the deliberate orientation of the book. It is divided into three parts. The first part entitled "Methods of Analysing the Tactical Situation and of Decision-making" arrests attention by the way in which the authors succeed to delimit the component elements and the stages of the decision-making process, as well as the angle of approaching the information decisions. We shall notice that all these aspects are seen from the point of view of the management systems analyst, stress being laid on the utility, on the experience gained so far as well as on the prospects in the automation of methos with aid of computing technique.

The second part of the book, entitled "The Use of Operations Research Methods in Decision Substantiation" points out only part of the operations research methods considering that some of them (the optimizing ones, in particular) form the object of many specialized studies published during the past few years.

The content of this part is suggested by the titles of the four chapters into which it is divided:

1. Substantiating decisions in connection with the allocation of forces and means on objectives with the aid of mathematical programming.
2. Using Markov's chains in studying the fighting actions;
3. Substantiating decisions in anti-submarine defence actions;
4. Hierarchizing the variants of using forces in the battle.

The authors deal, at length, with the simulation methods (third part) considering that most of the decisions are adopted in conditions of incertitude.

The first chapter of the third part presents the Monte Carlo method accompanied by many suggestive examples with a view to enlightening those having less knowledge of this method.

Within the simulation methods, the authors pay special attention to war games (chapter II), a method which facilitates the description of the evolution of highly complex processes, laying emphasis on the methodology of their design and implementation, underlining the limits and advantages of their use in substantiating decisions of great importance.

The authors' contribution is evident in synthetizing the experience gained in a methodology draft of constructing and applying this method.

The blending of the aspects presented with the methods of describing the evolution of the economic and social phenomena is implicit following the similitudes between the war and the enterprise games methods, the authors confining themselves to the sphere of military science.

By analysing the particularities of the decision-making process, the authors show that the mathematical methods presented so far are insufficient for describing it. It requires exact information and the precision which must characterize the models strikes against fuzzy aspects of reality, imprecision and nuance which, qualitatively, differ from incertitude. The methods presented do not cover these aspects and therefore, they apply to the fuzzy sets theory; the authors conclude the book with chapter III which is exclusively devoted to this theory. After a gradual presentation of the basic concepts of the fuzzy sets theory, aspects are approached in connection with the classification of the elements of the examined processes, as well as in connection with the fuzzy algorithms used in describing them.

Due to the variety of the ideas presented, the way of analysis and emphasis of a Gant variant of problems, due to the original point of view from which they are dealt with, the work appears as a judiciously synthetized study which, however, cannot be understood upon a simple reading, impelling the reader to a thorough theoretical and practical study, which we recommend as highly profitable. The numerous reference materials selected with power of discernment enable, however, the reader to complete certain notions for his knowledge, necessary for acquiring the mathematical methods and models presented in the book.

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