

Schneeweiss, Christoph

Distributed decision making. 2nd ed. (English) Zbl 1079.90074
Berlin: Springer (ISBN 3-540-40201-2/hbk). xv, 528 p. (2003).

This very interesting book deals with distributed decision making, which consists of a rapidly growing area of decision theory, containing areas such as multi-level optimization, multi-stage stochastic programming, hierarchical production planning and supply chain management, among others. The book begins with an introduction of the area of distributed decision making (DDM), including examples and typical situations of DDM. The next chapter concentrates more on the basic concepts behind DDM, such as hierarchical planning structures, coupling equations and anticipation functions.

In the next chapters the author proceeds to describe organizational DDM systems, where issues like the value of information and the value of delegation are discussed. This is followed by a detailed overview of principal agent theory and its applications.

The second part of the book looks into more detail in general applications of the theory. The author covers here the hierarchical production planning models and the organizational design DDM problem. In the next chapter supply chain problems are presented and solution techniques are explored in detail. This part of the book concludes with the area of managerial accounting.

In the third and last part of the book, the author describes leadership and coordination processes, which includes, among others, negotiation issues and multi-agent systems. The book concludes with exercises with solutions, a detailed bibliography and an index.

The original, entitled 'Hierarchies in distributed decision making' was published by Springer in 1999.

Reviewer: [Efstratios Rappos \(London\)](#)

MSC:

- [90B50](#) Management decision making, including multiple objectives
- [90B70](#) Theory of organizations, manpower planning in operations research
- [90B30](#) Production models
- [91B06](#) Decision theory
- [90-01](#) Introductory exposition (textbooks, tutorial papers, etc.) pertaining to operations research and mathematical programming
- [91-01](#) Introductory exposition (textbooks, tutorial papers, etc.) pertaining to game theory, economics, and finance

Cited in 1 Review Cited in 22 Documents
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Keywords:

[distributed decision making](#); [principal agent theory](#); [hierarchical production planning](#); [supply chains](#)