

Decision Support Systems For Business Intelligence

Specifics of Decision Making in Modern Business Systems focuses on the regularities and tendencies that are peculiar for the modern Russian practice of decision making in business systems, as well as the authors' solutions for its optimization in view of new challenges and possibilities.

For MIS specialists and nonspecialists alike, a comprehensive, readable, understandable guide to the concepts and applications of decision support systems.

This book constitutes the refereed proceedings of the First International Conference on Decision Support Systems Technology, ICDSST 2015, held in Belgrade, Serbia, in May 2015. The theme of the event was “Big Data Analytics for Decision-Making” and it was organized by the EURO (Association of European Operational Research Societies) working group of Decision Support Systems (EWG-DSS). The eight papers presented in this book were selected out of 26 submissions after being carefully reviewed by at least three internationally known experts from the ICDSST 2015 Program Committee and external invited reviewers. The selected papers are representative of current and relevant research activities in the area of decision support systems, such as decision analysis for enterprise systems and non-hierarchical networks, integrated solutions for decision support and knowledge management in distributed environments, decision support system evaluations and analysis through social networks, and decision support system applications in real-world environments. The volume is completed by an additional invited paper on big data decision-making use cases.

Presents the advances in decision support theory and practice with a focus on bridging the socio-technical gap. This book covers a wide range of topics including: Understanding DM, Design of DSS, Web 2.0 Systems in Decision Support, Business Intelligence and Data Warehousing, Applications of Multi-Criteria Decision Analysis, and more.

Variations

Basic Themes

Developing Web-enabled Decision Support Systems

Encyclopedia of Decision Making and Decision Support Technologies

First International Conference, ICDSST 2015, Belgrade, Serbia, May 27-29, 2015, Proceedings

An Organizational Perspective

Decision Support for Product Development

Decision support systems have experienced a marked increase in attention and importance over the past 25 years. The aim of this book is to survey the decision support system (DSS) field – covering both developed territory and emergent frontiers. It will give the reader a clear understanding of fundamental DSS concepts, methods, technologies, trends, and issues. It will serve as a basic reference work for DSS research, practice, and instruction. To achieve these goals, the book has been designed according to a ten-part structure, divided in two volumes with chapters authored by well-known, well-versed scholars and practitioners from the DSS community.

This book uniquely integrates expert system technology with decision support technology and introduces a new conceptual framework - knowledge-based decision support systems. The book provides comprehensive, knowledge-based decision support systems for a business-oriented audience.

This open access book comprehensively covers the fundamentals of clinical data science, focusing on data collection, modelling and clinical applications. Topics covered in the first section on data collection include: data sources, data at scale (big data), data stewardship (FAIR data) and related privacy concerns. Aspects of predictive modelling using techniques such as classification, regression or clustering, and prediction model validation will be covered in the second section. The third section covers aspects of (mobile) clinical decision support systems, operational excellence and value-based healthcare. Fundamentals of Clinical Data Science is an essential resource for healthcare professionals and IT consultants intending to develop and refine their skills in personalized medicine, using solutions based on large datasets from electronic health records or telemonitoring programmes. The book’s promise is “no math, no code”and will explain the topics in a style that is optimized for a healthcare audience.

This book aims to provide a new vision of how algorithms are the core of decision support systems (DSSs), which are increasingly important information systems that help to make decisions related to unstructured and semi-structured decision problems that do not have a simple solution from a human point of view. It begins with a discussion of how DSSs will be vital to improving the health of the population. The following article deals with how DSSs can be applied to improve the performance of people doing a specific task, like playing tennis. It continues with a work in which authors apply DSSs to insect pest management, together with an interactive platform for fitting data and carrying out spatial visualization. The next article improves how to reschedule trains whenever disturbances occur, together with an evaluation framework. The final works focus on different relevant areas of DSSs: 1) a comparison of ensemble and dimensionality reduction models based on an entropy criterion; 2) a radar emitter identification method based on semi-supervised and transfer learning; 3) design limitations, errors, and hazards in creating very large-scale DSSs; and 4) efficient rule generation for associative classification. We hope you enjoy all the contents in the book.

Achievements and Challenges for the New Decade

Digital Business, Technology, Decision Support, Management

Decision Support Systems and Intelligent Systems

Start-Ups and SMEs: Concepts, Methodologies, Tools, and Applications

Real-World Decision Support Systems

Decision Support Systems for Sustainable Development

The second edition of this bestselling title is a perfect blend of theoretical knowledge and practical application. It progresses gradually from basic to advance concepts in database management systems, with numerous solved exercises to make learning easier and interesting. New to this edition are discussions on more commercial database management systems.

Information and computer technologies for data analysis and processing in various fields of data mining and machine learning generates the conditions for increasing the effectiveness of information processing by making it faster and more accurate. The book includes 49 scientific papers presenting the latest research in the fields of data mining, machine learning and decision-making. Divided into three sections: “Analysis and Modeling of Complex Systems and Processes”; “Theoretical and Applied Aspects of Decision-Making Systems”; and “Computational Intelligence and Inductive Modeling”, the book is of interest to scientists and developers in the field.

This book presents real-world decision support systems, i.e., systems that have been running for some time and as such have been tested in real environments and complex situations; the cases are from various application domains and highlight the best practices in each stage of the system’s life cycle, from the initial requirements analysis and design phases to the final stages of the project. Each chapter provides decision-makers with recommendations and insights into lessons learned so that failures can be avoided and successes repeated. For this reason unsuccessful cases, which at some point of their life cycle were deemed as failures for one reason or another, are also included. All decision support systems are presented in a constructive, coherent and deductive manner to enhance the learning effect. It complements the many works that focus on theoretical aspects or individual module design and development by offering ‘good’ and ‘bad’ practices when developing and using decision support systems. Combining high-quality research with real-world implementations, it is of interest to researchers and professionals in industry alike.

As the most comprehensive reference work dealing with decision support systems (DSS), this book is essential for the library of every DSS practitioner, researcher, and educator. Written by an international array of DSS luminaries, it contains more than 70 chapters that approach decision support systems from a wide variety of perspectives. These range from classic foundations to cutting-edge thought, informative to provocative, theoretical to practical, historical to futuristic, human to technological, and operational to strategic. The chapters are conveniently organized into ten major sections that novices and experts alike will refer to for years to come.

Models, Techniques, Systems and Applications

Concepts, Design and Applications

Specifics of Decision Making in Modern Business Systems

Challenges for the Next Decade

Foundations of Decision Support Systems

Intelligent Support Systems for Marketing Decisions

Fundamentals of Clinical Data Science

BUSINESS PROCESS MANAGEMENT AND DECISION SUPPORT SYSTEMS combines the existing Business Process with the Decision Support System as a solution technology providing insights to the reader how to conceptualize a business process of an existing enterprise, evaluate and audit its requirement for optimum performance and throughput in terms of performance of process, product, people, problems and proposals for innovative improved solutions. The readers both students and researchers can design the solution strategy for corporate business. The book describes the Business Process Management with respect to Business activity monitoring, Business intelligence, Business process automation, Business re-engineering and Business enterprise planning. The second part of the book takes care of decision support system for big business setups and enterprises and an overview of Decision Support Systems, Data warehousing, access, analysis and visualization, The architecture of decision support system development, Hardware/Software user interface, Expert system for decision support, Executive support system, Geographical information system and Group decision support system.

E> This book is widely known for its comprehensive treatment of decision support theory and how it is applied. Through four editions, this book has defined the course and set the standard for up-to-date coverage of the latest decision support theories and practices by managers and organizations. This fifth edition has been streamlined and updated throughout to reflect new computing technologies. Chapter 9 has been completely rewritten to focus on the Internet and Intranet. The reader will find expanded coverage of data warehousing, data mining, on-line analytical processes, and an entirely new chapter on intelligent agents (Ch. 19). Internet related topics and links to Internet exercises and cases appear throughout the new edition.

This book introduces readers to the principles of intelligent decision support systems (IDSS) and how to build them with MiniZinc, a free, open-source constraint programming language. Managing an IDSS project requires an understanding of the system’s design and behaviour. The book enables readers to appreciate what “combinatorial” optimisation problems are, and how modelling a problem provides the basis for solving it. It also presents the main algorithms for tackling decision support problems, discusses their strengths and weaknesses, and explores ways of achieving the necessary scalability when problems become big. Moreover, to support the learning process it allows readers to try out the ideas described in the text on model applications and puzzles. The book highlights the potential benefits of deploying an IDSS. It enables users to recognise the key risks involved and identify which techniques can be applied to minimise them, and to understand the decision support technology sufficiently in order to manage or monitor an IDSS project. It also helps readers distinguish between good sense and mere jargon when dealing with anyone involved in an IDSS project, from sales personnel to software implementers. As such it especially appeals to graduate students and advanced professionals who need to learn how to build an IDSS and to tackle the problems on the way.

Describes how Decision Support Systems (DSS) computer-based systems, and described the steps and components necessary to develop effective DSS.

Types, Advantages and Disadvantages

Case Studies

Theory and Case Studies

Architecting the Digital Transformation

using MiniZinc

Decision Support Systems in Finance and Accounting

Building Effective Decision Support Systems

Decision Support Systems for Business IntelligenceJohn Wiley & Sons

"This book deals with strategic organizational decision-making providing techniques for improving the intelligence of actions by organizational decision-makers"--Provided by publisher.

A guide to putting cognitive diversity to work Ever wonder what it is that makes two people click or clash? Or why some groups excel while others fumble? Or how you, as a leader, can make or break team potential? Business Chemistry holds the answers. Based on extensive research and analytics, plus years of proven success in the field, the Business Chemistry framework provides a simple yet powerful way to identify meaningful differences between people’s working styles. Who seeks possibilities and who seeks stability? Who values challenge and who values connection? Business Chemistry will help you grasp where others are coming from, appreciate the value they bring, and determine what they need in order to excel. It offers practical ways to be more effective as an individual and as a leader. Imagine you had a more in-depth understanding of yourself and why you thrive in some work environments and flounder in others. Suppose you had a clearer view on what to do about it so that you could always perform at your best. Imagine you had more insight into what makes people tick and what ticks them off, how some interactions unlock potential while others shut people down. Suppose you could gain people’s trust, influence them, motivate them, and get the very most out of your work relationships. Imagine you knew how to create a work environment where all types of people excel, even if they have conflicting perspectives, preferences and needs. Suppose you could activate the potential benefits of diversity on your teams and in your organizations, improving collaboration to achieve the group’s collective potential. Business Chemistry offers all of this--you don’t have to leave it up to chance, and you shouldn’t. Let this book guide you in creating great chemistry!

As effective organizational decision making is a major factor in a company's success, a comprehensive account of current available research on the core concepts of the decision support agenda is in high demand by academicians and professionals. Through 110 authoritative contributions by over 160 of the world’s leading experts the Encyclopedia of Decision Making and Decision Support Technologies presents a critical mass of research on the most up-to-date research on human and computer support of managerial decision making, including discussion on support of operational, tactical, and strategic decisions, human vs. computer system support structure, individual and group decision making, and multi-criteria decision making.

Lecture Notes in Computational Intelligence and Decision Making

Business Chemistry

Research Anthology on Decision Support Systems and Decision Management in Healthcare, Business, and Engineering

Knowledge-Based Decision Support Systems With Applications in Business

Using Computational Intelligence for Information Acquisition in Enterprise Databases

Decision Support and Business Intelligence Systems

Database Systems

Seminar paper from the year 2016 in the subject Computer Science - Miscellaneous, language: English, abstract: Information Systems are developed to help users to achieve their goals. If we look at the international level, the introduction of information technology and general information systems in everyday life, we will see that this admission has been made successfull by-producing the expected results in countries characterized by good organization of public life other, individual systems, banking system, health system, are well organized and staffed. On the other hand, Decision Support Systems represent a combined approach of decision making from the Administration area with tools and IT techniques. A widely accepted definition describes the DSS as computer software which accepts as input data a large number of events and methods to convert comparisons, graphs and directions in some sense, that facilitate and expand the capabilities of what takes decisions.

Foundations of Decision Support Systems focuses on the frameworks, strategies, and techniques involved in decision support systems (DSS). The publication first takes a look at information processing, decision making, and decision support; frameworks for organizational information processing and decision making; and representative decision support systems. Discussions focus on classification scheme for DSS, abilities required for decision making, division of information-processing labor within an organization, and decision support. The text then elaborates on ideas in decision support, formalizations of purposive systems, and conceptual and operational constructs for building a data base knowledge system. The book takes a look at building a data base knowledge system, language systems for data base knowledge systems, and problem-processing systems for data base knowledge systems. Topics include problem processors for computationally oriented DSS, major varieties of logical data structures, and indirect associations among concepts. The manuscript also examines operationalizing modeling knowledge in terms of predicate calculus; combining the data base and formal logic approaches; and the language and knowledge systems of a DSS based on formal logic. The publication is a valuable reference for researchers interested in decision support systems.

Decision Support and Business Intelligence Systems 9e provides the only comprehensive, up-to-date guide to today's revolutionary management support system technologies, and showcases how they can be used for better decision-making. The 9th edition focuses on Business Intelligence (BI) and analytics for enterprise decision support in a more streamlined book.

Smaller companies are abundant in the business realm and outnumber large companies by a wide margin. To maintain a competitive edge against other businesses, companies must ensure the most effective strategies and procedures are in place. This is particularly critical in smaller business environments that have fewer resources. Start-Ups and SMEs: Concepts, Methodologies, Tools, and Applications is a vital reference source that examines the strategies and concepts that will assist small and medium-sized enterprises to achieve competitiveness. It also explores the latest advances and developments for creating a system of shared values and beliefs in small business environments. Highlighting a range of topics such as entrepreneurship, innovative behavior, and organizational sustainability, this multi-volume book is ideally designed for entrepreneurs, business managers, executives, managing directors, academicians, business professionals, researchers, and graduate-level students.

Algorithms in Decision Support Systems

Handbook on Decision Support Systems 2

Decision Support Systems V – Big Data Analytics for Decision Making

Information Systems and Decision Support Systems

Business Process Management and Decision Support Systems

Third International Conference, ICDSST 2017, Namur, Belgium, May 29-31, 2017, Proceedings

Using Access, VB.NET and ASP.NET

Intelligent Support Systems for Marketing Decisions examines new product development, market penetration strategies, and other marketing decisions utilizing a confluence of methods, including Decision Support Systems (DSS), Artificial Intelligence in Marketing and Multicriteria Analysis. The authors systematically examine the use and implementation of these methodologies in making strategic marketing decisions. Part I discusses the basic concepts of multicriteria analysis vis-à-vis marketing decisions and in new product development situations. Part II presents basic concepts from the fields of Information Systems, Decision Support Systems, and Intelligent Decision Support Methods. In addition, specialized categories of DSS (multicriteria DSS, web-based DSS, group DSS, spatial DSS) are discussed in terms of their key features and current use in marketing applications. Part III presents IDSS and a multicriteria methodology for new product development. Further chapters present a developmental strategy for analyzing, designing, and implementing an Intelligent Marketing Decision Support System. The implementation discussion is illustrated with a real-world example of the methods and system in use.

This book is targeted to busy managers and MBA students who need to grasp the basics of computerized decision support. Some of the topics covered include: What is a DSS? What do managers need to know about computerized decision support? And how can managers identify opportunities to create innovative DSS? Overall the book addresses 35 fundamental questions that are relevant to understanding computerized decision support.

"A decision support system (DSS) is a computer program used to support determinations, judgments, and courses of action in an organization or business. Chapter One provides an overview of model-driven DSSs and the utility and limits of these systems in real estate. Chapter Two reviews, classifies, and compares the DSSs for fund raising management with particular reference to the different considered approaches, the mathematical methods employed, the specific considered parts of the process, the requirements and the conclusions of the related studies, the applications utilized by non-profit organizations, the complexity and the usability of the systems, the numerical achieved results, and possible further developments. Chapter Three describes a DSS for vocational training organizations based on the Choquet integral, a well-founded and widely used technique for multicriteria decision making"--

GEODATA ANALYSIS AND DISPLAY SYSTEM; GENERALIZED MANAGEMENT INFORMATION SYSTEM.

Cognition-Driven Decision Support for Business Intelligence

Decision Support Systems

A Resource Book of Methods and Applications

Decision Support Basics

Decision Support, Analytics, and Business Intelligence, Third Edition

Concepts, Methodologies, Tools, and Applications

Proceedings of the XV International Scientific Conference "Intellectual Systems of Decision Making and Problems of Computational Intelligence" (ISDMCI'2019), Ukraine, May 21 – 25, 2019

Decision support systems (DSS) are widely touted for their effectiveness in aiding decision making, particularly across a wide and diverse range of industries including healthcare, business, and engineering applications. The concepts, principles, and theories of enhanced decision making are essential points of research as well as the exact methods, tools, and technologies being implemented in these industries. From both a standpoint of DSS interfaces, namely the design and development of these technologies, along with the implementations, including experiences and utilization of these tools, one can get a better sense of how exactly DSS has changed the face of decision making and management in multi-industry applications. Furthermore, the evaluation of the impact of these technologies is essential in moving forward in the future. The Research Anthology on Decision Support Systems and Decision Management in Healthcare, Business, and Engineering explores how decision support systems have been developed and implemented across diverse industries through perspectives on the technology, the utilizations of these tools, and from a decision management standpoint. The chapters will cover not only the interfaces, implementations, and functionality of these tools, but also the overall impacts they have had on the specific industries mentioned. This book also evaluates the effectiveness along with benefits and challenges of using DSS as well as the outlook for the future. This book is ideal for decision makers, IT consultants and specialists, software developers, design professionals, academicians, policymakers, researchers, professionals, and students interested in how DSS is being used in different industries.

Praise for the First Edition "This is the most usable decision support systems text. [i]t is far better than any other text in the field" –ComputingReviews Computer-based systems known as decision support systems (DSS) play a vital role in helping professionals across various fields of practice understand what information is needed, when it is needed, and in what form in order to make smart and valuable business decisions. Providing a unique combination of theory, applications, and technology, Decision Support Systems for Business Intelligence, Second Edition supplies readers with the hands-on approach that is needed to understand the implications of theory to DSS design as well as the skills needed to construct a DSS. This new edition reflects numerous advances in the field as well as the latest related technological developments. By addressing all topics on three levels—general theory, implications for DSS design, and code development—the author presents an integrated analysis of what every DSS designer needs to know. This Second Edition features: Expanded coverage of data mining with new examples Newly added discussion of business intelligence and transnational corporations Discussion of the increased capabilities of databases and the significant growth of user interfaces and models Emphasis on analytics to encourage DSS builders to utilize sufficient modeling support in their systems A thoroughly updated section on data warehousing including architecture, data adjustment, and data scrubbing Explanations and implications of DSS differences across cultures and the challenges associated with transnational systems Each chapter discusses various aspects of DSS that exist in real-world applications, and one main example of a DSS to facilitate car purchases is used throughout the entire book. Screenshots from JavaScript® and Adobe® ColdFusion are presented to demonstrate the use of popular software packages that carry out the discussed techniques, and a related Web site houses all of the book's figures along with demo versions of decision support packages, additional examples, and links to developments in the field. Decision Support Systems for Business Intelligence, Second Edition is an excellent book for courses on information systems, decision support systems, and data mining at the advanced undergraduate and graduate levels. It also serves as a practical reference for professionals working in the fields of business, statistics, engineering, and computer technology.

Rapid technology change is impacting organizations large and small. Mobile and Cloud computing, the Internet of Things (IoT), and "Big Data" are driving forces in organizational digital transformation. Decision support and analytics are available to many people in a business or organization. Business professionals need to learn about and understand computerized decision support for organizations to succeed. This text is targeted to busy managers and students who need to grasp the basics of computerized decision support, including: What is analytics? What is a decision support system? What is "Big Data"? What are "Big Data" business use cases? Overall, it addresses 61 fundamental questions. In a short period of time, readers can "get up to speed" on decision support, analytics, and business intelligence. The book then provides a quick reference to important recurring questions.

Annotation The book presents state-of-the-art knowledge about decision-making support systems (DMSS). Its main goals are to provide a compendium of quality chapters on decision-making support systems that help diffuse scarce knowledge about effective methods and strategies for successfully designing, developing, implementing, and evaluating decision-making support systems, and to create an awareness among readers about the relevance of decision-making support systems in the current complex and dynamic management environment.

Building Decision Support Systems

Strategic Alignment Process and Decision Support Systems: Theory and Case Studies

Decision-Making Support Systems: Achievements and Challenges for the New Decade

Concepts and Resources for Managers

Bridging the Socio-technical Gap in Decision Support Systems

Decision Support Systems for Business Intelligence

Practical Magic for Crafting Powerful Work Relationships

This book constitutes the proceedings of the Third International Conference on Decision Support Systems, ICDSST 2017, held in Namur, Belgium, in May 2017. The EWG-DSS series of the International Conference on Decision Support System Technology (ICDSST) offers a platform for European and international DSS communities, comprising the academic and industrial sectors, in order to present state-of-the-art DSS research and developments, to discuss current challenges that surround decision-making processes, to exchange ideas about realistic and innovative solutions, and to co-develop potential business opportunities. The main topic of this year's conference was "Data, Information and Knowledge Visualization in Decision Making". The 13 papers presented in this volume were carefully reviewed and selected from 53 submissions. They were organized in topical sections named: visualization case studies; visualization perspectives; analytics and decision; and Multi-Criteria Decision Making.

As the Internet becomes increasingly interconnected with modern society, the transition to online business has developed into a prevalent form of commerce. While there exist various advantages and disadvantages to online business, it plays a major role in contemporary business methods. Improving E-Commerce Web Applications Through Business Intelligence Techniques provides emerging research on the core areas of e-commerce web applications. While highlighting the use of data mining, search engine optimization, and online marketing to advance online business, readers will learn how the role of online commerce is becoming more prevalent in modern business. This book is an important resource for vendors, website developers, online customers, and scholars seeking current research on the development and use of e-commerce.

This research-oriented book presents key contributions on architecting the digital transformation. It includes the following main sections covering 20 chapters: · Digital Transformation · Digital Business · Digital Architecture · Decision Support · Digital Applications Focusing on digital architectures for smart digital products and services, it is a valuable resource for researchers, doctoral students, postgraduates, graduates, undergraduates, academics and practitioners interested in digital transformation.

"This volume provides a broad-based approach to decision support systems (DSS) and their applications to finance and accounting. The authors discuss the systems approach as an alternative to the traditional decision model approach. Heymann and Bloom examine the changing roles and functions of finance and accounting within organizational management and business control systems. They then describe the role of DSS in the management of today's firm and how to use it with computerized systems." Business Library Newsletter

In the 21st Century

Handbook on Decision Support Systems 1

Improving E-Commerce Web Applications Through Business Intelligence Techniques

Decision Support Systems VII. Data, Information and Knowledge Visualization in Decision Support Systems

Regularities and Tendencies

This book describes how to use computational intelligence and artificial intelligence tools to improve the decision-making process in new product development. These approaches, including artificial neural networks and constraint satisfaction solutions, enable a more precise prediction of product development performance compared to widely used multiple regression models. They support decision-makers by providing more reliable information regarding, for example, project portfolio selection and project scheduling. The book is appropriate for computer scientists, management scientists, students and practitioners engaged with product innovation and computational intelligence applications.

In recent years, much work has been done in formulating and clarifying the concept of sustainable development and related theoretical and research issues. Now, the challenge has shifted to designing and stimulating processes of effective planning and decision-making, at all levels of human activity, in such a way as to achieve local and global sustainable development. Information technology can help a great deal in achieving sustainable development by providing well-designed and useful tools for decision makers. One such tool is the decision support system, or DSS. This book explores the area of DSS in the context of sustainable development. As DSS is a very new technique, especially in the developing world, this book will serve as a reference text, primarily for managers, government officials, and information professionals in developing countries. It covers the concept of sustainable development, defines DSS and how it can be used in the planning and management of sustainable development, and examines the state of the art in DSS use. Other interested readers will include students, teachers, and analysts in information sciences; DSS designers, developers, and implementors; and international development agencies.

Cognition-driven decision support system (DSS) has been recognized as a paradigm in the research and development of business intelligence (BI). Cognitive decision support aims to help managers in their decision making from human cognitive aspects, such as thinking, sensing, understanding and predicting, and fully reuse their experience. Among these cognitive aspects, decision makers' situation awareness (SA) and mental models are considered to be two important prerequisites for decision making, particularly in ill-structured and dynamic decision situations with uncertainties, time pressure and high personal stake. In today's business domain, decision making is becoming increasingly complex. To make a successful decision, managers' SA about their business environments becomes a critical factor. This book presents theoretical models as well practical techniques of cognition-driven DSS. It first introduces some important concepts of cognition orientation in decision making process and some techniques in related research areas including DSS, data warehouse and BI, offering readers a preliminary for moving forward in this book. It then proposes a cognition-driven decision process (CDDP) model which incorporates SA and experience (mental models) as its central components. The goal of the CDDP model is to facilitate cognitive decision support to managers on the basis of BI systems. It also presents relevant techniques developed to support the implementation of the CDDP model in a BI environment. Key issues addressed of a typical business decision cycle in the CDDP model include: natural language interface for a manager's SA input, extraction of SA semantics, construction of data warehouse queries based on the manager's SA and experience, situation information retrieval from data warehouse, how the manager perceives situation information and update SA, how the manager's SA leads to a final decision. Finally, a cognition-driven DSS, FACETS, and two illustrative applications of this system are discussed.