

Decision Support Systems Vi Addressing Sustainabi

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Multiple Criteria Decision Aid Jason Papathanasiou 2018-09-19 Multiple criteria decision aid (MCDA) methods are illustrated in this book through theoretical and computational techniques utilizing Python. Existing methods are presented in detail with a step by step learning approach. Theoretical background is given for TOPSIS, VIKOR, PROMETHEE, SIR, AHP, goal programming, and their variations. Comprehensive numerical examples are also discussed for each method in conjunction with easy to follow Python code. Extensions to multiple criteria decision making algorithms such as fuzzy number theory and group decision making are introduced and implemented through Python as well. Readers will learn how to implement and use each method based on the problem, the available data, the stakeholders involved, and the various requirements needed. Focusing on the practical aspects of the multiple criteria decision making methodologies, this book is designed for researchers, practitioners and advanced graduate students in the applied mathematics, information systems, operations research and business administration disciplines, as well as other engineers and scientists oriented in interdisciplinary research. Readers will greatly benefit from this book by learning and applying various MCDM/A methods. (Adiel Teixeira de Almeida, CDSID-Center for Decision System and Information Development, Universidade Federal de Pernambuco, Recife, Brazil) Promoting the development and application of multicriteria decision aid is essential to ensure more ethical and sustainable decisions. This book is a great contribution to this objective. It is a perfect blend of theory and practice, providing potential users and researchers with the theoretical bases of some of the best-known methods as well as with the computing tools needed to practice, to compare and to put these methods to use. (Jean-Pierre Brans, Vrije Universiteit Brussel, Brussels, Belgium) This book is intended for researchers, practitioners and students alike in decision support who wish to familiarize themselves quickly and efficiently with multicriteria decision aiding algorithms. The proposed approach is original, as it presents a selection of methods from the theory to the practical implementation in Python, including a detailed example. This will certainly facilitate the learning of these techniques, and contribute to their effective dissemination in applications. (Patrick Meyer, IMT Atlantique, Lab-STICC, Univ. Bretagne Loire, Brest, France)

Advanced Multi-Criteria Decision Making for Addressing Complex Sustainability Issues Chatterjee, Prasenjit 2019-05-03 Sustainability issues have gained more importance in contemporary globalization, pushing decision makers to find a systematic mathematical approach to conduct analyses of this real-world problem. The growing complexity in modern social-economics or engineering environments or systems has forced researchers to solve complicated problems by using multi-criteria decision-making (MCDM) approaches. However, traditional MCDM research mainly focuses on reaching the highest economic value or efficiency, and issues related to sustainability are still not closely explored. Advanced Multi-Criteria Decision Making for Addressing Complex Sustainability Issues discusses and addresses the challenges in the implementation of decision-making models in the context of green and sustainable engineering, criteria identification, quantification, comparison, selection, and analysis in the context of manufacturing, supply chain, transportation, and energy sectors. All academic communities in the areas of management, economics, business sciences, mechanical, and manufacturing technologies are able to use, apply, and implement the models presented in this book. It is intended for researchers, manufacturers, engineers, managers, industry professionals, academicians, and students.

Actions Toward a Sustainable Great Lakes Great Lakes Commission 2004

Proceedings of the 6th International Conference on Decision Support System Technology – ICDSST 2020 on Cognitive Decision Support Systems & Technologies Isabelle Linden 2021-05-27

Sustainable Procurement in Supply Chain Operations Sachin K. Mangla 2019-05-31 Sustainable Procurement is an emerging concept in supply chain and operations management. Manufacturing industries have made improvements in moving from cost-based to quality-based, and customer-focused supply chain management strategies. This is becoming an integrated component in the supply chain system, with players becoming aware of the regulations and needs of the customer. It is imperative for production firms to look at the procurement activity as one of the strategic enablers for sustaining the business in the competitive global environment. This book will provide industries with an understanding of the concepts related to sustainable procurement policies and its implementation. Provides decision and theory development models in sustainable procurement supply chains Includes contributions in all three major analytics: descriptive, predictive, and perspectives in the context of sustainable procurement supply chain Discusses new business models with suppliers and opportunities for co-branding Covers how to develop new tools to measure and allocate the gains from sustainable practices among stakeholders Analyses the science of translating data into meaningful and actionable insights

Decision Support Systems VIII: Sustainable Data-Driven and Evidence-Based Decision Support Fatima Dargam 2018-05-15 This book constitutes the proceedings of the 4th International Conference on Decision Support Systems, ICDSST 2018, held in Heraklion, Greece, in May 2018. The main topic of this year's conference was "Sustainable Data-Driven and Evidence Based Decision Support". The 15 papers presented in this volume were carefully reviewed and selected from 71 submissions. They were organized in topical sections named: decision support systems for a sustainable society; decision support systems serving the public; decision support systems

in management and organization; and advances in decision support systems' technologies and methods. The EWG-DSS series of International Conference on Decision Support System Technology (ICDSST), starting with ICDSST 2015 in Belgrade, were planned to consolidate the tradition of annual events organized by the EWG-DSS in offering a platform for European and international DSS communities, comprising the academic and industrial sectors, 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.

Decision Support Systems IX: Main Developments and Future Trends Paulo Sérgio Abreu Freitas 2019-05-20
This book constitutes the proceedings of the 5th International Conference on Decision Support Systems Technologies, ICDSST 2019, held in Madeira, Portugal, in May 2019. This year the conference is a EURO mini conference and therefore has a slightly different acronym: "EmC-ICDSST 2019". The EWG-DSS series of International Conference on Decision Support System Technology (ICDSST), starting with ICDSST 2015 in Belgrade, was planned to consolidate the tradition of annual events organized by the EWG-DSS in offering a platform for European and international DSS communities, comprising the academic and industrial sectors, 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 "Main Developments and Future Trends". The 11 papers presented in this volume were carefully reviewed and selected from 59 submissions. They were organized in topical sections named: decision support systems in societal issues; decision support systems in industrial and business applications; and advances in decision support systems' methods and technologies.

Proceedings of the 2nd EWG-DSS International Conference on Decision Support System Technology - ICDSST 2016 Shaofeng Liu 2016-05-23 Plymouth, UK, 23-25 May 2016

Transitioning Toward Sustainability National Academies of Sciences, Engineering, and Medicine 2016-07-25
In 1999 the National Academies of Sciences, Engineering, and Medicine released a landmark report, *Our Common Journey: A Transition toward Sustainability*, which attempted to "reinvigorate the essential strategic connections between scientific research, technological development, and societies' efforts to achieve environmentally sustainable improvements in human well-being."¹ The report emphasized the need for place-based and systems approaches to sustainability, proposed a research strategy for using scientific and technical knowledge to better inform the field, and highlighted a number of priorities for actions that could contribute to a sustainable future. The past 15 years have brought significant advances in observational and predictive capabilities for a range of natural and social systems, as well as development of other tools and approaches useful for sustainability planning. In addition, other frameworks for environmental decision making, such as those that focus on climate adaptation or resilience, have become increasingly prominent. A careful consideration of how these other approaches might intersect with sustainability is warranted, particularly in that they may affect similar resources or rely on similar underlying scientific data and models. " To further the discussion on these outstanding issues, the National Academies of Sciences, Engineering, and Medicine convened a workshop on January 14th, 2016. Participants discussed progress in sustainability science during the last 15

years, potential opportunities for advancing the research and use of scientific knowledge to support a transition toward sustainability, and challenges specifically related to establishing indicators and observations to support sustainability research and practice. This report summarizes the presentations and discussions from the workshop.

Transport Models in Urban Planning Practices Marco te Brömmelstroet 2016-04-08 This book explores how transportation models can play a role in a changing transport planning and policy making context. Most models are rooted in decades of development work and are geared to offer value-free, academic and explicit knowledge to transport planning experts. However, planning practice has changed dramatically over the years, resulting in a less technical rational view on the use of such knowledge – especially so in early, strategy making phases. More and more complex policy goals, integration of a wide area of other policy domains, a wider, ever-changing and much more mixed group of planning participants and much more focus on ‘wicked problems’. The book maps how this influences the effectiveness of transport modelling exercises and explores several state-of-the-art implementations. This book was published as a special issue of *Transport Reviews*.

Decision Support System for the Location of Healthcare Facilities Marta Dell'Ovo 2020 The book examines an integrated approach for addressing decisions about the location of healthcare facilities. Supported by Geographic Information Systems (GIS) and Multi-Criteria Decision Analysis (MCDA), the approach provides comprehensive information on territory, taking into account the spatial dimensions. Due to the multiple criteria involved, site selection for urban facilities is a crucial topic in planning decision processes, especially for healthcare facilities. Healthcare provision policies generally fail to address the distribution of facilities within cities, entrusting decisions to various stakeholders. Moreover current evaluation tools focus on the intrinsic performances of healthcare structures, disregarding the extrinsic characteristics, namely those related to the location. Starting with a cross-disciplinary literature review, the book describes a multi-methodological approach for decision-making regarding the location of healthcare facilities, and presents an innovative evaluation tool that simultaneously considers functional, locational, environmental and economic issues, providing a comprehensive overview of the areas under investigation.

Sustainability for the Nation National Research Council 2013-07-11 A "sustainable society," according to one definition, "is one that can persist over generations; one that is far-seeing enough, flexible enough, and wise enough not to undermine either its physical or its social system of support." As the government sector works hard to ensure sufficient fresh water, food, energy, housing, health, and education for the nation without limiting resources for the future generations, it's clear that there is no sufficient organization to deal with sustainability issues. Each federal agency appears to have a single mandate or a single area of expertise making it difficult to tackle issues such as managing the ecosystem. Key resource domains, which include water, land, energy, and nonrenewable resources, for example, are nearly-completely connected yet different agencies exist to address only one aspect of these domains. The legendary ecologist John Muir wrote in 1911 that "when we try to pick out anything by itself, we find it hitched to everything else in the Universe." Thus, in order for the nation to be successful in sustaining its resources, "linkages" will need to be built among federal, state, and local governments; nongovernmental organizations (NGOs); and the private sector. The National Research

Council (NRC) was asked by several federal agencies, foundations, and the private sector to provide guidance to the federal government on issues related to sustainability linkages. The NRC assigned the task to a committee with a wide range of expertise in government, academia, and business. The committee held public fact-finding meetings to hear from agencies and stakeholder groups; examined sustainability management examples; conducted extensive literature reviews; and more to address the issue. Sustainability for the Nation: Resource Connection and Governance Linkages is the committee's report on the issue. The report includes insight into high-priority areas for governance linkages, the challenges of managing connected systems, impediments to successful government linkages, and more. The report also features examples of government linkages which include Adaptive Management on the Platte River, Philadelphia's Green Stormwater Infrastructure, and Managing Land Use in the Mojave.

Evaluation of demonstrated and emerging technologies for the treatment of contaminated land and groundwater (phase III) 2000 special session decision support tools.

Sustainable Solid Waste Management Ni-Bin Chang 2015-03-23 The interactions between human activities and the environment are complicated and often difficult to quantify. In many occasions, judging where the optimal balance should lie among environmental protection, social well-being, economic growth, and technological progress is complex. The use of a systems engineering approach will fill in the gap contributing to how we understand the intricacy by a holistic way and how we generate better sustainable solid waste management practices. This book also aims to advance interdisciplinary understanding of intertwined facets between policy and technology relevant to solid waste management issues interrelated to climate change, land use, economic growth, environmental pollution, industrial ecology, and population dynamics.

Fuzzy TOPSIS Mohamed El Alaoui 2021-05-27 This book aims to justify the use of fuzzy logic as a logic and as an uncertainty theory in the decision-making context. It also discusses the development of the TOPSIS method (Technique for Order of Preference by Similarity to Ideal Solution) with related examples and MATLAB codes. This is the first book devoted to TOPSIS and its fuzzy versions. It presents the use of fuzzy logic as a logic and as an uncertainty theory in the decision-making content and discusses the development of the TOPSIS method in classical and fuzzy context. The book justifies the use of fuzzy logic as an uncertainty theory and provides illustrative examples for each fuzzy TOPSIS extension, along with related MATLAB codes and case studies. This book is for industrial engineers, operations research engineers, systems engineers, and production engineers working in the areas of decision analysis, multi-criteria decision making, and multiple objective optimization.

Enterprise Sustainability Dennis F.X. Mathaisel 2009-10-21 Military supply chains are unique because what is supplied to the end user is routinely returned to the supply chain for maintenance, repair, and overhaul (MRO). Offering a blueprint for transforming military depot workload and processes into those of high-performance commercial facilities, Enterprise Sustainability: Enhancing the Military's Ability to Perform its Mission provides a powerful system of concepts and tools for enhancing the ability of the military to perform MRO on its weapon systems. These concepts and tools are applicable to any enterprise, military or commercial,

that is concerned about sustainability. The text focuses on five abilities that must be considered to achieve efficient, cost-saving operations: Availability of required parts, facilities, tools, and manpower Dependability of the weapon systems Capability of the enterprise to perform the mission Affordability and improving the life cycle cost (LCC) of a system or project Marketability of concepts and motivating decision makers Aging weapons systems, an aging workforce, limited financial resources, new technologies, and an increased military operational tempo demand that the military develop an aggressive transformation plan for its sustainability. This book follows *An Architecture for a Lean Transformation*, the first in a series dedicated to the sustainment of an enterprise. In this second volume, the authors continue to provide an analysis of, and prescription for, the strategies, principles, and technologies that are necessary to sustain an enterprise like the military and the weapons system it develops and utilizes.

Rethinking Sustainable Development Tan Yigitcanlar 2010-01-01 "This book investigates the role of urban, regional and infrastructure planning in achieving sustainable urban and infrastructure development, providing insights into overcoming the consequences of unsustainable development"--Provided by publisher.

Proceedings of the 4th International Conference on Decision Support System Technology – ICDSST 2018 & PROMETHEE DAYS 2018 Panagiota Digkoglou 2018-05-22

EURO Working Group on DSS Jason Papathanasiou 2021-08-09 This book recapitulates the major developments in Decision Support Systems (DSS) over the last 30 years in order to evaluate the research areas of decision making and in which direction the field should proceed. As it attempts to find a consensus about the next steps for the future of DSS research, the book also enforces the trends and new technologies currently in use. The book examines topics 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 evaluation and analysis through social networks, and e-learning and its application to real environments. It clearly presents the evidence to support their cases and attempts to promote an extensive and objective discussion. In addition, the book also reflects on approaches to dead-end ideas and failures in DSS to better understand the lessons learned. The contributions for this book have been written by thought leaders and influential researchers from the EURO Working Group of Decision Support Systems (EWG-DSS).

Advanced Intelligent Systems for Sustainable Development (AI2SD'2018) Mostafa Ezziyyani 2019-02-06 This book gathers papers presented at the International Conference on Advanced Intelligent Systems for Sustainable Development (AI2SD-2018), which was held in Tangiers, Morocco on 12–14 July 2018. Highlighting the latest research and findings in the field of agriculture, it provides new solutions, efficient tools and techniques that draw on modern technologies to increase agricultural productivity. In addition, it provides a critical overview of the status quo, shares new propositions, and outlines future perspectives in agriculture.

Decision Support Systems VI - Addressing Sustainability and Societal Challenges Shaofeng Liu 2016-05-17 This book constitutes the refereed proceedings of the Second International Conference on Decision Support Systems Technology, ICDSST 2016, held in Plymouth, UK, May 23-25. The theme of the event was "Decision Support

Systems Addressing Sustainability & Societal Challenges”, organized by the EURO (Association of European Operational Research Societies) working group of Decision Support Systems (EWG-DSS). The 15 full papers presented in this book were selected out of 51 submissions after being carefully reviewed by internationally experts from the ICDSST 2016 Program Committee and external invited reviewers. The selected papers are representative of current and relevant research activities in various areas of decision support systems, such as sustainability and societal challenges; risk management and project portfolio management; business intelligence and knowledge management; and technologies to improve system usability.

Advances in Production Management Systems. Artificial Intelligence for Sustainable and Resilient Production Systems Alexandre Dolgui 2021-09-01 The five-volume set IFIP AICT 630, 631, 632, 633, and 634 constitutes the refereed proceedings of the International IFIP WG 5.7 Conference on Advances in Production Management Systems, APMS 2021, held in Nantes, France, in September 2021.* The 378 papers presented were carefully reviewed and selected from 529 submissions. They discuss artificial intelligence techniques, decision aid and new and renewed paradigms for sustainable and resilient production systems at four-wall factory and value chain levels. The papers are organized in the following topical sections: Part I: artificial intelligence based optimization techniques for demand-driven manufacturing; hybrid approaches for production planning and scheduling; intelligent systems for manufacturing planning and control in the industry 4.0; learning and robust decision support systems for agile manufacturing environments; low-code and model-driven engineering for production system; meta-heuristics and optimization techniques for energy-oriented manufacturing systems; metaheuristics for production systems; modern analytics and new AI-based smart techniques for replenishment and production planning under uncertainty; system identification for manufacturing control applications; and the future of lean thinking and practice Part II: digital transformation of SME manufacturers: the crucial role of standard; digital transformations towards supply chain resiliency; engineering of smart-product-service-systems of the future; lean and Six Sigma in services healthcare; new trends and challenges in reconfigurable, flexible or agile production system; production management in food supply chains; and sustainability in production planning and lot-sizing Part III: autonomous robots in delivery logistics; digital transformation approaches in production management; finance-driven supply chain; gastronomic service system design; modern scheduling and applications in industry 4.0; recent advances in sustainable manufacturing; regular session: green production and circularity concepts; regular session: improvement models and methods for green and innovative systems; regular session: supply chain and routing management; regular session: robotics and human aspects; regular session: classification and data management methods; smart supply chain and production in society 5.0 era; and supply chain risk management under coronavirus Part IV: AI for resilience in global supply chain networks in the context of pandemic disruptions; blockchain in the operations and supply chain management; data-based services as key enablers for smart products, manufacturing and assembly; data-driven methods for supply chain optimization; digital twins based on systems engineering and semantic modeling; digital twins in companies first developments and future challenges; human-centered artificial intelligence in smart manufacturing for the operator 4.0; operations management in engineer-to-order manufacturing; product and asset life cycle management for smart and sustainable manufacturing systems; robotics technologies for control, smart manufacturing and logistics; serious games analytics: improving games and learning support; smart and sustainable production and supply chains;

smart methods and techniques for sustainable supply chain management; the new digital lean manufacturing paradigm; and the role of emerging technologies in disaster relief operations: lessons from COVID-19 Part V: data-driven platforms and applications in production and logistics: digital twins and AI for sustainability; regular session: new approaches for routing problem solving; regular session: improvement of design and operation of manufacturing systems; regular session: crossdock and transportation issues; regular session: maintenance improvement and lifecycle management; regular session: additive manufacturing and mass customization; regular session: frameworks and conceptual modelling for systems and services efficiency; regular session: optimization of production and transportation systems; regular session: optimization of supply chain agility and reconfigurability; regular session: advanced modelling approaches; regular session: simulation and optimization of systems performances; regular session: AI-based approaches for quality and performance improvement of production systems; and regular session: risk and performance management of supply chains *The conference was held online.

Decision Support Systems III - Impact of Decision Support Systems for Global Environments Fátima Dargam
2014-08-30 This book contains extended and revised versions of a set of selected papers from two workshops organized by the Euro Working Group on Decision Support Systems (EWG-DSS), which were held in Thessaloniki, Greece, and Rome, Italy, in May and July 2013. From a total of 45 submissions, 15 papers were accepted for publication in this edition after being reviewed by at least three internationally known experts from the EWG-DSS Program Committee and external invited reviewers. The selected papers are representative of current research activities in the area of operational research and decision support systems, focusing on topics such as decision-making using social networks and Web resources; spatio-temporal Web-based decision making; group support systems; technical, legal, and social aspects of decision making; knowledge management and decision support systems; business intelligence and data warehousing; and negotiation support systems.

Decision Support System for Sustainable Water Supply Planning American Water Works Association
2007-06-01

Multicriteria and Multiagent Decision Making with Applications to Economics and Social Sciences Aldo G. S. Ventre 2013-12-06 The book provides a comprehensive and timely report on the topic of decision making and decision analysis in economics and the social sciences. The various contributions included in the book, selected using a peer review process, present important studies and research conducted in various countries around the globe. The majority of these studies are concerned with the analysis, modeling and formalization of the behavior of groups or committees that are in charge of making decisions of social and economic importance. Decisions in these contexts have to meet precise coherence standards and achieve a significant degree of sharing, consensus and acceptance, even in uncertain and fuzzy environments. This necessitates the confluence of several research fields, such as foundations of social choice and decision making, mathematics, complexity, psychology, sociology and economics. A large spectrum of problems that may be encountered during decision making and decision analysis in the areas of economics and the social sciences, together with a broad range of tools and techniques that may be used to solve those problems, are presented in detail in this book, making it an

ideal reference work for all those interested in analyzing and implementing mathematical tools for application to relevant issues involving the economy and society.

Decision Support Systems and Education J. Mantas 2018-10-18 Medical informatics has revolutionized healthcare in recent years, and one of the major challenges now faced by health professionals everywhere is the further improvement of healthcare by making more effective use of the data from biomedical informatics, not least for education and decision support. This book presents the 52 full papers (accepted from 95 initial submissions) delivered at the Special Topic Conference of the European Federation for Medical Informatics (EFMI STC 2018), held in Zagreb, Croatia, on 15 and 16 October 2018. The EFMI STC is one of Europe's leading conferences for the sharing of current professional and scientific knowledge in health informatics processes, and the topics covered here have been broadly divided into two sections; decision support and education. Offering an overview of current medical informatics research, this book will undoubtedly prove invaluable for the professional development of healthcare practitioners, as well as contributing to knowledge sustainability within the field of medical informatics.

Research Anthology on Agile Software, Software Development, and Testing Management Association, Information Resources 2021-11-26 Software development continues to be an ever-evolving field as organizations require new and innovative programs that can be implemented to make processes more efficient, productive, and cost-effective. Agile practices particularly have shown great benefits for improving the effectiveness of software development and its maintenance due to their ability to adapt to change. It is integral to remain up to date with the most emerging tactics and techniques involved in the development of new and innovative software. The Research Anthology on Agile Software, Software Development, and Testing is a comprehensive resource on the emerging trends of software development and testing. This text discusses the newest developments in agile software and its usage spanning multiple industries. Featuring a collection of insights from diverse authors, this research anthology offers international perspectives on agile software. Covering topics such as global software engineering, knowledge management, and product development, this comprehensive resource is valuable to software developers, software engineers, computer engineers, IT directors, students, managers, faculty, researchers, and academicians.

Decision Support Systems X: Cognitive Decision Support Systems and Technologies José María Moreno-Jiménez 2020-05-18 This book constitutes the proceedings of the 6th International Conference on Decision Support Systems Technologies, ICDSST 2020, organised in Zaragoza, Spain, in May 2020. The conference was held online only due to the Corona pandemic. The EWG-DSS series of International Conference on Decision Support System Technology (ICDSST) is planned to consolidate the tradition of annual events organized by the EWG-DSS in offering a platform for European and international DSS communities, comprising the academic and industrial sectors, 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 "Cognitive Decision Support Systems and Technologies". The 13 papers presented in this volume were carefully reviewed and selected from 51 submissions. They were organized in topical sections named: methodological contributions;

case studies and applications; and overview (on the current state and future trends of DSS, BI, and data analytics research).

Transdisciplinary Engineering: Crossing Boundaries M. Borsato 2016-10-13 The Concurrent Engineering (CE) approach was developed in the 1980s, based on the concept that different phases of a product life cycle should be conducted concurrently and initiated as early as possible within the Product Creation Process (PCP). CE concepts have matured and become the foundation of many new ideas, methodologies, initiatives, approaches and tools. This book contains the proceedings from the 23rd ISPE Inc. International Conference on Transdisciplinary (formerly: Concurrent) Engineering, held in Curitiba, Parana, Brazil, in October 2016. The conference, entitled 'Transdisciplinary Engineering: Crossing Boundaries', provides an important forum for international scientific exchange on Concurrent Engineering and collaborative enterprises, and attracts the participation of researchers, industry experts and students, as well as government representatives. The 108 peer reviewed papers and keynote speech included here, range from theoretical and conceptual to strongly pragmatic works, which are organized into 17 sections including: Concurrent Engineering and knowledge exchange; engineering for sustainability; multidisciplinary project management; collaborative design and engineering; optimization of engineering operations and data analytics; and multidisciplinary design optimization, among others. The book gives an overview of the latest research, advancements and applications in the field and will be of interest to researchers, design practitioners and educators.

Handbook of Sustainable Development Planning M.A. Quaddus 2013-09-30 Acclaim for the first edition: The book *Handbook of Sustainable Development Planning* is perfect for readers in different professions who deal with planning and development management. It contains interesting theoretical considerations, provoke

Decision Support Systems XII Ana Paula Cabral Seixas Costa 2022 This book constitutes the proceedings of the 8th International Conference on Decision Support Systems Technologies, ICDSST 2022, held during May 23-25, 2022. The EWG-DSS series of International Conference on Decision Support System Technology (ICDSST) is planned to consolidate the tradition of annual events organized by the EWG-DSS in offering a platform for European and international DSS communities, comprising the academic and industrial sectors, 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 aim of this year's conference is to investigate the role DSS and related technologies can play in mitigating the impact of pandemics and post-crisis recovery. The 15 papers presented in this volume were carefully reviewed and selected from 46 submissions. They were organized in topical sections as follows: decision support addressing modern industry; decision support addressing business and societal needs, and multiple criteria approaches.

Decision Support Systems Daniel J. Power 2002 For MIS specialists and nonspecialists alike, a comprehensive, readable, understandable guide to the concepts and applications of decision support systems.

Sustainability Assessment of Renewables-Based Products Jo Dewulf 2015-11-16 Over the past decade,

renewables-based technology and sustainability assessment methods have grown tremendously. Renewable energy and products have a significant role in the market today, and the same time sustainability assessment methods have advanced, with a growing standardization of environmental sustainability metrics and consideration of social issues as part of the assessment. **Sustainability Assessment of Renewables-Based Products: Methods and Case Studies** is an extensive update and sequel to the 2006 title **Renewables-Based Technology: Sustainability Assessment**. It discusses the impressive evolution and role renewables have taken in our modern society, highlighting the importance of sustainability principles in the design phase of renewable-based technologies, and presenting a wide range of sustainability assessment methods suitable for renewables-based technologies, together with case studies to demonstrate their applications. This book is a valuable resource for academics, businesses and policy makers who are active in contributing to more sustainable production and consumption. For more information on the **Wiley Series in Renewable Resources**, visit www.wiley.com/go/rrs Topics covered include: The growing role of renewables in our society Sustainability in the design phase of products and processes Principles of sustainability assessment Land use analysis Water use analysis Material and energy flow analysis Exergy and cumulative exergy analysis Carbon and environmental footprint methods Life Cycle Assessment (LCA), social Life Cycle Assessment and Life Cycle Costing (LCC) Case studies: renewable energy, bio-based chemicals and bio-based materials.

Proceedings of the 8th International Conference on Decision Support System Technology – ICDSST 2022 on Decision Support addressing modern Industry, Business and Societal needs Jason Papathanasiou 2022-05-23

Efficient Decision Support Systems Chiang Jao 2011-09-06 This series is directed to diverse managerial professionals who are leading the transformation of individual domains by using expert information and domain knowledge to drive decision support systems (DSSs). The series offers a broad range of subjects addressed in specific areas such as health care, business management, banking, agriculture, environmental improvement, natural resource and spatial management, aviation administration, and hybrid applications of information technology aimed to interdisciplinary issues. This book series is composed of three volumes: Volume 1 consists of general concepts and methodology of DSSs; Volume 2 consists of applications of DSSs in the biomedical domain; Volume 3 consists of hybrid applications of DSSs in multidisciplinary domains. The book is shaped decision support strategies in the new infrastructure that assists the readers in full use of the creative technology to manipulate input data and to transform information into useful decisions for decision makers.

Innovations in Computing Sciences and Software Engineering Tarek Sobh 2010-06-26 **Innovations in Computing Sciences and Software Engineering** includes a set of rigorously reviewed world-class manuscripts addressing and detailing state-of-the-art research projects in the areas of Computer Science, Software Engineering, Computer Engineering, and Systems Engineering and Sciences. Topics Covered: •Image and Pattern Recognition: Compression, Image processing, Signal Processing Architectures, Signal Processing for Communication, Signal Processing Implementation, Speech Compression, and Video Coding Architectures. •Languages and Systems: Algorithms, Databases, Embedded Systems and Applications, File Systems and I/O, Geographical Information Systems, Kernel and OS Structures, Knowledge Based Systems, Modeling and Simulation, Object Based Software Engineering, Programming Languages, and Programming Models and tools.

•Parallel Processing: Distributed Scheduling, Multiprocessing, Real-time Systems, Simulation Modeling and Development, and Web Applications. •Signal and Image Processing: Content Based Video Retrieval, Character Recognition, Incremental Learning for Speech Recognition, Signal Processing Theory and Methods, and Vision-based Monitoring Systems. •Software and Systems: Activity-Based Software Estimation, Algorithms, Genetic Algorithms, Information Systems Security, Programming Languages, Software Protection Techniques, Software Protection Techniques, and User Interfaces. •Distributed Processing: Asynchronous Message Passing System, Heterogeneous Software Environments, Mobile Ad Hoc Networks, Resource Allocation, and Sensor Networks. •New trends in computing: Computers for People of Special Needs, Fuzzy Inference, Human Computer Interaction, Incremental Learning, Internet-based Computing Models, Machine Intelligence, Natural Language.

Decision Support Systems for Sustainable Development Gregory E. Kersten 2007-05-08 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.

World Congress on Medical Physics and Biomedical Engineering 2018 Lenka Lhotska 2018-05-29 This book (vol. 2) presents the proceedings of the IUPESM World Congress on Biomedical Engineering and Medical Physics, a triennially organized joint meeting of medical physicists, biomedical engineers and adjoining health care professionals. Besides the purely scientific and technological topics, the 2018 Congress will also focus on other aspects of professional involvement in health care, such as education and training, accreditation and certification, health technology assessment and patient safety. The IUPESM meeting is an important forum for medical physicists and biomedical engineers in medicine and healthcare learn and share knowledge, and discuss the latest research outcomes and technological advancements as well as new ideas in both medical physics and biomedical engineering field.

Intelligent Decision Support Systems for Sustainable Computing Arun Kumar Sangaiah 2017-03-14 This unique book discusses the latest research, innovative ideas, challenges and computational intelligence (CI) solutions in sustainable computing. It presents novel, in-depth fundamental research on achieving a sustainable lifestyle for society, either from a methodological or from an application perspective. Sustainable computing has expanded to become a significant research area covering the fields of computer science and engineering, electrical

engineering and other engineering disciplines, and there has been an increase in the amount of literature on aspects sustainable computing such as energy efficiency and natural resources conservation that emphasizes the role of ICT (information and communications technology) in achieving system design and operation objectives. The energy impact/design of more efficient IT infrastructures is a key challenge in realizing new computing paradigms. The book explores the uses of computational intelligence (CI) techniques for intelligent decision support that can be exploited to create effectual computing systems, and addresses sustainability problems in computing and information processing environments and technologies at the different levels of CI paradigms. An excellent guide to surveying the state of the art in computational intelligence applied to challenging real-world problems in sustainable computing, it is intended for scientists, practitioners, researchers and academicians dealing with the new challenges and advances in area.

Forest Value Chain Optimization and Sustainability Sophie D'Amours 2016-12-01 This book provides a global perspective on the various issues that the industry has to face as well as to provide some key global strategies that can help coping with those global challenges, such as collaboration, strategic value chain planning, and interdependency analyses. It presents literature reviews, strategic research orientations, assessment of some current key issues, and state-of-the-art methodologies.