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Creative Solutions for a Sustainable Development CRC Press

Examination Thesis from the year 2016 in the subject Business economics - Business Management, Corporate Governance, grade: 1,0, , language: English, abstract: An analysis of NestLabs Inc., Google's Smart Home company, and their current business situation is conducted. Internal and external influences are considered. A SWOT Analysis is done and leads in the end to a strategy proposal which

NEST should follow in order to improve business in the future.
Smart Cities in the Mediterranean
John Wiley & Sons
This book explains and exemplifies how SMEs can embrace the Smart Production approach and technologies in order to gain a beneficiary outcome. The book describes the Smart Production vision for SMEs, as well as the method to get there. The concept behind the book is based on the long-term experience of the authors in researching and tackling problems of SMEs in the manufacturing sector. The book provides applied methods and obtained solutions in different branches and different sizes of SMEs, encompassing a broad survey of our markets and societies. The

perspective is systemic/holistic and integrated including human, organizational, technological, and digital perspectives.
Designing, Developing, and Facilitating Smart Cities Springer
Towards collaborative business ecosystems Last decade was fertile in the emerging of new collaboration mechanisms and forms of dynamic virtual organizations, leading to the concept of dynamic business ecosystem, which is supported (or induced ?) by the progress of the ubiquitous I pervasive computing and networking. The new technologies, collaborative business models, and organizational forms supported by networking tools "invade" all traditional businesses and organizations what requires thinking in terms of whole systems, i. e. seeing each business as part of a wider economic ecosystem and environment. It is also becoming evident that the agile formation of very dynamic virtual organizations depends on the

existence of a proper longer-term "embedding" or "nesting" environment (e. g. regional industry cluster), in order to guarantee certain basic requirements such as trust building ("Trusting your partner" is a gradual and long process); common interoperability, ontology, and distributed collaboration infrastructures; agreed business practices (requiring substantial engineering/re-engineering efforts); a sense of community ("we vs. the others"), and some sense of stability (when is a dynamic state or a stationary state useful). The more frequent situation is the case in which this "nesting" environment is formed by organizations located in a common region, although geography is not a major facet when cooperation is supported by computer networks.

CRC Press

Comprehensive, cross-disciplinary coverage of Smart Grid issues from global expert researchers and practitioners. This definitive reference meets the need for a large scale, high quality work reference in Smart Grid engineering which is pivotal in the development of a low-carbon energy infrastructure. Including a total of 83 articles across 3 volumes The Smart Grid Handbook is organized in to 6 sections: Vision and Drivers, Transmission, Distribution, Smart Meters and Customers, Information and Communications Technology, and Socio-Economic Issues. Key features: Written by a team representing smart grid R&D, technology

deployment, standards, industry practice, and socio-economic aspects. Vision and Drivers covers the vision, definitions, evolution, and global development of the smart grid as well as new technologies and standards. The Transmission section discusses industry practice, operational experience, standards, cyber security, and grid codes. The Distribution section introduces distribution systems and the system configurations in different countries and different load areas served by the grid. The Smart Meters and Customers section assesses how smart meters enable the customers to interact with the power grid. Socio-economic issues and information and communications technology requirements are covered in dedicated articles. The Smart Grid Handbook will meet the need for a high quality reference work to support advanced study and research in the field of electrical power generation, transmission and distribution. It will be an essential reference for regulators and government officials, testing laboratories and certification organizations, and engineers and researchers in Smart Grid-related industries.

Smart Manufacturing Springer

The increasing pressure on the bottom line of healthcare provider organizations requires leaders who understand and can adeptly apply the basic principles of effective financial and operations

management. To be successful in today's environment leaders must simultaneously improve quality and service while reducing expense. Improving Financial and Operations Performance: A Healthcare Leader's Guide is a collection of proven effective tips, tools, and techniques accumulated from real-world challenges and lessons learned logically organized to provide a straightforward approach to planning, assessing, managing, and monitoring a business enterprise to improve profitability. This book provides a clear, step-by-step "how to" approach for both new and experienced leaders seeking a leg up in tackling the myriad of common and complex challenges they are facing including conducting a budget variance analysis, managing labor and non-labor productivity and expense, performing a comprehensive financial condition analysis, growing profitable volume and market share, developing an effective business case for improving quality, and evaluating the financial impact of a future project. Written for clinical and administrative leaders working in the trenches, it provides practical and applicable tools with relevant, real-world, and replicable case study examples. The essential value of

Improving Financial and Operations Performance: A Healthcare Leader's Guide is improving decision-making effectiveness, enhancing operations efficiency know-how, and developing strong financial management acumen to overcome the challenges in today's healthcare environment. Key Features: Author experience with extensive expertise as a former investor-owned hospital CEO, integrated health system vice president, managing director for the renowned turnaround experts, the Hunter Group, and graduate business school professor in management, finance, and economics. Realistic case examples to apply the key lessons through detailed practical and relevant case studies using clear step-by-step instructions. Calls-to-action at the end of each chapter with critical leadership imperatives to help prioritize and focus efforts on what matters most. Comprehensive glossary of key terms and concepts using plain easy to understand language. Appendices and Excel templates containing easy-to-use plug-and-play financial worksheets, checklists, best practice pathways, and performance assessments.

Smart Charging Solutions for Hybrid and

Electric Vehicles Industrial Press Inc. Become empowered to build and maintain smarter cities At its core, a Smart City is a collection of technological responses to the growing demands, challenges, and complexities of improving the quality of life for billions of people now living in urban centers across the world. The movement to create smarter cities is still in its infancy, but ambitious and creative projects in all types of cities—big and small—around the globe are beginning to make a big difference. New ideas, powered by technology, are positively changing how we move humans and products from one place to another; create and distribute energy; manage waste; combat the climate crisis; build more energy efficient buildings; and improve basic city services through digitalization and the smart use of data. Inside this book you'll find out: What it really means to create smarter cities How our urban environments are being transformed Big ideas for improving the quality of life for communities Guidance on how to create a smart city strategy The essential role of data in building better cities The major new technologies ready to make a difference in every community Smart Cities will give you the knowledge to understand this important topic in depth and be ready to be an agent of change in your community.

Operations Excellence Springer

Large and growing numbers of poor rural households depend on climate-sensitive agriculture and operate on the margins of the mainstream economy. This combined with a broken public extension service and faltering international development efforts places millions of smallholder farmers at disproportionately high risk from a changing climate. Acknowledging the magnitude of the challenge and the required pace and scale of response, coupled with honest introspection on past performance, has prompted the need to look beyond the public sector for delivering climate-smart solutions. Harnessing the financial, technological and intellectual capital in the private sector to complement public sector-driven climate responses is a new dimension in delivery of sustainable climate-smart solutions at scale.

Smart Metering Applications Springer Nature

Energy efficiency and low-carbon technologies are key contributors to curtailing the emission of greenhouse gases that continue to cause global warming. The efforts to reduce greenhouse gas emissions also strongly affect electrical power

systems. Renewable sources, storage systems, and flexible loads provide new system controls, but power system operators and utilities have to deal with their fluctuating nature, limited storage capabilities, and typically higher infrastructure complexity with a growing number of heterogeneous components. In addition to the technological change of new components, the liberalization of energy markets and new regulatory rules bring contextual change that necessitates the restructuring of the design and operation of future energy systems. Sophisticated component design methods, intelligent information and communication architectures, automation and control concepts, new and advanced markets, as well as proper standards are necessary in order to manage the higher complexity of such intelligent power systems that form smart grids. Due to the considerably higher complexity of such cyber-physical energy systems, constituting the power system, automation, protection, information and communication technology (ICT), and

system services, it is expected that the design and validation of smart-grid configurations will play a major role in future technology and system developments. However, an integrated approach for the design and evaluation of smart-grid configurations incorporating these diverse constituent parts remains evasive. The currently available validation approaches focus mainly on component-oriented methods. In order to guarantee a sustainable, affordable, and secure supply of electricity through the transition to a future smart grid with considerably higher complexity and innovation, new design, validation, and testing methods appropriate for cyber-physical systems are required. Therefore, this book summarizes recent research results and developments related to the design and validation of smart grid systems.

Predictive Maintenance in Dynamic Systems A business case for engaging the private sector in climate-smart solutions for smallholder farmers Tobias Brandt outlines how information

technology (IT) can be used to integrate sustainable energy technologies into existing infrastructures. The topic is approached from micro, meso, as well as macro perspectives. He first describes how IT artifacts can be used to manage renewable energy sources and energy storage devices in individual households and microgrids for an improved economic and ecological performance. The author proceeds by assessing the economic feasibility of aggregating electric vehicles for large-scale energy storage. The final chapter explores the issue of stability in automated mechanisms. A game-theoretical model is first introduced for financial markets and later transferred to the automated management of energy demand.

Smart Grids CRC Press

This volume offers state-of-the-art research in service science and its related research, education and practice areas. It showcases recent developments in smart service systems, operations management and analytics and their impact in complex service systems. The papers included in this volume highlight emerging technology and applications in fields including healthcare, energy, finance, information

technology, transportation, sports, logistics, and public services. Regardless of size and service, a service organization is a service system. Because of the socio-technical nature of a service system, a systems approach must be adopted to design, develop, and deliver services, aimed at meeting end users' both utilitarian and socio-psychological needs. Effective understanding of service and service systems often requires combining multiple methods to consider how interactions of people, technology, organizations, and information create value under various conditions. The papers in this volume present methods to approach such technical challenges in service science and are based on top papers from the 2019 INFORMS International Conference on Service Science.

The Future of Smart Production for SMEs

John Wiley & Sons

This book sheds new light on the current and future challenges faced by cities, and presents approaches, options and solutions enabled by Information and Communication Technologies (ICT) in the smart city context. By focusing on sustainability objectives within a rapidly changing social, economic, environmental and technological setting, it explores a variety of planning challenges

faced by contemporary cities and the power of smart city developments in terms of providing innovative tools, approaches, methodologies and technologies to help cities cope with these challenges. Key issues addressed include smart city (e-) planning and (e-)participation; smart data management to facilitate decision-making processes in cities and insular communities on a variety of topics; smart and sustainable management aspects of climate change, water scarcity, mobility, energy, infrastructure, tourism, blue growth, risk assessment; etc. The book presents current and potential pathways and applications for the evolution of smart cities and communities, taking into consideration the unique problems and opportunities emanating from their specific geographical location. The case study examples mainly concern small and medium-sized cities and communities as well as insular areas in the Mediterranean region, while also incorporating lessons learned from other parts of the world. Their focus is on the specific opportunities and threats emerging in these urban and insular environments, which are characterized by their role as globally known tourist destinations, their coastal or port character, and unique cultural resources, as well as the high rated vulnerability in very many sustainability respects (social, economic, biodiversity, urbanization, migration, poverty, etc.) to be found in the Mediterranean region at large

Appraising the Economics of Smart Meters CRC Press

This book discusses the overall development and use of smart courts from the perspective of system-of-systems engineering (SoSE) and its methodology, analyzes the relationships between the components, structures, environments, and functions of various systems, and illustrates the basic approaches to system design, specification, integration, operation and management. As the general introductory book of the China Smart Court Development Series, this book provides an overview of the development of Chinese people's courts in the application of information technology over the past two decades and outlines the key areas of exploration in the Smart Court SoSe project centered on the development practices during the 13th Five-Year Plan period. It also forecasts the future development and evolution of the smart court information system. The key topics introduced in the book, including the overall design of complex

information systems, integrated interconnection networks-based system integration, judicial big data quality control and analytics services, various types of AI-enabled judicial services, quality and efficiency-oriented operation and maintenance services for large-scale information systems, etc., all came from the basic research of information science and theories, as well as the systems engineering practices of the Smart Court SoSe project. They not only reflect the latest findings on systems engineering and architecture methods in China and overseas, but also reveal many innovative approaches to SoSE methods and paradigms, which can be used for the design and continued development of smart courts at a new and higher starting point. It is believed that they can also serve as good examples and reference points for the development in IT application and complex information systems engineering in other sectors.

C/O Frontiers Media SA

This book unveils how the world in the

twenty-first century will need to manage our most fundamental resource need, water. It outlines how stakeholders can improve water use in their homes, their businesses, and the world. In particular, it focuses on the role of stakeholders in crafting a twenty-first century paradigm for water. Investors not only drive innovation through direct investment in new technologies but also by highlighting risk and driving reporting and disclosure within the business community. Water Tech highlights the business drivers to address water related issues. These include business disruption, regulatory risk and reputational risk along with opportunities in the commercialization of innovative technologies such as desalination and water reuse and treatment. The authors argue that through increased attention on water scarcity through activities such as reporting and disclosure we are now accelerating innovation in the water industry. They show how we are just now capturing the true cost and value of water and this is creating opportunities for investors in the water sector. The text takes the reader through key aspects of emerging innovative technologies along with case studies and key issues on the path to

commercialization. A roadmap of the opportunities in the water sector is presented based on interviews with leading authorities in the water field including innovators, investors, legal, regulatory experts and businesses.

Disruptive Technologies, Climate Change and Shipping Springer Nature
This book investigates the role of smart cities in the broader context of urban innovation and e-government, identifies what a smart city is in practice and highlights their importance to the welfare of society. The book offers specific, measurable, and action-oriented public sector planning and management principles and ideas for smart governance in the era of global urbanization and innovation to help with the challenges in maintaining the democratic system of checks and balances as well as the division of powers in a highly interconnected world. The book will be of interest researchers, practitioners, students, and public sector IT professionals that work within innovation management, public administration, urban

technologies and urban innovation, and public local administration studies.

Smart Grid Handbook, 3 Volume Set

National Academies Press

This book constitutes the refereed proceedings of the 22nd IFIP WG 5.5 Working Conference on Virtual Enterprises, PRO-VE 2021, held in Saint-Étienne, and virtually in November 2021. The 70 papers (15 full and 55 short) presented with 5 industrial workshop papers were carefully reviewed and selected from 189 submissions. They provide a comprehensive overview of major challenges and recent advances in various domains related to the digital transformation and collaborative networks and their applications with a strong focus on the following areas related to the main theme of the conference: sustainable collaborative networks; sustainability via digitalization; analysis and assessment of business ecosystems; human factors in collaboration 4.0; maintenance and life-cycle management; policies and new digital services; safety and collaboration management; simulation and optimization; complex collaborative systems and ontologies; value co-creation in digitally enabled ecosystems; digitalization strategy in collaborative enterprises' networks; pathways and tools for DIHs; socio-technical perspectives on smart product-service systems; knowledge transfer and accelerated

innovation in FoF; interoperability of IoT and CPS for industrial CNs; sentient immersive response network; digital tools and applications for collaborative healthcare; collaborative networks and open innovation in education 4.0; collaborative learning networks with industry and academia; and industrial workshop.

Introduction to the Smart Court System-of-Systems Engineering Project of China
Springer Publishing Company

Research efforts in the past ten years have led to considerable advances in the concepts and methods of smart manufacturing. Smart Manufacturing: Concepts and Methods puts these advances in perspective, showing how process industries can benefit from these new techniques. The book consolidates results developed by leading academic and industrial groups in the area, providing a systematic, comprehensive coverage of conceptual and methodological advances made to date. Written by leaders in the field from around the world, Smart Manufacturing: Concepts and Methods is essential reading for graduate

students, researchers, process engineers, and managers. It is complemented by a companion book titled Smart Manufacturing: Applications and Case Studies, which covers the applications of smart manufacturing concepts and methods in process industries and beyond. Takes a process-systems engineering approach to design, monitoring, and control of smart manufacturing systems Brings together the key concepts and methods of smart manufacturing, including the advances made in the past decade Includes coverage of computation methods for process optimization, control, and safety, as well as advanced modelling techniques

Understanding Smart Cities: A Tool for Smart Government or an Industrial Trick?

Springer Nature

This book provides a general overview of virtual power plants (VPP) as a key technology in future energy communities and active distribution and transmission networks for managing distributed energy resources, providing local and global services, and facilitating market participation of small-scale managing

distributed energy resources and prosumers. The book also aims at describing some practical solutions, business models, and novel architectures for the implementation of VPPs in the real world. Each chapter of the book begins with the fundamental structure of the problem required for a rudimentary understanding of the methods described. It provides a clear picture for practical implementation of VPP through novel technologies such as blockchain, digital twin, and distributed ledger technology. The book will help the electrical and power engineers, undergraduate, graduate students, research scholars, and utility engineers to understand the emerging solutions regarding the VPP concept lucidly.

Collaborative Business Ecosystems and Virtual Enterprises John Wiley & Sons

Engineers and reliability professionals are increasingly being held accountable for materials and spare parts inventory management and in response they need to gain a better understanding of materials and spare parts inventory management principles and practices. This practical book delivers just that. This new edition

will help you get the right parts, in the right place, at the right time, for the right reason. Fully revised, it provides specific coverage of the issues faced in, and requirements for, managing engineering materials and spare parts and what to do to improve your results. It includes 29 exclusive examples and real life case studies to demonstrate the application of the concepts and ideas so that you will easy and quickly understand how to implement them. What's more it will show you: What to do to truly optimize your inventory holdings, Why inventory levels are almost always too high, How to identifying the factors that have greatest impact on your inventory levels, When to apply the 7 Actions for Inventory Reduction, Where to focus your efforts for greatest effect, and Who to involve in taking action. The concepts, ideas, tools, and processes in this book have helped many companies achieve and sustain results that other inventory tools and approaches just could not match. And it is sure to help you achieve true inventory optimization as well! The second edition includes? A new chapter on The Mechanics of Inventory Management, a pragmatic review of the management of inventory including? Introducing the

Materials and Inventory Management Cycle, Comparing theoretical and actual inventory outcomes, Discussion on normal and Poisson distribution models, How to determine the re order point, How to determine the re order quantity, and Commentary on Monte Carlo simulation. An expanded chapter on the financial impact of inventory, including a discussion of the key reports that need to be understood. Chapters on the influence of policies, procedures, and people. Additional discussion on issues faced and how to address them. An expansion of the central process discussed in the first edition to a more comprehensive review process?Inventory Process™ Optimization. An expanded section on executing an inventory review program. A closing 'where to from here' chapter. 57 figures and diagrams - 30 of them new and the others all revised and updated and six new tables (with 8 in total). Eight new checklists - specifically included as a new tool for the reader and is the result of direct reader requests. An expanded glossary. *New Solutions for Smart Grids With High-Penetration Distributed Energy Resources* Springer
This volume consists of revised selected

papers presented at the 3rd and 4th International Conference on Smart Energy Research, SmartER Europe 2016 and 2017, held in Essen, Germany, in February 2016 and 2017. The 13 full papers included in this volume were carefully reviewed and selected from 25 submissions. The papers discuss recent advances and experiences in building and using new IT-based solutions for Smart Grids and Smart Markets combining the knowledge of different disciplines such as engineering, business management and economics as well as computer science. They reflect the versatility and the complexity of the transformation process in the energy sector and also show the great need for research that is required to achieve the high targets for a digitized and sustainable energy landscape.

Smart Energy Research. At the Crossroads of Engineering, Economics, and Computer Science Elsevier

This book provides a complete picture of several decision support tools for predictive maintenance. These include embedding early anomaly/fault detection, diagnosis and reasoning, remaining useful life prediction (fault prognostics), quality prediction and self-reaction, as well as optimization, control and self-healing techniques. It shows recent applications of these techniques within various types of industrial (production/utilities/equipment/plants/smart devices, etc.) systems addressing several

challenges in Industry 4.0 and different tasks dealing with Big Data Streams, Internet of Things, specific infrastructures and tools, high system dynamics and non-stationary environments . Applications discussed include production and manufacturing systems, renewable energy production and management, maritime systems, power plants and turbines, conditioning systems, compressor valves, induction motors, flight simulators, railway infrastructures, mobile robots, cyber security and Internet of Things. The contributors go beyond state of the art by placing a specific focus on dynamic systems, where it is of utmost importance to update system and maintenance models on the fly to maintain their predictive power.