Research Papers Product Life Cycle

Life cycle design is a proactive approach for integrating pollution prevention and resource conservation strategies into the development of more ecologically and economically sustainable product systems. Cross media pollutant transfer and the shifting of other impacts can be avoided by addressing the entire life cycle, which includes raw materials acquisition, materials processing, manufacturing and assembly, use and service, retirement, disposal and the ultimate fate of residuals. The goal of life cycle design is to minimize aggregate risks and impacts over this life cycle. This goal can only be attained through the balancing of environmental, performance, cost, cultural, legal, and technical requirements of the product system. Concepts such as concurrent design, total quality management, cross- disciplinary teams, and multi-attribute decision making are essential elements of life cycle design that help meet these goals. The framework for life cycle design was developed to be applicable for all product domains. It was written to assist not only design professionals but all other constituents who have an important role in life cycle design including corporate executives, product managers, production workers, distributors, environmental health and safety staff, purchasers, accountants, marketers, salespersons, legal staff, consumers, and government regulators. A coordinated effort is required to institute changes needed for successful implementation of life cycle design. Part I seeks to promote the reduction of environmental imparts and health risks through a systems approach to design. The approach is based on the product life cycle, which includes raw materials acquisition and processing, manufacturing, use/service, resource recovery, and disposal. A life cycle design framework was developed to provide guidance for more effectively conserving resources and energy, preventing pollution, and reducing the aggregate environmental impacts and health risks associated with a product system. This framework addresses the product, process, distribution, and management/information components of each product system. Part II describes the three components of a life cycle assessment (inventory analysis, impact analysis, and improvement analysis) as well as scoping activities, presents a brief overview of the development of the life cycle assessment process, and develops guidelines and principles for implementation of a product life cycle assessment. The major states in a life cycle are raw materials acquisition, manufacturing, consumer use/reuse/maintenance, and recycle/waste management. The basic steps of performing a life cycle inventory (defining the goals and system boundaries, including scoping; gathering and developing data; presenting and reviewing data; and interpreting and communicating results) are presented along with the general issues to be addressed. The system boundaries, assumptions, and conventions to be addressed in each stage of the inventory are presented.

This book showcases cutting-edge research papers from the 5th International Conference on Research into Design – the largest in India in this area – written by eminent researchers from across the world on design process, technologies, methods and tools, and their impact on innovation, for supporting design across boundaries. The special features of the book are the variety of insights into the product and system innovation process, and the host of methods and tools from all major areas of design research for the enhancement of the innovation process. The main benefit of the book for researchers in various areas of design and innovation are access to the latest quality research in this area, with the largest collection of research from India. For practitioners and educators, it is exposure to an empirically validated suite of theories, models, methods and tools that can be taught and practiced for design-led innovation.

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 analysisCarbon 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.

"By explaining the innovation process the book reveals the broad scope of MTI and its importance for company survival, growth and sustainability. It describes how MTI has to be managed strategically and how this is successfully achieved by formulating and implementing strategy and delivering value. Chapters provide frameworks, tools and techniques, and case studies on managing: innovation strategy, communities, and networks, R&D, design and new product and service development, operations and production, and commercialization." "This new edition has been fully revised and updated to reflect the latest teaching and research, and to ensure its continuing relevance to the contemporary world of MTI. It will be an important resource for academics, students, and managers throughout the world, is a recommended text for students of innovation and technology management at postgraduate and undergraduate level, and is particularly valuable for MBA courses."--BOOK JACKET.

Strategy and Practice

Getting at the Source

Life-cycle Assessment in Building and Construction

A State-of-the-art Report, 2003

Proceedings of the INFUS 2020 Conference, Istanbul, Turkey, July 21-23, 2020

Context: A Prescription Based on Empirical Research

Discusses source reduction as a major solution to the solid waste problem, provides guidelines for evalution, and recommends strategies

Leaders from academia and industry offer guidance for professionals and general readers on ethical questions posed by modern technology.

Knowledge-intensive product realization implies embedded intelligence; meaning that if both theoretical and practical knowledge and understanding of a subject is integrated into the design and production processes of products, this will significantly increase added value. This book presents papers accepted for the 9th Swedish Production Symposium (SPS2020), hosted by the School of Engineering, Jönköping University, Sweden, and held online on 7 & 8 October 2020 because of restrictions due to the Corona virus pandemic. The subtitle of the conference was Knowledge Intensive Product Realization in Co-Operation for Future Sustainable Competitiveness. The book contains the 57 papers accepted for presentation at the conference, and these are divided into nine sections which reflect the topics covered: resource efficient production; flexible production; virtual production development; humans in production systems; circular production systems and maintenance; integrated product and production development; advanced and optimized components, materials and manufacturing; digitalization for smart products and services; and responsive and efficient operations and supply chains. In addition, the book presents five special sessions from the symposium: development of changeable and reconfigurable production systems; smart production system design and development; supply chain relocation; management of manufacturing digitalization; and additive manufacturing in the production system. The book will be of interest to all those working in the field of knowledge-intensive product realization.

Proceedings of the Flexible Automation and Integrated Manufacturing Conference held in Limerick, Ireland, in June 1993

Product Lifecycle Management

Technical Papers, Institute Conference and Convention

– Principles and Methodology

Product Life Cycle Assessment

Strategies for Reducing Municipal Solid Waste

Next-Generation Ethics

International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies publishes a wide spectrum of research and technical articles as well as reviews, experiments, experiences, modelings, simulations, designs, and innovations from engineering, sciences, life sciences, and related disciplines as well as interdisciplinary/cross-disciplinary/multidisciplinary subjects. Original work is required. Article submitted must not be under consideration of other publishers for publications.

This book constitutes the refereed post-conference proceedings of the 14th IFIP WG 5.1 International Conference on Product Lifecycle Management, PLM 2017, held in Seville, Spain, in July 2017. The 64 revised full papers presented were carefully reviewed and selected from 78 submissions. The papers are organized in the following topical sections: PLM maturity, implementation and adoption; PLM for digital factories; PLM and process simulation; PLM, CAX and knowledge management; PLM and education; BIM; cyber-physical systems; modular design and products; new product development; ontologies, knowledge and data models; and Product, Service, Systems (PSS).

The role of Corporate Social Responsibility in the business world has developed from a fig leaf marketing front into an important aspect of corporate behavior over the past several years. Sustainable strategies are valued, desired and deployed more and more by relevant players in many industries all over the world. Both research and corporate practice therefore see CSR as a guiding principle for business success. The “Encyclopedia of Corporate Social Responsibility” has been conceived to assist researchers and practitioners to align business and societal objectives. All actors in the field will find reliable and up to date definitions and explanations of the key terms of CSR in this authoritative and comprehensive reference work. Leading experts from the global CSR community have contributed to make the “Encyclopedia of Corporate Social Responsibility” the definitive resource for this field of research and practice.

This book is divided into five sections: the conceptual origins of the TALC, spatial relationships and the TALC, alternative conceptual approaches, renewing or retiring with the TALC, and predicting with the TALC. It concludes with a review of the future potential of the model in the area of the destination development process.

Product Design for the Environment

CCEA AS Unit 2 Business Studies Student Guide 2: Growing the business

A Life Cycle Approach

Theory, Research Methodology, Aesthetics, Human Factors and Education

Life Cycle Management in Supply Chains: Identifying Innovations Through the Case of the VCR

This book constitutes the refereed proceedings of the 12th IFIP WG 5.1 International Conference on Product Lifecycle Management, PLM 2015, held in Doha, Qatar, in October 2015. The 79 revised full papers were carefully reviewed and selected from 130 submissions. The papers are organized in the following topical sections: smart products, assessment approaches, PLM maturity, building information modeling (BIM), languages and ontologies, product service systems, future factory, knowledge creation and management, simulation and virtual environments, sustainability and systems improvement, configuration and engineering change, education studies, cyber-physical and smart systems, design and integration issues, and PLM processes and applications.

Every day we interact with thousands of consumer products. We not only expect them to perform their functions safely, reliably, and efficiently, but also to do it so seamlessly that we don’t even think about it. However, with the many factors involved in consumer product design, from the application of human factors and ergonomics principles to reducing risks of malfunction and the total life cycle cost, well, the process just seems to get more complex. Edited by well-known and well-respected experts, the two-volumes of Handbook of Human Factors and Ergonomics in Consumer Product Design simplify this process. The first volume, Human Factors and Ergonomics in Consumer Product Design: Methods and Techniques, outlines the how to incorporate Human Factors and Ergonomics (HF/E) principles and knowledge into the design of consumer products in a variety of applications. It discusses the user-centered design process, starting with how mental workload affects every day interactions with consumer products and what lessons may be applied to product design. The book then highlights the ever-increasing role of information technology, including digital imaging, video and other media, and virtual reality applications in consumer product design. It also explores user-centered aspect of consumer product development with discussions of user-centered vs. task-based approach, articulation and assessment of user requirements and needs, interaction with design models, and eco design. With contributions from a team of researchers from 21 countries, the book covers the current state of the art methods and techniques of product ergonomics. It provides an increased knowledge of how to apply the HF/E principles that ultimately leads to better product design.

In recent years the increased awareness of environmental issues has led to the development of new approaches to product design, known as Design for Environment and Life Cycle Design. Although still considered emerging and in some cases radical, their principles will become, by necessity, the wave of the future in design. A thorough exploration of the subject, Product Design for the Environment: A Life Cycle Approach presents key concepts, basic design frameworks and techniques, and practical applications. It identifies effective methods and tools for product design, stressing the environmental performance of products over their whole life cycle. After introducing the concepts of Sustainable Development, the authors discuss Industrial Ecology and Design for Environment as defined in the literature. They present the life cycle theory and approach, explore how to apply it, and define its main techniques. The book then covers the main premises of product design and development, delineating how to effectively integrate environmental aspects in modern product design. The authors pay particular attention to environmental strategies that can aid the achievement of the requisites of eco-efficiency in various phases of the product life cycle. They go on to explore how these strategies are closely related to the functional performance of the product and its components, and, therefore, to some aspects of conventional engineering design. The book also introduces phenomena of performance deterioration, together with principles of design for component durability, and methods for the assessment of residual life. Finally, the book defines entirely new methods and tools in relation to strategic issues of Life Cycle Design. Each theme provides an introduction to the problems and original proposals based on the authors’ experience. The authors then discuss the implementation of these new concepts in design practice, differentiating between levels of intervention and demonstrating their use and effectiveness in specific case studies. The book not only presents evidence of the potential of the approach and methods proposed, but also analyzes some of the problems involved in developing eco-compatible products in the company context.

The aim of this book is to provide a better understanding with as to how to coordinate and improve decisions about product life cycle, process and supply chain design to improve new product development. The conclusions are based upon original research of supply chain management and new product development in numerous industries.

International Conference, ICCIC 2011, held in Wuhan, China, September 17-18, 2011. Proceedings

Methods and Case Studies

Identifying Innovations Through the Case of the VCR

Innovation and New Product Marketing (RLE Marketing)

Proceedings of ICE-SEAM 2021: Special Edition

ACCA Paper P5 - Advanced Performance Management Study Text

This book presents some twenty case studies, showing how companies in different industry sectors and of different sizes make advances in Product Lifecycle Management (PLM). Like the author’s previous volumes, this book provides a valuable resource for those wishing to learn about PLM and how to implement and apply it in their companies. Helping readers to · learn about implementing and benefiting from PLM; · learn about good PLM solutions and best practice; · improve their planning and decision-making abilities; · benefit from the lessons learned by the companies featured in the case studies; · proceed faster and further with PLM the book presents effective PLM solutions and best practices. At the same time, the case studies included demonstrate how different companies implement and benefit from PLM. Each case study is addressed in a separate chapter and details a different situation, enabling readers to put themselves in the situation and think through different actions and decisions. A valuable resource for PLM team managers and employees in engineering and manufacturing companies, the book is also of interest to researchers and students in industrial engineering fields.

Reinforce your understanding of CCEA AS Unit 2: Growing the business and improve your exam technique for the CCEA Business AS Unit 2 assessment. Packed full of clear topic summaries, knowledge check questions and sample exam-style questions and answers with commentaries, this guide will help you aim for and achieve the highest grades. This Student Guide will help you to: - Identify key content for the exams with our concise coverage of topics - Avoid common pitfalls with clear definitions and exam tips throughout - Reinforce your learning with bullet-list summaries at the end of each section - Test your knowledge with rapid-fire knowledge check questions and answers - Find out what examiners are looking for with our Questions & Answers section

This Handbook presents methods to advance the understanding of interdependencies between the well-being of human societies and the performance of their biophysical environment. It showcases applications to material and energy use; urbanization and tech

This volume includes the full proceedings from the 1992 Academy of Marketing Science (AMS) Annual Conference held in San Diego, California. The research and presentations offered in this volume cover many aspects of marketing science including marketing strategy, consumer behavior, international marketing, retailing, marketing education, among others. Founded in 1971, the Academy of Marketing Science is an international organization dedicated to promoting timely explorations of phenomena related to the science of marketing in theory, research, and practice. Among its services to members and the community at large, the Academy offers conferences, congresses and symposia that attract delegates from around the world. Presentations from these events are published in this Proceedings series, which offers a comprehensive archive of volumes reflecting the evolution of the field. Volumes deliver cutting-edge research and insights, complimenting the Academy’s flagship journals, the Journal of the Academy of Marketing Science (JAMS) and AMS Review. Volumes are edited by leading scholars and practitioners across a wide range of subject areas in marketing science.

Opportunities for Digital and Sustainable Transformation

Methods and Techniques

Product Lifecycle Management and the Industry of the Future

Proceedings of the 1992 Academy of Marketing Science (AMS) Annual Conference

Handbook of Research methods and Applications in Environmental Studies

Intelligent and Fuzzy Techniques: Smart and Innovative Solutions

Globalization and increased competition are forcing companies to review and improve their production processes to be more sustainable. However, a clear vision and environmental culture are lacking because, even today, companies are motivated to act to improve the environment essentially by compliance with government regulations and the opportunity to achieve profit growth. This book presents practices, challenges, and opportunities for the digital and sustainable transformation of business as we know it.

Covering key topics in the field such as technological innovation, human-centered sustainable engineering and manufacturing, and manufacture at a global scale in a virtual world, this book addresses both advanced techniques and industrial applications of key research in interactive design and manufacturing. Featuring the full papers presented at the 2014 Joint Conference on Mechanical Design Engineering and Advanced Manufacturing, which took place in June 2014 in Toulouse, France, it presents recent research and industrial success stories related to implementing interactive design and manufacturing solutions.

The Association of Chartered Certified Accountants (ACCA) is the global body for professional accountants. With over 100 years of providing world-class accounting and finance qualifications, the ACCA has significantly raised its international profile in recent years and now supports a BSc (Hons) in Applied Accounting and an MBA.BPP Learning Media is an ACCA Official Publisher. Paper P5 Advanced Performance Management is an optional paper at Professional level. It builds on the performance management techniques introduced in Paper F5. There is also a significant element of strategic thinking and thus P5 has links with paper P3 Business Analysis. The syllabus looks at external factors that affect the organisation's performance such as stakeholders. Internal factors are also considered including the design features of effective performance management information and monitoring systems. Ethics is introduced as a key ACCA topic. Finally, the syllabus considers the impact of current developments in management accounting and performance management on organisational performance.This examiner-reviewed Study Text covers all that you need to know for P5. It features plenty of recent case studies illustrating key syllabus areas and questions to hone your understanding of what you have just read. This paper tests your application of knowledge so these studies and questions are key learning tools. You will also find up-to-date information on the latest management theories and techniques which feature highly in this paper. Then there are plenty of exam tips to guide your study and help you focus on what is essential to know. Now it's up to you.BPP Learning Media is the publisher of choice for many ACCA students and tuition providers worldwide. Join them and plug into a world of expertise in ACCA exams.

This book gathers the most recent developments in fuzzy & intelligence systems and real complex systems presented at INFUS 2020, held in Istanbul on July 21–23, 2020. The INFUS conferences are a well-established international research forum to advance the foundations and applications of intelligent and fuzzy systems, computational intelligence, and soft computing, highlighting studies on fuzzy & intelligence systems and real complex systems at universities and international research institutions. Covering a range of topics, including the theory and applications of fuzzy set extensions such as intuitionistic fuzzy sets, hesitant fuzzy sets, spherical fuzzy sets, and fuzzy decision-making; machine learning; risk assessment; heuristics; and clustering, the book is a valuable resource for academics, M.Sc. and Ph.D. students, as well as managers and engineers in industry and the service sectors.

12th IFIP WG 5.1 International Conference, PLM 2015, Doha, Qatar, October 19-21, 2015, Revised Selected Papers

Frontiers in Enterprise Integration
Product Lifecycle Management (Volume 4): The Case Studies
Research in Interactive Design (Vol. 4)
Encyclopedia of Corporate Social Responsibility
Product Lifecycle Management in the Era of Internet of Things

Sustainable industrial engineering addresses the sustainability issue from economic, environmental, and social points of view. Its application fields are the whole value chain and lifecycle of products/services, from the development to the end-of-life stages. This book aims to address many of the challenges faced by industrial organizations and supply chains to become more sustainable through reinventing their processes and practices, by continuously incorporating sustainability guidelines and practices in their decisions, such as circular economy, collaboration with suppliers and customers, using information technologies and systems, tracking their products' life-cycle, using optimization methods to reduce resource use, and to apply new management paradigms to help mitigate many of the wastes that exist across organizations and supply chains. This book will be of interest to the fast-growing body of academics studying and researching sustainability, as well as to industry managers involved in sustainability management.

This volume formulates and presents a general theory of innovative behaviour which is applicable to diverse market situations. Having provided some support for the theory, the author demonstrates how it can be usefully applied by indicating which management techniques are relevant to new product management and which are not. The author suggests certain systematic procedures by which an organisation can radically improve both its short and long run chances of launching successful new products.

There is no doubt that globalisation is a major external influence on small regions. These essays show how small regions need not be passive players, swept away on the current of change - that there are actions that can be taken to navigate a path and ride the currents to prosperity.

This book consists of chapters based on selected papers presented at the EcoDesign2015 symposium (9th International Symposium on Environmentally Conscious Design and Inverse Manufacturing). The symposium, taking place in Tokyo in December 2015, has been leading the research and practices of eco-design of products and product-related services since it was first held in 1999. The proceedings of EcoDesign2011 were also published by Springer. Eco-design of products and product-related services (or product life cycle design) are indispensable to realize the circular economy and to increase resource efficiencies of our society. This book covers the state of the art of the research and the practices in eco-design, which are necessary in both developed and developing countries. The chapters of the book, all of which were peer-reviewed, have been contributed by authors from around the world, especially from East Asia, Europe, and Southeast Asia. The features of the book include (1) coverage of the latest topics in the field, e.g., global eco-design management, data usage in eco-design, and social perspectives in eco-design; (2) an increased number of authors from Southeast Asian countries, with a greater emphasis on eco-design in emerging economies; (3) high-quality manuscripts, with the number of chapters less than half of that of the previous book.

Mechanics, Design Engineering and Advanced Manufacturing
Product Design and Life Cycle Assessment
Sustainability Through Innovation in Product Life Cycle Design
The Tourism Area Life Cycle: Conceptual and theoretical issues
Exploit the Product Life Cycle
Human Factors and Ergonomics in Consumer Product Design

This book work on the intimate connection between the industry life cycle and supply chain management, utilizes the case of the industrial life cycle of the VCR to provide insight into the supply chain as the basic business unit for competition, and the requisite alteration of the management of the supply chain at each stage of the life cycle.

This six-volume-set (CCIS 231, 232, 233, 234, 235, 236) constitutes the refereed proceedings of the International Conference on Computing, Information and Control, ICCIC 2011, held in Wuhan, China, in September 2011. The papers are organized in two volumes on Innovative Computing and Information (CCIS 231 and 232), two volumes on Computing and Intelligent Systems (CCIS 233 and 234), and in two volumes on Information and Management Engineering (CCIS 235 and 236).

This e-book is a compilation of papers presented at the 7th International Conference and Exhibition on Sustainable Energy and Advanced Materials (ICE-SEAM 2021) - Virtual Platform, Malaysia on 23 November 2021. This special edition of proceedings has 17 selected papers that focus on IR4.0, including 3D printing and advanced materials, and how it might impact energy systems in numerous ways for sustainable development, especially during the pandemic COVID19.

Enterprise Information Systems (EIS) integrate and support business processes across functional boundaries in a supply chain environment, and have become increasingly popular over the last 15 years. In recent years, more and more enterprises world-wide have adopted EIS such as Enterprise Resource Planning (ERP) for running their businesses. Previously, information systems such as CAD, CAM, MRPII and CRM were widely used for partial functional integration within a business organization. With global operation, global supply chain, and fierce competition in place, there is a need for suitable EIS such as ERP, E-Business or E-Commerce systems to integrate extended enterprises in a supply chain environment with the objective of achieving efficiency, competency, and competitiveness. As a result, there is a growing demand for researching EIS to provide insights into challenges, issues, and solutions related to the design, implementation and management of EIS. The papers in Advances in Enterprise Information Systems were selected from two premier international conferences: the International Forum of Information Systems Frontiers—Xian International Symposium (IFISF), June 29-30, 2006, Xian, China and the IFIP TC 8.9 International Conference on Research and Practical Issues of Enterprise Information Systems (Confenis 2007), October 14-16, Beijing, China. Both events provided an excellent opportunity for EIS academicians and practitioners in the world to gather and exchange ideas, and present original research in their fields. Advances in Enterprise Information Systems will be invaluable to scientists, researchers and professionals in EIS.

Innovative Computing and Information
Proceedings of the Swedish Production Symposium, October 7-8, 2020
ICoRD'15 – Research into Design Across Boundaries Volume 1
Essays on Regional Economic Development
The Management of Technological Innovation
14th IFIP WG 5.1 International Conference, PLM 2017, Seville, Spain, July 10-12, 2017, Revised Selected Papers

The aim of this book is to present the terminology, applications, trends, and developments in Product Lifecycle Management (PLM). This book has a total of seven chapters that treat the fundamental and future terminology used in PLM, aspects regarding the design, customization, and development of products, products testing, supply chain optimization, and recycling of the products made of special materials.

Terminology and Applications
Sustainable Industrial Engineering along Product-Service Life Cycle/Supply Chain
Product Life Cycle
Engineering a Better Society
Product Life Cycle Assessment to Reduce Health Risks and Environmental Impacts
Papers in ITJEMAST 11(15) 2020