Handbook Of Sustainable Apparel Production Ctz | 9483850afbd8e4edd5e37d9eef7f

Sustainability in Denim

Textile products are produced, distributed, sold and used worldwide. A quantitative assessment of sustainability in the textile manufacturing chain is therefore extremely important.

The Handbook of sustainable textile production is a compilation of technical, economical, and environmental data from the various processes in this chain. This authoritative reference work provides a detailed study of the sustainable development of textiles. The book opens with an introduction to the topic. Chapters define the principles of sustainability and its use in legislation and industry before going on to investigate the impact of textiles throughout the supply chain, starting with the raw fibre through to fabrication, production, consumption and disposal. Textile process technology and methods for specifying quality and functions in textile products in order to reduce textile waste and improve sustainability are also examined. A series of Life Cycle Assessments (LCAs) carried out in the European textile industry are investigated. These studies comprise a range of processes for both conventional and specific unconventional processes with the aim of improving efficiency and reducing environmental impact.

Handbook of Technical Textiles

The Handbook of technical textiles is an indispensable tool in understanding the diverse properties and applications of these important materials. Volume 2: Processing and applications focuses on key processing techniques for the creation of functional modification of textiles using state-of-the-art biotechnology and nanotechnology. Written by high profile contributors with many years of experience in textile technology, the book gives engineers and materials scientists in the textile industry the information they need to use these materials effectively and value-added textile materials. Therefore, vast and effective research investigations have been undertaken all over the world to minimize the negative environmental impact of synthetic chemical agents through the sustainable harvest of eco-friendly biobased raw materials. The book will discuss following research developments in academic and industry: improvement in dye extraction and its applications impact of textile dyeing on environment; Textile finishing by natural and eco-friendly means; Natural dyes as environmental-friendly biobased raw materials; Textile effluent remediation via physical, chemical and biological processes.

Optimizing Decision Making in the Apparel Supply Chain Using Artificial Intelligence (AI)

The impact and prospects of Green Chemistry for Textile Technology provides a review and summary of the role of green chemistry in textiles, including the use of green agents and sustainable technologies in different textile applications. The book systematically covers the history and chemistry of eco-friendly colorants, chitin, chitosan, cyclodextrin, biomass and microorganisms. It discusses the different applications of natural fibres. Part one reviews processing techniques for natural fibres. Silk production and the future of natural silk manufacture are discussed, as well as techniques to improve the flame retardancy of natural fibres and chemical treatments to improve natural fibre properties. Ultraviolet-blocking properties, enzymatic treatment, and electrokinetic properties are also discussed. Part two goes on to investigate applications of natural fibres, including automotive applications, post-waste technology, and natural fiber production and secondary processing techniques. The use of flax and hemp, textiles made from jute and coir, antimicrobial natural fibres, and biomimetic textile materials are also considered, before a final discussion of enhancing consumer demand for natural textile fibres.

Applications of Biotechnology for Sustainable Textile Production

Growing awareness of environmental issues has led to increasing demand for goods produced from natural products, including natural fibres. The two-volume Handbook of natural fibres is an indispensable tool in understanding the diverse properties and applications of these important materials. Volume 2: Processing and applications focuses on key processing techniques for creating functional and useful numbers for environmental sustainability. It provides an important overview of the fundamentals and applications of process control methods. This book introduces key issues associated with process control and principles of control systems in textile manufacturing. Texting and statistical quality control are also discussed before part two goes on to consider control in fibre production and yarn manufacture. Chapters review process and quality control in natural and synthetic textile fibre cultivation, blowroom, carding, drawing and combing. Process control in ring and rotor spinning and maintenance of yarn spinning machines are also discussed. Finally part three explores process control in the manufacture of knitted, woven, nonwoven textiles and colouration and finishing, with a final discussion of process control in apparel manufacturing. With its distinguished editors and international team of expert contributors, Process control in textile manufacturing is an essential guide for textile engineers and manufacturers involved in the processing of textiles, as well as academic researchers in this field.

Fundamentals of Natural Fibres and Textiles

Complex raw materials and manufacturing processes mean the textile industry is particularly dependent on good process control to produce high and consistent product quality. Monitoring and controlling process variables during the textile manufacturing process also minimizes waste, costs and environmental impact. Process control in textile manufacturing provides an important overview of the fundamentals and applications of process control methods. This book introduces key issues associated with process control and principles of control systems in textile manufacturing. Testing and statistical quality control are also discussed before part two goes on to consider control in fibre production and yarn manufacture. Chapters review process and quality control in natural and synthetic textile fibre cultivation, blowroom, carding, drawing and combing. Process control in ring and rotor spinning and maintenance of yarn spinning machines are also discussed. Finally part three explores process control in the manufacture of knitted, woven, nonwoven textiles and colouration and finishing, with a final discussion of process control in apparel manufacturing. With its distinguished editors and international team of expert contributors, Process control in textile manufacturing is an essential guide for textile engineers and manufacturers involved in the processing of textiles, as well as academic researchers in this field. Provides an important overview of the fundamentals and applications of process control methods Discusses key issues associated with process control and principles of control.
systems in textile manufacturing, before addressing testing and statistical quality control. The book also covers and discusses various environmental aspects and sustainability challenges throughout the denim lifecycle, and to evaluate new green initiatives and recycling processes.

The book covers the latest information on sustainable fabrics and practices. From cotton farming, to manufacturing and end of life disposal, denim has extensive effects on the environment, including water consumption and contamination, destruction of large-scale ecosystems and transportation pollution. Additionally, recent developments in the book include the use of textiles, including elastane and polyester, have led to limitations in the high end recycling of denim. The book includes an introduction covering the history, manufacture and lifecycle of denim. It deals with the sustainability aspects of denim by addressing three important pillars of sustainability, the environmental, social and economic aspects, and the mobility and lifecycle of denim, thus enabling a holistic view of denim sustainability.

Sustainable Textiles for Fashion and Technology examines the latest research and developments in green chemistry for textiles, materials and processes, and their implications for the textile industry. It covers the environmental impacts of textile manufacturing, waste management and textile economics. The book also provides introductions to the latest developments in the textile industry, including the use of textiles in sustainable fashion, and discusses the latest research and developments in green chemistry for textiles, materials and processes, and their implications for the textile industry.

Data, Statistics, and Useful Numbers for Environmental Sustainability

"Textile products are produced, distributed, sold and used worldwide. A quantitative assessment of sustainability in the textile manufacturing chain is therefore extremely important. Sustainable impacts research shows that the use of raw materials and the production processes have a significant effect on the environmental, social and economic sustainability of products. The book provides a comprehensive overview of the latest research and developments in the textile industry, including the use of textiles in sustainable fashion, and discusses the latest research and developments in green chemistry for textiles, materials and processes, and their implications for the textile industry.

Sustainable Textiles for Fashion and Technology examines the latest research and developments in green chemistry for textiles, materials and processes, and their implications for the textile industry. It covers the environmental impacts of textile manufacturing, waste management and textile economics. The book also provides introductions to the latest developments in the textile industry, including the use of textiles in sustainable fashion, and discusses the latest research and developments in green chemistry for textiles, materials and processes, and their implications for the textile industry.

Garment Manufacturing Technology

Sustainability in Denim provides the latest information on sustainable fabrics and practices. From cotton farming, to manufacturing and end of life disposal, denim has extensive effects on the environment, including water consumption and contamination, destruction of large-scale ecosystems and transportation pollution. Additionally, recent developments in the book include the use of textiles, including elastane and polyester, have led to limitations in the high end recycling of denim. The book includes an introduction covering the history, manufacture and lifecycle of denim. It deals with the sustainability aspects of denim by addressing three important pillars of sustainability, the environmental, social and economic aspects, and the mobility and lifecycle of denim, thus enabling a holistic view of denim sustainability.

Innovative and Emerging Technologies for Textile Dyeing and Finishing

Sustainable Textiles for Fashion and Technology examines the latest research and developments in green chemistry for textiles, materials and processes, and their implications for the textile industry. It covers the environmental impacts of textile manufacturing, waste management and textile economics. The book also provides introductions to the latest developments in the textile industry, including the use of textiles in sustainable fashion, and discusses the latest research and developments in green chemistry for textiles, materials and processes, and their implications for the textile industry.

Sustainability in Fashion and Textiles

Urbanization, industrialization, and unethic agricultural practices have considerably negative effects on the environment, flora, fauna, and the health and safety of humans. Over the last decade, green chemistry research has focused on discovering and utilizing safer, more environmentally friendly processes to synthesize products like organic compounds, inorganic compounds, medicines, proteins, enzymes, and food supplements. These green processes exist in other interdiscipliary fields of science and technology, like chemistry, physics, biology, and biotechnology. Still the majority of processes in these fields use and generate toxic raw materials, resulting in techniques and byproducts which damage the environment. Green chemistry principles, alternatively, consider preventing waste generation altogether, the atom economy, using less toxic raw materials and solvents, and opting for reducing environmentally damaging byproducts through energy efficiency. Green chemistry is, therefore, the most important field relating to the sustainable development of resources without harmfully impacting the environment. This book provides in-depth research on the use of green chemistry principles for a number of applications.

Sustainable Green Chemical Processes and their Allied Applications

Essays on environmental issues raised by fashion, discussing patterns of consumption, design and innovation, working conditions, the industry's environmental impact, and the future of sustainable fashion.

Design of Clothing Manufacturing Processes

The textile industry is faced with the challenge of designing and manufacturing clothing products that are both functional and sustainable. This book presents the latest developments and research in the field of clothing design and manufacturing, including the latest methods and technologies for designing and manufacturing sustainable clothing products.

The Impact and Prospects of Green Chemistry for Textile Technology

This book details the crux of green fashion, addressing various environmental aspects and discussing the importance of sustainable fashion in the apparel industry. It addresses
various important topics such as Relationship marketing in green fashion, Animal Ethics and Welfare in the Fashion and Lifestyle Industries, Green Flame retardants, etc.

### Handbook of Sustainable Apparel Production

This book highlights the impact of COVID-19 on environmental sustainability and SDGs, using various case studies. The year 2020 was a historical year mainly due to the pandemic caused by COVID-19 and it influenced or affected the global economy, business models and the industrial sectors, thus influencing sustainability in various ways. Given that sustainability has many faces and facets, it is worthwhile to deal with the relation (or impact) of COVID-19 on various elements of sustainability. This book presents how COVID-19 has influenced Environmental Sustainability along with the SDGs.

### Sustainable Technologies for Fashion and Textiles

Sustainability is an issue that increasingly concerns all those involved in the apparel industry, including textile manufacturers, apparel designers, retailers and consumers. This book covers recent advances and novel technologies in the key areas of production, processing and recycling of apparel. Part One addresses sustainable and dyeing processes for textiles. The first two chapters concentrate on the environmental impact of fabric finishing, including water consumption, emissions and waste management. Further chapters focus on plasma and enzymatic treatments for sustainable textile processing, and the potential for improving the sustainability of dyeing technologies. Part Two covers issues of design, retail and recycling, and includes discussions of public attitudes towards sustainability in fashion, methods of measuring apparel sustainability and social trends in the re-use of apparel. Reviews sustainable finishing and dyeing processes for textiles Addresses social attitudes towards and methods for measuring sustainability in the apparel industry and retail sectors Covers recycling of apparel

### Green Chemistry for Sustainable Textiles

This book covers all sustainable fibres applicable in the fashion sector. It addresses the importance of these fibres in the fashion sector with the context of sustainability. This book, the first of its kind, addresses all the minute details pertaining to these fibres and connects these fibres with the world of sustainable fashion. It stresses the importance of having these fibres on board in developing sustainable apparel, as fibres play a major role as the starting point in the life cycle of apparel.

### Designing Apparel for Consumers

Frontiers of Textile Materials

A hot-button societal issue, sustainability has become a frequently heard term in every industrial segment. Sustainability in apparel production is a vast topic and it has many facets. "Handbook of Sustainable Apparel Production" covers all aspects of sustainable apparel production including all the raw materials, environmentally friendly processes, and environmental as well as social assessments of apparel production. The book highlights the environmental and social impacts of apparel and its assessment. It explores the complexities involved in implementing sustainable measures in the massive supply chain of apparel production. The discussion then turns to sustainability and consumption behavior of the apparel industry and the assessment of sustainability aspects and parameters. The text details technologies that can pave the way toward sustainability in production and closes with coverage of design aspects, particularly sustainable design/eco design and new approaches to fashion sustainability. A vast and complex topic, sustainability in apparel production has many faces and facets. With contributions from an international panel of experts, this book unites all the elements, including very minute details, and supports them throughout for ease of access.

### Sustainable Fibres and Textiles

Garment Manufacturing Technology provides an insider's look at this multifaceted process, systematically going from design and production to finishing and quality control. As technological improvements are transforming all aspects of garment manufacturing allowing manufacturers to meet the growing demand for greater productivity and flexibility, the text introduces new information on product development, production planning, and material selection. Subsequent chapters cover garment design, including computer-aided design (CAD), advances in spreading, cutting and sewing, and new technologies, including alternative joining techniques and seamless garment construction. Garment finishing, quality control, and care-labelling are also presented and explored. Provides an insiders look at garment manufacturing from design and production to finishing and quality control. Discusses necessary information on product development, production planning, and material selection from design to manufacturing and the full production cycle. Describes advances in garment design, including computer-aided design (CAD), advances in spreading, cutting and sewing, and new technologies, including alternative joining techniques and seamless garment construction. Explores garment finishing, quality control, and care-labelling.

### Information Systems for the Fashion and Apparel Industry

Sustainable and Nonconventional Construction Materials Using Inorganic Bonded Fiber Composites presents a concise overview of non-conventional construction materials with a strong focus on alternative inorganic bonded fiber composites and their applications as construction components. It outlines the processing and characterization of non-conventional cementitious composites, which will be of great benefit to both academic and industrial professionals interested in research, development, and innovation in inorganic bonded fiber composites. The book gives a comprehensive review of the innovative research associated with building components based on inorganic bonded composites. Exploring both natural fibers as reinforcing elements and alternative inorganic binders based on agricultural and industrial wastes, this book also considers the performance and applications of fibrous composites as construction materials and components. Dedicated to analyzing recent developments in inorganic fiber composites research Discusses the broader subjects of processing, characterization, performance, and applications of non-conventional construction materials.

### Circular Economy in Textiles and Apparel

Data, Statistics, and Useful Numbers for Environmental Sustainability: Bringing the Numbers to Life is an accessible reference for researchers working in environmental and sustainability who need to communicate the latest data and statistics to reinforce their own research or message. The book compiles the most-needed numbers into one resource and covers a variety of relevant topics, including materials, energy, environment, city planning, electronics, and waste. This handbook is clearly indexed and full of comprehensive tables, making it easy to find answers. Researchers in environmental and sustainability-related fields will find it an invaluable resource. Collects and presents important environmental data in one accessible resource Provides key information needed for effectively communicating environmental and sustainability issues Offers a clear index Includes detailed tables throughout for ease of access.

### Handbook of Sustainable Textile Production

Circular Economy in Textiles and Apparel: Processing, Manufacturing, and Design is the first book to provide guidance on this subject, presenting the tools for implementing this paradigm and their impact on textile production methods. Sustainable business strategies are also covered, as are new design methods that can help in the reduction of waste. Brings together leading experts in industry and academia, this book covers every aspect of this increasingly important subject and speculative on future technologies. Provides case studies on the circular economy in operation in the textiles industry Identifies challenges to implementation and areas where more research is needed Draws on both industrial innovation and academic research to explain an emerging topic with the potential to entirely change the way we make and use clothing

### Handbook of Sustainable Luxury Textiles and Fashion

The first edition of Handbook of Technical Textiles has been an essential purchase for professionals and researchers in this area since its publication in 2000. With revised and updated coverage, including several new chapters, this revised two volume second edition reviews recent developments and new technologies across the field of technical textiles. Volume 2 - Technical Textile Applications offers an indispensable guide to established and developing areas in the use of technical textiles. The areas covered include textiles for personal protective and occasionally environmental, comfort, and occupational protection, personal thermal and fire protection, and medical applications; textiles for industrial, transport and engineering applications, including composite reinforcement and filtration; and the growing area of smart textiles. Comprehensive handbook for all aspects of technical textiles Provides updated, detailed coverage of processes, fabric structure, and applications Ideal resource for those interested in high-performance textiles, textile processes, textile processing, and textile applications Many of the original, recognized experts from the first edition update their respective chapters

### The Sustainable Fashion Handbook

This book highlights the challenges in sustainable wet processing of textiles, natural dyes, enzymatic textiles and sustainable textile finishes. Textile industry is known for its chemical processing issues and many NGO's are behind the textile sector to streamline its chemical processing, which is the black face of clothing and fashion sector. Sustainable textile chemical processes are crucial for attaining sustainability in the clothing sector. Seven comprehensive chapters are aimed to highlight these issues in the book.

### Sustainability in the Textile and Apparel Industries

As the planet’s natural resources continue to be depleted, society’s environmental awareness has grown. Businesses especially are being coerced into incorporating more sustainable approaches to carrying out their activities. Organizations that develop sustainable business strategies that deliver enhanced value by radically reducing material inputs and engaging
consumers on circular economy will be well-positioned for success. Mapping, Managing, and Crafting Sustainable Business Strategies for the Circular Economy is an essential reference for implementing sustainable business strategies as well as economic policies for the modern business era. Featuring research on topics such as global business, urban innovation, and cost management, this book is ideally designed for managers, operators, manufacturers, academics, practitioners, policymakers, researchers, business professionals, and students seeking coverage on utilizing natural resources in the most sustainable way.

**Handbook of Sustainable Textile Production**

The era of mass manufacturing of clothing and other textile products is coming to an end; what is emerging is a post-industrial production system that is able to achieve the goal of masscustomization, where design, production, and user needs converge. To continue developing knowledge on how to design better products and services, we need to design better clothing manufacturing processes grounded in science, technology, and management to help the clothing industry to compete more effectively. Design of clothing manufacturing processes reviews key issues in the design of more rapid, integrated and flexible clothing manufacturing processes. The first part of the book provides a detailed overview of the design of clothing manufacturing processes using a systematic approach to planning, scheduling and control. The book starts with an overview of standardised clothing classification systems and terminologies for individual clothing types. Chapter 2 explores the development of standardised sizing systems. Chapter 3 reviews the key issues in the development of a garment collection. Chapters 4 to 7 discuss particular aspects of clothing production, ranging from planning and organization to monitoring and control. Finally, chapter 8 provides an overview of common quality requirements for clothing textile materials. Design of clothing manufacturing processes is intended for R&D managers, researchers, technologists and designers throughout the clothing industry, as well as academic researchers in the field of clothing design, engineering and other aspects of clothing production. Consider in detail the design of sizing and classification systems Discusses the planning required in all aspects of clothing production from design and pattern making to manufacturing Provides an overview of the management of clothing production and material quality requirements.

**Green Fashion**

Applications of Biotechnology for Sustainable Textile Production is a practical guide to the fundamentals, methods, and future prospects for sustainable biotechnological and nanobiotechnological approaches to textile production. The textile industry is highly motivated to reduce its use of natural resources, reduce waste, and cost. Processes such as dying, finishing and cleaning are very traditional, using a lot of water and chemicals. Enzymes can be used as a by product. In order to balance these processes, this book evaluates different technologies, comparing them as ways of saving water, energy, material waste, and time, in addition to the reduction of wastewater and sludge. Technologies investigated include enzymatic treatments, ultrasonic treatments, advanced cotton fiber pretreatment to increase dye receptivity, nano-biotechnology, plasma technology, and foam technology in the finishing process. Health risk assessments and complications resulting from usage of chemicals and other traditional processing technologies are also examined. Addresses all five main stages of textile processing, including pre-treatment, dyeing, finishing, drying, and quality control Provides an overview of the techno-economic context of the modern textile industry, explaining where sustainability fits with other priorities Includes case studies throughout showing how these methods can be used for sustainable textile production.

**Handloom Sustainability and Culture**

The clothing industry employs 25 million people globally, contributing to many livelihoods and the prosperity of communities, to women’s independence, and the establishment of significant infrastructures in poorer countries. Yet the fashion industry is also a significant contributor to the degradation of natural systems, with the associated environmental footprint of clothing high in comparison to other products. Routledge Handbook of Sustainable Fashion and Handloom recognizes the complexity of aligning fashion with sustainability. It explores the potential for change at the level of the industry and at the level of the consumer. This book takes a truly multi-disciplinary and multi-dimensional approach to critically question and suggest creative responses to issues of: • Fashion in a post-growth society • Fashion, diversity and equity • Fashion, fluidity and balance across natural, social and economic systems This handbook is a unique resource for a wide range of scholars and students in the social sciences, arts and humanities interested in sustainability and fashion.

**Process Control in Textile Manufacturing**

The book “Frontiers and Textile Materials will deal with the important materials that can be utilized for value-addition and functionalization of textile materials. The topics covered in this book includes the materials like enzymes, polymers, etc. that are utilized for conventional textile processing and the advanced materials like nanoparticles which are expected to change the horizons of textiles. The futuristic techniques for textile processing like plasma are also discussed.

**The Oxford Handbook of Political Consumerism**

Information Systems for the Fashion and Apparel Industry brings together trends and developments in fashion information systems, industrial case-studies, and insights from an international team of authors. The fashion and apparel industry is fast-growing and highly influential. Computerized information systems are essential to support fashion business operations and recent developments in social media, mobile commerce models, radio frequency identification (RFID) technologies, and ERP systems are all driving innovative business measures in the industry. After an introductory chapter outlining key decision points and information requirements in fast fashion supply chains, Part One focuses on the principles of fashion information systems, with chapters covering how decision making in the apparel supply chains can be improved through the use of fuzzy logic, RFID technologies, evolutionary optimization techniques, and artificial neural networks. Part Two then reviews the frequency range for information systems in the fashion and apparel industry to improve customer choice, aid design, implement intelligent forecasting and procurement systems, and manage inventory and returns. Provides systematic and comprehensive coverage of information systems for the fashion and apparel industry Combines recent developments and industrial best-practices in apparel supply chain management in order to meet the needs of the fashion and apparel professionals and academics Features input from a team of highly knowledgeable authors with a professional and academic experience, over seen by an editor who is a leading expert in the field Reviews the range of applications for information systems in the fashion and apparel industry to improve customer choice, aid design, implement intelligent forecasting and procurement systems, and manage inventory and returns.

**Sustainable Apparel**

This volume offers a thorough exploration of the phenomenon and its myriad dilemmas, involving religion, race, nationalism, gender relations, animals, and our common future. This handbook explores fashion and sustainability at the levels of products, processes, and paradigms and takes a truly multi-disciplinary approach to critically question and suggest creative responses to issues of: • Fashion in a post-growth society • Fashion, diversity and equity • Fashion, fluidity and balance across natural, social and economic systems This handbook is a unique resource for a wide range of scholars and students in the social sciences, arts and humanities interested in sustainability and fashion.

**Mapping, Managing, and Crafting Sustainable Business Strategies for the Circular Economy**

The global phenomenon of political consumerism is known through such diverse manifestations as corporate boycotts, increased preferences for organic and fairtrade products, and lifestyle choices such as veganism. It has also become an area of increasing research across a variety of disciplines. Political consumerism uses consumer power to change institutional or market practices that are found ethically, environmentally, or politically objectionable. Through such actions, the goods offered on the consumer market are politicized and personalized. Distinctions between consumers and citizens and between the economy and politics collapse. The Oxford Handbook of Political Consumerism offers the first comprehensive theoretical and comparative overview of the ways in which the market becomes a political arena. It maps the four major forms of political consumerism: boycotting, buying (speaking: goods, lifestyle, politics, and discernive actions, such as culture jamming. Chapters by leading scholars examine political consumerism in different industry sectors, and in different social contexts, exploring the environmental and human rights problems, political events, and the ethics of production and manufacturing practices. This volume offers a thorough exploration of the phenomenon and its myriad dilemmas, involving religion, race, nationalism, gender relations, animals, and our common future. Moreover, the Handbook takes stock of political consumerism’s effectiveness in solving complex global problems and its use to both promote and impede democracy.

**Textiles and Clothing Sustainability**

Textiles and Clothing Sustainability examines the design, engineering and other aspects of clothing production. Considers in detail the design of sizing and classification systems Discusses the planning required in all aspects of clothing production from design and pattern making to manufacturing Provides an overview of the management of clothing production and material quality requirements.

**Nonconventional Construction Materials using Inorganic Bonded Fiber Composites**

Practitioners in apparel manufacturing and retailing enterprises in the fashion industry, ranging from senior to front line management, constantly face complex and critical decisions. These have been growing interest in the use of artificial intelligence (AI) techniques to enhance this process, and a number of AI techniques have already been successfully applied to apparel production and retailing. Optimizing decision making in the apparel supply chain using artificial intelligence (AI). From production to retail provides detailed coverage of these techniques, outlining how they are used to assist decision makers in tackling key supply chain problems. Key decision points in the apparel supply chain and the fundamentals of artificial intelligence techniques are the focus of the opening chapters, before the book proceeds to discuss the use of neural networks, genetic algorithms, fuzzy set theory and extreme learning machines for intelligent sales forecasting and intelligent product cross-selling systems. Helps the reader gain an understanding of the key decision points in the
Handbook of Natural Fibres

There is no doubt that the textile industry - the production of clothing, fabrics, thread, fibre and related products - plays a significant part in the global economy. It also frequently operates with disregard to its environmental and social impacts. The textile industry uses large quantities of water and outputs large quantities of waste. As for social aspects, many unskilled jobs have disappeared in regions that rely heavily on these industries. Another serious and still unresolved problem is the flexibility textile industry companies claim to need. Faced with fierce international competition, they are increasingly unable to offer job security. This is without even considering the informal-sector work proliferating both in developing and developed countries. Child labour persists within this sector despite growing pressure to halt it. Fashion demands continuous consumption. In seeking to own the latest trends consumers quickly come to regard their existing garments as inferior, if not useless. “Old” items become unwanted as quickly as new ones come into demand. This tendency towards disposability results in the increased use of resources and thus the accelerated accumulation of waste. It is obvious to many that current fashion industry practices are in direct competition with sustainability objectives; yet this is frequently overlooked as a pressing concern. It is, however, becoming apparent that there are social and ecological consequences to the current operation of the fashion industry: sustainability in the sector has been gaining attention in recent years from those who believe that it should be held accountable for the pressure it places on the individual, as well as its contribution to increases in consumption and waste disposal. This book takes a wide-screen approach to the topic, covering, among other issues: sustainability and business management in textile and fashion companies; value chain management; use of materials; sustainable production processes; fashion, needs and consumption; disposal; and innovation and design. The book will be essential reading for researchers and practitioners in the global fashion business.

Anthropometry, Apparel Sizing and Design

Given its importance for consumer satisfaction and thus brand success, apparel fit is a major challenge for retailers and brands across the industry. Consequently there have been major developments in sizing research and how it can be used in apparel design. This book reviews how these developments are affecting clothing design for different groups of consumers. Part one identifies various aspects of body shape, size, volume and the psychological aspects of designing apparel. This section covers topics such as body shape and its influence on apparel size and consumer choices, sizing systems, body shape and weight distribution (with a discussion of the Body Volume Index (BVI) versus the Body Mass Index (BMI)), and the psychological and sociological factors influencing consumers’ choice of apparel. Part two outlines the challenges in understanding the sizing and shape requirements and choices of particular customer groups. This section discusses apparel designed for infants and children, older consumers, overweight and obese consumers, plus size Black and Latino women, apparel design for Asian and Caucasian ethnic groups, sizing requirements for male apparel, maternity apparel, intimate apparel for varying body shapes, and the challenges of designing headwear to fit the size and shape of Western and Asian populations. Designing apparel for consumers provides an invaluable reference for apparel designers, manufacturers, and R&D managers in the textile industry, as well as postgraduate students and academic researchers in textiles. Reviews developments affecting clothing design for different groups of consumers identifies various aspects of body shape, size, volume and the psychological aspects of designing apparel. Outlines the challenges in understanding sizing and shape requirements and choices of particular customer groups.