Fostering Sustainable Development in the Age of Technologies

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Fostering Sustainable Development in the Age of Technologies

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INVESTOR IN PEOPLE

Table of Contents

List of Contributors *ix*

Foreword *xi*

Preface *xiii*

Acknowledgements *xvii*

Chapter 1 The Role of Digital Technology in Achieving Sustainable Development Goals (SDGs): A Systematic Literature Review, Bibliometric Analysis and Content Analysis *1*
Arushi Bathla, Priyanka Aggarwal and Kumar Manaswi

Chapter 2 Digital Technologies, Sustainable Development Goals and the Grand Societal Challenges in the Context of Slum Dwellers of Kolkata, India *23*
Atiba Batul, Keya Das Ghosh and Swapnamoyee Priyabhasini Palit

Chapter 3 Blockchain and Artificial Intelligence Technology in Professional Services *43*
Chandan Kumar Jha and Amit Sachan

Chapter 4 Confrontation Strategy for Evolution of Future Employment *51*
Donghun Yoon

Chapter 5 Framing the Digital Transformation Journey for Sustainability Based on the Lenses of Integrated Skills and Competencies for Future Work *63*
Joseph Odhiambo Onyango

Chapter 6 Role of Social Networking Technologies in Developing Public Services Supply Chain During COVID-19 *79*
Kali Charan Sabat and Som Sekhar Bhattacharyya

Chapter 7 Adopting Technology for Sustainable Development: Reflections on Innovative Ecosystem *93*
Jasmandeep Kaur, Kirandeep Kaur and Ramanjeet Singh

Chapter 8 Exploring the Relationship Between Digital Initiatives, Dynamic Capabilities and Market Performance: A Conceptual Framework *113*
Lan Phuong Ho Dang

Chapter 9 Reverse Logistics: Rebuilding Smart and Sustainable Transformation Based on Industry 4.0 *129*
Leena Wanganoo and Rajesh Tripathi

Chapter 10 Reflections on Sustainable Development, Sustainability and Business Practice: Lessons From Measurement, Scalability and Bias in Artificial Intelligence (AI) *145*
Luisa F. Melo

Chapter 11 Digital Healthcare and Patient Transformation: Review Research and Future Agenda *163*
Nimesh P. Bhojak, Suresh N. Patel and Mohammadali K. Momin

Chapter 12 A Comparative Framework Analysis of the Strategies, Challenges and Opportunities for Sustainable Smart Cities *187*
Oluwagbemiga Paul Agboola and Meryem Muzeyyen Findikgil

Chapter 13 Leveraging Blockchain Technology in Adopting Digital Tokenization of Green Bonds *213*
Pulak Chugh

Chapter 14 Digital Technologies and Education for Sustainable Development *225*
Renji George Amballoor and Shankar B. Naik

Chapter 15 Safety Management in the Era of Emerging Industrial Revolution: The Conceptualisation of Safety 4.0 *239*
Shatrudhan Pandey, Kirtika Kiran, Shreyanshu Parhi, Abhishek Kumar Singh and Sanjay Kumar Jha

Chapter 16 Spiritual Approach Among Techies: An Approach for Achieving Sustainable Development *257*
Snehal G. Mhatre and Nikhil K. Mehta

Chapter 17 The Evolution of Manufacturing: A Comprehensive Analysis of Industry 4.0 and Its Frameworks *269*
Somayya Madakam, Rajeev Kumar Revulagadda, Vinaytosh Mishra and Kaustav Kundu

Chapter 18 Application of Industry 4.0 Technologies in Climate-Smart Agricultural Practices *289*
Soumya Sucharita Panda, Sudatta Banerjee and Swati Alok

Chapter 19 The Digital Revolution – Implications of Digital Technologies on Women's Workforce Participation *303*
Tanaji Pavani Prabha, Swati Alok, Rishi Kumar and Swati Singh

Chapter 20 Building Resilience Against Ongoing and Future Pandemics: Blockchain Technology to the Rescue *319*
Taab Ahmad Samad and Yusra Qamar

Chapter 21 Impact of Awareness on the Adoption of Electric Vehicles: A Systematic Literature Review *331*
Divya Singh and Ujjwal Kanti Paul

Index *359*

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Foreword

In the wake of the COVID-19 pandemic, many supply chain professionals have faced unprecedented challenges in dealing with endless supply chain disruptions and geopolitical tensions. One of the best ways to handle such challenges is by adapting various digital technologies designed to harmonise supply chain ecosystems. Drs Rohit Sharma, Anjali Shishodia and Ashish Gupta collected beautiful pieces of research articles that can be trendsetters for enriching the body of literature in the fast-emerging fields of supply chain technologies in the digital era. I have no doubt that their edited book will be an invaluable source of building knowledge bases and inspiring future research efforts for those who pursue academic careers in sustainability and technology areas.

Warmest regards
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Preface

This book is a collection of pioneering research and insights from experts across various fields, all focused on exploring the intricate relationship between digital technologies and holistic, sustainable development. In an era defined by rapid technological advancements, it is paramount to understand how these innovations can be harnessed to address pressing global challenges and shape a more sustainable future for all. Chapter 1, 'The Role of Digital Technology in Achieving Sustainable Development Goals (SDGs): A Systematic Literature Review, Bibliometric Analysis and Content Analysis' by Arushi Bathla, Priyanka Aggarwal and Kumar Manaswi, sets the foundation for our exploration. Through meticulous analysis, the authors comprehensively understand the role digital technology plays in achieving the United Nations' SDGs. Moving forward, Chapter 2, 'Digital Technologies, Sustainable Development Goals and The Grand Societal Challenges in the Context of Slum Dwellers of Kolkata, India' by Atiba Batul, Keya Das Ghosh and Swapnamoyee Priyabhasini Palit, delves into the context of slum dwellers in Kolkata, India. The authors examine how digital technologies can be harnessed to address the grand societal challenges faced by these communities and achieve sustainable development goals. Chapter 3, 'Applications of Disruptive Technologies in Professional Services' by Chandan Kumar Jha and Amit Sachan, explores the transformative potential of disruptive technologies in various professional service industries.

The authors shed light on how artificial intelligence (AI), blockchain and automation can enhance sustainability and drive innovation. In Chapter 4, 'Confrontation Strategy for Evolution of Future Employment' by Donghun Yoon, the impact of technological advancements on the future of employment is examined. Yoon offers a confrontational strategy to navigate the evolving employment landscape and ensure sustainable employment practices. Chapter 5, 'Framing the Digital Transformation Journey for Sustainability Based on the Lenses of Integrated Skills and Competencies for Future Work' by Joseph Odhiambo Onyango, focuses on the skills and competencies needed to leverage digital technologies for sustainable development effectively. This chapter provides valuable insights into integrating skills and competencies into the digital transformation journey. Chapter 6, 'Role of Social Networking Technologies in Developing Public Services Supply Chain During COVID-19' by Kali Charan Sabat and Som Sekhar Bhattacharyya, highlights the role of social networking technologies in developing resilient public service supply chains during the COVID-19 pandemic. The authors explore the transformative potential of

technology in crisis response and service delivery. Jasmandeep Kaur, Kirandeep Kaur and Ramanjeet Singh, in Chapter 7, 'Adopting Technology for Sustainable Development: Reflections on Innovative Ecosystem', reflect on adopting technology for sustainable development. This chapter offers insights into the innovation ecosystem that drives transformative change in various sectors. Chapter 8, 'Exploring the Relationship Between Digital Initiatives, Dynamic Capabilities and Market Performance: A Conceptual Framework' by Lan Phuong Ho Dang, presents a conceptual framework for understanding the relationship between digital initiatives, dynamic capabilities and market performance. This chapter guides organisations in leveraging digital technologies to enhance market performance and sustainability. In Chapter 9, 'Reverse Logistics: Rebuilding Smart and Sustainable Transformation Based on Industry 4.0', by Leena Wanganoo and Rajesh Tripathi, the authors delve into reverse logistics. They discuss how Industry 4.0 technologies can rebuild intelligent and sustainable transformation, optimising resource utilization and reducing environmental impact. Chapter 10, 'Reflections on Sustainable Development, Sustainability and Business Practice: Lessons From Measurement, Scalability and Bias in Artificial Intelligence (AI)' by Luisa F. Melo, offers critical reflections on sustainable development, sustainability and business practices. This chapter examines the challenges and opportunities of applying AI in sustainable development, focusing on measurement, scalability and bias.

Chapter 11, 'Digital Healthcare and Patient Transformation: Review Research and Future Agenda' by Nimesh P. Bhojak, Suresh N. Patel and Mohammadali K. Momin, provides a comprehensive review of research on digital healthcare and its impact on patient transformation. This chapter explores the current state of digital healthcare, identifies future research directions and envisions the potential for improved patient outcomes through technology-enabled solutions. In Chapter 12, 'A Comparative Framework Analysis of the Strategies, Challenges and Opportunities for Sustainable Smart Cities' by Oluwagbemiga Paul Agboola and Meryem Muzeyyen Findikgil, the authors present a comparative framework analysis of strategies, challenges and opportunities for sustainable smart cities. This chapter offers a holistic perspective on integrating technology into urban environments to create more sustainable and livable cities. Chapter 13, 'Leveraging Blockchain Technology in Adopting Digital Tokenisation of Green Bonds' by Pulak Chugh, explores the potential of blockchain technology in adopting the digital tokenisation of green bonds. This chapter highlights how blockchain can enhance transparency, efficiency and accountability in sustainable finance, facilitating the transition towards a greener economy. 'Digital Technologies and Education for Sustainable Development' by Renji George Amballoor and Shankar B. Naik, in Chapter 14, sheds light on the transformative power of digital technologies in education for sustainable development. This chapter examines innovative educational approaches and technologies that can empower learners and foster sustainability-conscious mindsets and behaviours. Chapter 15, 'Safety Management in the Era of Emerging Industrial Revolution: The Conceptualisation of Safety 4.0' by Shatrudhan Pandey, Kirtika Kiran, Shreyanshu Parhi, Abhishek Kumar Singh and Sanjay Kumar Jha, focuses on safety

management in the context of the emerging industrial revolution. The authors conceptualise Safety 4.0, emphasising integrating digital technologies and advanced safety practices to ensure a safe and resilient working environment. 'Spiritual Approach Among Techies: An Approach for Achieving Sustainable Development' by Snehal G. Mhatre and Nikhil K. Mehta, in Chapter 16, offers a unique perspective on sustainable development by exploring the role of spirituality among technologists. This chapter emphasises the importance of ethical values, mindfulness and compassion in harnessing technology for sustainable outcomes. Chapter 17, 'The Evolution of Manufacturing: A Comprehensive Analysis of Industry 4.0 and Its Frameworks', by Somayya Madakam, Rajeev Kumar Revulagadda, Vinaytosh Mishra and Kaustav Kundu, delves into the realm of Industry 4.0. The authors present frameworks that guide organisations to adopt and implement Industry 4.0 technologies to enhance productivity, sustainability and competitiveness. In Chapter 18, 'Application of Industry 4.0 Technologies in Climate-Smart Agricultural Practices' by Soumya Sucharita Panda, Sudatta Banerjee and Swati Alok, the focus shifts to the agricultural sector. This chapter explores how Industry 4.0 technologies can be applied in climate-smart agricultural practices, enabling sustainable food production, resource optimization and environmental conservation. Chapter 19, 'The Digital Revolution – Implications of Digital Technologies on Women's Workforce Participation' by Tanaji Pavani Prabha, Swati Alok, Rishi Kumar and Swati Singh, examines the implications of the digital revolution on women's workforce participation. The authors explore the opportunities and challenges that arise as digital technologies shape the future of work and gender equality. 'Building Resilience Against Ongoing and Future Pandemics: Blockchain Technology to the Rescue' by Taab Ahmad Samad and Yusra Qamar, in Chapter 20, explores the potential of blockchain technology in building resilience against ongoing and future pandemics. This chapter highlights the role of blockchain in enhancing healthcare systems, ensuring supply chain resilience and facilitating effective crisis response. Finally, Chapter 21, 'Impact of Awareness on the Adoption of Electric Vehicles: A Systematic Literature Review' by Divya Singh and Ujjwal Kanti Paul, delves into the impact of awareness on adopting electric vehicles. The authors conduct a systematic literature review to understand the factors influencing consumer awareness and adoption of electric vehicles, offering valuable insights for sustainable transportation strategies.

Each chapter presents unique perspectives and insights into how digital technologies can drive sustainable development across various sectors.

We extend our gratitude to the authors for their invaluable contributions, and we hope that this compilation inspires readers to engage with the possibilities offered by digital technologies, fostering a more sustainable, equitable and prosperous future.

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Dr Rohit Sharma: I dedicate this book to my mother, (Late) Mrs Neelam Sharma. And my family who have been the force behind me in all my endeavours.
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Dr Ashish Gupta: I dedicate this book to my family (Pooja Gupta, Aradhay Gupta and Ayansh Gupta) and parents (Mr Ramesh Chandra Gupta and Mrs Kamla Devi Gupta) for their constant love, support and motivation.