SMART ANALYTICS, ARTIFICIAL INTELLIGENCE AND SUSTAINABLE PERFORMANCE MANAGEMENT IN A GLOBAL DIGITALISED ECONOMY

Edited by Pallavi Tyagi, Simon Grima, Kiran Sood, B. Balamurugan, Ercan Özen and Thalassinos Eleftherios

SMART ANALYTICS, ARTIFICIAL INTELLIGENCE AND SUSTAINABLE PERFORMANCE MANAGEMENT IN A GLOBAL DIGITALISED ECONOMY

CONTEMPORARY STUDIES IN ECONOMICS AND FINANCIAL ANALYSIS

Series Editor: Simon Grima

SMART ANALYTICS, ARTIFICIAL INTELLIGENCE AND SUSTAINABLE PERFORMANCE MANAGEMENT IN A GLOBAL DIGITALISED ECONOMY

EDITED BY

PALLAVI TYAGI
Amity University, India

SIMON GRIMA
University of Malta, Malta

KIRAN SOOD
Chitkara Business School, Chitkara University, Punjab, India

B. BALAMURUGAN
Shiv Nadar University, India

ERCAN ÖZEN
Faculty of Applied Sciences, Department of Finance and Banking, Uşak University, Turkey

and

THALASSINOS ELEFTHERIOS
University of Piraeus, Greece

Reprints and permissions service
Contact: permissions@emeraldinsight.com

ISOQAR certified
Management System,
awarded to Emerald
for adherence to
Environmental
standard
ISO 14001:2004.

ISOQAR
REGISTERED

Certificate Number 1985
ISO 14001

INVESTOR IN PEOPLE

CONTENTS

**Chapter 8   Investigation of the Role of Compliance Unit as a
Mediator Between E-Government and Money Laundering**
Charu Saxena, Shipra Pathak, Ramneek Ahluwalia and

**Chapter 9   E-Governance and Fiscal Performance in
Sub-Saharan Africa: Reappraising the Role of ICT in
Public Sector Management**

**Chapter 10   Artificial Intelligence and Machine Learning
in Insurance: A Bibliometric Analysis**
Praveen kumar, Sanjay Taneja, Ercan Özen and

**Chapter 11   The Effect of Money Laundering on the Economic
and Financial Performance of an Economy: A Bibliometric
Analysis**

**Chapter 12   Financial Inclusion, Sustainability and
Sustainable Development**

**Chapter 13   Gender Inequality in Management and
Sustainable Competitiveness**
Simona Andreea Apostu, Maria Denisa Vasilescu and

**Chapter 14   Artificial Intelligence: The New Tool of
Disruption in Educational Performance Assessment**
*Mahantesh Halagatti, Soumya Gadag, Shashidhar Mahantshetti,
Chetan V. Hiremath, Dhanashree Tharkude and*

**Chapter 15   Machine Learning-based Smart Appliances
for Everyday Life**
R. Dhanalakshmi, Monica Benjamin, Arunkumar Sivaraman,

ABOUT THE EDITORS

Pallavi Tyagi is an Associate Professor at Amity College of Commerce and Finance, Amity University, Noida, UP, India. She has received her MBA degree from Banasthali University, Rajasthan, India. She earned Doctor of Philosophy degree in Human Resource Management with a concentration on employee empowerment and organisation performance in 2018. She has a total experience of 12 years. She has published various case studies and research papers in reputed journals and presented papers in various national and international conferences. She serves as an Editor of the *Global Journal of Management and Sustainability* (ISSN 2583-4460). Her area of interests includes diversity, equity and inclusion (DEI), employee empowerment, and social entrepreneurship. She has edited various books with international publishers like Emerald, Rivers Publishers, to name a few. Various patents and copyrights are also there in her credit.

Simon Grima is the the Deputy Dean of the Faculty of Economics, Management and Accountancy, an Associate Professor and the Head of the Department of Insurance and Risk Management which he set up in 2015 and started and coordinates the MA and MSc Insurance and Risk Management degrees together with the B.Com in Insurance at the University of Malta. He is also a Professor at the University of Latvia, Faculty of Business, Management and Economics and a Visiting Professor at UNICATT Milan. He served as the President of the Malta Association of Risk Management (MARM) between 2013 and 2015 and the President of the Malta Association of Compliance Officers (MACO) between 2016 and 2018. Moreover, he is the Chairman of the Scientific Education Committee of the Public Risk Management Organization (PRIMO) and the Federation of European Risk Managers (FERMA). His research focus is on Governance, Regulations, and Internal Controls. He has over 30 years of experience varied between financial services, academia, and public entities. He has acted as a Co-chair and is a Member of the scientific program committee on some international conferences and is a chief editor, editor and review editor of some journals and book series. He has been awarded an Outstanding Reviewer for the *Journal of Financial Regulation and Compliance* in the 2017 and 2022 Emerald Literati Awards. Moreover, he acts as an Independent Director for Financial Services Firms, Sits on Risk, Compliance, Procurement, Investment and Audit Committees and carries out duties as a Compliance Officer, Internal Auditor, and Risk Manager.

Kiran Sood is a Professor at Chitkara Business School, Chitkara University, Punjab, India. She has received her Undergraduate and PG degrees in Commerce

from Panjab University, respectively, in 2002 and 2004. She earned her Master of Philosophy degree in 2008 and Doctor of Philosophy in Commerce with a concentration on Product Portfolio Performance of General Insurance Companies in 2017 from Panjabi University, Patiala, India. Before joining Chitkara University in July 2019, she has served four organisations with a total experience of 18 years. She has published various articles in various journals and presented papers in various international conferences. She serves as an Editor of the refereed journal, particularly the *International Journal of BioSciences and Technology*, *International Journal of Research Culture Society*, and *The Journal of Corporate Governance, Insurance, and Risk Management (JCGIRM)*, 2021.

Her research mainly focuses on regulations, marketing & finance in the insurance, management of insurance, economics, and management of innovation in the insurance. She has edited more than 10 books with various international publishers, such as Emerald, CRC, Taylors & Francis, AAP, WILEY Scrivener, IET, Rivers Publishers, IEEE are few of them.

Balamurugan Balusamy has served as Associate Professor with over 14 years of experience with VIT University, Vellore, TN, India. He has completed his Bachelors, Masters, and PhD degrees from top premier institutions. His passion is teaching and adapting different design thinking principles while delivering his lectures. He has completed around 30 books on various technologies and visited 15 plus countries for his technical discourse. He has several top-notch conferences in his resume and has been published in over 150 quality journals, conference papers, and book chapters combined. He serves on the Advisory Committee for several start-ups and forums and does consultancy work for the industry on industrial IoT. He has given over 175 talks in various events and symposiums. He is currently working as an Associate Dean – Students at Shiv Nadar University, India.

Ercan Özen received his BSc in Public Finance (1994), MSc in Business-Accounting (1997), and PhD in Business Finance (2008) from University of Afyon Kocatepe. Now he is Associate Professor of Finance in Department of Banking and Finance, Faculty of Applied Sciences, University of Uşak, Turkey. His current research interests include different aspects of Finance. He has (co-) authored 10 book chapters and more than 50 papers, more than 40 conferences participation, Member in International Program Committee of three conferences and workshops. He is Chair of International Applied Social Sciences Congress. She is also Certificated Accountant, Member of Agean Finance Association, and Member of TEMA (Turkey Combating Soil Erosion, for Reforestation and the Protection of Natural Resources Foundation).

Eleftherios I. THALASSINOS, Ph.D., (UIC Chicago, USA, 1983), DHC Degrees in Economics (Danubius University of Galati, Romania (2013), University of Craiova, Romania (2015), and Rostov State University of Economics, Russia, (2018)), M.B.A., (De-Paul Chicago, USA, 1979), B.A., (U of Athens, Greece,

1976) a Jean Monnet Chair Professor in European Economic Integration and International Finance. He is Chief Editor of ERSJ, IJEBA, Editor of IJFIRM and Chair of ICABE. He taught for more than 40 years (retired in 2021) at the Faculty of Maritime and Industrial Studies of the University of Piraeus (26 years as Full Professor), now Affiliate Professor at the University of Malta and Visiting Professor at the University of Craiova, Romania, and at West Pomeranian University of Szczecin Poland. He has also taught as Lecturer in 4 USA universities (UIC Chicago, Chicago State University, Roosevelt University and De-Paul University of Chicago), and as Visiting Professor at Danubius University of Galati, Romania, the Hellenic Open University, Greece, the Open University of Cyprus, Neapolis University of Pafos, Cyprus, the University of Paris X Nanterre, France, Finance and Public Administration University of Prague, Czech Republic, and Rostov State University of Economics, Rostov, Russia. His teaching and professional experience includes, Quantitative Analysis, Technical and Financial Analysis, Banking, Business Consulting, Project Evaluations, International Business, International Finance, and Maritime Economics. He has a long track of publications in several journals, collective volumes, and chapter books. Among them a publication, with co-author Professor Th. Stamatopoulos, as a chapter book in the World Scientific Handbook in Financial Economic Series Vol. 5, dedicated to the memory of Late Milton Miller, Nobel prize winner in Economics in 1990. Parallel to his academic career he has performed as Bank Director for 12 years, Ministerial Advisor for 6 years, Public Servant for 4 years and independent consultant for a long time.

ABOUT THE CONTRIBUTORS

Noah, Oluwashina Afees pursued BSc, MSc (Economics) from University of Ilorin, Ilorin, Nigeria, and his PhD at the Department of Economics and Development Studies, Kwara State University, Malete, Nigeria. He is currently working with Kwara State Polytechnic, Ilorin, Nigeria. His research work focuses on development economics, specifically in infrastructural development, international finance and food security. He has published widely in local and international reputable journals, and conference proceedings. He is a Member of The Nigerian Economic Society (NES), Teachers Registration Council of Nigeria (TRCN), and Research and Development Network (RDN).

Ramneek Ahluwalia is presently working as an Assistant Professor in University School of Business, Chandigarh University, Mohali. She has more than five years of teaching and industrial experience and has worked as a Human Resource Manager in one of the Multinational Companies. She holds a doctorate in Management in the domain of human resources and has published many papers in UGC Care as well as Scopus. She has presented various papers in international as well as national conferences. She is a Keen Researcher and has attended various workshops on Data Analysis.

Simona Andreea Apostu is PhD Lecturer at the Department of Statistics and Econometrics, Bucharest University of Economic Studies, Romania, and a Scientific Researcher at the Institute of National Economy. She is Member of the Editorial Board of the *Journal of Social and Economic Statistics*, a Member of the Scientific Committee of the *International Conference on Applied Statistics* and a Coordinating Member of Young Statisticians Europe – Romanian Group. Her research activity includes reviewing and publishing scientific articles in internationally indexed journals, participation in international conferences and collaboration in research projects. The areas of interest are represented by the statistical and econometric methods applied for assessing problems like: migration, macroeconomics, time series, labour market imbalances, health care, circular economy, and renewable energy.

Vinayak Banakar is a Chemical Engineer and a Postgraduate in Environmental Engineering was into Laboratory Quality Management System and was into accreditation of Laboratories. He was also Consultant to industries in inspecting and certifying pollution levels for various industries. He was also involved in preparation of Environmental Impact Assessment Reports of distilleries and ports. He persuaded his MBA from KLE Technological University and bagged 2nd rank to the University. Currently he is the Faculty at the Management School

and his areas of interest include operations management, services operations management, inventory management, heuristics and optimization techniques. He has published five papers in national and international journals and also contributed to book chapters in reputed publications.

Simerjeet Singh Bawa is working as Associate Professor and Head of Department in Chandigarh Business School of Administration, CGC, Landran Mohali. He has 14 years of vast experience. He has published numerous research papers and chapters in national and international journals including *ABDC*, *Web of Science*, and *Scopus* journals. He has also published some good case studies which are published in the case centre. He also acts as Editor for some journals. His area of research is consumer behaviour, customer satisfaction, and service marketing.

Monica Benjamin is an Engineering graduate from KCG College of Technology, Chennai. She holds a BE in Computer Science and Engineering. She completed her Higher Secondary in St. John's Matriculation, Chennai in 2018. She has worked on projects that made use of several computer algorithms such as KMeans clustering, principal component analysis, and Boruta algorithm. She has also co-written a paper that uses edge computing devices in smart appliances for everyday life. She has the experience of working on a project that uses data analytics to observe various trends in football and apply those trends in strategies to elevate business opportunities.

Subhayan Chakraborty is a Research Scholar of the Department of Business Management, Tripura University, and completed MBA (Finance & Entrepreneurship Development) in 2012 (Gold Medal) from the same institute. Professionally he is a Government Officer posted at Panchayat Raj Training Institute, Agartala. His preferred area of research is learning continuity and measuring learning gain. He has work experience of around 10 years in the field of Teaching, Training, and Administration. He is a Certified Master Trainer of the National Institute of Rural Development and Panchayati Raj, Hyderabad, Government of India.

Adriana AnaMaria Davidescu is Full Professor in the Department of Statistics and Econometrics of the Bucharest Academy of Economic Studies and Senior Researcher at the National Institute for Scientific Research in Labor and Social Protection, with over 14 years of experience in socioeconomic research and labour market analysis. She has a PhD from the Bucharest University of Economic Studies and has been a Visiting Scholar at the University of Salerno (Italy). She has over 14 years of experience in the analysis of informal economy issues, coordinating or being a member of the research team of over 50 national and international projects. The main areas of interest, include, among others, labour market analysis, sustainable development, regional development, analysis and evaluation of public policies and programs, human resources management, etc. She has coordinated as Director numerous national research projects in the field of informality, holding in 2017 the position of Senior Expert of the

European Commission in the project aimed at implementing the mission, objectives, and activities of the European Platform to strengthen cooperation in tackling undeclared work.

Ranjit Debnath received Master's degree in Tourism Management, from IGNOU, India, in 2012. Currently pursuing PhD degree with Tripura University, Tripura, India. His research interest includes the Use of Big Data in the field of Tourism, Training and Education. Understanding blended learning through the System Theory.

R. Dhanalakshmi is a PhD holder from College of Engg., Guindy, Anna University, Chennai in Information Security and Networking. She holds a BE in Computer Science from Bharathidasan University and MTech in Advanced Computing from SASTRA University. She has got a rich academic experience of 25 years. She has vital research experience serving as a Research Associate in the NTRO Sponsored Project Collaborated directed basic research on Smart and Secure Environment at Anna University under the Consortium of IIT Madras. To her credit, she has nearly 50 research papers in international conferences and international journals including Elsevier, Springer, IFIP, and IGI Global. She has presented her work in various international conferences and national workshops.

Soumya Gadag completed her BE degree in Electronics and Communication Engineering from Visvesvaraya Technological University, India. She received her MTech in VLSI & Embedded Systems. Currently working as Assistant Professor in the Department of ECE, S.G. Balekundri Institute of Technology, India. Her research interest include wireless communication, machine learning and artificial intelligence.

Ashulekha Gupta is a Professor of Management and Economics in the Department of Management Studies at Graphic Era deemed to be University, Dehradun, Uttarakhand, India. She is an Avid Researcher in the diverse field of International Business, Economics, and Marketing Management. She has a distinguished academic record and holds a Doctorate and a Postgraduation in Economics. In addition, she is also a Postgraduate in Marketing Management and International Business. She has more than 21 years of rich experience in teaching, research, and industry. Beside academics she also holds different Administrative positions in Academic Institutions and Corporate. Her research interests include International Economics, Behavioral and Environmental Economics. She has published number of research publications in national and international journals of repute and presented more than 30 research papers in national and international conferences which includes Bangkok, Thailand and contributed various chapters in edited books. Her recent research interest in the area of Environmental Economics is published as a book chapter in edited book of Springer Nature, Singapore. She is also a Reviewer of several national and international journals. She serves as a resource person for various research-oriented workshops and seminars. She is also running her YouTube Channel on 'Research Methodology

Advanced Tools' which include data analysis using various software's (https://www.youtube.com/channel/UCiTOUGVoZDvMTyxAZnd9tsw). She has published 14 patents at the national levels. Presently, she is supervising Doctoral research students for their PhD.

Mahantesh Halagatti presently working as Associate Professor in School of Management Studies and Research at KLE Technological University, Hubballi. He is a Mechanical Engineer with MBA in General Management and PhD in Total Quality Management. He has got 15 years of experience in teaching. His areas of interest include strategic management, total quality management and operations management. He has published more than 10 papers in reputed national and international conferences and journals.

Khandakar Kamrul Hasan is an International Research Scholar from Bangladesh at Tripura University (A Central University) in the Department of Business Management. His master's degree in Management was earned at the St. Petersburg State Polytechnic University in Russia. His research interests include learning continuity, online learning, blended learning, and design thinking.

Chetan V. Hiremath has completed his doctorate in 'Optimization of plastic reverse supply chain in Belagavi city using stochastic modelling approach' and MPhil in 'A study on quality practices of selected manufacturing firms in Goa'. Also, he has cleared UGC- NET and SLET. He has completed Bachelor of Engineering (Mechanical) and Master of Business Administration. He is a certified Six sigma black belt and CII-EXIM assessor. He has undertaken few management consultancies and conducted many MDPs and FDPs. He believes that knowledge is indivisible. His interest is in inter-discipline research. He has presented and published more than 40 papers at national and international forums. Prior to joining teaching, he has worked in renewable energy and audiovisual sectors.

Lokesh Kumar Jena is a Research Scholar of the Department of Business Management, Tripura University, and completed MBA (Agri-Business Management) in 2019 from Sambalpur University, Odisha, India. His preferred area of research is Logistics and Supply chain Management. He qualified National Eligibility Test (NET)-2020 in Management.

Inakshi Kapur is a Research Scholar at Amity College of Commerce and Finance, Amity University, Noida, UP, India. Her research interests include corporate entrepreneurship, social entrepreneurship, and innovation management. She has co-authored case studies and written book chapters on various aspects of entrepreneurship.

Pankaj Kathuria is presently working as Assistant Professor of Management in University School of Business, Chandigarh University, Mohali. His area of

specialisation is Java, DBMS, and ASP Dot Net. With more than 10 years of teaching and industrial experience, he is a Versatile Researcher in the field of IT and Communication.

Atul Kumar is an Assistant Professor at Amity University, Noida. He received his graduation degree in Agricultural Engineering from G B Pant University of Agriculture & Technology, Pantnagar, and his Master degree in management from IIM, Ahmedabad. He has 18 years of teaching experience and current research interest is in the area of derivatives and applied econometrics. He has publications in the area of derivatives market in *Scopus*, *ABDC*, and *InderScience* journals. The recent contribution to the academia is in the area of cointegration and volatility spillover.

Praveen Kumar is currently working as Assistant Professor in Department of Business Administration, USB, and Chandigarh University. His research areas are marketing and digital marketing. He has published his work in the national and internal indexed journal and edited books.

Rajiv Kumar is working as an Associate Professor, Uttaranchal School of Computing Sciences (USCS), Uttaranchal University, Dehradun (UK). He has more than 18 years of teaching and industry experience. He has obtained BTech in Computer Engineering, MTech in Computer Science and Engineering, MCA, GATE-2003, and PhD in Computer Science and Engineering. He has published more than 40 research papers in national and international journals and conferences of international repute, such as *Scopus* and *Web of Science*. His research interest is machine learning and soft computing.

Shashidhar Mahantshetti holds PhD degree in General Management from Visvesvaraya Technological University, Belagavi. He has 18 years of experience in teaching postgraduate management students. His research interests primarily lie in marketing and human resource management. He has published and presented at several national and international conferences.

Eduard Mihai Manta is a PhD student at the Doctoral School of Cybernetics and Statistics and has over five years of experience in IT, holding various positions in data teams. In the last years, it focused on machine learning and data science. The subject studied in the PhD is the COVID-19 pandemic – an accelerator of the implementation of sustainable development concepts, resilience, green, and inclusive of the global economy. He has experience working with one of the principal NGOs in the field of education, working on reports that underlie decision-making within the organisation. The main areas of interest are machine learning, deep learning, data visualisation, artificial intelligence, and statistical modelling. He has expertise in content analysis, analysis bibliometrics, time series, supervised, unsupervised machine learning, working with software data visualisation, and data processing.

Neeta Mhavan is currently working at School of Education and Research, MIT Art Design and Technology University, Pune, Maharashtra as an Assistant Professor. Her academic qualifications include PhD sponsored by ICSSR, MPhil, Masters in English Literature and Education and also a Postgraduate Diploma in Child and Adolescence Psychology. She has an overall experience of 16 years in the education domain. She has attended and presented papers in various national and state level conferences, and is also involved in designing and developing courses for YCMOU. Her expertise includes mental health, life long learning, and life skill education.

Debarshi Mukherjee is an Alumnus of Visva Bharati University and currently working as a Professor and Head, Department of Business Management, Tripura University, a Central University (Govt. of India). He has set up the first business incubator in Tripura funded by the Ministry of MSME (GoI). He evangelises learning continuity through Education 4.0, deeply engrossed in developing strategic blended learning models for tertiary education. To his credit, he has over 100 publications including a book, research papers, book chapters, popular articles, conference proceedings, and edited books.

Divya Nair is currently working at School of Education and Research, MIT Art Design and Technology University, Pune, Maharashtra as an Assistant Professor. Her academic qualifications include MSc (Microbiology), MA (Psychology), MEd, NET with JRF and Postgraduate Diploma in Mass Media. She has an experience of 11 years and is currently pursuing her PhD in the interdisciplinary area encompassing positive psychology, cognitive psychology, and education. She has participated in various international, national, and state level conferences, and also published research papers in peer-reviewed journals. Educational Psychology, Clinical Psychology, ICT, and Research are her domains of expertise. Two of her book chapters to be published by Taylor and Francis are in the post-production phase. Her other areas of interests include classical dancing, singing, writing poems, and short stories.

Peterson K. Ozili is an Economist in the Economic Policy Office of the Central Bank of Nigeria. He works extensively in policy-making and is actively involved in academic research. His areas of specialisation are in economic policy financial inclusion, financial economics, international development, accounting, development finance, the economics of financial markets, banking, and financial reporting. He has published extensively in many accounting and finance journals such as the *British Accounting Review*, *Journal of Applied Accounting Research*, *Journal of Accounting in Emerging Economies*, *International Journal of Managerial Finance*, *European Journal of Finance*, *Research in International Business and Finance*, etc.

Shipra Pathak is presently working as Assistant Professor of Marketing at Chandigarh University and has about 13 years teaching experience. She has presented various papers in international and national conferences. She has also

attended various workshops and training programs. She has also published paper in Scopus on 'Demystifying Effective E-learning Through Gamification'. She has done online certificate in Product and Brand Management, Digital Marketing Fundamentals and Marketing in Digital World. She is also a Co-author of chapter on *Artificial Intelligence* in book by Frances and Taylor. Published chapter on 'Methods of Energy-Saving Measures in Affordable and Clean Energy, Encyclopedia of the UN Sustainable Development Goals' (Springer).

Kirti Prashar is working as Assistant Professor in Chandigarh Business School of Administration, CGC, Landran Mohali. She is Skilled, Quick Learner, and hardworking, having good experience in teaching and research, this involves good number of publications under her name including publication in *Scopus* indexed journals. She is also among the Editorial Members of peer-reviewed journal. Management sassy with hands on usage of knowledge and communication tools to generate cordial relations with colleagues and work together efficiently yielding better output for the organisation.

Charu Saxena is presently working as Assistant Professor of Management in University School of Business, Chandigarh University, Mohali. She did her doctorate in Management, from I K Gujral Punjab Technical University, Jalandhar. Her area of specialisation is Banking and Finance. With more than 11 years of teaching experience, she is a Versatile Researcher in the field of Banking and Finance. She has published 15 research papers in national and international peer-reviewed journals including *Springer*, *ABDC*, and *Scopus*. She has published chapters in books, including the Springer encyclopaedia and presented more than 30 research papers in national and international conferences. She is certified as a Publon Academy Mentor by Publon Academy, since 2018 and reviewed papers in many reputed journals.

Satinder Pal Singh is currently working as Professor and Head of Department in USB-BBA, Chandigarh University, Mohali, Punjab (India). His research areas are Statistics, Operation Research, and Research Methodology. He has published his work in national and international journals (Scopus Indexed/SCI Indexed and UGC Care Listed).

Arun Kumar Sivaraman obtained his Bachelor degree in Computer Science and Engineering from Anna University, Chennai, and Masters in Computer Science and Engineering from College of Engineering Guindy (CEG) Chennai Campus. He has awarded Doctor of Philosophy (PhD) in Computer Science and Engineering from Manonmaniam Sundaranar University (Govt.), Tirunelveli, India. He received Management degree in Master of Business Administration (MBA) in Education Management from Alagappa University, Karaikudi, India. He has more than a decade of professional experience in Industrial, R&D, and academic sectors. He has worked as lead Data Engineer for top tier MNCs like Cognizant, Standard Chartered, Gilead, and JCPenney. He worked as Project

Consultant for a Healthcare Research (R&D) Project in 'The Research Council, Sultanate of Oman' funded by Ministry of Health, Oman. He published a book in machine learning titled as 'Image Processing for Machine Learning' (ISBN: 978-93-5445-509-4). He published many research papers in the Scopus indexed reputed journal, also two Indian patents and got three grants in International patents. For his merit, he received merit-based Employment Pass Eligibility Certificate (EPEC) from the Government of Singapore 2010 and Young Scientist Award from the Government of Sultanate of Oman 2018. He is currently working as an Assistant Professor (Sr. Grade) in VIT University, Chennai Campus, India. He is an Active Co-editor of couple of special issues in TechScience, Elsevier, and T&F journals. His academic and research expertise covers a wide range of subject area including data engineering, data analytics, data science, and machine learning.

S. S. Sreedeep is a Student of KCG College of Technology pursuing BE in Computer Science and Engineering. He completed his Higher Secondary in St. Michael's Academy Adyar in 2018. He has got six months of industry experience working as a Network Automation Engineer. He has worked on projects that achieved visualisation of Astar algorithm. He has worked on a paper on the usage of AI in Esports. He has worked on Python, Sci-kit learn, and used Mathematical Modelling to leverage data analytics in Football business strategies.

Sanjay Taneja, ICSSR Fellow, PhD MBA (University Topper), and ADBM. Currently working as Associate professor in USB-BBA, Chandigarh University, Mohali, Punjab (India). His research areas are finance, banking, and insurance. He has published his dozen of work in national and international journals (Scopus Indexed/SCI Indexed and UGC Care Listed) and two textbook, two edited books on different areas banking, social science, and entrepreneurship. Also received the awards from Indian University ICFAI and GKU towards the contribution in teaching and research.

Dhanashree Tharkude is a holder of Doctoral degree in the domain of Human Resource Management, carrying an enriched experience of more than two decades in academics as well as industries. Her research work is recognised at several levels and she has published two patents too for her research.

Currently she is associated with MIT World Peace University Faculty of Management (PG), with capacity of is working as Associate Head School at MTWPU School of Management (PG) and Faculty for HR Discipline. She is recognized PhD guide at Dr. Vishwanath Karad MIT World Peace University (MIT-WPU), India. She teaches subjects such as Organizational Behaviour, Human Resource Management, Talent Management and Organizational Development.

Ngo Duc Tien, PhD, has more than 10 years of experience in the fields of Finance and Banking in Vietnam. He works as a Lecturer in the Faculty of Banking and Insurance, Academy of Finance, Ha Noi, Vietnam. He also works as a Data Analytics Lecturer at Magic code institute Vietnam (MCI); he has had more

chances to deeply understand the crucial impact of digital transformation on banking operations. The development of Digital Banking is one of his favourite research expertise. He published many papers on this subject.

Vidhi Tyagi is currently working with Amity University, Noida. She has been into academics for the past 15 years. Her specialisation area is human resource management, organisation behaviour, and industrial relations. Her area of research is employee engagement and talent management. She has presented many research papers in national and international conferences at IIM and IIT level and has various publications in the journals of repute.

Maria Denisa Vasilescu is Associate Professor in the Department of Statistics and Econometrics at the Bucharest University of Economic Studies and Senior Researcher at the National Scientific Research Institute for Labour and Social Protection. She has extensive experience in the collection and processing of quantitative and qualitative data, being proficient in the advanced statistical analysis using various methods and instruments. Her expertise covers: socioeconomic analysis based on secondary and primary data; case studies; survey design and analysis; qualitative analysis techniques; complex econometric analysis of socioeconomic phenomena using different methods (cross-sectional linear regression, time series models, panel data models, logistic regression, nonparametric methods, DEA); predictions, simulations, scenarios; impact analysis; and policy recommendations. She published over 40 scientific articles in prestigious journals and participated in numerous conferences. She participated in over 30 research projects and has experience in project management and coordination of multidisciplinary teams. Areas of interest: employment; inequalities, and discrimination in the labour market; minimum wage, earnings, and labour costs; migration; and health policies.

Miklesh Prasad Yadav is an Assistant Professor, ACCF at Amity University, Noida.

Neha Zaidi is currently working as an Assistant Professor, School of Business Studies, Sharda University with over 10 years of academic experience. She has done her MBA and is pursuing her PhD from Aligarh Muslim University. She has published a number of research papers in journals of repute (both ABDC and Scopus) and has been awarded for her research work in various national and international conferences. Her research interests include tourism marketing, social media marketing, green marketing, and service marketing.

FOREWORD

As a Professor of Marketing, sustainability is very close to my heart. I am deeply involved and engaged with research and teaching in the areas sustainable marketing and consumption. And it is a well-known fact that the development of a digital economy will have a major and far reaching impact on the sustainable development of an economy and society. Hence, a book addressing sustainability in critical areas of business and management certainly spiked my interest.

Dr Pallavi Tyagi, one of the lead editors of this book, is a dear friend and colleague, for whom I have immense respect, and faith in her credibility to address a topic of such strategic importance with alacrity and confidence. Along with her co-editors, Dr Pallavi has put together a book which encompasses certain very critical areas of sustainable performance management in a global digital economy.

There is immense potential benefits for society and the environment as a result of digitalisation which provides access to an integrated network of unexploited big data. As digital technologies disrupt one sector after another, many companies are actively embracing digital transformation. Interestingly, the accelerating rate of digital transformation on economic performance is quicker under low market turbulence. In contrast, when market turbulence is high, higher digital transformation is associated with worse environmental performance. The development of smart systems connected to the internet of things can generate unique opportunities to strategically address challenges associated with the United Nations Sustainable Development Goals (SDGs) to ensure an equitable, environmentally sustainable, and healthy society. This perspective describes the opportunities that digitalisation can provide towards building the sustainable society of the future. Improving our future readiness entails redirecting capital towards sustainable companies, governments incentivising sustainable activities, customers exhibiting a preference for sustainable products and services and employees demanding sustainable leadership. To meet expectations, businesses today need to align their digital transformation with sustainability objectives.

COVID-19 pulled back the curtain on our vulnerabilities to myriad global risks. The pandemic forced most organisations to accelerate their digital transformation initiatives and move towards creating sustainable digital enterprises where organisations put people and the planet at the core of their digital transformation strategies. There was evidence of improved resilience, better operational performance and business success among companies that invested in sustainability. These companies witnessed their sustainable indices outperforming their parent benchmarks. In recent years, there has been a proliferation of technological advances, often described under the umbrella term Industry 4.0. These technological advances have had the effect of dramatically changing the way firms operate resulting in a massive improvement of their performance and thereof, productivity. A wealth of advanced technologies and systems such as artificial intelligence (AI), smart systems, smart cities, predictive analytics, blockchain, autonomous vehicles, big data, and internet of things increasingly change not only the companies that adopt them but also the context within which this adoption take place.

AI is a wide ranging tool that enables people to rethink how we integrate information, analyse data, and use the resulting insights to improve decision-making and thus transforming every walk of life. AI will prove to be a huge game changer. It could contribute up to $15.7 trillion to the global economy in 2030, which would be more than the current combined output of China and India. Of this, $6.6 trillion is likely to come from increased productivity and $9.1 trillion is likely to come from consumption side effects. While some markets, sectors and individual businesses are more advanced than others, AI is still at a very early stage of development overall. From a macroeconomic point of view, there are therefore opportunities for emerging markets to leapfrog more developed counterparts. The business world today is experiencing increased competition which further needs much more rapid and sophisticated information and data analysis. These requirements effectively challenge performance management to support better the decision-making processes. This is where business or data analytics can play an all-encompassing and important role. Business analytics is an emerging field that can potentially extend the domain of performance management to provide an improved understanding of business dynamics and thus lead to a better decision-making process.

Smart Analytics, Artificial Intelligence and Sustainable Performance Management in a Global Digitalized Economy is a collection of 15 chapters, written by authors from across the world and drawn from a multitude of distinct disciplinary backgrounds, ranging from banking to gender diversity, accounting to human resource development and cybersecurity to e-governance. This book could be used as a good reference book for those interested in sustainability and digital economy.

The chapters in the book have been curated to offer timely and relevant information. This book is an excellent read as it offers views on sustainability through so many disciplinary lenses. Thus, a significant contribution of this book is to stimulate the readers to undertake the task of incorporating sustainability

thinking into their own disciplines and thereby deepening and further extending the existing knowledge base on sustainability.

Regards
Dr. Sujata Khandai
Dy. Dean (Academics)
Director-ACCF & Officiating Head-ASB
Amity University Uttar Pradesh
Sec-125, Noida – 201301 (U.P), India