

Finance Analytics in Business

EMERALD STUDIES IN FINANCE, INSURANCE, AND RISK MANAGEMENT

Series Editor: Simon Grima

Books in this series collect quantitative and qualitative studies in areas relating to finance, insurance and risk management. Subjects of interest may include banking, accounting, auditing, compliance, sustainability, behaviour, management and business economics.

In the disruption of political upheaval, new technologies, climate change and new regulations, it is more important than ever to understand risk in the financial industry. Providing high-quality academic research, this book series provides a platform for authors to explore, analyse and discuss current and new financial models and theories, and engage with innovative research on an international scale.

Previously Published

Uncertainty and Challenges in Contemporary Economic Behaviour

Ercan Özen and Simon Grima

New Challenges for Future Sustainability and Wellbeing

Ercan Özen, Simon Grima and Rebecca Dalli Gonzi

Insurance and Risk Management for Disruptions in Social, Economic and Environmental Systems: Decision and Control Allocations Within New Domains of Risk

Simon Grima, Ercan Özen and Rebecca Dalli Gonzi

Public Sector Leadership in Assessing and Addressing Risk

Peter C. Young, Simon Grima and Rebecca Dalli Gonzi

Big Data Analytics in the Insurance Market

Kiran Sood, B. Balamurugan, Simon Grima and Pierpaolo Marano

Big Data: A Game Changer for Insurance Industry

Kiran Sood, Rajesh Kumar Dhanaraj, B. Balamurugan, Simon Grima and R. Uma Maheshwari

The Adoption and Effect of Artificial Intelligence on Human Resources Management, Part A

Pallavi Tyagi, Naveen Chilamkurti, Simon Grima, Kiran Sood and B. Balamurugan

The Adoption and Effect of Artificial Intelligence on Human Resources Management, Part B

*Pallavi Tyagi, Naveen Chilamkurti, Simon Grima, Kiran Sood
and B. Balamurugan*

Contemporary Studies of Risks in Emerging Technology, Part A
Simon Grima, Kiran Sood and Ercan Özen

Contemporary Studies of Risks in Emerging Technology, Part B
Simon Grima, Kiran Sood and Ercan Özen

The Framework for Resilient Industry: A Holistic Approach for Developing
Economies
Narinder Kumar, Kiran Sood, Ercan Özen and Simon Grima

VUCA and Other Analytics in Business Resilience, Part A
Deepmala Singh, Kiran Sood, Sandeep Kautish and Simon Grima

VUCA and Other Analytics in Business Resilience, Part B
Deepmala Singh, Kiran Sood, Sandeep Kautish and Simon Grima

This page intentionally left blank

Finance Analytics in Business: Perspectives on Enhancing Efficiency and Accuracy

EDITED BY

SANJAY TANEJA

Graphic Era Deemed to be University, India

PAWAN KUMAR

Chandigarh University, India

KIRAN SOOD

Chitkara Business School, Chitkara University, India

ERCAN ÖZEN

University of Uşak, Türkiye

AND

SIMON GRIMA

University of Malta, Malta



United Kingdom – North America – Japan – India – Malaysia – China

Emerald Publishing Limited
Emerald Publishing, Floor 5, Northspring, 21-23 Wellington Street, Leeds LS1 4DL

First edition 2024

Editorial matter and selection © 2024 Sanjay Taneja, Pawan Kumar, Kiran Sood, Ercan Özen and Simon Grima.

Individual chapters © 2024 The authors.

Published under exclusive licence by Emerald Publishing Limited.

Reprints and permissions service

Contact: www.copyright.com

No part of this book may be reproduced, stored in a retrieval system, transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise without either the prior written permission of the publisher or a licence permitting restricted copying issued in the UK by The Copyright Licensing Agency and in the USA by The Copyright Clearance Center. Any opinions expressed in the chapters are those of the authors. While Emerald makes every effort to ensure the quality and accuracy of its content, Emerald makes no representation implied or otherwise, as to the chapters' suitability and application and disclaims any warranties, express or implied, to their use.

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library.

ISBN: 978-1-83753-573-6 (Print)

ISBN: 978-1-83753-572-9 (Online)

ISBN: 978-1-83753-574-3 (Epub)



INVESTOR IN PEOPLE

Contents

About the Editors	<i>xi</i>
About the Contributors	<i>xiii</i>
Foreword	<i>xxi</i>
Preface	<i>xxv</i>
Chapter 1 Path Stock Structural Changes and Forecasts in the Context of the Ukrainian War	1
<i>Adriana AnaMaria Davidescu, Eduard Mihai Manta, Margareta-Stela Florescu, Cristina Maria Geambasu and Catalina Radu</i>	
Chapter 2 Curve Estimation Approaches Using Matlab for a Solar Energy Project in Türkiye	25
<i>Murat Ertuğrul and Mustafa Hakan Saldi</i>	
Chapter 3 Unlocking Market Secrets: Dynamics of the Day-of-the-Week Effect During Crisis in an Emerging Market	49
<i>Mohamed Ismail Mohamed Riyath, Narayanage Jayantha Dewasiri, Kiran Sood, Yatiwelle Koralalage Weerakoon Banda and Kiran Nair</i>	
Chapter 4 Business Intelligence in HR as a Lever for Digital Transformation in the Food Industry	77
<i>Meena G. and K. Santhanalakshmi</i>	
Chapter 5 The Impact of FinTech on the Performance of Indian Banks: Investigating the Presence of Clusters Across Indian Bank Characteristics	93
<i>Parminder Varma, Shivinder Nijjer, Kiran Sood and Simon Grima</i>	

Chapter 6 The Future of the Indian Financial System <i>Sanjay Taneja, Neha Bansal and Ercan Özen</i>	125
Chapter 7 Revolutionising Traditional Banking Operations With the Help of Financial Technology <i>Shivani Vaid</i>	145
Chapter 8 A Systematic Review of Blockchain in Fintech Using Network Visuals <i>Pankaj Kathuria, Cheenu Goel and Payal Bassi</i>	161
Chapter 9 A Review of the Role of Artificial Intelligence in Banking and Stock Market Trading <i>Akansha Mer, Kanchan Singhal and Amarpreet Singh Viridi</i>	175
Chapter 10 Does R&D Intensity Affect the Firms' Performance?: A Meta-Analytical Review <i>Nidhi Mittal and Sangeeta Mittal</i>	199
Chapter 11 The Impact of Fintech on Entrepreneurship Business: A Global Perspective <i>Monica Gupta and Priya Jindal</i>	217
Chapter 12 Elucidating the Moderating Role of CRM in Business Intelligence and Organisational Performance <i>Harleen Kaur</i>	235
Chapter 13 A Study of the Evolutionary Trends in Blockchain and Cryptocurrency: A Bibliometric Approach <i>Shubhangi Gautam and Pardeep Kumar</i>	251
Chapter 14 An Empirical Analysis of the Interactional Relationship Between Liquidity Risk, Credit Risk, and Profitability of Banks in India <i>Anita Tanwar</i>	267
Chapter 15 ARDL Bound Test Approach for the State of Economy: A Study of the Indian Scenario (During and Post-COVID Era) <i>Kirti Khanna, Vikas Sharma and Munish Gupta</i>	293

Chapter 16 Nature, Extent, and Pattern of Government Funds: An Analytical Study	307
<i>Rajni Bala and Sandeep Singh</i>	
Index	321

This page intentionally left blank

About the Editors

Dr Sanjay Taneja, ICSSR fellow, PhD MBA (University Topper) and ADBM and currently working as an Associate Professor in DOMS, Graphic Era Deemed to be University, Mohali, Punjab (India). His research areas of 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.

Pawan Kumar has academic experience of 18 years and has done his PhD from Kurukshetra University, Kurukshetra. He has published more than 30 papers in national and international journals and has presented 35 papers in National and International seminars and conferences. He is also a Guest Editor in three journals (special issue of) indexed in Scopus. Furthermore, he has eight projects for the call for chapters from reputed publishing houses.

Kiran Sood is a Professor at Chitkara Business School, Chitkara University, Punjab, India. She 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, Kiran had served four organisations with a total experience of 18 years. She has published various journal articles and presented papers at various international conferences. She serves as an Editor of the refereed journal, particularly the *IJBST International Journal of BioSciences and Technology* and *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 and finance in insurance, insurance management, economics and management of innovation in insurance. She has edited more than 10 books with various international publishers such as Emerald, CRC, Taylor & Francis, AAP, WILEY scrivener, IET, Rivers Publishers and IEEE.

Dr Ercan Özen, received his BSc in Public Finance (1994), MSc in Business Accounting (1997), PhD in Business Finance (2008) from University of Afyon Kocatepe. Now, he is an 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 Programme Committee of 3 conferences and workshops. He is chair of International Applied Social Sciences Congress. He is also a Certificated Accountant, member of Aegean Finance Association and member of TEMA (Turkey Combating Soil Erosion, for Reforestation and the Protection of Natural Resources Foundation).

Prof Simon Grima is the Deputy Dean of the Faculty of Economics, Management and Accountancy, Associate Professor and the Head of the Department of Insurance and Risk Management. Simon 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) and President of the Malta Association of Compliance Officers (MACO) between 2013 and 2015 and between 2016 and 2018, respectively. 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 and has over 30 years of experience varied between financial services, academia and public entities. He has acted as co-chair and is a member of the scientific programme committee on some international conferences and is a chief editor, editor and review editor of some journals and book series. He has been awarded outstanding reviewer for Journal of Financial Regulation and Compliance in the 2017 and 2022 Emerald Literati Awards. Moreover, Simon 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.

About the Contributors

Rajni Bala is an Associate Professor at University School of Business, Chandigarh University, Mohali Punjab, India. She has versatile academics and industry experience of around 10 years. Her research is focused in the area of public policies, sustainable development, corporate social responsibility and banking. She has research publications in reputable international and national journals such as SSCI, Scopus, ABDC journals, Emerald, Inderscience and UGC care list etc. She has presented research papers in several international and national conferences such as IIM Indore, IIT Delhi, etc. She is a life time member of Indian Commerce Association and also a founder member of Business Research Plasma (BRP).

Neha Bansal is currently working as Research Scholar in the Department of Commerce, USB, Chandigarh University, India. Her research areas are Finance, Banking and Green finance. She has published her work in the national and internal indexed journal and edited books.

Payal Bassi, Professor, Chitkara Business School, Chitkara University, is a faculty in the field of Marketing Management. Her doctorate is in the field of 'Marketing of Readymade Garments: A Comparative Study of Punjab & Haryana'. She has teaching experience of 17 years and has taught Postgraduate, Undergraduate and Research Scholars and has been instrumental in enhancing their research acumen through Research Projects and Case-based Assignments. She has various papers published in National, International Journals, Books, Book Chapters, Conferences and Conference Proceedings. Her research work comprises of Marketing, Service Marketing, Consumer Behaviour, Insurance, Network Analysis, Network Analysis, Big Data and AI. ORCID ID: <https://orcid.org/0000-0003-4696-7906>.

Adriana AnaMaria Davidescu is a Full Professor in the Department of Statistics and Econometrics of the Bucharest Academy of Economic Studies and a Senior Researcher at the National Institute for Scientific Research in Labour and Social Protection, with over 14 years of experience in socio-economic research and labour market analysis. Adriana 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.

Narayanage Jayantha Dewasiri is a Professor attached to the Department of Accountancy and Finance, Sabaragamuwa University of Sri Lanka. Further, he currently serves as the Brand Ambassador at Emerald Publishing, UK, and the Sri Lanka Institute of Marketing Vice President. He is a pioneer in applying triangulation research approaches in the management discipline. He is currently serving as the Co-Editor-in-Chief of the *South Asian Journal of Marketing* published by Emerald Publishing, Managing Editor of the *Asian Journal of Finance* and *South Asian Journal of Tourism and Hospitality*, published by the Faculty of Management Studies, Sabaragamuwa University of Sri Lanka.

Murat Ertuğrul graduated from Anadolu University's management department in 1997, then completed the master degree in finance in 2000 and took doctorate in finance in 2005. He has been performing as an academician since 1997 at Anadolu University. ORCID ID: <https://orcid.org/0000-0002-9674-1465>.

Margareta Stela Florescu coordinates the development of advanced scientific research activities/the realisation and organisation of scientific conferences/scientific seminars/high-level scientific events to understand the instruments of funding through research projects and current funding programs: H2020, Erasmus Plus, EEA programme; Ensures the operational management of the ARI activity; Coordinate preparation and deployment research projects, with an interdisciplinary character, through the participation of specialists from the centres of research of ASE, from doctoral schools and researchers affiliated and unaffiliated with research centres, compatible and comparable with the existing concerns in this field internationally, for putting in the value of ASE's competitive advantages.

Shubhangi Gautam is a Research Scholar at the University School of Business, Chandigarh University, India. She has presented papers in several International and National conferences in the field of Finance. She has published several book chapters and research papers.

Cristina Maria Geambasu is a PhD student at the Doctoral School of Cybernetics and Statistics and has an experience of over 5 years on data manipulation and analysis, currently occupying the position of senior data analyst at GfK Romania, aiming to bring innovative approaches and insightful visualisations to data collections and analysis. In the last year, she has focused on exploring the data science branch and machine learning techniques. The subject studied in PhD is micro and macro approaches on the regional informal economy phenomenon, and the main objective of the thesis is to explore the main determinants of informality and to estimate the dimension of the regional informal economy.

Cheenu Goel has an experience of 14 years in the field of Finance. Presently she is working as an Associate Professor in Chitkara Business School, Chitkara University. She has taught various subjects like Accounting, Statistics, Business Research Methods, Corporate Finance, Financial Management, Economics, SAPM, AOR, etc. Her research work includes Corporate Governance, Banking and Finance, Systematic Literature Review, Blockchain, Network Analysis,

Insurance, Network Analysis, etc. ORCID ID: <https://orcid.org/0000-0002-5566-693X>.

Monica Gupta has done BCom from MCM DAV College, Punjab University, Chandigarh. MBA (Finance & HR) and PhD in Management (Business Administration) in Entrepreneurship and Small Business. Her total experience is 10 years in the field of education and research. She has papers published in various national and international journals and research papers presented at various conferences. She has an interest in teaching various subjects like Global Finance, Organisation Behaviour, General Management and many more. She has filed nine patents and has SCOPUS-indexed publications. She is currently working as an Assistant Professor and coordinator for BBA Prof Courses at Chitkara Business School, Chitkara University, Punjab, India.

Munish Gupta works as an Associate Professor at the University School of Business, Chandigarh University. My professional qualifications are a Master's in Commerce with a specialisation in Finance. He was awarded PhD degree in Commerce (finance and accounting). He has 14 years of experience in academic and professional settings. Capable of facilitating the publication of thought-provoking research. Experienced administrative assistant and data analyst seeking a position in finance.

Priya Jindal is currently working as an Associate Professor at Chitkara Business School, Chitkara University, Punjab, India, and holds a Master's degree in commerce and economics. She earned her doctorate in management. She has contributed more than 16 years in teaching. She supervised four PhD research scholars and two MPhil candidates. There are numerous research papers to her credit in leading journals; among them, seven research papers have been published in *Scopus Indexed Journal*. Her areas of research included Banking, Finance and insurance. She has filed more than 21 patents and one copyright. She is the editor of two books under IGI publications, and both the books got indexed in Scopus.

Pankaj Kathuria, Assistant Professor, Chandigarh University, is a Faculty in the field of Computer Science. He has a teaching experience of around 7 years. His research subjects include Big Data, AI, Network Analysis, Network Analysis, Chatbot, Insurance, Machine Learning, Systematic Review of Literature, Network Analysis, Crypto currency, Technology and many more.

Harleen Kaur is working as an Assistant Professor in USB, Chandigarh University, Mohali, Punjab. She has a teaching experience of 3 years and full-time research experience of 4 years. She has presented many publications in international and national conferences. She also has several publications in reputed journals (*ABDC, SCI, SCOPUS*).

Kirti Khanna is an Assistant Professor in the Department of UG Management Studies, FMS, MRIIRS. She has a Postgraduate in Commerce (International Business) and MPhil in Accountancy and Law (Commerce). Dr Khanna is an academician engaged in research and teaching since the last 10 years. She has an

honour of receiving Best Paper Award in International Conference Organised by Research Development Association (RDA) and RDRF, Jaipur in collaboration with Rajasthan Chamber of Commerce and Industry, Jaipur. She has the experience in organising conferences, FDPs/MDPs and also taken sessions as a Resource Person in workshops. She has published several research papers in journals of international repute.

Pardeep Kumar is working as an Associate professor at the University School of Business, Chandigarh University, India. He is a versatile educator, researcher and trainer with more than 14 years of professional experience in the areas of professional teaching. He has published two books, several research papers in various international and national journals, and has presented papers in several international and national conferences and seminars in the field of management. He is a life member of the Indian Society of Technical Education (ISTE).

K. Santhanalakshmi earned her PhD in HR management from SRM University in Chennai in 2015. Her extensive subject expertise encompasses Legal Aspects, Entrepreneurial Development, Creativity and innovation, Strategic Management, HRM, Industrial Relations, Business History and Business Ethics. She has excelled in securing funding for projects from DST-NIMAT, EDI India and SERB since 2017, focusing on Entrepreneurship Camps, Faculty Development Programs, Women's Entrepreneurship Development Programs and various research areas. She has an impressive track record of publishing and presenting papers in conferences and journals, including four Scopus publications. In 2020, she obtained copyrights for Management Games in HR, Marketing, Operations and Finance domains. Dr Santhanalakshmi has authored over 22 articles at both national and international levels, along with 18 articles in national-level conference proceedings. Her work has been featured in esteemed journals like *Scopus* and *ABDC*. She is an active member of the IGNOU Scheme, the Indian Science Congress and the International Economics Development and Research Centre (IEDRC).

Eduard Mihai Manta is a PhD student at the Doctoral School of Cybernetics and Statistics and has over seven years of experience in model risk management, 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.

Meena G is a PhD candidate in the Faculty of Management of the SRM Institute of Science and Technology. She has a BBA degree in Business Administration (2007) and an MBA degree in Human Resources (2009) and a D-tech in Teaching Professional Courses (2017). Her research involves the Open innovation and technology adaptation of employees. She has work experience of 7 years as a Team leader in E-publishing at Scientific Publishing Services (P) Ltd and Seventh-Day Adventists Matriculation Higher Secondary School. She proudly

presents her research at prestigious institutions, including IIM Nagpur and the Indian Academic Researchers Association, where she received the Best Researcher Award in 2023. Her research contributions extend to UGC care journals and book chapters, earning her recognition for innovative research at the Global Excellence Awards. Hailing from Chennai, Tamil Nādu, India, she stands as a promising scholar in the field.

Akansha Mer is an Assistant Professor in the Department of Commerce and Management, Banasthali Vidyapith, Rajasthan, India. She has earned her doctorate on Work Engagement in NPOs from Banasthali Vidyapith. She has 2.5 years of corporate and about a decade of academic work experience. Her research interests include work engagement, adoption of technology by consumers, mindfulness, workplace spirituality, working pattern of non-profit organisations and artificial intelligence in HRM and marketing. She has published research papers with Emerald, Springer, Taylor & Francis (Routledge), Sage, Wiley, Inderscience, etc.

Nidhi Mittal is currently pursuing PhD in finance as a recipient of the UGC's Junior Research Fellowship at Haryana School of Business, Guru Jambheshwar University of Science & Technology, Hisar. She holds a Master's degree in commerce, and her area of interest is corporate finance. Her paper 'Voluntary Disclosure of Financial and Non-Financial Information: A Literature Review' was published in an edited book titled *Florilegium-Management Theory, Research and Practices* in February 2023 and presented the paper 'To study the COVID-19 spread in India and its impact on GDP – Insights from the SIR Model' at an International Conference in 2022.

Sangeeta Mittal is a faculty member at Guru Jambheshwar University of Science and Technology, Hisar. She has been teaching since 1999. She has pursued MCom and MBA. During her MBA, she was conferred a gold medal by IMSAR, MDU, Rohtak. Her professional domain is finance. Her papers titled 'Analysis of the casual relationship between FDI and TRADE in BRICS nations – an empirical study' and 'Trade Credit And Company Value: A Study On Small Cap Companies in India' were awarded as best papers at the International Conference in 2017 and 2021.

Mohamed Ismail Mohamed Riyath is an accomplished academic and lecturer in the Department of Accountancy and Finance at the Faculty of Management and Commerce, South Eastern University of Sri Lanka. He graduated with a BBA Specialisation in Finance, achieving First Class Honours, and went on to earn an MSc in Management from the University of Sri Jayewardenepura. Driven by his passion for research, he obtained his PhD in Finance from Sabaragamuwa University of Sri Lanka. With a focus on Accountancy, Finance and multidisciplinary studies, he has published numerous research articles in respected academic journals and has presented his findings at prestigious international conferences. His dedication to professional development is evident through his membership in The Institute of Certified Management Accountants of Sri Lanka and various other professional societies. Beyond his academic accomplishments,

he has demonstrated strong leadership abilities, having served as Head of Department and holding key roles in research and innovation, as well as internal quality assurance.

Kiran Nair, an esteemed academic and marketing professional, is an Associate Professor of Marketing at Abu Dhabi University, holding an MBA and a Ph.D. in Marketing, specialising in consumer behaviour. Before joining in 2023, he spent 5 years at the Abu Dhabi School of Management, contributing significantly to academia with over 30 research articles. He was an active participant in international conferences and presented in Oxford, UK, Austria, Malaysia and Sri Lanka. With 17 years of industry experience, he held leadership roles in multinational organisations, specialising in retail management, vendor collaboration and distribution across the Middle East.

Shivinder Nijjer is currently working as an Assistant Professor at Birla Institute of Management Technology, India. She holds more than a decade of academic teaching and research experience. Her research has appeared in leading journals which include technological forecasting and social change and others.

Catalina Radu is a Master's student at Universite Paris Saclay following a degree in Human Computer Interaction and Design with a minor in entrepreneurship. She previously graduated from Bucharest University of Economic Studies, within the Economic Cybernetics BSc. Along with her studies, she invests her time researching different topics in machine learning and human-computer interaction. She finished a research internship in ex situ group of the INRIA laboratory in Orsay in which she realised an experiment of shaping human behaviour in a simple entertaining context. Currently, she is working on her dissertation.

Mustafa Hakan Saldi graduated in industrial engineering from Yıldız Technical University's Mechanical Faculty of Natural and Applied Sciences in 2011. He got a language and engineering education in the United States between 2011 and 2012. He completed his Master's degree in Yıldız Technical University's business administration department of Social Sciences Faculty. He accomplished his doctorate in management part of the School of Economics and Administrative Sciences at Anadolu University. He studied as an assistant operation expert at Vakıf Emeklilik, a research analyst in Orh + investment, a production engineer at Öztiryakiler and a lean production engineer at Tusaş Engine Industries (TEI). ORCID ID: <https://orcid.org/0000-0001-5043-4606>.

Vikas Sharma works as an Associate Professor at the University School of Business, Chandigarh University. His professional qualifications are a Master's in Business Administration (MBA) degree with a specialisation in finance. He was awarded a PhD degree in management (finance and accounting). He has 13 years of experience in academic and professional settings. Capable of facilitating the publication of thought-provoking research. Experienced administrative assistant and data analyst seeking a position in finance.

Sandeep Singh is acting as an Assistant Professor at University School of Applied Management, Punjabi University Patiala, Punjab, India. He has more than 10

years of experience in teaching and research. He is a member of numbers professional and academic bodies and also serving as a life time member of Indian Commerce Association. He is also a founder member of Business Research Plasma (BRP). He has published more than 27 research articles and contributed book chapters in *ABDC*, *SCOPUS* and *SCI* journals. His key area of research is related to procrastination behaviour, sustainable development, entrepreneurship and psychological issues in different sectors. He is a trainer of various software like SPSS, AMOS, Warp-PLS, Smart-PLS, ADANCO and JAMOVI. He is a reviewer of various Scopus and ABDC listed journals.

Kanchan Singhal is a research scholar in the Department of Commerce and Management at Banasthali Vidyapith, Rajasthan. She is presently engrossed in the pursuit of her Doctor of Philosophy (PhD) in the domain of Human Resource Management. Alongside her academic journey, she is actively involved in the writing research papers, reflecting her dedication to contributing valuable insights to her field. Her academic achievements include the successful clearance of the National Eligibility Test (NET) and Junior Research Fellowship (JRF) in Commerce, underscoring her commitment to academic excellence and research.

Kiran Sood is a Professor at Chitkara Business School, Chitkara University, Punjab, India. She 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, Kiran had served four organisations with a total experience of 18 years. She has published various journal articles and presented papers at various international conferences. She serves as an Editor of the refereed journal, particularly the *IJBST International Journal of BioSciences and Technology* and *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 and finance in insurance, insurance management, economics and management of innovation in insurance. She has edited more than 10 books with various international publishers such as Emerald, CRC, Taylor & Francis, AAP, WILEY scrivener, IET, Rivers Publishers and IEEE.

Anita Tanwar is working as an Assistant Professor in Chitkara University. She has done her MBA from, Maharishi Dayanand University and MPhil and PhD in the area of banking. She has a corporate experience of two years in The Ambala Central Cooperative Bank and an experience of nine years in teaching. Moreover, she has published many research papers in UGC Care listed journals and Scopus indexed journals and has attended many national and international conferences and seminars. She has been awarded NCC 'C' certificate and moreover best cadet ward. Furthermore, she is a reviewer in Scopus indexed Journal.

Shivani Vaid is currently working as an Associate Professor with Chandigarh group of Colleges, Landran. Dr Shivani has obtained a doctorate degree in

Commerce from IGNOU. She has authored books on fundamentals of management principles and organisational behaviour, human resources and many more. She has been fully dedicated towards research work and published multiple research papers focusing on work–life balance and worked as a paper evaluator for undergraduate and postgraduate courses at university level. Worked as content writer for educational online platforms like e-Pathshala and guided students in research projects and arranged career counselling classes for students.

Dr Parminder Varma serves as a Director at Sharekhan by BNP PARIBAS, bringing over three decades of experience in the financial sector. With a PhD in Management and an MBA in Financial Management, she has contributed to scholarly research with six publications, some of which have been recognized in Scopus-indexed journals and have received awards, reflecting her deep commitment to advancing knowledge in her field. At Sharekhan, Dr Varma is dedicated to fostering a customer-centric culture with a vision of making the firm a leading brokerage firm through collaborative strategies. Beyond her work, Dr Varma cherishes her time on fitness, travel, reading, and music, which underlines her commitment to a balanced and fulfilling life.

Amarpreet Singh Viridi is an Assistant Professor at the Department of Management Studies, Kumaun University Bhimtal Campus, Nainital (Uttarakhand). He has a corporate experience of working with a software company dealing with share market software based on Oracle database and forms. His research interests include the self-service technologies in banking, green product/marketing, adoption of technology by consumers, working pattern of NGOs, design thinking, fintech, artificial intelligence in marketing and HR, etc. He has published papers and book chapters with leading publishers like Sage, Inderscience, Wiley & Scrivener, etc.

Yatiwelle Koralalage Weerakoon Banda is a professor in the Faculty of Business, Sri Lanka Institute of Information Technology, Malambe, Colombo. He also serves as a Professor in Finance at the Faculty of Management and Commerce, University of Sri Jaywardenepura, Sri Lanka.

Foreword

Insurance is one of the most important economic and the world's most dynamically developing market. It is a very important segment of the financial market because insurance and the related protection against all risks play a fundamental role in managing financial resources. Decision-making in the insurance market is very complicated due to the various types of insurance, including life insurance, health insurance, property, accident insurance, car insurance and others. Each of them addresses different risks and needs. Insurance companies pay the insured losses incurred in case of any accident in these areas. For this purpose, many advanced techniques for modelling and analysing financial data are created yearly to monitor and improve the decision-making process in the financial sector. This ensures financial stability and risk minimisation for households, enterprises, organisations and the state. This allows companies and organisations to make conscious decisions, optimise their financial strategies and increase efficiency and accuracy in various financial processes. Many tools are available for risk analysis, some simple and others more complex, such as SWOT Analysis, Monte Carlo Risk Assessment Method, Value at Risk (VaR) Assessment Method, Risk Factor Analysis (RFA), Risk Matrix and many other classic tools. Recently, due to the rapid development of IT systems and, consequently, the method of collecting and storing data, including financial data, has resulted in the creation of modern tools for data analysis and collection. Traditional data types were structured and could be easily stored in a relational database. With the emergence of Big Data technology, new, unstructured data of unknown value are being collected, originating from various social media (Twitter, Facebook, LinkedIn, etc.), web tracking technologies or mobile applications or data from equipment with sensors. For some enterprises, this may be millions of terabytes of data. Such a huge amount of data contributed to the creation of innovative analyses, enabling the study of interdependencies between people, institutions, entities and processes and using the obtained conclusions with much greater precision than before. This allows for making effective decisions. Currently, the main innovation lies in having technologies and methods that allow the analysis of huge amounts of data and the analysis and formulation of conclusions based on unstructured data such as text data. This phenomenon allowed for a continuation of Turing's assumption from the 1950s, in which he suggested that machines, like humans, can draw logical conclusions to solve problems or decision-making. These assumptions have become a reality because we can teach machines instead of programming them. This is made possible by the availability of big datasets that can be used to train

machine learning models. For this purpose, the giant's market has created and used various artificial intelligence algorithms such as Google, Amazon, Microsoft and others. In the era of artificial intelligence, data are of great importance. Data help artificial intelligence systems learn, improve and increase accuracy. For example, AI systems use data to generate insights, predict outcomes and decision-making. For an AI system to succeed, it is necessary to have the highest quality data available, as these data are used to train, validate and test the AI model. A machine learning system that is not powered by data would be limited in its capabilities and unable to use its full potential. Scientists have recently collected motion, temperature and other physical sensor data. One type of data from sensors is data from human physiological measurements. Examples of physiological measurements include brain electrical activity, electrodermal activity (skin-galvanic reaction), muscle electrical activity, eye movement and facial expression. Based on this type of measurement, it is possible to analyse human reactions to external stimuli during various cognitive and emotional tasks. This approach allows obtaining information at its source (in the brain) before presenting it as an opinion, assessment or decision. In this way, data collection can contribute to the creation of innovative approaches to financial analyses in business and, at the same time, increase the efficiency and accuracy of conclusions from these analyses, which can constitute the basis for making rational business decisions. The main objective of this book is to provide good knowledge about financial analytics in business perspectives on increasing efficiency and accuracy, especially in the field of finance and insurance. The primary goal of this book is to provide good knowledge of Finance Analytics in Business Perspectives on Enhancing Efficiency and Accuracy, particularly in the insurance field. The company's performance on the Stock Exchange was analysed in the context of the war and COVID-19. Innovative solutions for the financial sector were discussed regarding financial instruments and related services using fintech technology and AI to improve the efficiency and availability of services offered on the market. Moreover, the book discusses issues related to blockchain technology, meta-analysis covering the studies of developed and emerging economies and business intelligence (BI) in banking in perspectives on enhancing efficiency and accuracy. The book covers selected aspects of Finance Analytics in Business and presents the importance of innovative methods and technologies for theoreticians and economic practice. I wish the readers great learning and finding of research gaps for future research.



Prof Dr Hab. Inż. Kesra Nermend
Director of Institute of Management
Head of Department of Decision Support Methods and Cognitive Neuroscience
Institute of Management
University of Szczecin

This page intentionally left blank

Preface

This book ‘Finance Analytics in Business: Perspectives on Enhancing Efficiency and Accuracy’ brings together experts from diverse backgrounds, blending theoretical depth with practical insights at the intersection of finance and analytics. Aimed at both students and professionals, this book serves as an invaluable educational resource and a toolkit for continuous professional development. Each chapter provides actionable insights, showcasing the transformative impact of analytics on financial efficiency and accuracy. The contributors, a mix of seasoned professionals and academics, offer a comprehensive understanding of the subject, ensuring a rich and well-rounded exploration. Whether you’re a student entering the world of finance or a seasoned professional navigating the complexities of the industry, this book provides a guide to leveraging analytics for strategic decision-making. With a focus on emerging trends like machine learning, blockchain integration, and ethical considerations, the book doesn’t just capture the current state of finance analytics; it propels readers towards the future, where the convergence of finance and analytics opens new horizons for innovation and excellence. Welcome to a journey where theory meets practice, and analytics becomes a catalyst for efficiency and accuracy in the ever-evolving landscape of finance.

This book:

- **Blends Theory and Application:** Bridging theory and real-world application for practical insights.
- **Expert-Led Content:** Features seasoned professionals, ensuring real-world relevance.
- **For Students:** Offers a structured foundation and prepares the next-gen for industry demands.
- **For Professionals:** Facilitates continuous learning and skill enhancement for finance practitioners.
- **Efficiency and Accuracy:** Showcases how analytics optimises workflows and improves decision precision.

Kiran Sood

Chitkara Business School, Chitkara University, Punjab, India;

Simon Grima

University of Malta, Malta; University of Latvia, Latvia