BIG DATA ANALYTICS IN THE INSURANCE MARKET

EDITORS

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Big Data Analytics in the Insurance Market

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Preface

The insurance industry has always been quite conservative; however, the adoption of new technologies is not just a modern trend but a necessity to maintain the competitive pace. This book will be a 'must' for people who require a good knowledge of big data concepts and their applications in the real world, particularly in relation to insurance. It will benefit people working in finance and for master's students using big data tools. The authors present big databases: data analysis methods, learning processes, application to insurance, and position within the insurance market. Well-known authors write individual chapters in this field. Combining academic rigour and a strongly practice-oriented approach addresses both the competitive environment and the insurance business management. Furthermore, it provides a general overview of insurance undertakings and technical topics are explained in depth. Filling an important gap in the market for textbooks on the insurance business, it is divided into nine chapters with sub-topics.

The modern administration of insurance companies requires a wide variety of current knowledge and relevant background information. The primary goal and main objective of this book is to provide good knowledge of big data concepts and their applications, particularly in the field of life and non-life insurance. Big Data and Analytics for Insurers is the industry-specific guide to creating operational effectiveness, managing risk, improving financials, and retaining customers. In the advent of big data and analytics, this book fills the void with concrete information on using big data in the context of day-to-day insurance operations and strategy. This book also examines the behaviour of individuals at risk and insurance industry decision-makers involved in selling, buying, and regulation. It compares their actions to those predicted by benchmark models of choice derived from classical economic theory. This book fills a critical need in setting forth the role of modern risk analysis in managing catastrophe risk: storms, hurricanes, tornadoes, geomagnetic events, terrorism risk, earthquakes, floods, COVID-19. There is no comparable reference work for this important subject area. It strikes a good balance between the technical aspects of the subject and the practical aspects of decision-making. From fraud analytics in claims management to customer analytics, to risk analytics in solvency, the comprehensive coverage presented makes this book an invaluable resource for any insurance professional, which include practitioners and policy-makers working at insurance companies, insurance agents, brokers, insurance underwriters, underwriter manager, insurance associations, bankers, consultants, attorneys, the new insurance company hires, risk managers, financial planners, and business owners. This book is equally

appropriate for advanced undergraduate and graduate students of economics, management, and finance; this text provides the background required to understand current research.

The main objectives of this book are to:

- Provide deeper insights into big data concepts and their applications, particularly in life and non-life insurance.
- Investigate big data's specific impact on the insurance industry.
- Provide case studies, worked-out examples, and step-by-step methods for dealing concretely with specific situations.
- Focus on towards a critical need in setting the role of modern risk analysis in managing catastrophe risk.
- Highlight the remarkable impact of telematics in increasing the productivity of motor insurance and health insurance.

Foreword

Dr. Madhu Chitkara
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The emergence of analytics in big data and artificial intelligence has hit the tip of the iceberg for profound transformation in the insurance market. Many established insurance companies had invested heavily in the automation of insurance products. Over the period, the insurance products have been diversified to meet challenging and dynamic environments.

The edited book highlights the current aspects of the insurance market in terms of analysing big data generated from insurers' practices and dependence and the economics of structured and unstructured data. The upcoming technologies like text analysis, emotion detection, social media extraction, text mapping and their significance in generating revenue in the insurance market is described. Also, how productivity is increased by the use of telematics in the health sector and motor insurance sector. Later in the text, the role of big data in the growth of sustainable economics with FDIs, trustworthiness and ethics are discussed. The related use cases of data science for claim processing, fraud detection and prevention, policy administration, pricing and underwriting are discussed. The cybersecurity issues, data protection, and big data regulatory reforms are presented at the end. The book is very well structured to provide an overall understanding of the current practices, trends, future technologies in the field of the insurance market.

I wish the readers a great learning ahead, and indeed this book will mark a milestone in their learning journey.