



Analytics for Insurance

The Real Business of Big Data



TONY BOOBIER

WILEY

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'Insurance was one of the first industries to use analytics, but now the game has changed. There are new types of analytics, new forms of data, and new business models based on them. Insurers need only read this book if they wish to remain in business.'

—Thomas H. Davenport, Distinguished Professor, Babson College; Research Fellow, MIT;
Author, *Competing on Analytics*, *Big Data at Work*, and *Only Humans Need Apply*

'If you want to understand how analytics is applied in insurance then this is THE book to read. Tony has succeeded in writing not just an authoritative and comprehensive review of the insurance industry and analytics but one that is actually enjoyable to read. He covers a range of topics that extends way beyond the core areas of underwriting, risk modeling and actuarial science for which the industry is known but delves into marketing, people and implementation too. This book brings together the author's extensive knowledge of both insurance and technology and presents it in a form that makes it essential reading for market practitioners and technologists alike.'

—Gary Nuttall, Head of Business Intelligence (2012–2016), Chaucer Syndicates

'In this paradigm-shifting book, Tony Boobier provides us with the foundation to explore and rethink the future of the insurance industry. Visions of the future, a review of key processes and implementation concepts all combine to provide the essential guide to help you take your organization into the next decade.'

—Robert W Davies, Consultant; Author, *The Era of Global Transition*;
Senior Visiting Fellow, Cass Business School, London

'This book is a valuable read for any professional in the Insurance field who wishes to understand how spatial information and GIS can apply to their field. It introduces the first principals of location theory and goes on to illustrate how they can be applied practically. I would recommend it fully.'

—Jack Dangermond, President, Environmental Systems Research Institute (ESRI)

'The number-one ranked finding from all recent buyer and customer research is that sales professionals today must be able to educate their buyers with new ideas and perspectives and have a real in-depth knowledge of their customers' burning issues. Tony Boobier explains clearly these key issues within insurers today. He goes further by explaining how insurers themselves can take full advantage of the dramatic advances in Analytics and new technologies. For those insurers seeking to optimize their own sales process and sales performance by using the power of Analytics to successfully target and capitalize on their customers' critical issues, this book is required reading. For those sales professionals seeking to successfully sell to the insurance industry, this book really does hit the mark of providing key insights and new perspectives that will enable a deep understanding of the issues affecting the insurance industry today.'

—Tom Cairns, Founder and Managing Director, SalesTechnique Limited

'This book is very insightful and shows the author is again thinking ahead of everyone else. Analytics has a major part to play in the supply chain. More information received at FNOL will help provide the right solution to the problem and speed up the process.'

—Greg Beech, CEO, Service Solutions Group

'This extensive and comprehensive text draws on the author's extended experience of working in the insurance sector in a variety of roles and levels over many years, whilst drawing on his unique insight gained in working in other spheres and disciplines, to provide a highly insightful and relevant account of the application and future application of analytics in insurance in the context of the emergence of Big Data. The text covers an extensive and impressive range of contemporary applications within insurance, including financial risk, finance, underwriting, claims, marketing, property insurance and flood risk, liability insurance, life and pensions, people and talent management. The text goes further in boldly providing a practical account and guidance on the approaches to the implementation of analytics.'

Tony Boobier adopts a pragmatic and confident account that is useful to practitioners involved in insurance, and more widely in the use and application of Big Data. The text is also useful and accessible to those studying in the areas of finance, investment and analytics in providing an exhaustive account of the profession from the lens of a highly experienced and proven practitioner. I have no hesitation in recommending this text to practitioners and students of insurance and Big Data alike and I am sure it will become a highly valuable contribution to the "art of insurance".'

—David Proverbs, Professor, Birmingham City University

'This publication covers a huge amount of ground. "Big Data, analytics and new methodologies are not simply a set of tools, but rather a whole new way of thinking" seems to sum up the approach and value of this book, which offers fascinating insights into developments in our industry over recent years and raises important questions regarding how we approach the future. I found the Claims section full of illuminating information about the roles and approaches of all the parties involved in the process – insurers, supply chains and experts' roles and attitudes that makes for a fascinating read – it is technical, insightful, challenging and full of vision to take the insurance industry into the future. The section on leadership and talent should resonate with all of us working in insurance.'

—Candy Holland, Managing Director, Echelon Claims Consultants;
Former President, Chartered Institute of Loss Adjusters

'I feel it comprehensively brings the insurance business and analytics together in an easy-to-read/understand and professional, researched way. This book certainly indicates the width and depth of Tony's insurance and analytics knowledge. I also feel that it could be an effective overview and reference for existing and incoming insurance management, through to IT suppliers, other professions involved in the insurance markets, and also for students.'

As someone who has been beaver away for thirty-five years at trying to narrow the divide between insurance and IT at strategic level, much of the content is music to my ears, and underlines that the author and I are, as always, singing from the same hymn sheet – analytics in its broadest sense is indeed an ideal catalyst to achieve this objective.'

— Doug Shillito, Editor, *Insurance Newslink/Only Strategic*

'Analytics programs that are business driven have proven they deliver substantial benefits within the general insurance industry over a number of years. One of the key analytics challenges facing the market is to establish similar routes to value in more specialist sectors such as the London Markets. This book provides valuable food for thought for those keen to take on this challenge and gain a competitive advantage.'

—Glen Browse, MI, Data and Analytics Specialist
(with over 20 years' experience across the banking and insurance industries)

Analytics for Insurance

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Founded in 1807, John Wiley & Sons is the oldest independent publishing company in the United States. With offices in North America, Europe, Australia and Asia, Wiley is globally committed to developing and marketing print and electronic products and services for our customers' professional and personal knowledge and understanding.

Preface

I never intended to work in insurance, technology or analytics, but rather those three things found me. Like so many others, my journey to insurance and analytics started elsewhere and for me it was on the engineering draughtsman's table. There I used mathematics to design new structures but my heart was not so much in the creation of new structures, but rather in the understanding of why structures fail – and then who might be responsible for such failure.

In the failure of structures, all roads lead to the insurance industry. Structures fail because of defective design, workmanship or materials, and there is insurance cover for all of these. With the passage of time I was to learn that in some cases it might be possible to anticipate the cause of failure even before a physical investigation by using data. It seemed an important thing to step away from my engineering background and qualifications to learn a new trade, that of insurance, and in time I became qualified in that industry. Along the way I also discovered the professions of marketing and supply chain management and added these as strings to my bow.

Each time I stepped outside one profession to learn another, it felt like stepping off the top diving board at the diving pool. Looking down, I could see the water but had no real sense of how deep or even how warm it was. I discovered the main barriers between professions were not just of capability but of language, with each profession having its own terminology. Beyond this, as an outsider I couldn't help but see the interdependency between all these professions within the insurance community.

Ten years ago, the lure of technology became overwhelming for me, and there was something in the North American market that I found compelling. At that time they were some years ahead of the UK market although since then the gap has narrowed significantly. They seemed to have recognized technology as the great enabler and not as a threat. Not only did I want to understand why, but also how.

I stepped off the top of the proverbial diving board yet again from the relative safety of the insurance community into the dark waters of technology but this time it was more difficult. The fast moving world of that newer environment made the transition harder. I came to realize that the future of insurance is not just about technology nor about insurance but rests somewhere in between. In a short time, insurance and technology will be irretrievably intertwined and because of this, the insurance industry will have become transformed. New professions will inevitably emerge which sit in that 'no-man's land' between insurance and technology and those who reside there will probably hold the key to the future of the insurance profession.

So my challenge is, who is best placed to sit in that 'no-man's land'? Is it the technologist who has to understand insurance to appreciate the subtleties and nuances of the insurance

contract, and without which any attempt to apply the opportunities of data and analytics will fail? Or is it the insurer who has to reconcile the principles of insurance with the new problems of data and gaining deeper insight? Or will new professions emerge, occupying not that place called 'no-man's land' but rather some 'higher ground'? Won't this allow them to see in both directions, both towards the line of business and also towards the technology department (if in the future it still exists, as we currently know it)?

How will those individuals cope with stepping off the high diving board? What capabilities and characteristics will they have? How will they be supported by professional institutions which appear, at least for the moment, to be behind the times? How will those individuals learn?

This book aims to be some sort of guide for those looking to occupy either no-man's land or the higher ground, however they see it. It doesn't set out to be either a compendium of insurance, nor of technology. I have resisted commenting on any particular insurer or vendor. Others with a more independent viewpoint can do this elsewhere, and provide 'real time' assessment. For those readers who, like myself, are 'longer in the tooth' there is also a different, perhaps harder challenge, which is that of learning to forget old approaches in a new dynamic world.

Finally, I have attempted to offer some thoughts about implementation. Many insurers have a notion that they want to become 'analytical' but their challenge seems to be implementation. They think about the 'what' but struggle with the 'how.' At a time when many if not all insurers will want to jump on the data and analytics bandwagon, what are the issues around putting this into practice, and how might they be overcome? At a time when 'agile' is the trend, how might this be accommodated into our rather conservative industry?

So in conclusion, this book reflects what I have personally learned on my own journey. Emotional ups and downs; floods and droughts; risks and realities; integrity and fraud; suppliers and supplied to; inspectors and inspected; and the rest. It's really been quite a trip.

Tony Boobier
February 2016

Acknowledgements

Many of the ideas that appear in this book have been amassed whilst working in the insurance and technology industries for over 30 years. My thanks are therefore to all those who contributed directly and indirectly, and sometimes unknowingly, to all my experiences and learning over that time, leading to this book being created.

In particular, I want to thank Terry Clark and Stuart Hodgson at Robins who gave me the foundations of insurance, Garry Stone and Stuart Murray who both started me on the analytic path and Francesca Breeze who gave me the confidence to write.

In addition, I would like to thank all those who helped me on my journey in the technology sector, provided essential comradeship and shared their insights into industry trends. These especially include Craig Bedell, Owen Kimber and Vivian Braun at IBM, but there are many more there who have played an important part and to whom I owe a debt of gratitude.

Throughout my career I have depended on professional institutions to provide me with a window into their industries and professions. To that extent I would like to thank the Institute of Civil Engineers, the Chartered Institute of Marketing, the Chartered Institute of Loss Adjusters (these three institutes awarded me with Fellowship status), the Chartered Institute of Supply and Procurement, and last but not least, the Chartered Insurance Institute.

Many thanks to all those at Wiley who provided comments, suggestions and guidance, especially Thomas Hykiel. I first met Thomas at a conference in Amsterdam and I am extremely grateful to him for helping turn an idea into reality.

Last but not least I have my family in the UK, Chile and China to remember. Michelle for her support, patience and belief in my ability to finish this task. Chris for his unflagging support and for introducing me to new markets and cultures. Tim for his constructive suggestions when I started to run out of steam. And Ginette for always being in touch and keeping my feet on the ground.

About the Author

Tony Boobier BEng CEng FICE FCIL A FCIM MCIPS has almost 30 years of broad-based experience in the insurance sector. After over 20 years of working for insurers and intermediaries in customer-facing operational roles, he crossed over to the world of technology in 2006, recognizing it as one of the great enablers of change in an increasingly complex world.

Based in Kent, UK, he is an award-winning insurance professional holding Fellowship qualifications in engineering, insurance and marketing ‘with other stuff picked up along the way.’ A frequent writer and international public speaker, he has had many articles published over three decades on a wide range of insurance topics ranging from claims management to analytical insight, including the co-creation of industry-wide best practice documents.

His insurance focus is both broad and deep, covering general insurance, life and pension, healthcare and reinsurance. He is particularly interested in the cross-fertilization of ideas across industries and geographies, and the ‘Big Data’ agenda which he believes will transform the insurance industry. ‘I lie awake at night thinking about the convergence between insurance and technology,’ he says.

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