

The Organisation of Tomorrow: How AI, blockchain and analytics turn your business into a data organisation

Author: Mark van Rijmenam

Publisher: Routledge

Publication date: Q2 2019

Abstract

Emerging technologies change organisations as we know them. Organisations that want to remain competitive in a changing environment, need to anticipate shifting behaviours of stakeholders and technologies. Technologies such as big data analytics, blockchain and artificial intelligence; as well as trends such as the Internet of Things are challenging common industry practices. These technologies challenge organisational design and strategic management and they make data more important than ever before.

Big data analytics empowers consumers and employees. This can result in an open strategy and a better understanding of the changing environment. Blockchain enables peer-to-peer collaboration and trustless interactions governed by cryptography and smart contracts. Meanwhile, artificial intelligence allows for new and different levels of intensity and involvement among human and artificial actors. With that, new modes of organising are emerging: where technology facilitates collaboration between stakeholders; and where human-to-human interactions are increasingly replaced with human-to-machine and even machine-to-machine interactions. These disruptions to accepted norms require a change in approach to how we organise activities within and across organisations.

This book offers organisations a blueprint for how to adapt to these rapidly changing times by introducing a new model, the $D^2 + A^2$ model. This model, based on years of research, offers organisations a new approach to turn their existing organisation into a data business. It will help organisations to be ready for the data-driven and exponentially-changing society that is upon us.

Organisations in the not-too-distant future will unavoidably be involved in numerous interactions among humans and machines. This will lead to complex strategies and unexpected technical, ethical and social implications. Offering dozens of examples of industry leaders such as Walmart, Telstra, Alibaba, and Microsoft, this book explains how big data analytics, blockchain and artificial intelligence force us to rethink existing business models and to develop organisations that will be ready for these human-machine interactions. It offers governments, professional services, manufacturing, finance, retail and other industries a clear approach for how to develop products and services that are ready for the 21st century. This book is a must-read for every organisation that wants to remain competitive in our fast-changing world.

Index

Chapter 1: Welcome to exponential times	6
1.1 The importance of data	7
1.2 The downside of data	9
1.3 The changing face of collaboration	13
1.4 Conclusion	15
Chapter 2: How technology changes organisations	17
2.1 The concept of sociomateriality	20
2.2 The concept of technology in organisations	22
2.3 The introduction of the artificial	25
2.4 Towards a tripartite analysis of sociomateriality	29
2.5 Conclusion	31
Chapter 3: Big data analytics to understand the context	34
3.1 Datafying your business	36
3.2 From data to information to wisdom	39
3.3 Analytics use cases	42
3.4 Sensing, seizing and transforming	45
3.5 Empowerment and open strategising	49
3.5 Security and privacy	51
3.5.1 Security analytics	55
3.5.2 The Chief Information Security Officer	56
3.6 Conclusion	58
Chapter 4: Blockchain to distribute the organisation	60
4.1 Introduction	61
4.2 What is blockchain	63
4.2.1 Cryptographic primitives	68
4.2.2 The consensus mechanism	69
4.2.3 Transactions	73
4.2.4 Smart contracts	74
4.2.5 The decentralised ecosystem	76
4.2.6 Changing organisation design	79
4.3 Cryptocurrencies and tokenomics	81
4.4 Blockchain and privacy regulation	86
4.5 Trustless transactions	89

4.6 Blockchain and reputation	91
4.7 How blockchain changes collaboration across industries	95
4.7.1 The financial services industry	96
4.7.2 The retail industry	99
4.7.3 The telecom industry	102
4.7.4 The manufacturing industry	105
4.7.5 The content industry	106
4.8 Conclusion	108
Chapter 5: The convergence of big data analytics and blockchain	110
5.1 Data sharing	112
5.2 Data governance	114
5.3 Data security	117
5.3.1 Data confidentiality	117
5.3.2 Data integrity	118
5.3.3 Data availability	119
5.4 Data privacy and identity	119
5.5 Data ownership	121
5.6 Conclusion	123
Chapter 6: Artificial intelligence to automate the organisation	125
6.1 The algorithmic organisation	127
6.2 Conversational AI	132
6.3 The dangers of AI	138
6.3.1 Explainable AI	140
6.3.2 Incorporating AI ethics	142
6.3.3 Control methods and the principal-agent problem	144
6.4 Conclusion	147
Chapter 7: Turning your organisation into a data organisation	149
7.1 Datafy	151
7.2 Distribute	153
7.3 Analyse	155
7.4 Automate	159
7.5 A note on privacy	163
7.6 Conclusion	164
Epilogue: Towards data-driven globalisation	166

Endorsements book *The Organisation of Tomorrow*

Mark van Rijmenam has written a superb executive guide to data, blockchain, and AI. The book presents hundreds of concrete examples to explain the actions that business leaders must take to remain relevant in today's dynamic environment.

Although based on technology, this is a business book. The author carefully examines the role of collaboration in creating business change and presents a framework to help any organization become data-driven and digital.

This book is meticulously crafted and researched; It rewards the reader with insight, practical advice, and greater understanding.

Michael Krigsman - Industry Analyst and host of CXOTalk

In this book, Mark takes us onto an in-depth and exciting journey on how organisations, our economy and society are transforming today. He navigates through the maze of new technologies and rewrites the change formulae for future success based on 4 key ingredients. That future captures our every digital touch points, predicts and gives it meaning to then distribute it as one single and decentralised source of the truth.

In such a reality, the centrally organised managerial capitalist structures are making place for ecosystems that are creating value in a decentralised, self-governed way and where choices are guided by human progress instead of the fear for machine dominance.

A must read for anyone with an ambition to stay relevant and profitable!

Stephan Janssens – Organizational Transformation & Blockchain Strategist

In *The Organisation of Tomorrow*, Mark van Rijmenam maps the landscape of today's most disruptive technologies and presents a clear-eyed and actionable roadmap for putting data at the very heart of every strategic decision your company makes. If you're looking for a compelling, practical guide to your own organisation's future, there's no better step to take than reading this book today.

Greg Verdino - Digital Transformation Advisor & Global Keynote Speaker

An intriguing and thoughtful introduction to the current technologies and their applications which are already having profound impact upon companies, staff, and consumers alike. The future is set to change in dramatic ways, and ‘The Organisation of Tomorrow’ will put you a step ahead.

Josh Ziegler - CEO, Zumata

It is often said that the organisation of tomorrow will be a data-driven organisation. However, business people in today's world often fail to understand the ins and outs of the digital revolution. The fact that the Internet has been so pervasive means that such business people really have to get to grips with digital concepts such as blockchain, AI and the implications of how data can enhance the power of your business. As well as respect the rights of your customers. Mark is an expert in this area and has given us a very useful account of this topic in a little less than 200 pages. His analysis is thorough and doesn't just rest on the positive sides. It also highlights some of the dangers of not using data-driven technologies properly. Furthermore, it encourages us to rethink the future of the Internet, not just for businesses, but for Society in general. This book is a must-read for all forward-looking business people who care about growing responsibly.

Yann Gourvennec – Founder of Visionary Marketing and Program Director of the Advanced Master's in Digital Business Strategy at Grenoble Management School

Our competitive landscape has changed, for good. This we all (hopefully) know. What is less well known is what the implications of this change entails for how we orchestrate our capabilities and assets to drive impact and value. The 20% of capabilities & assets that made us successful to date will not be the same as the new 20% critical to capture new economic value. Mark's book provides thoughtful and pragmatic insights into the roles and implications

of today's emerging (but tomorrow's table-stakes) technologies and how we respond to our changed competitive environment. Making sense of these changes requires navigation as to what to do when – which he provides.

Ralph Welborn - CEO of CapImpact

New technologies and startups are disrupting traditional business models and challenging legacy organizations to think differently. Mark offers his perspectives for organizations on how-to think about leveraging emerging tech such as analytics, blockchain and AI with an eye towards transforming their business into more data-driven organizations. This book is very relevant for business leaders who are interested in preparing their organization for a more digital future.

Mike Quindazzi – Managing Director, PWC

The world is changing at an ever-faster rate as the internet and digital become the drivers of commerce today. With new technology comes new opportunities and Van Rijmenam dives in and explains Blockchain, Artificial Intelligence and Big Data; not in a technical way, but in a way that senior business leaders should easily able to digest.

Timothy (Tim) Hughes - CEO and Co-Founder of Digital Leadership Associates

A compelling read for every data-driven organization who needs to excel and innovate in the rapidly evolving digital world.

Ronald van Loon - Top 10 Global AI, Machine Learning, Big Data Influencer

The book provides a new perspective on how AI, blockchain and analytics can transform a traditional business into a data-driven enterprise.

Starting with datafication, the $D^2 + A^2$ model will equip digital economy leaders to engineer a data-driven transformation, powered by some of the most profound technologies of our time. Ultimately to become one of the innovative organisations that will thrive in the new era in business.

Avoiding this book would be akin to avoiding the incredible opportunities and challenges that lie ahead for authentic digital economy leaders.

Rob Llewellyn - Chief Executive and Founder of CXO Transform

In his brilliant and extensive work, *The Organisation of Tomorrow*, Mark van Rijmenam dives deeply into the rapidly changing nature of organisations and the radically evolving notions of work in the 21st century. The organisation of tomorrow is no more likely to look and behave like the organisation of yesterday than the world of tomorrow is likely to have much resemblance to the world of yesterday.

Mark expertly addresses the drivers and inevitable consequences of the current ubiquitous digital disruption that has become an unstoppable force of nature, human nature, in organisations everywhere. Yes, humans are the creators and beneficiaries of these disruptive forces, due to our curious, creative natures, through our incessant innovation and insertion of new emerging technologies into our life and business processes on timescales that are becoming extremely much shorter than the lifespan of a typical person's career or a typical organisation's existence. Mark takes a deep and wide view of the transformations and disruptions that are taking place.

Mark examines these changes from the complementary perspectives of the worker and of the workplace. In particular, Mark illustrates how the notion of work is evolving rapidly at the frontier of the human-machine interface, where the AI that matters will be automated, augmented, assisted, accelerated, and adaptable intelligence. Mark further describes in wonderfully rich detail the emerging digital organization within the context of the three main drivers (data, blockchain, and AI) that define a new $D^2 + A^2$ model for the organisation of tomorrow that he introduces to us in this book.

Ultimately, we learn from Mark that the future organisation's success in the global arena will be measured in the three dimensions of trust (enabled by blockchain), efficiency (enabled by AI), and effectiveness (enabled by deep insights that are delivered through data from ubiquitous sensors). The internet of things may just as well be called the internet of insights. The size of an organisation will no longer be a metric of success. As the number of new emerging technologies continues to grow every year, we can be thankful that the most significant ones are converging into a unified business model and that Mark van Rijmenam has illuminated that model for us through an insightful broad vision of the organisation of tomorrow.

Dr. Kirk Borne, Principal Data Scientist, Booz Allen Hamilton