'… a must-read for data leaders building the foundation of value creation from data.'

Katia Walsh, Chief Global Data and Analytics Officer, Vodafone

THE CHIEF DATA OFFICER'S PLAYBOOK

CAROLINE CARRUTHERS
AND PETER JACKSON

***'Nothing, literally nothing, works in a company without the input of data in some shape or form...* well said Caroline and Peter! *Data is indeed here to stay. We've got pundits exclaiming that, data is the new oil, the new currency, the new bacon...*To all Chief Data Officers and companies looking for a Chief Data Officer, this book is all you need to get started. Caroline and Peter have thought of everything including the first 100 days in the CDO office!'**

Vanessa Eriksson, Chief Data Officer Advisor, PwC

'Without any doubt, this playbook is a must read for the primary audience, the CDOs. In my opinion, it is equally a must read for the secondary audience, the C-Suite, for the insight on how the role complements their businesses.'

Sham Kashikar, ex-Chief Data Officer, Sales & Marketing, Intel

The new and rapidly expanding role of the Chief Data Officer (CDO) is of significant interest and relevance to organisations and data professionals internationally. Written by two practicing CDOs, this new book offers a jargon-free, practical guide to making better decisions based on data.

Content covered includes:

- why does any organisation need a CDO?
- the secret ingredients of the successful CDO
- avoiding the hype cycle
- building the CDO team
- who leads the technology?
- the CDO and data governance: enablement not red tape.

This book will offer key insights and essential knowledge for CDOs looking to understand their position better, aspiring CDOs and data officers looking at career progression, those recruiting CDOs, and anyone else operating in the current data environment.

Caroline Carruthers is the first Group Director for Data Management for the Lowell Group and previously was Network Rail's first Chief Data Officer. As a trustee for CILIP she champions the growing professionalism of the data and information related disciplines.

Peter Jackson was the first Head of Data at The Pensions Regulator and then went on to be the first Chief Data Officer at Southern Water. Peter is driven by a strategic approach to data, and believes strongly in the value of demonstrating the 'art of possible' and expanding colleagues' understanding about data management, data technologies, data science and data governance.

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'This is a book for practitioners by practitioners. It offers must-read insights into the potential of data to transform. Whether de-mystifying the subject for busy C-Suite leaders, or offering practical checklists for first-time CDOs to benchmark progress, there's something here for anyone who cares about harnessing data to improve outcomes.
Read. Smile. Exploit.'

Tim Carmichael, *Chief Data Officer and Chief Analytics Officer, British Army*

'Brilliant overview for CDOs and senior leadership teams on this emerging and disruptive role. It also offers the reader an understanding of how the CDO – as a catalyst – has the dual task of creating transformational value from data and to greatly contribute towards the new data-driven DNA of the organisation's vision of the future.'

Matt Corey, *MD, Change Force*

'Nothing, literally nothing, works in a company without the input of data in some shape or form . . . well said Caroline and Peter! *Data is indeed here to stay. We've got pundits exclaiming that, data is the new oil, the new currency, the new bacon* . . . To all Chief Data Officers and companies looking for a Chief Data Officer, this book is all you need to get started. Caroline and Peter have thought of everything including the first 100 days in the CDO office!'

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'*The Chief Data Officer's Playbook* is the best overall resource available for CDOs and their teams. The release of this book is perfectly timed. The CDO Club tracks CDO hires globally, and last year alone the number of new CDO hires quintupled. The *Playbook* is a compendium of essential knowledge anyone operating in the current data environment must have.'

David Mathison, *Chairman, CEO and Founder, CDO Club/CDO Summit*

'In today's information-rich world, data-driven organisations have the competitive edge. Data analytics and data-driven insight make the difference between guesswork and timely, evidence-based decision making. Understanding the role of the Chief Data Officer (CDO) is the key to unlocking this potential. This handy, practical book gives you access to the expertise of market-leading practitioners who have harnessed the power of data to deliver real business gains in large-scale companies and organisations. Whether you are an executive looking to transform the use of data in your organisation or an aspiring CDO looking for hints and tips on how to develop your career and make a real impact, this is the book for you.'

Nick Poole, *Chief Executive Officer, CILIP*

'This practical guide is a must-read for data leaders building the foundation of value creation from data.'

Katia Walsh, *Chief Global Data and Analytics Officer, Vodafone*

Preface

We were recently on a panel at a conference discussing how to harness value from data - we've changed the discussion topic slightly so as to not identify the conference, event or other participants; to protect the 'not-so-innocent'. This topic, or a closely related one, has been a regular feature of the panels and discussions we've been involved with over the past two years. It seems everyone is trying to get to the heart of that question and find the answer. Data has been seen as such an inconsequential thing, that just seemed to be there, in the past; but there is a growing respect for data as a really fundamental asset - which is a great thing.

Everyone knows, because we've all been told many times recently, that data is the new oil. The question that then leads out of this is the one we have been facing: if data is the new oil, how does an organisation get value out of it? It is all very well having struck oil, but if you don't know how to get it out of the ground, or how to refine it into useful products, or that it can be transformed and manufactured into valuable products or consumed to create energy - what use is the oil in the ground?

On that recent panel we began by responding to some prepared questions. There were some great and experienced minds on the panel: leaders in their respective fields and all practitioners from the hard edge of industry, business and commerce. We each took turns to discuss the great value that could be derived from data. We each provided stunning examples of what could be done with data to transform, disrupt and innovate organisations and industries. It is interesting to note that the topic was definitely worded as 'digital assets' but we all spoke about 'data', and used the term data and not digital asset. After 30 minutes the Chair opened the discussion to questions from the floor, and there

it was; the question that has been asked in our experience over and over again, and this is it nearly word for word:

> Thank you for the excellent discussion and the inspiring examples, but I would like to know how my organisation gets from where we are now to be in a position to exploit the opportunities in our data; to extract the sort of value which you have all been talking about.

Here is the pattern of responses that get handed down from the panels in answer to that question: 'What you need is master data management', 'You need to bring all your data into a data lake/warehouse', 'You need to be able to ask the right question of your data', 'You need to establish true data ownership within the business'. On many occasions the audience are either happy with the responses, or aren't happy with the responses but don't want to show their ignorance and push for the sort of answer that they want. Either way, the outcome is pretty much the same, and that is where the discussion ends. But not on this occasion: the questioner listened patiently to the answers from this impressive panel and came back with his follow-up:

> Thank you again for your insight and suggestions. But how do you do those things? How does my organisation, and I am sure many others in this room, get from where we are today to be able to do the things you have just suggested so that we can then derive the fantastic value from our data like the examples you presented earlier? And I have written them all down to read up on later because they were like a foreign language to me.

Many of the conference-goers who attend these sessions focusing on deriving value from data are 'from the business'; they tend not to be 'data' professionals. They are CEOs, COOs or perhaps CFOs who want to understand how value can be derived from their data and if data is the new oil how do you unleash the energy within it?

Our answer to that question is 'Get yourself a Chief Data Officer as quickly as you can'. The Chief Data Officer (CDO) is the person who will take your organisation on the journey from where you are now to where you want to be. The CDO won't do this alone, the whole organisation will need to be part of making that journey possible, but the CDO will be the enabler, the one with the vision, the strategy, the

technical specialism and the experience to guide the way. The first step for any organisation wishing to make that journey is getting to that realisation and then making the decision to recruit a CDO.

In the past few years many organisations have got to this point, and there will be many more reaching this point over the next three years. Perhaps even the astute questioner's organisation reached that point and recruited a CDO shortly after that conference. Throughout the book we use the title Chief Data Officer (CDO) but we realise that organisations do assign different titles for the person/role that effectively has the function of the CDO within their organisation. This book is written for all of them and is meant to be inclusive for all in the senior data community.

The past two years

We have attended and spoken at a lot of conferences over the past two years. Many have been topic-specific, like the one just discussed: harnessing value from data, the power of Big Data, the opportunities of advanced analytics, master data management, among many more very specific data topics. Others have been aimed much more at data strategy and the function of this new emerging CDO role.

We had three motivations to write this book. The first was that lots of people were asking questions about the role: what does it do? Where does it sit in the organisation? Where do you recruit one? How do you recruit one? Who does it report to and how do you become one? The second was that no one seemed to have the answers: there was a lot of great discussion but no clear set of instructions. The role was so new, emerging rapidly and evolving as it emerged. Finally, the current population of CDOs is quite small; the network is tight and interacts extremely well. We have found that this small emerging group of professionals are very open to helping each other, discussing their experiences, sharing best practice, sharing their disasters and dilemmas. We have found that the network of CDOs is incredibly mutually supportive and eager to create a sustainable professionalism about what we do. Perhaps it is a case of pioneers sticking together.

These motivations came together for us at a data conference in London in November 2016. The enabler was meeting each other at this conference and agreeing that people who are taking up this role of CDO

might benefit from having some sort of handbook or manual. That was the genesis of this book and we sincerely hope that it does help the growing community of CDOs and future CDOs.

Facet has always felt like the right place for this book because, although this is aimed at the CDO community and those looking to work with a CDO, it will also hopefully be useful reading for all the information and data practitioners and educators who might want to expand into this exciting space.

Originally the word 'playbook' was a sporting term used to denote various strategies for a team that when used tended to result in a win for the team. That is what we have created for you – various strategies, tools and results of our real-life experiences which can help you leapfrog some of the mistakes we have made and learn from where it went well for us. It is meant to be useful to you whenever you need some ideas about the next steps, whether that next step is the new role you are looking to try for, or if you are already a Chief Data Officer and just need a reference guide to help you in the areas you might not have focused on in the past. It is deliberately simple and easy to read so that you can read the whole thing, or jump to the areas that you will get the most from.

When writing this book we had in our minds, and hearts, the present and future community of CDOs, so when we refer to 'you', we do mean 'you' the CDO. We have written the book in this style to personally address our friends and colleagues. Sometimes it has seemed more appropriate to refer to the CDO in the third person, but the CDO remains our primary audience.

However, though this book may be primarily written for present and future fellow CDOs, we do recognise that there is a secondary audience to address, and that is the rest of the C-Suite. We have tried to address this secondary audience to help them understand the value that a CDO can bring to an organisation, what they do, how to recruit one, where they should sit within the organisation and who they should report to. This is a playbook for the CDO and their colleagues. Full of real experiences and the methods that we have used in our roles.

The first two chapters 'Why does any organisation need a Chief Data Officer?' and 'The secret ingredients of a Chief Data Officer' are addressed to the widest audience. Chapters 3-5, 'The first 100 days', 'Delivering a data strategy in the cauldron of BAU' and 'Avoiding the

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hype cycle' are aimed at our primary audience, the CDO. The next two chapters, 6 and 7, 'Relating to the rest of the business, especially the C-Suite' and 'The Chief Data Officer as a disruptor' broaden out to the wider audience again. Chapters 8-12 are again primarily aimed at the CDO, or potential CDO, and discuss the CDO and the CDO role. Chapter 13 is a point of pivot in the book and in some ways finishes the first half. Enjoy this chapter, written by Tim Carmichael; it is an example of the power of the CDO story-telling. Chapters 14-18 discuss particular issues and topic areas that are relevant primarily to the CDO but of value to the whole audience. Chapter 19 concludes the book, providing advice to the business and CEO about the CDO and how to approach recruiting a CDO.

The past two years has been a whirlwind journey for us. Data is a fast-moving and an evolving environment and we get the sense that the pace of change is getting faster every month, perhaps every week. Ideas, approaches, opportunities are emerging in quick succession, there are lots of organisations in the market to recruit a CDO, relevant conferences, webinars, round tables and dinners abound. Suppliers and consultancies in the data space are pressing to demonstrate and pitch their skill and wares. The pace is both hectic and amazing. Data is an exciting place to be.

Acknowledgements

We have met many inspiring people and we would like to thank them all. There are far too many to name every single one; but we would like to thank everyone who has taken to the stage or podium, everyone who has given up their time to participate in round tables and discussions, quite simply to our fellow data professionals who have stepped forward to share their wisdom, skill and experience - perhaps most of all to share their passion for data. We, and we are sure the whole data community, has learnt so much from you. We would also like to thank the conference and event organisers, and the suppliers, who have brought the data community together on so many occasions.

After we made the decision to write this book back in November 2016, we started to write short articles about the role of the CDO and published them weekly. The purpose of this was to test our ideas in the community of our peers and to gauge if there was any demand for the book. We would like to thank everyone who read the articles and commented on them. We were overwhelmed by your support and engagement, and you spurred us on to transform the short articles into this book.

We do need to pick out a few people and organisations that have helped us shape our thinking around this book, have supported its production and those that have contributed small or large pieces. First we would like to thank all our colleagues who have provided quotes or snippets; we have tried to attribute each one. If we have missed anyone we apologise unreservedly. More specifically we would like to thank the following for their contributions:

Adrian Wyman for his absolutely fantastic cartoons which introduce each chapter.

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From Peter:
Personally I would like to thank my colleagues at The Pensions Regulator, especially my data colleagues: Phil Yeoman, Geyv Cathoke, Saoeirse Tobin, Amy Balmain, Andrew Warwick-Thompson, Alex Young and Peter Ohlson. I would also like to thank my new colleagues at Southern Water for sharing the data vision. I must also thank Jenny Heller for her constant support, enthusiasm, wonderfully creative ideas and good sense.

From Caroline:
While I am unbelievably grateful for all the friends and colleagues I have worked with there are far too many to name individually - I'm hoping you all know what an inspiration and support you have been! I do have to thank my amazing family, my husband and son who I bounce most of my mad ideas off, my sisters who put up with my lunacy and my amazing parents who have always told me I can do anything I set my mind to.

We would like to thank CILIP for driving the agenda forward for professionalising the industry that we are all so passionate about.
We are only too aware that we don't have all the answers, we certainly don't know all the questions, but we hope that you find this book helpful and engaging. We have written it from the point of view of two practitioners trying to deliver value from data for their respective organisations; this is what has worked for us and the other amazing people we have met on this journey.

About the authors

Caroline Carruthers

Caroline is a ridiculous optimist whose natural curiosity never stops. She is also the first Group Director for Data Management for the Lowell Group and previously was Network Rail's first Chief Data Officer but has been a data cheerleader for more years than she can remember. Caroline is a strong advocate of 'getting the basics right' and the KISS principle despite being a complete geek when it comes to any form of technology. As a trustee for CILIP (Chartered Institute of Library and Information Professionals) she champions the growing professionalism of the data and information related disciplines so we can all head towards data nirvana a bit quicker. All her ideas and ramblings are run past her long suffering husband, son and dog, who all have far more patience than she deserves.

Peter Jackson

Peter is passionate about data, and about how data can drive innovation to transform organisations. He was the first Head of Data at The Pensions Regulator, the first Head of Data at Southern Water and went on to be the first Chief Data Officer at Southern Water. So he has been through the mill twice in recent succession as a first-generation CDO. However, before joining The Pensions Regulator, Peter had been developing data strategies for businesses in the FMCG and Financial Services sectors for over a decade. First and foremost Peter is driven by a strategic approach to data, and believes strongly in the value of demonstrating the 'art of possible' and expanding colleagues' understanding about data management, data technologies, data science

and data governance. Peter firmly believes that data strategies must have a business outcome and should be aligned to the business objectives. Given any opportunity Peter will talk about data and try to enthuse those he is with.

Glossary of technical terms

Analytics The discovery, communication and interpretation of meaningful patterns in the data.

Assurance Activities to measure confidence in a given process, framework or data set.

Audit An exercise to determine compliance against governance documents and policies.

Big Data Data sets that are so large and complex that traditional software can't deal with them efficiently. It has 'big' characteristics of three of the five 'V's of data: Volume, Variety and Velocity (the other two being Veracity and Value).

C-Suite A member of the leadership team. Traditionally these roles start with 'Chief' at the beginning of their title, such as Chief Data Officer.

Compliance Adherence to requirements such as regulatory, governance or other requirements.

Conceptual data model Hides the internal details of physical storage and targets entities, data type, relationships and constraints and is closely linked to business processes. The highest, the least detailed and the least granular element of the hierarch of data models Physical/Logical/Conceptual. See also Logical data model and Physical data model.

CxO (Chief x Officer) is a short hand way of collectively describing the C-level of an organisation, whose jobs typically start with Chief or have Director in the title such as Chief Finance Officer or Chief Executive Officer.

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