

Management for Professionals

Prakash Sah

Defining Enterprise Data and Analytics Strategy

Pragmatic Guidance on Defining
Strategy Based on Successful Digital
Transformation Experience of Multiple
Fortune 500 and Other Global Companies

 Springer

Management for Professionals

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ISSN 2192-8096

ISSN 2192-810X (electronic)

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ISBN 978-981-19-5718-5

ISBN 978-981-19-5719-2 (eBook)

<https://doi.org/10.1007/978-981-19-5719-2>

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*To my father, who left for his heavenly abode
five decades ago, but whose life story
continues to inspire me even today*

Preface

Why Did I Write This Book?

While advising various Fortune 500 companies across the globe on their data and analytics strategy, I have often searched for a good book or a toolkit that I could share with my client executives. Even while coaching consultants in my practice team or mentoring B-school/engineering college students, who want to build career in data and analytics, I wanted to refer them to a book that could make them understand the real-world challenges in data and analytics and could guide them on practical approaches to wade through those challenges.

However, I could not find any book in the market that I could endorse. I did find many good books on specific topics of data and analytics, such as on technology and architecture, on artificial intelligence/machine learning techniques, on data governance, and so on. However, I could not find any book that could guide an enterprise or a data and analytics leader on a practical approach to define data and analytics strategy. I wrote this book to address this white space. I believe the book will serve as a good reference to senior executives of large enterprises, data and analytics leaders (Chief Data Officer, Chief Analytics Officer, Chief Data and Analytics Officer, Vice President—Data and Analytics, Director—Data and Analytics, or any other role that the leader is referred to by), B-school students, and engineering college students specializing in data and analytics.

How Did I Write This Book?

Over the last three decades of professional experience, I have been lucky to have interacted with business leaders of hundreds of large and complex enterprises. This helped me get deep insight into their decision-making process, analytical needs, and challenges faced. I have been advising many of these leaders on their data and analytics strategy. I have seen many data and analytics initiatives fail even though many enterprises went for best-in-class technologies and hired a highly qualified team to run the program. The success rate of data and analytics programs is estimated to be less than 50%. Because of the failure of majority of data and analytics initiatives, concerns are often raised around return on investment (ROI)

from data and analytics program. I wrote this book purely based on my experience, deriving learnings from both successes and failures of enterprises in defining and implementing data and analytics strategy.

Acknowledgements

Writing a book such as this one involves many different people. It is difficult to recall each one of them and the influence that they had on my thinking process. Even though I can recall many names, it is almost impossible to thank each one of them personally, since the list would be extremely large. Hence, instead of acknowledging individual persons and organizations, I would like to acknowledge the following groups of people and a few specific names to whom I am deeply indebted for their contribution and support.

First, I want to thank the leaders of hundreds of large enterprises with whom I have been interacting over the years. Each interaction gave me new insights into the complexities and challenges of large and global enterprises.

Second, I want to thank colleagues of my past as well as my current employer, Tata Consultancy Services (TCS). Especially at TCS, I have had the privilege to work with some of the best consultants in data and analytics. I also got opportunities to advise multiple global clients, which deeply enriched my knowledge in the field of data and analytics.

Third, I want to thank various analysts from organizations such as Gartner, Forrester, and International Data Corporation (IDC). My interactions with them have been in the form of both discussions in meetings/one-to-one sessions and listening to them in conferences/events. Each interaction has always been very enlightening because of the wide variety of experience and research expertise that they bring in.

Fourth, I want to thank the professors and students of all the B-schools and engineering colleges with whom I interacted with, be it for delivering a lecture as a guest faculty or for delivering talks in conferences/events. The discussions and questions asked during those interactions have always triggered a fundamental thinking process in me, leading to questioning of some of my assumptions.

Fifth, I want to thank two professors who spared their valuable time to patiently hear my book idea and validate the same. They are Prof. Sanjiv Vaidya, who retired from Management Information Systems Group at IIM Calcutta, India, and Prof. Indranil Bose, Professor in Information Systems at IIM Ahmedabad, India.

Sixth, I want to thank the entire team of Springer Nature, including Nupoor Singh, Samrat Chatterjee, Lokeshwaran M, and Fermine Shaly, for their guidance and support in publishing this book.

Seventh and last, but not least, I thank my family without whose inspiration and support I could not have written this book. My mother, Bimla Devi, and sister, Prema, always motivated me to realize my potential. My wife, Priti, put up with months of my writing and lost weekends. My daughters, Anjali and Anisha, supported me in this venture and regularly enquired about the progress I was making. Anjali, who is a computer science graduate and a data and analytics enthusiast, painstakingly reviewed the initial draft of the book and provided very candid feedback, that proved to be extremely valuable to make the book easy to understand.

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About the Author



Prakash Sah has over three decades of multi-faceted consulting and leadership experience in data and analytics. His experience spans across multiple industries and cultures. While working in 13 different countries, he helped CXOs and other leaders of many Fortune 500 companies in defining their enterprise data and analytics vision, strategy, and roadmap.

Prakash has been invited as speaker/panelist at various international conferences and innovation events. He has also been delivering guest lectures at few B Schools. He has been mentoring many students and professionals in academia and industry respectively. He has authored many papers on enterprise data and analytics.

Prakash is a mechanical engineer from IIT Kharagpur and an MBA from IIM Calcutta—two premier institutes in India. He is currently working as Managing Partner at TCS (Tata Consultancy Services), one of the world’s leading consulting and IT services company. Prakash is based out of Thane in Mumbai metropolitan region, India, where he stays with his wife, Priti and daughters, Anjali and Anisha.

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What Is Data and Analytics Strategy

1

Key Elements That Should be Part of the Strategy

1.1 Data and Analytics Strategy and Its Criticality to Drive Enterprise Digital Initiatives

Most enterprises today have either embarked on various digital initiatives or are planning to invest heavily in digital technologies to gain competitive advantage. Data forms the core of any digital initiative. Whether an enterprise aspires to improve customer experience, launch new products, improve productivity, or manage risks better, having the right data at the right time and in a usable form is an important first step towards achieving its digital aspiration.

An enterprise must also apply analytics on the data to get insights that would help it in executing relevant digital initiatives. For example, if the aspiration of an enterprise is to improve customer experience, it must collect and connect all the relevant data of the customer—their past buying pattern, their preferences, their demographic profile, their changing needs, and so on. This interconnected data and the insights derived from it would help the enterprise in coming up with customized plan (i.e. plan for each individual customer) for improving customer experience. Same applies to any other digital aspiration of an enterprise. Since data and analytics form the core of digital strategy, failure of data and analytics initiative also leads to the failure of other digital initiatives of an enterprise.

Despite being so critical, the ground reality is that the success rate of data and analytics initiatives in enterprises is very low. Various analysts have come up with different estimates of success rates. While there are some differences in their actual percentages, all the estimates are consistent in the fact that more than 50% of data and analytics initiatives fail to achieve the business objectives that were expected from them.

In my experience, most data and analytics initiatives fail largely due to organizational complexities, both political and structural, rather than due to technology or people capabilities. I have discussed these challenges in this book along with recommendations on how to wade through these complexities. To avoid failure as

well as to derive maximum benefit from data and analytics investments, I strongly recommend that an enterprise should define data and analytics strategy upfront, before embarking on other digital initiatives.

When attempting to define data and analytics strategy, most enterprises struggle to define a strategy that is:

- Aligned with its business strategy.
- Capable of taking care of business dynamics, be it something as simple as changing product/service portfolio or something more complex such as changing business model or mergers and acquisitions.
- Flexible to adapt to a dynamic and fast changing technology ecosystem in data and analytics space.
- Practical in defining data and analytics organization model and structure, that can work with a complex business organization structure spanning across functions, business units, and geographies (which is typical for most large and global enterprises).
- Comprehensive to take care of both global and local business needs.
- Agile to deliver quick business value and drive innovation.
- Secure to enable borderless flow of information and avoid data espionage.

In this book, I have come up with a prescriptive guidance on how enterprises can define a holistic data and analytics strategy that can help them become more data-driven and gain competitive advantage.

1.2 Data and Analytics Strategy: A Case in Point

Let me share an interesting experience from a large multinational corporation.

I had a meeting with the global head of data and analytics of the company. In the meeting, he wanted to share his newly formulated data and analytics strategy and seek my suggestions. He started the discussion by mentioning that he and his team had spent six months in coming up with a strategy and roadmap that would provide immense value to his enterprise. He then went on to share an overview of technology/tools that existed in the enterprise, and a detailed plan on how the technologies could be rationalized to have minimal and standardized technology footprint.

He mentioned that because of the large number of data and analytics technologies present in various functions, business units and geographies, they had to incur a huge cost in licenses and maintenance. Hence, he wanted to standardize technologies so that this cost could come down. He presented a three-year roadmap that consisted of multiple technology projects to standardize the technologies. In the roadmap, there were a few basic business projects as well, such as sales reporting, order and order backlog analysis, and others.

When he finished sharing his strategy, I was disappointed. My concern was that, in his entire plan, there was no business project that was focused on building any major business

capability for the enterprise. Further, even his initiative to reduce cost by standardizing technologies had very low chance of success. The reason for this was that business stakeholders, who were used to working with certain technologies for years, would not agree to learn and start using new technologies unless they would see any additional value or business capabilities that these new technologies would give to them. And, if they refused to adopt the new technologies, the data and analytics head would end up with maintaining both the old and new technologies. That would increase the overall technology cost, instead of bringing it down.

I had few other concerns as well on the strategy that the data and analytics head shared. These concerns are related more to what the strategy did not cover. I am summarizing these concerns below.

- The strategy did not talk about the business challenges that the enterprise faced or the market opportunities that the enterprise would like to capitalize on, and how data and analytics could help in the same.
- The strategy did not talk about how data and analytics team would be built with multi-disciplinary competencies covering technology and business knowledge.
- The strategy did not include a plan for establishing data governance and other key processes, which are critical for an enterprise to be successful in data and analytics.
- The strategy did not cover plan for organizational change management, which is one of the most important factors that determines success or failure of a data and analytics program.
- And finally, the strategy did not cover how business value delivered by data and analytics would be measured and how continuous improvement of data and analytics program would be ensured.

I did share my concerns and suggestions in as diplomatic manner as was possible. However, I felt that he was still keen to pursue his technology rationalization and standardization agenda first and worry about other aspects later. I could sense that he was more comfortable to deal with technology, while the other aspects of strategy that I talked about were not in his comfort zone.

The experience that I described above is not unique. I have had similar experiences with many other data and analytics leaders, who prefer to pursue a purely technology-focused strategy. Even within that narrow focus, many of them try to remain in the comfort zone of a select few technologies that they are conversant with and are reluctant to try out other technologies. In the field of data and analytics, technology innovation is happening at an exponential rate. It is, therefore, important for all data and analytics professionals to keep abreast of new developments in technology and try out proofs of concept for solving complex business problems using new technologies.