

# Editorial

## Becoming a data-driven organization

One thing that the past 18 months have made us aware of, is that many of the decisions concerning the measures to fight the COVID-19 virus are based on data (of course, besides the decisions impacted by political, societal or media pressure). Vast amounts of data have the potential to fuel fact-based decisions and innovation in both public and private organizations, backing up decisions with solid evidence. Over the past decade, many organizations have invested in data factories, data lakes and data analytics. Yet a strong, data-driven culture remains elusive, and data are rarely the universal basis for decision making. On top of their evidence-based decision-making skills, mature organizations are even attempting to add so-called 'decision-driven data analytics' to achieve their long-term objectives.

In this edition of Compact Magazine, we present a range of articles that cover some of the challenges data-driven organizations face regarding two related topics: data & analytics and artificial intelligence. Starting with the first, data & analytics, we use a case study in the insurance sector to demonstrate the importance of data ethics. The following two articles zoom in on the art of data-driven decision making by means of descriptive, predictive and prescriptive analytics. We conclude this section with a case study on corporate tax compliance by means of establishing a Data Factory and the outcomes of a recent survey on the maturity and secrets to success for data-driven organizations.

Regarding the second topic, artificial intelligence, we dive into a somewhat different approach to using data to support, automate and continuously improve decision making. Through a case study on deep learning for mapping the water quality of small inland bodies of waters, we explore the delicate balance between fitting and overfitting predictive models.

To bridge the gap between the two subjects, we present a broad, comprehensive, and ongoing AI-related risk assessment process. This is essential for data-driven organizations that want to be 'fit for the future'.

We conclude this issue with an article that gears up for the (near) future. Quantum computing might sound like a futuristic concept, but quantum computers are already a reality and an intensively researched area. Although getting a quantum computer on your desk is not yet feasible, scientists are getting closer to realizing the true potential of quantum computing every day. We explore why digital savvy organizations should realize that quantum computing is not just a futuristic concept anymore.

We wish you an enjoyable read. In case you like to further discuss any of the thoughts and visions shared with the various articles, do not hesitate to contact our editors or the individual authors.



Dennis Stam



Kevin Bankersen



Stephan Janssen  
Compact editors

### **In memoriam: drs. Piet Veltman RE RA (1955-2021)**

Between 1983 and early 2021, Piet Veltman was a highly experienced IT Audit and Quality Management specialist at KPMG. He has written several articles and has served on the Compact Editorial Board for 7 years. He scrutinized all draft articles and reports in great detail, strengthened the writing skills of an entire generation of IT auditors.

On behalf of the Editorial Board of Compact, Ronald Koorn