

Cumbersome task: data science in the old industry

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Abstract

About 3 years ago, my boss decided that it's time to leverage the superpowers of data. So, I was the first data scientist, a unicorn, amongst 6600 colleagues at Aurubis. The primary task was to introduce, to explain, promote and establish data science skillset within the organization. Old industry, like metallurgy and mining, are not the typical examples of successful digital transformation because the related business models are extremely stable, even in the era of hyper-innovation. At least this is what some people believe, and it's partly true, because for some branches, there is no burning platform for digitization, and hence, the change process is inert. Data science is the fundamental component of digital transformation. Our contribution to the change has a huge impact because we can extract the value from the data and generate the business value, to show people what can be done when the data is there and valid.

I learned that most valuable, essential skills to succeed in our business are not necessarily programming and statistics. We all have training on data science methods at its best. The two must have skills are resilience and communication. Whenever you start something new, you will fail. You must be and stay resilient to rise strongly. Moreover, in the business world is the ability to communicate - tell data-based stories, to visualize and to promote them is crucial. As a data scientist you can only be as good as your communications skills are, since you need to persuade others to make decisions or help to build products based on your analyses. Finally, dare to start simple. When you introduce data science in the industry, you start on the brown field. Simple use cases and projects like metrics, dashboards, reports, historical analysis help you to understand the business model and to assess where is your contribution to success of the company. This is the key to data science success, not only in the multimetal but everywhere else as well.



Biography:

I am data scientist and digital transformation enthusiast, work as a manager data scientist at Aurubis AG, Europe biggest multimetal producer and #3 in the world. I am empirical econometrician, have PhD in econometrics (German Dr.rer.pol) and before I changed the job profile into the industry, I was empirical researcher for 10 years with focus on forecasting and uncertainty. My expertise not only in theoretical concepts but, more importantly, wide application of them for practical business cases. Being the operational data science manager, I have experience both in project management of data-driven projects, and actual realization, from assessment of a business case and user story to the deployment. The portfolio of my projects is very broad - from KPI (and other reports) assessment, development and deployment projects, to deep learning model and AI development and implementation for relevant business cases.

Speaker Publications:

1. K. Schwab, The Fourth Industrial Revolution, <https://www.foreignaffairs.com/articles/2015-12-12/fourth-industrial-revolution> (accessed: August 2019).
2. 7E. Brynjolfsson, A. McAfee, Second Machine Age. Work, Progress, and Prosperity in a Time of Brilliant Technologies, W. W. Norton & Company, New York City, NY, USA 2014. Google Scholar

T. Mueller, A. G. Kusne, R. Ramprasad, Machine Learning in Materials Science. John Wiley & Sons, Hoboken, NJ, USA 2016, Ch. 4, pp. 186–273. Google Scholar

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