



Addressing complexity, causality and culture: What it takes to succeed with analytics in the digital grid era

A few years ago our son asked me a funny, yet interesting question. He understood that his little brother, obviously being younger, is smaller than him. And that his Dad, being older, is taller than him. But why and how could his grandfather be smaller than his Dad? Only a few days ago our second son came to me asking the same question....

My sons' questions reminded me of a great keynote speech I once heard from Malcolm Gladwell, journalist and bestselling author. It was about the fact that our world is not linear in most cases, but that far more often we will observe a so called "(inverted) u-shaped curve" reflecting the true correlation between two variables. More input does not necessarily mean more output. In many cases, at a certain point other influencing factors can take over and suddenly flip the well-known linear correlation up-side-down and a "line" becomes an "inverted u".

This is fascinating, since non-linear correlations are not really intuitive to humans (as our boys showed me). You can have some interesting quarrels with family or friends if you argue too hard with them about some of the concrete examples in today's society. Try talking to a colleague from a country that invested billions in lowering pupils per teacher ratio and telling them that they might have spent too much. Or, have an argument with a friend in a very conservative country about the correlation between crime penalties and crime statistics. This can make for a nice dinner discussion! I'm sorry to say, in many cases, fundamental "more-means-more-beliefs" are fundamentally wrong. But we don't like to give up the simple things we believed in for so long.

Besides the world not being linear, the world is also far more complex than we like to accept. We like it linear, and we like it one-dimensional so that things are easy to act upon. But to quote Matthias Horx, German researcher and publisher

for future studies, there is "no single axis between A and B, but a variety of connections" and "everything connects to everything".

To cope with this complexity he suggests not to be afraid of failure, but to simulate, experiment and train for the "as-well-as", instead of the "either-or". He compels us to leave the comfort zone of simple causality. While typing these lines I realize how well this matches to how we explore data at OMNETRIC Group – maybe I will share more in a later blog...

Now, how does all of this translate into analytics at utilities? Well, I think I need to be very careful here, not to be misunderstood or offend anyone, especially valued domain experts. Let me start with stating that I am really convinced that true expert knowledge is essential for successful analytics. However, it requires an expert with curiosity, perspective and courage to call into question his/her assumptions.

IMHO there are three kinds of truths in our industry, let's call them "competence categories":

Firstly, things that were right and still are right.

Secondly, things that were right, but are not right any more (due to a massively changing environment).

Thirdly, things that we thought were right, but were never actually right.

One of the coolest books I ever read, "Thinking, Fast and Slow" from Daniel Kahneman, Nobel Memorial prize winner, notable for his work on the psychology of judgment and decision-making, as well as behavioral economics, gave me some answers: Looks like humans have an amazingly strong force inside that pushes them to understand how things work.

In a test, provide a person with two randomly (!) blinking lights and two buttons and the person will immediately start to look for an algorithm between them. After a while, all test subjects will explain a very complex “algorithm” they discovered – even though there is no correlation at all and you never asked them to find one in the first place.

Humans tend to fall into the trap of a competence illusion, in which they believe they understood the past (i.e. the blinking lights and the buttons), and therefore they can predict the future. Well, I think you get my point: Our knowledge of the past might be right sometimes and our predictions for the future might be (somewhat) right, too. But other times, we are trapped in our own competence illusion and shouldn't make any predictions. And, either way, we should know in which of these two scenarios we are at any given time! Statistics and IT can help to verify if something is right or wrong. Experts who are open for the new digital era know it and embrace it. They are open for a journey on which they will question what they thought they knew and find out which of their “fundamental beliefs” belong to which of the three competence categories detailed above. These experts are the change agents in your enterprise. You will need to identify them to make true digital transformation happen (and I am sure I saw this as a major strategic target on the first page of your annual report).

Find these experts who are ready to step out of their causality comfort zone and are open for more. Find them now. And don't just put all of them in a company innovation function, but also ask some of them to stay close to the business they understand so well. Remember: As-well-as, not either-or.

Having what it takes to develop an analytics culture in a utility, is not about buying a new app or any cool piece of technology, it's about having a team open to the idea of challenging those simple things you believed in for so long.

Subsequently, my sons have understood the non-linearity between size and age over generations, and I'm looking forward to hearing my baby girl come to me with the same question in a few years. Also wondering how and when they really get this thing with multi-dimensions too...

Get in touch

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