Datanomics Series #1

BEYOND PROMISES, RESPONSIVENESS AS THE KEY VALUE CREATION DRIVER WITH DATA & ANALYTICS

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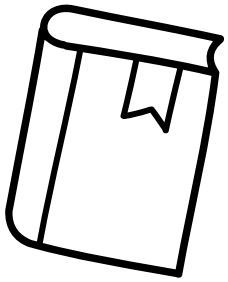


Value of data, what did we learn

In 2015, I wrote with my partner in crime Simon Chignard the first book dedicated to analyzing the value of data. The book is called Datanomics. 5 years after I wanted to step back and synthesize what changed since then.

Datanomics in 2015

Our objective with that book was to have business leaders and policymakers change their views on big data technologies. At that time the discussion was framed either around technological solutions or around personal data regulation. Our core argument was that the emergence of big data technologies changes the way companies create and capture value, blurs the market boundaries, and challenges the place of the states in society.

To convey our message, we used a lot of examples and one of the contributions of the book is to synthesize this emerging reality and describe three forms of value:

Commodity
when data is bought or sold, either by data brokers or corporations (for example banks or retailers)

Lever
when data is used to improve the performance of an existing business model (reducing costs or increasing revenue)

Asset
when companies use the data they collect as one side of their two-sided business model (like social networks or search engines) or when they use them to increase their bargaining power within an industry or a value chain

We argued that the value as a commodity, though important when you consider the revenues of the data brokers, is much lower compared to the value generated when data is used as a lever or even more as an asset.

Datanomics in 2020

Five years have passed, a lot has been written and done and below are 6 important insights on what we have discovered and what is on the agenda.

Promises take time to turn into reality

In 2016, McKinsey dedicated a specific study to explain the gap between the promises of value creation stated in their 2011 landmark study and the observations on the field. For example, they measured that only 30% to 40% of the value has been captured in US retail. Their conclusion is that "The biggest barriers companies face in extracting value from data and analytics are organizational; many struggle to incorporate data-driven insights into day-to-day business processes".

From promises to responsiveness

In the same idea, the discussion in research moved from promises and descriptions of value creation mechanisms (like we did in our book) to the operational capabilities required to capture the value creation potential. There is no value being good at predicting churn if, in the end, you can't retain the clients that you predict will go to the competition. In research, the conversation is now organized around the connection between big data resources and capabilities and operational capabilities.

Commodity: bigger and bigger

More internet users spending more time on internet services grow the stock of data and hence the possibility of some platforms to monetize them. More importantly, the widespread adoption of connected equipment in manufacturing environments triggered a new continent of data generating new opportunities to monetize or aggregate this data. Companies established themselves on this value proposition, data brokers grew bigger and incumbents started monetizing the data of their users and clients. Regulations on data protection weren't successful in reducing that trend and some analysts question their ability to strike a fair balance between data producers and data users / monetizers.

Lever: from marketing to operations

Recommendations algorithms, customized marketing campaigns, individual pricing are now common practices. The attention is now on how to use data for improving the efficiency of operations, through automation of tasks, errors and scrap reduction.

Asset: the biggest value form

These five years have witnessed the dominance of digital platforms when it comes to the valuation on the stock market. Dominance made stronger with the impressive growth of Chinese based platforms. These valuations strongly rely on the data assets of these companies and their ability to use them at a high velocity rate in automated revenue generation.

The battle is not over between digital and incumbents

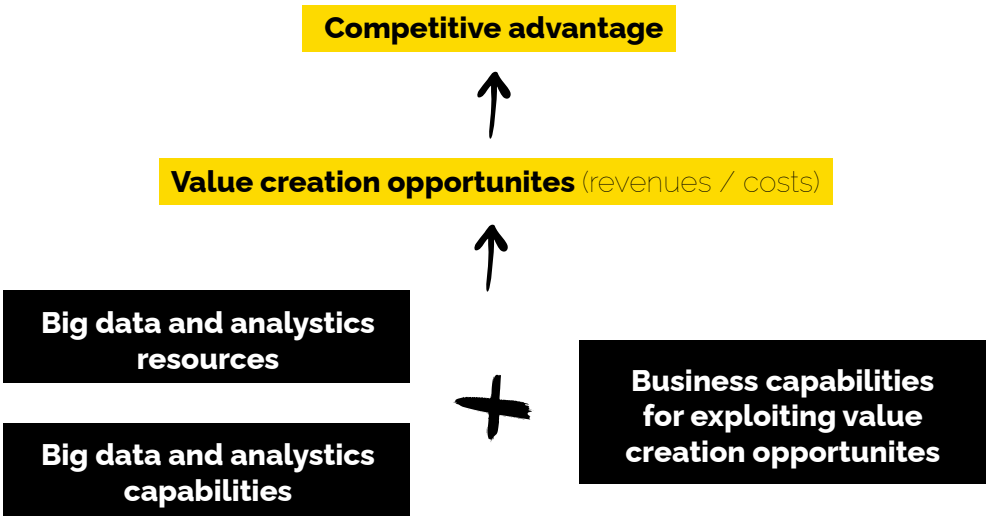
One of our main arguments was that big data technologies are contributing to redefine market boundaries and establishing a new competition layer. In mobility, car makers strongly compete with each other but new competitors are challenging the value captured by car makers (mobility services, search engines, intermediation platforms, ...). Data is the distinctive asset used by them to position in the market. After a first round when incumbents reacted mimicking the digital giants, we see now they are fighting back leveraging their own capabilities and partnering for acquiring digital capabilities.

Value creation opportunities

Data, value creation and competitive advantage

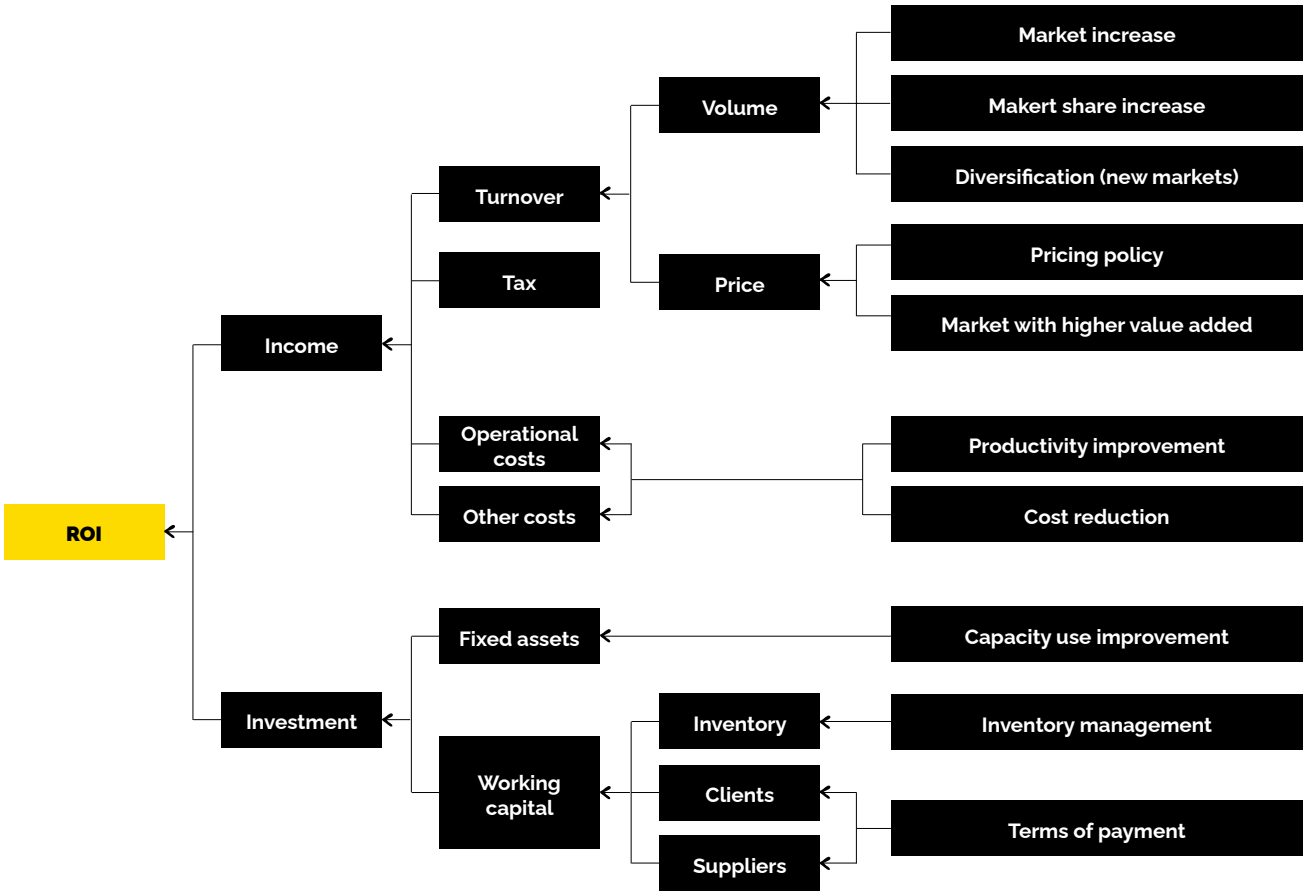
Data assets and capabilities are one basis of value creation and competitive advantage:

- Competitive advantage stems from an ability to generate more value than competitors
- Superior value can be achieved either through an advantage on cost or through differentiation (or both)
- These types of advantages are achieved because of specific resources and capabilities, among which data-related resources and capabilities



Business capabilities refer to the capabilities that are not related to data and analytics (it may be product design, marketing, customer support, …). They are necessary to capture the promises of value creation.

Dupont's analysis is a useful framework to describe value creation mechanisms . It's a description of the operational levers that influence the evolution of the Return on Investment (which is one way, not the only one, to measure value creation).



5 value creation opportunities related to revenue generation

Let's focus now on the upper right side of the graph to see how big data and analytics can influence positively the ROI.

Market increase

Sell more to existing clients. According to McKinsey, 35% of what consumers purchase on Amazon come from product recommendations. According to BCG, revenue increase by 6% to 10% when the experience is customized.

Sell new products before the competition. Through real-time social media text and sentiment analysis, Wallmart was able to spot early the "cake-pops" trend and was the first to massively distribute this new kind of product.

Market share increase

Conquer new clients. Savings catcher by Wallmart alerts customers if the items they bought is sold at a lower price by a competitor and sends a gift voucher of the price difference.

Develop new value propositions to attract new clients. Honeywell provides industrial control systems and equipment to the oil and gas industry. In 2015, Honeywell launched its Connected Plant business, which can optimize process outcomes through control systems. Honeywell's suite of connected-plant IoT solutions can improve facility uptime by 5%, increase production yield up to 7%, and enhance operator safety.

Diversification

Sell data. In 2020, Amazon announced they will help Toyota build a platform to help manage and monetize data gathered from the automaker's global vehicle fleet.

Pricing

Customized pricing. Prices evolve according to who you are, from where you connect, at what time of the day, Criteria to fine-tune pricing according to each client's situation and willingness to pay are numerous. Which poses a question of trust on the price and triggers the clients to game the algorithm or implement strategies in reaction.

4 value creation opportunities related to costs reduction

Let's focus now on the lower right side of the Dupont's analysis framework to see how big data and analytics can influence positively the ROI.

Productivity improvement

Automation is a major driver of productivity improvement and data and analytics play a big role in automation. For example, when robots using real-time data are performing human tasks (like scrubbing the floors of Walmart stores) or when software analysing real-time data optimize human labor (detecting product missing in the shelves at Walmart again).

Predicting risks

Beyond automation, the other big cost reduction opportunity lies in **reducing the impact or the frequency of an unplanned event**. Predictive maintenance is a good example and companies like Schindler, Total or SNCF have captured a significant value preventing risks to happen or anticipating better the moment when they happen. This is made possible by the analysis of past data with machine learning.

Capacity use improvement

Assets in some industries are quite heavy (think about trucks for a logistics company, specialized machines for farmers, or refinery in oil transformation). With connected sensors, past data analysis and real-time decision making, companies can **optimize the use of their assets**. For example, optimising the routes of their trucks or sell their exceeding capacity on the market.

Inventory management

It's particularly crucial in retail. The ability to have the right number of product at the right time in the right place is a major cost reduction opportunity (it, of course, plays a role also on revenues). With real-time decision making on procurement and replenishment based on past data analysis and real-time external data (like weather and traffic), some retailers achieved a significant reduction of their inventory while maintaining an attractive merchandising of products in-store.

Conclusion

For both types of value creation opportunities (revenue generation and costs reduction) big data and analytics effects are on decision-making processes. Better decision-making can, in turn, lead to improvements in organizational performance. So the two questions you should ask yourself when framing a project:

- which component of value creation will be impacted?
- what operational decision will be influenced (setting a price, offering a product, changing a part of the equipment,…)?

Responsiveness, the key capability for value creation with data

The bank, the data scientist and the branch manager

Let me share a personal experience I had with one client. This leading bank had just recruited a chief data officer and his task was to build solutions with data and analytics to solve the bank's business problems. Nothing really original, but challenging, though, given the maturity of the company regarding analytics.

The CDO does the job perfectly: he starts by interviewing the managers in charge of the business and operations to identify the business problems and then he prioritizes them according to the probability of solving them with data.

"Churn" makes it to the top of the list: a lot of clients are going to the competition, which is becoming a major problem for that bank. Stimulated by this interesting challenge (how to reduce churn) the team works hard to source past data, identify clients churning, running models to identify the variables to explain why they churn, … And then apply the model to the current list of clients and predict which would churn.

They end up with a list of clients with a high probability of churn in the next quarter. Pretty cool, right? So the team goes to the branches to meet the managers and proudly reveal that secret list of clients that will churn in the next three months. They had 10 meetings with 10 branches and they all developed the same sequence. 1) the team explains the problem 2) they explain how they worked 3) they announce they have the list of the clients that will churn and then

the branch managers interrupts and says "I also have the list, here it is". The team was smiling first but stopped when they saw the list was 80% identical to theirs. And this occurred during each of the 10 meetings. How could this be possible? The branch manager had a very clear answer: "we know they will churn because they all are having their second child and are moving to a new house, they need us to finance the acquisition and the problem is that our competition does a better job than us. The problem is not to know they will churn, our problem is to have the good services to keep them with us".

A check-list for value creation

This story is interesting because it captures the necessary elements to create value with data and analytics:

1. a clear problem related to competitive advantage: here, the churn
2. an explicit value creation KPI to act on: here, the lifetime value of clients
3. data resources and capabilities: data of the clients, talented data scientists, IT infrastructure, …
4. operational capabilities to respond. This was the missing part of the example I described previously. Having the prediction didn't help at all because the company couldn't respond to the signal.

The first three elements are critical, you can't do anything without them. But they are not sufficient and the fourth one is less present when it comes to identifying strategies and opportunities of value creation with data.

Using this framework helps to capture the promises of of value creation with data and analytics. A key question you could ask yourself before making any investment decision or launching any project is: "how will we respond to the signal?".

But let's be clear, you shouldn't interpret this as a Go/NoGo decision matrix. It's a guide for better setting the scope of the project and envisioning the processes or operations you need to change to have an impact on performance, beyond data and analytics processes.

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