GENERATION DATA

USING DATA FOR PROFIT

DATA AND STRATEGY

START WITH A STORY

Amazon (Source: Stanford, "Is Big Data Too Big for SMEs?")

Imagine you run a bricks and mortar bookstore. You've always been able to track the books being bought in your store. This is the data that is available to the physical retailers – you have stock levels and know how much of particular books are being bought when and for how much. But you don't know by who. Unless you carry out time consuming surveys you have little information on the customer.

Once retailing moved online, the amount of valuable data on customer buying behavior increased dramatically and created a new era of customer understanding. Amazon transformed the traditional bricks-and-mortar retailer into and a data-driven ecommerce. Amazon could not only track what customers bought, but also what they showed interest in, how they navigated the webpage, how individuals reacted to promotions and similarities across different segments.

Later on, Amazon developed algorithms to predict which books that are most likely for individual customers to buy next. The traditional bookstore couldn't compete.

Interpretation.
Data means nothing if it can't be understood and used. The data collection was important but it was the way that Amazon transformed the data into actionable strategies marked the difference. The utilization of Amazon's visitor and transactional data yielded revolutionary customer insights, which was transformed into individual targeted marketing.

"Technology does not create value; People do."
Although some scholars support the idea of numbers speaking for themselves, most people in business hold the opposite opinion: data is not self-explanatory. Data interpretation is necessary if data is to become useful to drive business strategy.

1. WHAT DO WE MEAN BY DATA DRIVEN GROWTH?
Using data analysis and interpretation to gain actionable insights into business performance and market opportunities.
Data can be used for many things within a business.
Data for PERFORMANCE is not new – focusses on process, efficiency and program execution.
Data for PRODUCT DEVELOPMENT is different - it focuses on medium to long-term effects and information needed to support

5 WAYS TO UNLOCK VALUE FROM BIG DATA
But data can go further than this: data can be TRANSFORMATIVE to a business.
Boston Consulting Group (BCG) identify 5 ways to unlock value from big data, grouped into two categories: Advanced analytics help solve specific business problems while you can also leverage data to build new business models entirely.[1]

2. HOW TO MAKE YOUR DATA STRATEGY MORE STRATEGIC
In the previous model we shows at stage four of the data value chain how data can be interpreted and used.

Only by spending the time to craft a plan can executives establish a common language to focus on goals and on ways of getting started.

---

[1] https://www.bcg.com/capabilities/big-data-advanced-analytics/transforming-business-models.aspx

2.1 Before you start off, MAKE A BUSINESS CASE FOR DATA STRATEGY
Source: McKinsey[2]

Review your business overall strategy.
Outline the objectives you want to achieve in your business in the short and long term. Visualize what your future business looks like – who will your customers be, what will they purchase, where and how?

Start with a hypothesis
You certainly do need to start with a sense as to what problem you're trying to solve. Otherwise, you can go on a mindless exploration of a big mountain of data and hope that eventually you find something in there. And we've worked with a number of clients where we've come in after they've spent 6 months, 12 months, 18 months burrowing away in the data, hoping that it would magically spit something out that they could use.
And in most cases, it doesn't. In most cases, you do need to have a sense of what you're trying to achieve and then find the data that will help you get there, find the analytics that will pull those insights out of the data, identify the people you want, the behaviors you want, and the transactions you want, in order to make things work.

Defining the business value
It's essential to have a business case for your data transformation. Many organizations somehow slip into a transformation state where they have basically several IT projects being run. And that's, I think, not the best way. You need to be very clear on what kind of business value you want to create with your data transformation.
It's very important to think carefully about what the benefits are from better data, from highly integrated data, and from data in higher quality. And so what we usually do with our clients is start developing this business case, even if it's very high level and coarse at the beginning. You need to make sure that within six to nine months after you have started a large data transformation in your organization, you start showing benefits to the business. There needs to be something which is given to the business, otherwise it loses momentum and it loses interest from the business side. So having the business case and continuously iterating this business case, and refining it as you learn, is an essential component. What we have done with some of our clients is actually engaging into pilots. Because people want to see, "Is this really value generating, is this really returning the benefits we are hoping from this?"

2.2 Then, CARRY OUT A DATA AUDIT
There is an old saying, "you can't make a silk purse out of a sow's ear." This is also known as "garbage in, garbage out." In other words, you can't rely on poor data to make good decisions.
Just as unused data is a missed opportunity, poor quality data can have huge repercussions on a business' performance and profits.

A data audit refers to the auditing of data to assess its quality or utility for a specific purpose. A data audit is one of the most effective ways to identify problem areas in your marketing, your data storage, and your overall business operations.

3   DATA BASE DECISION MAKING

ASK THE RIGHT QUESTIONS
Einstein believed the quality of the solution you generate is in direct proportion to your ability to identify the problem you hope to solve. With that in mind, he believed a key to productivity was to invest your time in defining the problem as opposed to jumping right into dreaming up solutions to it.

---

[2] https://www.youtube.com/watch?v=QF5BOzA9FfU

Case study: Nappies
Exposition:
A well-known brand of nappies for babies asked consumers, "What's the most important feature in a nappy? The answer was strongly and consistently absorbency. The company promoted their nappies with a message of absorbency in appealing ads which they could back up with science. But, their market share went down.
 When they looked deeper they found that, in general, consumers trusted the top brands to be absorbent. Absorbency was important, but it wasn't the differentiator.

Interpretation
So, absorbency was important, but it wasn't the differentiator. This data on consumer interests didn't help them sell more nappies. They hadn't asked the right question. Even though data analysis has come a long way in the past decade, it still relies on human intervention to be successful. You need to know how to ask the right questions, how to eliminate your own bias, and how to form actionable insights rather than basic conclusions.

What would Einstein do?

4. CHOOSING A DATA LEAD

Who should be in charge of data?
Data work is a more skilled job than ever before.

Big data marks the shift from stocks of fixed structured data to flow of ever growing unstructured data, and as a result, it also marks the change in labor demand from data analyst to data scientists (Davenport, Barth & Bean, 2013).[3]

Davenport and Patil (Davenport & Patil, 2012) describe a data scientist as a hybrid of data hacker, analyst, communicator, and trusted advisor.[4] In other words, the skills are from traditionally divergent areas now merged in a data focused profile

4.1   THE DATA SCIENCE SKILLSET
In reality this is more complicated than it sounds. Some people are more data scientist than others, and it is hard to find communication and domain knowledge in analytics person.

And if you're a small company that can't afford the role of a full time or even an external data scientist, what can you do?

4.2   Who should lead data strategy – IT / BUSINESS TRADE OFFS
(source: Rising, Kristensen, Tjerrild-Hansen 2014)[5]

A survey on big data among Fortune 500 companies was conducted in 2013, which revealed that ownership for big data initiative sometimes resided within the business side and sometimes within the technology side (Bean and Kiron, 2013).

Casey, Krishnamurthy & Abezgauz, 2013 present three different scenarios of working with big data and use a table created by partners of the management consulting firm formerly known as Booz & Company
i.   Firstly, they argue that while IT departments may posses the proper technical skills, they may lack the necessary business knowledge and have a tendency to focus on the perfecting the technological solution rather than providing business value.

---

[3] https://sloanreview.mit.edu/article/how-big-data-is-different/
[4] https://hbr.org/2012/10/data-scientist-the-sexiest-job-of-the-21st-century
[5] https://www.semanticscholar.org/paper/ADOPTION-OF-SUPPLY-CHAIN-ANALYTICS-IN-SMEs/b876d51ef281ccfb073ffb85ffa9ac0cfa532c1e

ii.   Secondly, a business group – for instance finance or marketing - may be responsible for big data ensuring an alignment with the business strategy. However, they may not fully be able to leverage the potential in the technology, and there is the risk of silo thinking or poor architectural solutions.

iii. Finally, they suggest that business and IT can collaborate in an matrix organization headed by a competent leader with knowledge within both fields. Although this has the highest potential, it is also the most challenging from an organizational view to facilitate interdisciplinary collaboration in a more complex and expensive structural setup

Data lead options for a small business

If you're a small business, your options are even more limited, but you still need to put someone in charge.

Option 1) look within the company to find potential candidates possessing some of the skills illustrated in figure X, and let them use their business knowledge to experiment with data using some of the freely available open source tools

Option 2) look to an IT person with the data skills, and enhance their business knowledge to work with data in the business.

You should also bear in mind that no matter who is put in charge, the toughest part of becoming a data driven organization is the change management: making people understand that they now need to do things differently. In many cases, you have to take the existing people and train them in new methods and new processes and new skills. In some cases, even that won't work and you'll need to supplement that group with new people who have grown up in a different environment or have a different way of thinking about the business.