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Is There a Dark Side of Big Data? - point, counterpoint

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Is there a dark side of Big Data – point, counterpoint

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Abstract

Editor's comment

Haakonsson and Carroll see two sides to Big Data. In his executive experience, Haakansson finds big data slows the decision making process and the implementation of decisions as well. Executives tend to wait for more data just because it is there. Is there a solution? Haakonsson argues that leadership based upon experience and courage is needed. Carroll sees a different world where we have continually improved tools which can automate the analyses of big data and give us answers quickly. That is, big data is not a problem, but a solution for executives. But there is also a problem; what are the right questions to ask? Without hypotheses, the questions are endless. Leaders must utilize their experience, intuition and insights to ask the right questions – not all the possible questions which big data can address. Is there a synthesis? Big data by itself is not necessarily a good thing; but it can be if leaders have the courage to move on in a timely manner where they ask the right questions – not all the questions possible that big data can address.

The Dark side of Big Data - Leadership is the key

Tore Håkonsson, CHRO, Senior Vice President Solar Group

Introduction

In the business world today, there is one clear trend: the speed of change is increasing-thus, the need of adapting more rapidly to ever changing markets.

Big Data is another major trend. Big Data and its compilation should be able to provide you, the business leader, with "fast" facts to support your decision making. But does big data help? Can there be a dark side to big data? Isn't more data always better for decision making? Why not?

In my experience, more data can be a hindrance. I have observed where more data, or even the possibility creates a paralysis to decision making that goes beyond the data itself; leadership is required.

So a number of basic conditions for being a leader have changed significantly. In the mid 90ties when I became member of an executive board, the speed of change was significantly slower than we see today. We would create 3–5 years strategy plans based on the available market intelligence, predominately printed reports based on data gathered over a couple of years -most likely at least 1 year old.

We were never able to get sufficient hard data, and thus decisions were made based on available data combined with experience and qualified guesses. We worked with the data we had.

Here is the leadership question: when will we as business managers today find data to be sufficient? Do we as Business leaders adapt our decision, planning and organizational models sufficiently and timely to ensure ongoing business? Are we as leaders willing to make decisions timely enough without waiting for the more data?

Let me begin by giving you a couple of examples and then put these into the larger picture of leadership.

Savings lost

I worked for a company which was growing at an extreme speed as the market was so strong that we were unable to deliver sold orders. This continued for a couple of years. New factories were build and more were planned going forward. However, the financial market was beginning to soften and the company was becoming concerned whether the market for the product was still there. It was evident to most people that eventually the financial crises would have an impact on our industry. However, the market was still asking for our products. The only issue was generating sufficient monetary funds to secure payments from the customer. We engaged in a large effort to secure market data, understand and compile market data in order to make decisions regarding the ongoing strategy - grow or consolidate?

Later, we digested the data that indicated that there may very well be a demand for our products; but the customers were not able to raise sufficient capital to purchase the products. We had over invested significantly with excessive production capacity which carried very high cost with it.

Much too late, we eventually started a significant savings plan which drove our share prices to drop significantly (more than 80 %); then the CEO left.

We had hoped to find data that would support the growth strategy. Lots of data were available, but difficult to digest, giving room for an extended decision making process with catastrophic consequences. Had the data not been available the decision would have come much faster. The big data undermined leadership.

Non existing time for implementation

I worked in a company where we decided to change the existing CRM system- for good reasons. With a significantly more updated system customer data were more integrated and live data were much better supported. The initial launch indicated that one specific system was the better solution.

However, because there were many possibilities available in terms of existing running CRM solutions in the market and enormous amount of market data available, a deeper market analysis was initiated. Over a 5 month period a study on the market possibilities was conducted with numerous meetings with the different vendors, analyses of product data was done and the eventually a data substantiated decision was made - a decision where we chose the one system which we originally saw as the better solution. Due to the long selection period, the implementation plan became extremely short, e.g., the training of more than 1000 people had to be executed within 2 weeks and risks within

the implementation period evidently became significantly higher than the project had at an earlier stage based on fewer data.

The dark side of Big Data

Let me return to the original question: Is there a dark side of big data? Today, despite the fact that we know decision speed needs to be high, it seems that there is a tendency to always ask for more data - just because we can. Not because the data de facto will provide us with the vital set of information that will enable us to make the right decision, rather it seems as an uncertainty avoidance measure.

The fact that data are available is discouraging us from making decisions because it is so easy to be liable for making the wrong decision, i.e. had we "just checked our data" it would have been evident that another decision should have been made. This picture becomes so complex that a decision is very difficult to make; thus decision making is very slow. So despite the fact that the increased access to data should allow us to take more qualified decisions, it is also slowing our decision speed. We don't seem to have the courage to take decisions fast enough. My first example above is clear evidence.

So what is the consequence in a very fast changing and dynamic environment? When the decision speed at the top levels becomes too slow, the middle management will be pushed very hard to regain the time lost. Execution plans will be of a poorer quality; implementations of needed structural changes will be too late and poorly planned – to name a few problems. In other words, our research tells us that the new strategy will be poorly executed. My second example underpins this very point.

Is there a solution?

In many companies this is a very difficult issue to handle, particularly in public companies where the total value of the company is entirely dependent on the value of the stock. It is evaluated by the market on a daily basis, and ruthlessly in connection with the quarterly announcements. These types of evaluations do not promote long term planning. Expectations demand that decisions are made in a catch 22 as described above.

So as leaders we need to make the decision on the available data. It is a question of being a leader with the courage to take decisions based on sufficient data, knowledge and experience. There is never so much data that the decisions become self evident. So in order to make decisions with a sufficient speed and thus with sufficient impact, we need to have the courage to step into unknown territory and accept that there is a risk by taking decisions. With the right balance of sufficient data, sufficient experience and courage we are able to as leaders to drive our business forward.

Conclusions

So is there a dark side to big data? Yes, there is if we become overwhelmed and stop using our knowledge, experience and courage. However if we are willing to use the available big data, combine with our own experience, leadership skills and courage we can make better decisions today than 10 years ago.

The Brighter side of Big Data – asking good questions

Tim Carroll, Associate Dean, Executive Development, Darla Moore School of Business, University of South Carolina

Is there a dark side to Big Data? Haakonsson, citing his own experience in executive roles, suggests that it can lead to decision paralysis, or at least decision delay. Slower decision making occurs because leaders are overwhelmed. And the allure of data encourages them to wait while more information is obtained.

While the human urge to spend more time making decisions may never completely go away, I suspect the technical challenge of the time required to compile, process, and display data will be a temporary problem.

For one thing, data sources continue to proliferate. For example, according to Gartner, a technology research and advisory company, the Internet of Things (IoT) will double the number of connected devices over the next five years to over 26 billion. As physical objects such as devices, vehicles, and buildings that are embedded with electronics, sensors, and software, are connected to the network they will generate vast amounts of data.

Similarly, machines ability to process data and improve organizational performance continues to improve. Predictive maintenance, for instance, is being used in a range of industries to collect information on machine performance and schedule maintenance before breakdowns occur, keeping customers happy and saving money at the same time.

And our ability to display data as a decision making aid continues to improve as well. New product solutions allow managers and executives to go beyond static dashboards and reports to drill down for deeper understanding, beyond initial the questions.

As our ability to collect, process, and display data improves and becomes automated, the jobs associated with those functions are declining. The debate about whether that's a good thing focuses on the costs (jobs lost) and benefits (freeing people up for less mundane and more creative work) of automation. Recent work by the McKinsey Global Institute suggests that a focus on jobs is misleading. While few jobs will disappear, many activities are likely to be automated. In fact, their analyses suggest as many as 45 % of activities done by individuals could be automated using current technologies (Chui et al. 2015), which shows how fast our tools for data collection, processing, and display tools are progressing.

All this development of data sources and data processing capacity leads to what I consider the bigger problem. Big data offers the possibility of generating answers to many questions. But who will know what questions to ask? My experience has been that one reason why more data is asked for is that some executives lack the ability to develop a testable hypothesis. More data is asked for, but what question is that data addressing? It is very helpful to have a hypothesis – an educated guess on what is driving the observed results. If you can identify a plausible hypothesis on what is going on, then you can ask questions that would prove or disprove the hypotheses. And it becomes much clearer whether the data on hand are sufficient for that. If not, the call is not for "more data," but the right data.

Currently, leaders combine intuition with factual insights. That executive intuition is a function of experience, experience developed over a sequence of jobs that typically provide a strong functional area of expertise. But if many of those jobs are becoming

automated or outsourced, then how will tomorrow's executives gain the experience needed to develop intuition and insights?

In a sense, Haakonson points out the problem of executives delaying decisions by asking too many questions and seeking too much data. I worry that the issue isn't asking too many questions, it's that they won't know the right questions to ask.

Competing interests
The authors declare that they have no competing interests.

Authors' contribution
All authors read and approved the final manuscript.

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