The Path to Data-Driven

NEAL ANALYTICS WHITEPAPER

By Peter James Thomas

If you scan the public statements of organizations, it is hard to find one that doesn't aspire to becoming data-driven. But what are the benefits of this and how can organizations start the journey?

The opposite of data-driven is easy to define. How reliable will decisions be if these rely upon nothing more than anecdotes, gut-feel, or figures that are at such a summary level that only broad direction of travel can be discerned? They will be sub-optimal of course, ultimately leading to lack-luster profitability.

In contrast, a data-driven organization puts reliance on what data is telling them at the heart of their decisions at *all* levels. It is also able to use advanced techniques to detect subtle patterns in its data such as nuanced changes in local markets. This leads to better informed strategies, greater responsiveness, empowered staff and competitive advantage

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The Path to Data-Driven

How organizations can begin to build data momentum

> *Every aspect of Microsoft's business is being fundamentally transformed because of data. You have to build deeply into the fabric of the company a culture that thrives on data.*
>
> *Satya Nadella*
> *Microsoft CEO*

The Benefits of Becoming Data-Driven

Sometimes the benefits of becoming more data-driven can appear intangible. For example, one positive impact – the change in corporate culture that arises from dispassionate reliance on data to support decisions – is hard to measure; though most organizations that have been through such a transformation will attest to the power of the change.

However, the outcome can often be much more clear. An Insurance organization that the author knows well experienced a cumulative increase in profits of $1.35 billion over a five year period. This was predominantly as a result of a focus on becoming data-driven.

It is important to also bear in mind the contribution that becoming data-driven can make to cost avoidance. This can range from diverting armies of workers currently engaged in number crunching to more value-added activities, to protecting organizations from the large reputational, regulatory and legal risks that are increasingly associated with how they manage customer and business partner data.

Getting Started and Building Momentum

So if becoming data-driven is a goal, how should organizations go about achieving this? Here we will focus on a single element, but arguably the most important one; how to get started and beginning to build momentum.

There are a couple of schools of thought here:

1. Focus on laying solid data foundations and thus build data capabilities that will stand the test of time.
2. Focus efforts on delivering something as soon as possible in the data arena, which will build the case for further investment.

There are points in favor of both approaches and criticisms that can be made of each as well. For example, while the first approach will be necessary at some point (and indeed at a relatively early one) in order to sustain a transformation to a data-driven organization, it obviously takes time and effort. Exclusive focus on this area can use up money, political capital & try the patience of sponsors. Few business initiatives will be funded for years if they do not begin to have at least some return relatively soon.

Equally, the second approach can seem very productive at first, but will generally end up trying to build a sandcastle while the tide comes in. Without improvements to the underlying data landscape, limitations in the type of useful analytics that can be carried out will inexorably proliferate; sometimes sooner than might be thought. The Parable of the Sower is apposite here. Focusing on delivering analytics without attending to the broader data landscape is indeed like the seed that fell on stony ground. The practice yields results that spring up, only to wilt when the sun gets hot

The Path to Data-Driven

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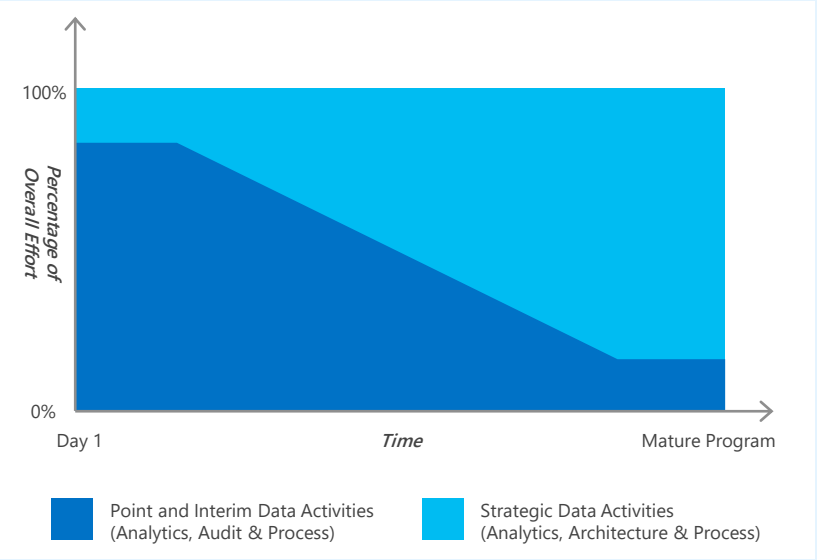
A Third Way

With issues associated with both the above schools of thought, what can be done to move forward? Well, there is a Third Way. This involves blending both approaches into a program for success. The exhibit to the right gives some sense of how this works over time.

The diagram is just an illustration, it is not intended to indicate actual percentages, only a general trend. In real life, it is likely that you will iterate multiple times and indeed have different parallel work-streams at different stages. However the objective of the diagram is to make three important points:



1. At the beginning of a data transformation program, there should probably be more emphasis on interim delivery and tactical changes. However, importantly, there is never zero strategic work. As things progress, the emphasis should swing more to strategic, long-term work. But, even in a mature program, there is never zero tactical work. There can also be several iterations of such shifts in approach.
2. Interim & tactical steps should relate not only to analytics, but also to making point fixes to the data landscape where possible. It is also critical to kick off diagnostic work, which will establish how bad things are and highlight areas which could be attacked sooner rather than later; this too can initially be done on a tactical basis and then made into an increasingly robust DevOps evaluation framework later.
3. The tactical and strategic work-streams should not be hermetically sealed; you want healthy interplay. Building some early, "quick and dirty" analytics may highlight areas that to be covered by a data audit, or weaknesses in a data architecture. Any data assets that are built on a more strategic basis should also be leveraged by tactical work, improving its utility and increasing its lifespan.

Interconnected Activities

Under this Third Way approach, there are three key areas to begin working on:

- Analytical Point Solutions
- Data Process Improvements
- Data Architecture Fixes.

In this section we will consider these and how they dovetail with the central task of developing a Data Strategy.

1. Analytic Point Solutions

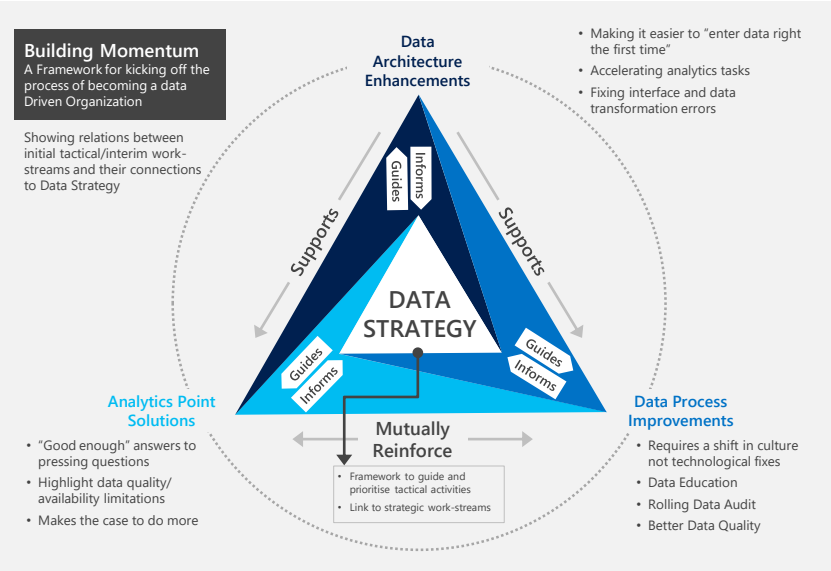
Where data has historically been locked up, either in hard-to-use repositories or in source systems themselves, liberating even a bit of it can be very helpful. This does not have to be with snazzy tools (unless you want to showcase the art of the possible). An abridged case study might help to explain.

A large Retailer had existing reporting that was actually not horrendous, but it was hard to access, hard to parameterize and hard to use for follow-on analysis. The author took it upon himself to run thirty plus reports on a weekly and monthly basis, download the contents to Excel, front these with some basic graphs and publish them to the intranet. This meant that people from Country A or Department B could go straight to their figures rather than having to run fiddly reports. It also meant that they had an immediate visual overview – including some comparisons to prior periods and trends over time (which were not available in the original reports).

The Path to Data-Driven

How organizations can begin to build data momentum

Users also received a basic pivot table, with which they could further examine what was going on. These simple steps had a large impact and later the functionality was migrated to the strategic Analytics platform. This shows how point solutions can add immediate value and later morph into more strategic facilities.



2. Data Process Improvements

Data issues may be to do with a range of things from poor validation in systems, to bad data integration, but immature data processes and insufficient education for data entry staff are often key contributors to overall problems. Identifying such issues and quantifying their impact should be the province of a Data Audit, which is something that should be considered early on in a data program. Once more this can be basic at first, considering just a handful of issues, and then expand over time.

A division of a major bank had – maybe not totally fairly – acquired a reputation for very bad data quality and problems often occurred consolidating its figures with other divisions. The author introduced a basic Data Audit, initially quarterly, but then monthly, due to demand. This RAG coded data entry systems and data repositories, presenting the results on a single page, which also showed high-level data flows. Importantly, each RAG code was underpinned by a list of issues, classified by cause. This was used to identify improvements and the Data Audit scorecard then tracked progress over time.

This approach drove real benefits, the division became highly-regarded for its rigorous approach to improving data quality, a complete reputational turnaround; and indeed the same approach was later adopted by other divisions.

More importantly, the Data Audit drove the remediation of issues with millions of records and led to strengthening of processes, which ensured that quality was improved going forward. The data fixes had practical outcomes, like allowing customers to be contacted, or their overall relationship with the division to be determined.

While fixing some data process problems and making a stepped change in data quality will both probably take time an effort, it may be possible to identify and target some narrower areas in which progress can be made quite quickly. A key attribute necessary for analysis may be poorly entered and validated. Some good communications around this problem could help, better guidance for people entering it would also be useful and some "quick and dirty" reporting highlighting problems could also make a difference.

3. Data Architecture Fixes

Improving a Data Architecture sounds like a multi-year task and indeed it can often be just that.

However, it may be that there are some areas where judicious application of limited resource and funds can make a difference early on. A team engaged in a data program should seek out such opportunities and expect to devote time and attention to them in parallel with other work. Architectural improvements are best coordinated with data process improvements where feasible.

Both antiquated data entry systems, with poor validation capabilities and a less than systematic approach to correctly maintaining broker Master Data had led a leading insurer to have problems in accurately identifying the business written via specific brokers. This placed them at a significant commercial disadvantage when meeting with these brokers to discuss portfolios of business and commission rates.

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The Path to Data-Driven

How organizations can begin to build data momentum

These problems were further exacerbated by significant consolidation of insurance brokers, where many previously independent brokers were now part of larger organizations. There was thus a need to report on such brokers individually and as part of their new parents.

In response, the author built a web-based tool to look up valid broker codes prior to entry. Of course it would have be a lot better to have embedded this functionality in the systems of record themselves, but this work would have taken many months to include this in a change schedule, whereas the tool could be made available quickly.

The same tool allowed brokers to be merged, flagged for retiring and – importantly – for brokers to be grouped into multi-level hierarchies, which could then be reflected in either point analytics solutions or more strategic offerings. The number of broker codes was substantially reduced and – by also making the marketing manager in each country accountable for broker Master Data – this became very accurate. Rather than relying on figures provided by brokers, the Insurance organization's data became the numbers used in broker meetings; a major commercial advantage.

4. Data Strategy

It might be thought that Data Strategy is both carved on tablets of stone and stands in splendid and theoretical isolation, but this should not ever be the case. The development of a Data Strategy should of course be informed by a situational analysis and a vision of "what good looks like" for an organization.

However, both of these things can be shaped by early tactical work. Taking cues from such initial work should lead to a more pragmatic strategy; one which is more aligned to business realities.

Work in each of the three areas itemized above can play an important role in shaping a Data Strategy and, as the Data Strategy matures, it can obviously guide interim work as well. This should be an iterative process with lots of feedback.

Closing Thoughts

The essence of the thinking contained in this paper is captured the diagram appearing on the previous page. The important things to take away are that in order to generate momentum, you need to start to do some work; to extend the physical metaphor, you have to start pushing. However, momentum has a direction as well as a magnitude and building momentum is not a lot of use unless it is in the general direction in which you want to move; so push with some care and judgement, remembering that an overall strategy is crucial. It is also useful to realize that, so long as your direction is OK, you can make refinements to this as you pick up speed.

The framework presented here can be applied in any sector or size of organization, making allowance for local cultures of course. Once momentum is established, it still needs to be maintained (or indeed increased), but getting the ball moving in the first place often presents the greatest challenge. Working with this framework can help to get over this initial hurdle and enable the aspiration of a data-driven organization to become more of a reality.

Author Profile

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Peter is an award-winning Data & Analytics Executive and Consultant who has been working in collaboration with Neal Analytics since 2018. He is passionate about the value that the leverage of data can release and about helping organizations on their journey to become data-driven. Peter has held the top data job at a number of European and multinational organizations including Chubb Insurance, Bupa and Lloyds Banking Group. He recently served as Interim Chief Data Officer at leading Insurer MS Amlin.

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