Managment Consultants in Big Data - in association with:

r4 **Artificial Intelligence** for the **P&L**

BigData⁴ Analytics

Extract Business Value from Data – Turn Insights into Action

BigData4Analytics and r4 recently brought together a select group of business leaders from different backgrounds to a 'Round Table' over breakfast to share their thoughts and experiences on 'Extract Business Value from Data – Turn Insights into Action'.

Sectors represented ranged from Financial Services to Consumer Packaged Goods, Telco, Construction, Travel & Hospitality and Professional Services. The debate focused on the following topics, operating under Chatham House rules:

- **The Digital Transformation**
- **The Data Miracle**
- **Industry User examples**
- **Imperfect Data**
- **The Digital Board – improving the understanding of analytics**
- **Moving from insights to actions**

The key conclusions from the morning's debate are summarised below.

The Digital Transformation.

Digital transformation is defined as "the profound and accelerating transformation - of business activities, processes, competencies and models - to fully leverage the changes and opportunities of digital technologies and their impact across society in a strategic and prioritised way".

Data and analytics are a part of this and - love, or hate it – it's here to stay. As data volumes and sources of data proliferate at ever increasing rates, leading companies will need to plan for a data-driven future - just to stay abreast of their competition.

The opportunity to deploy data and analytics has accelerated the speed at which companies can enter new markets, create new solutions, and quickly challenge or displace traditional competitors and market leaders.

Digital can reshape every aspect of the modern enterprise.
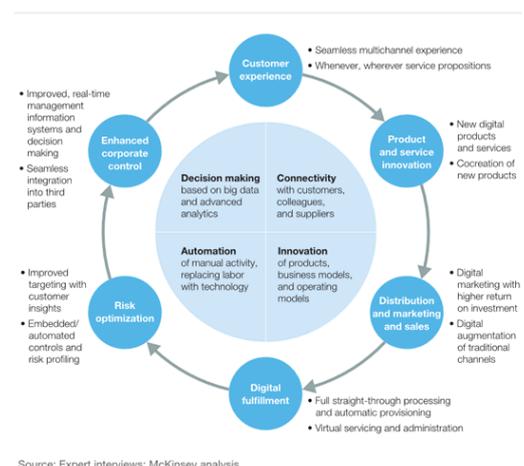
Source: Expert interviews; McKinsey analysis

Consider some of the companies which are at the forefront of the Digital Economy – Amazon, Google, eBay, Facebook, Uber, and Airbnb. These companies and their culture are rooted in data and analytics. They have leveraged new data-driven business models to disrupt and transform traditional industries such as retailing, media, and travel. For innovative companies, such as these, data & analytics brings speed, agility, experimentation, and the ability to learn from experience, and therefore execute smarter.

Businesses can adapt or risk burying their heads in the sand and be left behind in the market! Transformation is sometimes necessary for survival itself!

The Data Miracle

So digital transformation and disruption are everywhere. But there is no 'cook book' for digital transformation; it must be shaped to the needs of each organisation that aims to either disrupt or avoid being disrupted.

Whilst each company will need to define their own specific response and strategy, there is one common factor - data is always at the core.

Data can to take you from:

• guessing to knowing

• reactive to proactive

Materialising the 'Data Miracle' can help companies in several dimensions – specifically

• getting smarter, more efficient & effective in what you do today and

• driving innovation - new products, new services, and new business models for tomorrow
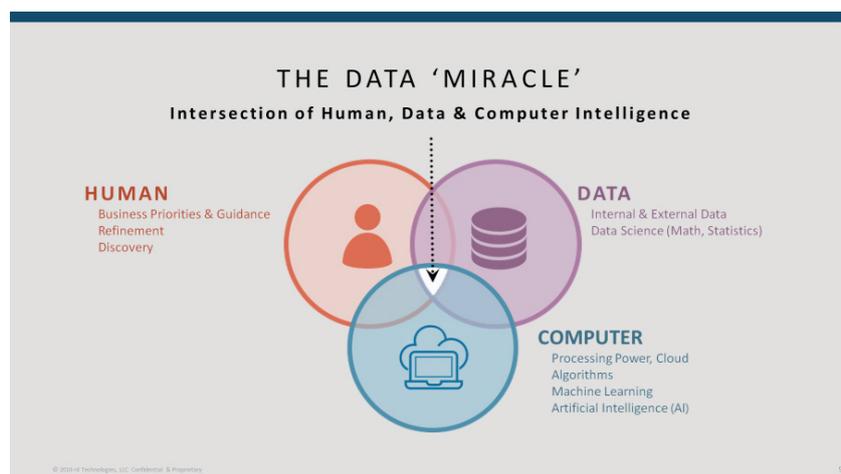
The intersection of humans, data and computing is at the core of what we call the Data Miracle. Humans are key to guide and steer what the business wants and needs. The data and the computer power are the enablers to make this happen.

The Data Miracle is already here today and it is not only about getting better in what you do – data changes the landscape entirely.

A few examples:

- **Airbnb:** Airbnb wants its hosts to set their own prices. But the home-sharing company, armed with billions of data points, is nevertheless starting to nudge hosts toward prices that earn them — and Airbnb — more money. The price tips are presented in an easy interface laid over a complex process – one that crunches everything from the day of the week to the specific neighborhood of a listing - surfacing patterns between latitude, longitude and key words like "beach"

- **Just Eat:** Helps predict what kind of food is likely to be ordered at a specific time and the predilection of customers for a particular cuisine. This analysis is driving 50% growth in UK and three-fold growth in other European markets. For instance, using big data generated at Just Eat analysts can predict which areas are most likely to order healthy food, or which areas prefer food collection over delivery. This analysis of food eating patterns and trends is provided to restaurants to help them cater to a variety of demands and increase the choice of items on the menu which can in turn help them capitalize on growth.

- **Classpass:** ClassPass sells a membership program that lets users pay a $99 monthly fee to take fitness classes at different gyms and studios nearby. The startup collects reviews on studios (they have 2 million ratings to date). It also provides insight on the best time to open a new class based on members' demands.

Artificial Intelligence (AI) has also arrived, and its practical applications on data are abundant. We see it in our everyday lives, but it is often working "under the hood" of simple transactions. Financial institutions can more quickly detect fraud before it happens. Utilities can systematically predict failures and perform prescriptive maintenance. Retailers can reduce customer churn, and anticipate consumer purchases with greater accuracy.

IBM's Watson learned to win at chess, and won the game show Jeopardy. It is now being applied in situations like replacing contact center representatives to handle straightforward queries, or playing the role of personal care physician for a routine checkup.

AI can handle very complex tasks, such as the self-driving car, or the self-driving bike from BMW - who claim that the bike is so safe that wearing a helmet is unnecessary.

AI is found throughout Apple's products and services. Apple uses deep learning to detect fraud on the Apple store, to extend battery life between charges on all your devices, and to help it identify the most useful feedback from thousands of reports from its beta testers!

In the case of fraud detection and prevention, it has been helpful to improve American Express's already excellent track record, including their online business interactions. To do this, modelling methods make use of a variety of data sources including card membership information, spending details, and merchant information.

So how do you bring this Data Miracle to life?

- Break down data silos – fuse internal data from data sources across the company, enrich with external data as appropriate

- Go beyond standard reports and visualizations - Turn insights into actions - automatically

- Start small, act fast - select the most appropriate use case to begin with and invest as you go – instead of large upfront investments

- Focus on immediate business results – instead of lengthy technology / infrastructure projects. Make technology 'transparent'. Deliver in few months than in years
- Remember that the questions and improvements answered by analytics are infinite – so this is a journey, not a destination
- Avoid one-off efforts – continuously improve business KPIs

r4 platform Use Cases in different Industries

Self-Service Retail

A global player in the soft drink industry needed to improve growth and differentiation in its self-service vending channels

By using the Data Miracle approach, they discovered microsegment opportunities that enabled accelerated growth. They could then customize actions on a mass scale.

This use case is a classic example of Supply Side and Demand Side synergy in action.

Supply Side: creation of location specific optimal product mix and promotions, and linked to supply chain activities (route planning, scheduling, and logistics) to drive higher revenue with lower costs

Demand Side: r4 creation of individual profiles, social gifting programs and consumer interactions that drove higher engagement and revenue at the individual level

The combined result was a staggering 26% revenue increase in what had been a relatively flat business, while reducing costs by 25% and improving forecast accuracy.

Data on the location of each machine was combine with that on what was selling at each to predict what stock should be loaded in each machine to maximize sales volume and improve stock rotation.

Media & Telco

One of the largest telco & media companies in Europe has huge amounts - petabytes - of data from phones and clicks on the TV remote control. This includes when their customers, change the channel, what they watch, where they go, what they looked at - all incredibly valuable information. The company needed to be able personalise what TV content was suggested to consumers. It is not just on TV content... advertising content too. They also had the added key business objective of reducing churn.

Yield optimization is critical for telco & media companies, for maximizing ARPU, increasing consumption and driving ad revenues. By bringing all this disparate consumption and response data patterns together – their business case included a 20% increase in ARPU and 3 ppt reduction in churn, their number one growth driver. Thus, equates to over half a billion dollars.

They are using their data, augmented with external data – and leverage the platform to spot opportunities and act automatically - all in real-time.

Financial Services

Smarter CRM in Financial Services - an example of a B2B use case.

An established brand was launching in a new geographic market and they needed to increase differentiation in an already crowded market and drive the local sales team effectiveness.

They worked with r4 and aggregated prospect data from over 80 internal, third party and public sources. Based on this data, the r4 system scored customers for need states and potential, generated smart prospect prioritisation and produced "Next Best Action" recommendations and enhanced buyer profiles delivered via existing CRM implementation.

The business case for this financial institution foresaw a 20% improvement in sales team productivity and in overall sales cycle times, and a higher customer satisfaction at each stage of the selling process.

Imperfect and incomplete data

Data is everywhere, and the opportunities to grow revenues are everywhere. As an enterprise asset, data cuts across products, services, and business units of a company. This can make data hard to manage and data initiatives difficult to organise.

Waiting for the data to be complete or of the 'right 'quality is not an option, data is being generated as such speed, with the volume of data doubling every year. And this is not only internal corporate information. More than 5 billion people are calling, texting, tweeting, and browsing on mobile phones worldwide, and more than 30 billion pieces of content are shared on Facebook each month. Data is typically in different formats and is often incomplete. Half the challenge is to identify what data is needed in the first place! Therefore, it is important to understand the business use case and what question you wish to ask of the data!

Technologies exist to overcome imperfect data with the help of statistical approaches. You also can always refine existing data and add new data sources, not forgetting all those external data sources available - both free and paid for. Privacy and regulatory requirements for certain industries also need to be taken into consideration.

Board Understanding

Businesses face ongoing challenges in adopting big data and analytic practices. Some companies pay lip service to the notion of forging a "data culture". The main industry disrupters have undertaken the hard work, and can demonstrate their commitment to creating a shared vision which has become ingrained in their corporate culture and values.

The greatest business challenge for most enterprises is not about technology - it is the cultural change needed to use it effectively. Cultural change represents a business problem requiring a business approach and business solution. Adoption of data and analytics requires addressing issues of organisational alignment, change management, business process design, coordination and communication. It must be led from the top but all must embrace this process since everybody is affected.

Some organisations have 'Intrapreneurs' who act as change agents to pave the way for this cultural shift. Successful approaches have been seen to have several aspects in common:

Start with one or two use cases - big enough to be meaningful, small enough to be simple, within your span of control. Then 'land and expand' - build sponsorship around proven business value.

Moving from Insights to actions

It doesn't matter where you start, you can start in any area and then expand. Identify the use case, but start small and win champions based on success. Define clear KPI's that can be easily measured.

The data that is giving insight is of little value unless acted upon. The use of automated recommended actions is a must – do not stop at reports or visualizations. Use the compute power to take the predefined actions, allowing employees to have more time to be more creative, efficient and productive. They can then focus instead on the results of those actions, such as improved customer satisfaction, creating a process of continuous improvement

Conclusion

The Data 'Miracle' is here – act now! Organisations are sitting on a gold mine – of data they already have. Leverage this data: do not wait, start small and make iterative improvements.

Automate recommended actions – do not stop at reports or visualizations; allow the business user to be more productive and creative.

Focus on business outcomes – do not waste your time on technology platforms, technical infrastructure, performance and systems integration. This focus is about putting the Data 'Miracle' in the hand of business users to realise market impact.

Be agile, deliver value fast to create success that will attract internal sponsorship and accelerate adoption.

Finally, ….

Will mainstream companies be able to culturally adapt and transform in response to the opportunity and challenges presented data, or will they risk falling behind and becoming relics of the past, in dying and displaced industries?

> *"Data is a precious thing and will last longer than the systems themselves."*
> - Tim Berners-Lee, father of the Worldwide Web
>
> *"Errors using inadequate data are much less than those using no data at all."*
> *– Charles Babbage*

About BigData4Analytics

Europe's leading independent Management Consultancy in Big Data & Analytics

- Focus on business issues – not technology - to achieve measurable business benefits
- Unique combination of: Business Consulting, Data Science Specialists & Innovative Technology Partner Ecosystem

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About r4

Created by the founders of priceline.com

- Unique combination of Data Science + Artificial Intelligence on a SaaS platform
- Uses internal & external "Big Data" and machine learning for automated predictive action
- Puts AI in the hands of P&L owners— immediately, with results in 90 days

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