

BUSINESS LECTURE THREE

Roger Camrass - *How to Manage your Data.*

Introduction

Roger is a visiting professor at the University of Surrey and the UK director of CIONET, Europe's largest CIO community. A pioneer of today's Internet, and partner for e-commerce at EY during the dot.com boom, Roger has gained an international reputation working at the intersection between technology and management practice for some 50 of the Fortune 500 companies.

The Real Issue to Focus On - Exploiting Data

He began by asking whether as marketers we are preoccupied with the right issues about our data.

Most companies today are pre-occupied with the pressing matters of Compliance, Cyber Security and Data Protection, but meanwhile digital giants such as Amazon and Google continue to exploit customer data to disrupt virtually every sector. How can more traditional companies take a proactive stance to marshal their key asset – Data? What are the obstacles, and how might best practice take them forward?

In just the last two years we have seen an explosion of data from every source – two billion mobile phones, thirty billion connected machines. But according to a recent McKinsey report, only 1-2% of this core asset is being exploited. There are good reasons why we have difficulty exploiting this resource, including legacy systems, cultures, and lack of funding.

Changing from an Analogue to a Digital Business Model

Roger described the problem as emanating from a tectonic shift in the business environment: from analogue towards a digital business model. This is resulting in a change of emphasis from:

- Hardware to Software (e.g. the connected car)
- Products to Service (from scanners to digital scanned images)
- Transactions to Lifetime Customer Value (from ownership to access)

The driver of the transition from analogue to digital can be summed up in the principle that information complements hardware. Whereas previously we dealt with dumb physical assets, the addition of software results in intelligent, connected hardware devices capable of generating genuine customer intimacy – responding to the individual customer's context. The device becomes of less value and importance than the information itself. This can be seen in the information generated through what has almost become throwaway hardware in the shape of mobile phones, wearable devices like smart watches, Fitbits and other health monitors. Amazon is more interested in the customer information created through your use of Alexa than in the profits generated by sale of the device in the first place. In five years, your fridge will know your dietary and shopping habits and the cost of the fridge will be negligible compared to the value of that data. Taking the connected car, companies now have tremendous amounts of information on performance and use of their cars, not to mention our driving habits.

The application of new analytical tools (Data Analytics and Artificial Intelligence driven by Machine Learning) to this mass of unstructured information is now producing the insights which drive the creation of new products and services that customers actually want.

To survive in this changing environment there needs to be a corresponding shift in our business model. In the analogue world

we concentrated on optimising performance by focusing on operational efficiency, the correct scope and scale for the particular business and cost reduction. In the digital world we need to focus on speed and agility, development of products and services through continuous experimentation and personalisation of our customer offerings right down to the level of the individual.

A New Organisational Architecture is Needed

This can only be achieved by a change in the organisational architecture of the business. The analogue organisation was monolithic and hierarchical, and top management operated on the basis of management judgment or intuition as to the right course to take. In the digital business environment, a matrix organisation is desirable as it gives more flexibility and distributes decision-making more widely across the business, but the real key to success is how those decisions are made.

Data-Driven Decision Making

The new technology has created the possibility of a paradigm shift in the way businesses make decisions, from decisions based on management intuition or judgement to those based on data-driven insights. In the analogue world, the fact that data sources were largely internal (management reports and accounting data combined with some market surveys or the use of focus groups) made a degree of subjective judgement necessary. However, access in the digital world to objective facts makes data-driven decisions possible, if we have the courage to make them despite our subjective preconceptions about what the answer should be, or what we would prefer it to be.

Finally, the speed with which data (now more than 80% unstructured) can be collected and analysed makes it not only possible but also necessary to reduce decision timescales from weeks or months to hours and sometimes minutes.

All these trends are leading towards the data-driven organisation. A constant flow of data from the operations that manufacture products

and deliver services, together with data on the customer experience, is fed back to the departments that design and develop those products and services. This data, swiftly analysed with the aid of Data analytics and Artificial intelligence, and then quickly acted upon, enables the design and development of a continuous stream of new products and services modified in real time to satisfy individual customer requirements.

The price of Failure and Examples of Success

The organisations which change and adapt to the new environment will survive and prosper. Those who fail to do so will fall by the wayside. Roger gave two examples of such successes.

Netflix is today the number one video on demand company, even though it has less than 25% of Amazon's titles. This is because its philosophy of test and learn, basing decisions on objective information about what its customers want to view, holds customer loyalty. For instance, its hit production "The Crown" was created based primarily upon customer feedback.

Zara specialises in "Fast Fashion", acting with speed and agility based on data-driven decision making. Its designers access data from across the supply chain, including customer data from its 2,200 stores in 93 countries. Relying on this data they can design and bring to market new products every week to satisfy changing customer demand.

Challenges in Moving to the Data-Driven Organisation

Roger admitted that he was painting an idealised picture of the data-driven organisation. There are clearly many challenges for businesses to move towards the new model. Many large organisations still operate on IT legacy systems created in stages from the 1970's onwards. It is not easy to adapt these systems to the new world. Most such systems, for instance, are based on batch processing (usually once every 24 hours) which is incapable of the speed of processing and analysis required by a business like Zara. However, such legacy systems are indispensable to the running of

the business they support and migration to more modern systems is not only prohibitively expensive, but also technically difficult.

He summed up the business challenges relating to data management as follows:

- Gaining deeper insights into internal and external data
- Integrating a growing number of third parties (eco-systems)
- Processing data in near real-time
- Responding to regulatory and compliance initiatives

Six Steps Towards Better Data Management

He then put forward six steps towards better management of data. The first three were business led and the last three technology driven.

1. Develop a clear **strategic context** for data management within the overall competitive landscape by defining how benefit can be derived from becoming a 'data-driven' organisation.
2. Promote an '**outside-in' data driven culture** within the enterprise by involving external partners more closely, and participating in new business eco-systems such as those emerging in the automotive sector (e.g. Tesla, Uber, Google and GM)
3. Define **clear roles** for data custodians (business executives that own the data) and data enablers (IT managers who provide the systems and skills to collect, store and process the data)
4. **Escape from legacy systems** by migrating infrastructures on to the public cloud.
5. Use **intelligent storage** to simplify data classification and improve workflows.

6. Use **Micro-Services** available today (such as Artificial Intelligence and Machine Learning coupled with Robotic Process Automation) to accelerate steps 4 and 5. For example, data discovery can be undertaken by robots that trawl legacy applications to create large data lakes in the cloud. Open Application Programming Interfaces (APIs) can help integrate core transaction systems with multi-cloud services.

Conclusion

Roger concluded by reiterating that the pressures on many incumbents, especially those facing consumers directly (e.g. Retailers, Utilities and Banks), to comply with recent regulations such as GDPR are deflecting the C–Suite away from tackling the more strategic issue of strategic data management. In his view the emerging era of Artificial Intelligence and Machine Learning will favour ‘data-driven’ organisations over traditional companies. This will require much preparation given the fragmentation of current systems. As with the advent of public cloud-based services in 2008/9; the next decade of data management will intensify the gap between winners and losers. No time should be lost now in elevating this subject to the Board.