VERTEX
SOLUTION SCIENTISTS FOR YOUR BUSINESS

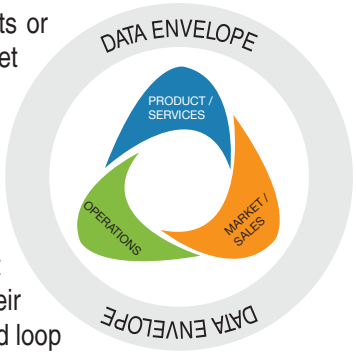
Return on Data
– Not a Far Fetched Concept

Wikipedia quite accurately defines commerce as inclusive of

> *"a complex system of companies which try to maximize their profits by offering products and services to the market (which consists both of individuals and other companies) at the lowest production cost."*

Up until the Information Age exploded on us, most commercial organizations looked at three aspects of their business as their key assets – the products or services they offer, the markets or customers they serve, and the efficiency of their internal processes to produce the products or services they sell. Most of these well run organizations would also ever green their business plans to figure out how their capital could be deployed to enhance their edge on their three aspects – bettering their products or services, acquiring new customers and creating further efficiencies in their operations, but most often without fully leveraging the data that they have on hand.

The Information Age companies, such as Google, Amazon, Netflix, have shown us that there is another key asset these days in an organization, their Data. These companies look at Data as an asset that is continually galvanized from all aspects of their operation. They further deploy the Data asset to enhance the effect of the capital that is being spent on their products/services, their sales or their operations. The result is the creation of a Data Envelope that surrounds the key elements of the organization. The Data asset grows with each day of their existence pushing the outer perimeter of the Data Envelope and enhancing the value it adds to their core operations. These companies have also deployed Advanced Analytics techniques such as Predictive Analytics and Machine Learning to leverage the Data, to fine tune, in almost real time, their everyday operations. This has enabled these companies to be incredibly flexible and nimble organizations that can twist and turn at every whim of market reaction to their products or services, respond to the market pressures brought on by competition or effect change to their operations to respond to their business drivers. The accumulation of Data and incorporating Data dependent decisions into every aspect of their existence is almost akin to a closed loop control system that you see in nature and highly engineered systems.



Leveraging Data has also allowed these companies to be highly targeted with how their capital is deployed. For example, product innovation or enhancements are attempted incrementally, then deployed to the market, and further refined based on market reaction. An excellent example is Google+, Google's foray into the social network arena, which was once the sole playing ground of Facebook. The evolutionary growth of Google+ is a case study of how over a period of three to five years, with highly targeted capital deployment, Google has become a contender in the social network space and is soon projected to surpass Facebook.

Traditional companies, whose products or services are not inherently Information Age centric, are at a disadvantage. Their playing fields are often defined by the old paradigm, "build and deploy and they will come". But by re-thinking their organizational structure and a shrewd deployment of Data, these companies can transform themselves to be closer to their Information Age cousins.
So what do they need to do?

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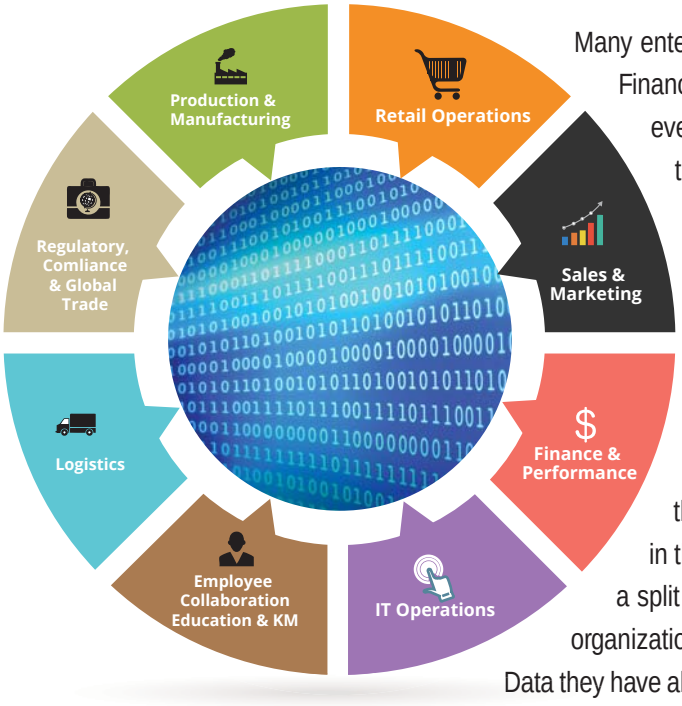
Create a Data Producing Organization and a Data Consuming Organization



Many enterprises these days have set up IT as a corporate service, similar to HR or Finance. These IT (Shared Services) Organizations are tasked with anything and everything that deals with Information Technology, which includes Infrastructure, Applications and Data. While the efficiency of a Shared Services organization makes perfect sense in the case of Infrastructure and Applications, for Data, when looked through the prism as a corporate asset, will not be well served with a Shared Services approach. It may be better to separate the Data Producing organization – tasked with the responsibility of aggregating the data, building the Data Warehouse, the ETL and so on- and keep this as a Shared Service and move the Data Consuming Organization – tasked with the analysis of the Data and figuring out what the Data tells about the future – to align closely with the respective functions in the organization (Product Development, Sales/Marketing, Operations). Such a split and embedding of the Data Analysis team within the core functions of the organization will force the organization to re-think their innovations in the context of the Data they have already accumulated. Can you imagine the power of a design team equipped with the knowledge of not only the latest material science advancements relevant to their product, but also the causative effect of similar past choices on customer satisfaction?

Incorporating Data Science as a key proficiency

Till recently Analytics in most organizations were the production and consumption of trend reports and Dashboards of KPI measurements of the organization. These measurement, appropriately dubbed Business Intelligence, would tell key decision makers where they are or where they came from. But organizations that use trend analysis to predict the future, could be left with chasing apparitions and missing the boat completely and wasting their capital. If Data is an asset, it needs Scientists to analyze the Data and figure out what it Predicts for the future or how the current processes can be made to Learn from the Data.

Post World War II, the Western Industrial World, which were lulled from their successes during the war period, went into a period of process staleness that made them uncompetitive and created quality issues in their products. The Japanese on the other hand, gave birth to the Lean Manufacturing techniques and leapfrogged the western industrialized nations in terms of process efficiency, quality and "Returns on Resources". The industrial world went into a period of catching up, by incorporating processes such as Six Sigma, Lean Manufacturing and tools such as ERP (SAP and others) into their organizations. Today, after two to three decades of agonizing change and tremendous capital investment, many western manufacturing giants have regained their footing and many are indistinguishable from their Japanese peers.

We are on the same phase with Data. A transformative era is going to unfold when organizations are going to rethink Data. Many tool manufacturers are jumping into the fold – this week Amazon announced the launch of Amazon Machine Learning, a cloud based service for Predictive Analytics (Microsoft and Google are already in the fray with similar offerings). We may be at a tipping point to launch a new measure of corporate performance – "Return on Data".

- Ganesh Iyer
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