THE EVOLUTION OF ANALYTICS
AND THE DATA DRIVEN ENTERPRISE

Practical Strategies for Survival and Organizational Excellence
An organization is like a living being that evolves and adapts to changes in the environment and the better informed the person is the better the adaptation. The changes that are taking place in the world today especially in the realm of data and our ability to handle it and take advantage of it makes the difference between survival and death.

This document describes what is going on in the world of data, information, & analytics. It shows how to prepare for and adjust to the changes in the 21st Century enterprise and not just survive but evolve and excel in the marketplace.

THE LIVING ENTERPRISE

An organization is like a living being that depends on data as its lifeblood to do everything it does to attain its goals and objectives and survives and thrives by the ways it responds to data and information and adjusts and adapts by making intelligent decisions and acts in a manner that ensures its survival or its demise in the world of business. In this critical activity the role of data and analytics cannot be stressed enough. As an organization evolves so does its analytical capabilities and the ability to harness and exploit data becomes the basis of organizational excellence.

THE EVOLUTION OF ANALYTICS

The use of data and information and analytics in organizations is not a new thing and organizations have always depended on data and analytics to make business decisions. However, the past few years just as the dot-com revolution started and with the advent of new technologies and frameworks forced organizations to evolve by adjusting and adapting to the changes taking place or be left behind. Nowhere is this more evident than in the area of analytics as is evidenced by the vast investments in infrastructure, tools and technologies and operating expenses to harvest, consolidate, manage and exploit data to gain insights and make decisions.

In just a few decades we have seen a few generations of evolution in analytics. In the early to mid 90’s we had what we call Analytics 1.0 the first generation of analytics based on Data Warehousing and Business Intelligence platforms, tools and methodologies. This started the decision sciences revolution and large data warehouses enabled businesses of all types to gain competitive advantage and increase market share and eliminate competitors in certain cases.

The advent of the internet age and the explosion of data caused the adoption of newer platforms like Hadoop and other Big Data technologies to further extend analytics capabilities and can be called the generation of Analytics 2.0. Technologies of all types provided data in even larger amounts like devices, phones, social media platforms to name a few and Analytics 2.0 provided insights not seen before.

The evolution continues and we are in another generation of Analytics 3.0 where we see a blending and convergence of the old and the new and a more mature handling of data and providing insights and is making changes in the way organizations act and make decisions. Every step of the way as Analytics has evolved doing basic reporting and analysis to doing more advanced analytics in a predictive and prescriptive manner so has the organization evolved. The evolution of Analytics and the organization are intertwined and is the very basis of survival.
It is obvious that getting a grasp of data and analytics is critical to organizational success and that organizations that gather, manage and exploit data with analytics ensure survival and even change the course of a business.

Why is it important to understand the changes taking place in the evolution of Analytics? The answer is simple – just as the first generation of Analytics provided gains to many businesses it very soon became useless as soon as the volume of data and information exploded the platforms that did so well yesterday became an expensive burden to do minimal analysis and as everyone was doing the same kind of analysis the competitive advantages were no longer there. Everyone was and is dabbling in the implementation and use of the newer capabilities of Big Data Analytics and hoping to get the gains that a Google, Facebook or Amazon was getting. However, it is clear now that is easier said than done. Many experiments in Big Data implementations with large investments have raised hopes, provided sub-optimal results and has created unrealistic expectations in the minds of many.

The existence of “legacy” data warehouses and business intelligence platforms combined with the current experience of many Big Data implementations has caused organizations to reconsider their approach to this path of evolution. Just as some organizations have gone from generation to generation and availed of its advantages others have floundered. This is a critical capability for many businesses and that’s why it matters so much to so many.

Beneath all the generations of Analytics capabilities are data, layers of services, related technologies and processes like Master Data Management, Metadata management, Data Architecture, Data Integration/ETL etc. As Analytics evolved so did the underlying technology stack and infrastructure changed. These are the underpinnings of the data driven enterprise, organizations that depend on the use of data and related technologies that provide inputs to decision makers that make the difference between decisions made on "gut feel" vs. insights based on data and information.

This gives rise to the question – what makes an organization succeed in evolving from doing basic analytics to doing sophisticated analytics as we see possible today? The answer is the implementation of a well architected and governed data driven enterprise. An organization that bases decisions on facts and figures not gut instinct. An organization that blends and aligns business and technology to the common goals of the enterprise.
THE FUTURE - WHAT HAPPENS NEXT

All types of data

A successful organization combines data from different sources – structured and unstructured, from devices and social media and combines them in a manner that provides a very rich set of inputs to make analysis meaningful.

Seamlessly combine the old with the new

It combines the old and the new seamlessly so as to not only exploit data in data warehouses but big data appliances, Hadoop, NoSQL platforms and integrates data from all sources to provide views that expand the insights. This requires newer IT and Data Architectures and organizations that arrive at the right implementation Road Maps evolve faster.

Adopt agility and speed in operations

Newer technologies are faster and get to insights faster than before so agility and speed is a capability that an organization has to master.

Business and IT Cooperation

The critical capability of being able to align technology to business needs and processes means that business and IT need to work together and form cross disciplinary teams so that analytics is no longer just in the realm of IT but is “democratized” so that people in all parts of the organization can use and avail of its benefits.

CDOs and CAOs

These organizations have champions and sponsors at the highest levels of the enterprise like CDOs (Chief Data Officers) and CAOs (Chief Analytics Officers) so that the data driven philosophy is communicated top down and implemented bottom up in the organization.

Advanced Analytics

These organizations do not just descriptive analytics and reporting but adopt sophisticated analytics like prescriptive and predictive analytics to provide insights that extend the capabilities of decision making and providing just in time information to make quick decisions.

THE FUTURE – WHAT HAPPENS NEXT

The survival and growth of an organization in the future will depend on how even more dramatic changes in the world of technology impact the creation of data and the ability to exploit that through analytics. This maturing of platforms, frameworks, tools and technologies has created a new breed of Analytical capabilities that is on the horizon and is being realized now. The advent of machine learning, artificial intelligence, robotics brings the next generation of Analytics in focus where machines make decisions for us and aid decision makers in ways that we have not seem as yet.
How do we keep up with all these changes and ensure the survival of the enterprise? That is the question that any living being asks every day!
The answer is the ability to assess the environment and recognize the changes taking place in the world of data, information and analyze it and act on it.

If one could boil this down into a few short phases:

- Assess current capabilities, maturity of processes, technologies and underlying processes
- Innovate and incorporate new tools, technologies and frameworks to drive the analytics evolution
- Build a data driven organization one that bases decisions on data and facts and not just on gut instinct
- Democratize data - create cultural change so all parts of the business and processes have access to data and analytics.

This, organizations that evolve their analytics capabilities and create a data driven enterprise ensure the survival and success of the enterprise.
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