



Since McKinsey's report on big data in May 2011, we have entered an era where virtually everything we do on this planet is designed and digitized to generate data, consume it, or do both. Recent projects, including the Metaverse, want to copy the earth into a virtual data planet. Since that report, data has been a strategic asset in any company whose business depends on data, not just Google, Amazon, Meta, Apple, and Microsoft who have paved the way. But before we got to this point, data itself has gone a transformation from a purely technical resource to a valued asset.

Today, data is collected, organized, and enriched not only to assess the performance of the company but to predict its future. Very soon, those predictions will be widely turned into decisions and actions. The credit sector, the engine of the US economy, is already showing us the way.

Data, a resource that has become a business asset

Barely ten years ago, data was an IT resource that supported business lines and functions. As such, it was generally managed by the IT department whose mission was to build the data architecture, choose a database supplier, and design applications linking databases to the needs of internal users. These applications were mostly descriptive analytics dashboards, which allowed companies to get a status of how they were performing against their goals. This is what is meant by business intelligence (BI) in the financial departments of large organizations.

Then came the first transformation. Dashboards were improved by predictive analytics whose scope of analysis is no longer just on what had happened in the past months and years, but on what might happen if there are significant changes in industry regulations, market dynamics, and company strategy. This transformation propelled the uses of data science and machine learning in business today and includes use cases in advertising, marketing, sales, customer relationship management, and supply chain management.

In the time since that change, a new transformation has been underway, beginning in the banking, insurance, and health sectors in the USA and China and crossing the oceans to land in Europe with promises, realities, and new regulations. It consists of transforming predictive analytics into operational decisions. The promise of this new transformation is to create a virtuous circle where not only is data analyzed, but that analysis is transformed into decisions and actions that generate new data. This prescriptive analytics complements descriptive analytics and predictive analytics in the same way that a robot learns to walk and walks by learning. You can compare this to reinforcement learning, but simpler technologies can do the work. For example, the technologies used by large financial institutions can automate the process of lending to individuals based on data the individual supplies and the risk scores the learning algorithms compute.

Data governance, a necessary step

It is not enough to bring together all the company's data in a data platform for the data to be transformed into knowledge, forecasts, and decisions. Indeed, all data does not have the same age, the same structure, the same format, the same quantity, the same quality, and most importantly, the same utility. If an attribute is important for one business line, it is not automatically important for another business line, even within the same company. Each business line has its own vision of a product, of the customer, and of any entity managed by the various actors of the company. In the luxury sector, for example, a dress, a bag, or a piece of jewelry, although it is a unique object, is seen through different attributes according to the databases where this same object is stored. Looking to exploit all the data available in a company to extract predictions and decisions requires a new project, called data governance.

Like any general title, there is no consensus on the definition of data governance, and it should not be confused with data management or quality management. For my part, I define data governance as the organization, the processes, and the tools put in place so that the data is ready to be activated by the models and algorithms of data scientists so that data science can deliver on its promises. Successful initiatives have always had data owners who are businesspeople familiar with the needs of their profession, in addition to technical teams often made up of data architects, data modelers, data engineers, and sometimes data scientists.

In an architectural model represented as levels where the highest level stands for business needs and the lowest level stands for technical resources, data governance would be found below data science and above data management. From a practical point of view, data governance integrates, unifies, and harmonizes data for data scientists to use according to the data stored in the source systems. It is at the level of data governance that the company policies are defined, and the sectoral regulations are implemented.

The multitude of regulations that flourish all over the world, sometimes with regulations by states in the same country, makes data governance even more complex and an ability even more sought after, in the way that data science was at the start of the data era. Data architects, data scientists, and data stewards must now integrate discrepancies such as the impossibility of exploiting the data outside the territory where it was collected, or even of using recommendation algorithms without explanatory capabilities. Dreaming of a "one size fits all" global data platform is no longer relevant. From now on, pragmatism prevails: one platform per continent or even per country, otherwise the budget would be worthy of those of the major transformation programs at the national level.

Wrap-up

In less than a decade, data has evolved from a resource for evaluating business performance to an asset used to predict the future of the business. It will soon become an asset used to automate and improve decisions. These two rapid transformations were made possible thanks to an awareness of the strategic side of data governance, without which there would be no data intelligence. This helps transform businesses into lifelong learning organizations where data helps find opportunities, machine learning turns that data into knowledge, and AI turns that knowledge into action, closing the virtuous circle that data promises. Think of a marketing campaign where an AI uses data from earlier campaigns to build a prospect profile, then chooses a communication channel to reach prospects, then the right messages for distinct groups of prospects, and finally collects new data for the next campaign. This AI will relieve marketers of routine work, giving them more time for design and creativity rather than execution of campaigns.

As for its future, no expert, no algorithm will be able to predict it exactly. The one thing that is certain is that data is interfering in all economic activities to the point that it has become omnipresent as an asset that financiers value in the same way as customer bases, patents, trademarks, and other intangible assets. It's data, not algorithms, which make Google, Meta, and Amazon the big three in digital advertising. It is also data that made Netflix and Amazon two powerful production companies. This explains why large organizations invest in internal data marketplaces where the goal is not only to store large volumes of data, but to ensure that this data is consumed as competitive knowledge. This also explains why new entrants prefer to capture data first, even if it means losing money, for a much greater return on investment.

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