IDC TOPLINE

AN INTELLIGENT COMPANY NEEDS AN INTELLIGENT CORE: PEOPLE AND DATA, TOGETHER, DRIVE RESULTS

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An Intelligent Company Needs an Intelligent Core: People and Data, Together, Drive Results

Establishing an effective organizational platform for Big Data analytics is quickly gaining business-critical status in almost every organization in almost every industry. IDC research shows that even in large organizations, nearly two-thirds currently remain in the first three stages of IDC's five-step analytics and AI maturity ladder.

Establishing an effective organizational platform for analytics and Big Data is business critical in every sizeable organization and every industry. To drive effective digital transformation, business and technology leaders need to design and implement organizational change, to empower their employees at multiple levels to make timely decisions that are firmly based on reliable data, combined with human insight. This can be challenging, often requiring a new technology infrastructure and, just as important, making the analytical insights that this new infrastructure can provide accessible and understandable to the relevant decision makers.

IDC has been tracking organizations' maturity with respect to their Big Data analytics implementation and utilization for several years, looking at the benefits they gain and how widely across the organization these benefits are felt. This research shows that, even in large organizations, the majority remain on the first three steps of IDC's five-step analytics and AI maturity ladder (see *IDC MaturityScape: Big Data and Analytics — A Guide to Unlocking Information Assets*, IDC #239771, March 2013). This means that they are still, at best, seeing benefits at departmental level, with non-standardized processes, rather than through repeatable, improvement-driven and enterprisewide initiatives.

Modern Analytics Technology and AI Help Meet Business Goals

One of today's great business imperatives is digital transformation. IDC predicts that by 2023 around 50% of global GDP will arise from digital products and services. Consequently, organizations all over Europe are investing billions to ensure they can succeed in the new, digital-first economy with organizational and technological change being driven by strategic, board-level imperatives.

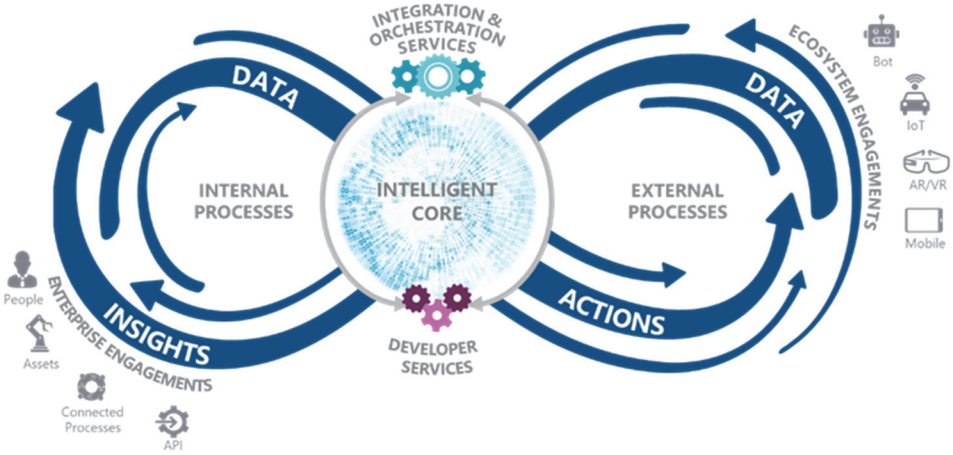
IDC's research has confirmed that crucial to this success is for organizations to establish a digital platform linking themselves, their customers, and their suppliers (see Figure 1).

Such a platform enables end-to-end, intelligent processes in their business operations, exploiting the power of analytics, AI, and machine learning for more efficient and more effective operation. Made possible by the data analytics capabilities at the heart of the platform, this drives new digital business models, better customer engagement — for example, with RPA and conversational interfaces — and new ways of doing old tasks (for example, predictive rather than scheduled approaches to maintenance).

It is possible to implement such a platform incrementally, based on compelling applications from specific business units, but companies should strive to establish a

shared vision that is scalable across the organization that will accommodate future requirements, instantiated in the platform and aligned to organizational goals: analytics strategies must begin and end with the requirements of the business.

Figure 1
IDC's Digital Transformation Platform Framework Schematic



Source: IDC DX Platform: A Framework for the Intelligent Core, 2018

The latest analytics technology provides an unprecedented opportunity to provide line-of-business users with the information they want to have access to for informed decision making, having been integrated and curated for data quality and compliance within the intelligent core.

Such a platform can enable organizations to take full advantage of the latest market and technology trends, including:

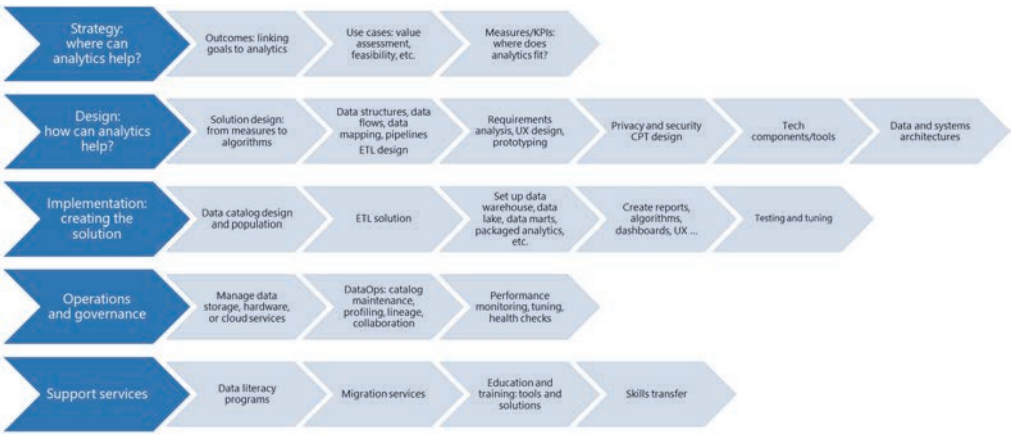
- More user-friendly tools for self-service analytics. Suppliers have developed tools to enable business users to develop, and present in a comprehensible way to others, sophisticated data-driven insights, without the need for extensive support from corporate IT services.
- Better, faster, more scalable access to the data that business users want to analyze. Corporate IT groups, and their departmental counterparts, had previously been seriously restricted in what could be achieved in terms of data provision and data integration by the cost and complexity of the necessary infrastructure. There has been a dramatic increase in what is now affordable in terms of on-premises compute power. Even more significantly, the ability to access on-demand cloud-based analytical data storage and analytics, with elastic limits to what can be stored and analyzed, has enabled analytical projects to be implemented that could never realistically be accommodated by an on-premises datacenter.
- Automation support for every step of the analytics process. Technology vendors have responded to the increased demand and competition for their solutions by significantly improving their usability via automation. Modern software, for example, can automatically inspect an organization's customer database and use AI to offer intelligent guesses about how to integrate it with other customer databases for analytical use. This can save very significant amounts of implementation time. At the user-facing end of the analysis process, modern query tools can automatically suggest insights into data that may not be obvious to human analysts.

- Easier access to machine learning and AI functionality. Many companies have employed specialist data scientists to take advantage of the possibility of analyzing their often greatly increased amount of available data using modern computing resources, including machine learning and AI techniques. This is an expensive resource, however. Analytics vendors are therefore making machine learning and AI technology more directly available to business experts, facilitating more effective collaboration with data science experts to develop AI-based applications that support human decision making and providing new business value.

Successful implementation of Big Data analytics requires a coherent strategy. There are many components that need to be assembled, both in terms of technology support and change management. The most effective route to achieving this depends on company culture and the extent to which particular stakeholders have already embarked on this journey.

The Analytics Implementation Context

Figure 2
The Analytics Life Cycle



Source: IDC, 2019

Successful implementation of Big Data analytics to enable a data-driven business outlook requires a coherent analytics strategy. There are many components to this strategy, both in terms of technology and change management.

The overall route from strategy to implementation — the analytics life cycle — is illustrated in Figure 2. The most effective route to achieving this depends on company culture and the extent to which particular stakeholders have already embarked on this journey. Some organizations will have the internal know-how to follow through on such a strategy already, but IDC sees that the majority need to look externally for extra support, through new hires, training, and through working with partners that can help with knowledge transfer, design, and implementation.

In many companies, central IT groups have been building data warehouses and data lakes using newly available technology options in anticipation of demand for data-based decision support as business managers seek to become data-driven in their operation and outlook. Additionally, line-of-business staff are increasingly turning to modern self-service analytics software to enable them to make better data-driven decisions from data that they already have access to.

The challenge and opportunity that modern companies must face is to combine these goals into a coherent infrastructure that aligns:

- The overarching business requirement: to remain competitive via data-driven decision making
- The corresponding requirement to provide staff with the necessary high-quality information that they need to make confident data-driven decisions
- Staff to give them the appropriate level of data literacy to achieve this
- The IT infrastructure to provide the necessary data in an appropriate and timely way

Success and Benefits in Different Industries

The benefits to an organization of adopting a structured, business-oriented, and holistic approach to analytics and Big Data are manifold. IDC has seen success in business transformation with measurable benefits for both private and public sector organizations in a wide variety of sectors in Europe. Business benefits that are achievable include:

- Higher revenue, from improved sales, marketing, product availability, customer experience, etc.
- Higher efficiency, for example, from improved data-driven decision making, greater automation, and reduced wastage
- Reduced business risk, from better compliance and governance

Particular examples of this that IDC has seen in its research include:

Over 90% of European users were seeing benefit from their Big Data analytics projects, according to an IDC survey of over 700 companies in 2018. But they face challenges which can be cultural, technological, or of comprehension (data literacy).

- A tire manufacturer enabled its commercial customers to achieve 5% lower costs through real-time reporting of incorrect tire inflation from sensors in the tire — giving competitive advantage and potential revenue.
- A utility company used advanced analytics on consumer gas consumption data to provide new ways to detect fraud, increasing detection rates fourfold.
- A car manufacturer was able to offer new subscription services based on data gathered and analyzed in the car, giving it additional and predictable revenue streams.
- A border agency achieved a 10% reduction in wait times through predictive models of numbers of arrivals, increasing satisfaction for customers and employees.
- A travel agency used machine-learning-derived scoring to better target offers to its members, raising sales per subscriber by 6%.

Furthermore, in a 2018 survey by IDC of 700 companies from across Europe, over 90% of companies that were actively using Big Data analytics said they were achieving significant levels of benefit from analytics use, including increased profit and revenue, and higher customer satisfaction and quality.

There are also benefits for the IT function within such companies, including:

- Greater alignment of IT operations to business goals

- Higher staff satisfaction, from contributing to better business results, from positive user feedback, and from using more modern and satisfactory toolsets
- Better control over the IT estate and usage of data, and a reduction in shadow IT

Challenges

Technology and methods for implementing analytics and Big Data have improved dramatically over recent years. However, there are still significant challenges.

Choosing appropriate technology vendors to suit a company's current and future requirements is both easier, because the leading vendors are all offering more and more functionality, but also more difficult, for the same reason: increasing breadth of choice.

Of equal — and rising — importance are governance issues. The advent of the GDPR legislation is just one aspect of society's increasing concern that data is used correctly and legally, and companies must respond. While GDPR applies to all personal data, some industries have many other regulatory hurdles to jump with respect to their data use — and how they work together may not be obvious, for example the banking PSD2 regulations. And all organizations, whether or not they are concerned with personal data, must continually strive to keep their data secure from an ever-growing and increasingly sophisticated security threat.

Within the organization, it is important to work to increase staff data literacy: to make sure that decision makers at all levels understand the data they are working with, its provenance, its accuracy levels, and the uses to which they are permitted to put that data.

As data volumes scale, data challenges increase including the cost and the technical challenges of storage while ensuring correctness and timeliness. IDC research also shows that more and more companies are looking to exploit real-time data as well as historic data, as this can be fundamental to new and transformative use cases — potentially requiring new tools and architectures.

New technology provides an unprecedented opportunity to provide line-of-business users with the information they want to have access to for informed decision making, having been integrated and curated for data quality and compliance within the intelligent core. However, cultural legacies may be significant in many organizations. Central IT resources have often struggled, for practical reasons, to provide line-of-business users with the information they wanted to have in a timely manner. Meanwhile, line-of-business users have taken advantage of self-service analytics tools to make the most of the data they were able to access, and this poses further issues of control and governance.

Leveraging the experience of others — industry peers, advisors, and consultants — can be critical to success in Big Data analytics. For many companies, external references, guidance, and support have proven essential in successfully overcoming these challenges and in reconciling viewpoints.

Conclusion

Implementing an analytics platform, to support companywide initiatives, with data-driven decision making has become business critical. Once a company has implemented an analytics platform capable of enabling data-driven decision making across an organization, benefits can be achieved in many areas. Although customer-related objectives are often the primary benefit driver for analytics platform initiatives, many companies also successfully seek benefits in operational areas such as process improvement and cost of procurement, and, most significantly, in enabling new business models based on data.

The technology options to enable such a transformation are increasingly capable, but there are many options. It is easier than it has been previously — though still challenging — to establish a companywide analytics infrastructure that can enable transformation to a data-driven decision culture. Existing organizational culture, both in IT functions and in line-of-business departments, must be considered when choosing the best route toward an integrated approach to analytics. Technology strategy must be aligned to company strategy — IT must be in sync with the business. Investments can be wasted if not positioned correctly.

Those organizations that do not have the necessary skills or resource capacity in-house to embark on a program of Big Data analytics improvement as discussed here could consider utilizing an external service provider. Companies should select IT services providers that can combine contractual and operational flexibility experience and a good, referenceable track record in this area, with suitable regional presence for scalability and proximity for market-specific services.

About the Analysts

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David Wells heads up IDC's research into intelligent Big Data and analytics in Europe. His core research coverage includes the current and planned activities of key vendors in the space, the requirements of European Big Data users, and mechanisms for assessing how companies can use specific techniques, strategies, and technologies to use analytics, Big Data, and AI to achieve their strategic goals.

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MESSAGE FROM THE SPONSOR

An Intelligent Company Needs an Intelligent Core: People and Data, Together, Drive Results

Data is the currency of the modern world. However, many companies are struggling to gather, analyze, and utilize data in an efficient and timely manner. Very often companies simply lack the tools and the knowledge to organize the data collection processes and data processing, or the bandwidth to deal with all the "small data" in the organization, failing to generate meaningful insights for the business.

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