Qlik Q

The Digital Transformation Imperative

Harnessing insights and intelligence in the analytics economy

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Digital Transformation and the Rise of the Analytics Economy

In today's digital era, rapid technological advances in data and analytics have reshaped the business landscape. As the volume of data has grown exponentially in recent years, analytics has fundamentally transformed the way businesses operate. In fact, advances in analytics technologies herald a new era of innovation and opportunity.

This new analytics economy requires that businesses recognize value in their data and use it to improve decision making and drive action. Only those companies that effectively harness their data and turn it into insights will be able to transform and compete.

Information has become an important digital transformation investment area, says IDC. Totaling $240 billion this year, data and analytics investments are used as businesses strive for a competitive advantage through better decisions, optimized operations, and new products and services.[1]

THE ROLE OF DATA AND ANALYTICS IN BUSINESS

For those who choose to capitalize on it, data delivers business value across the organization.

Developing a data-driven culture

69.4%
are using data to create a data-driven culture

Decreasing expenses

72.6%
are seeking to reduce expenses through data-driven cost efficiencies

Creating new avenues for innovation & disruption

64.5%
are using data to create new avenues for innovation and disruption

Launching new products and services

62.9%
are using data insights to develop and launch new product and service offerings

Accelerating speed to market

64.5%
are using data to accelerate the speed with which new capabilities and services are deployed

Big Data Executive Survey, *NewVantage Venture Partners, 2017*

[1] IDC, "IDC Forecasts Worldwide Spending on Digital Transformation Technologies to Reach $1.3 Trillion in 2018," December 15, 2017.

In its May 2017 executive briefing on the topic, the McKinsey Global Institute states, "Our research finds that companies with advanced digital capabilities across assets, operations, and workforces grow revenue and market shares faster than peers. They improve profit margins three times more rapidly than average."[2]

The importance of analytics is playing out in multiple verticals and across several functional areas. In retail, the role of the physical store is changing. Still the primary sales channel, stores are transforming into customer engagement centers and critical supply chain hubs. In manufacturing, businesses are using IoT data to increase production efficiencies, improve communication, and gather data for rapid product enhancements.

In functional areas like sales, data insights play a role in pipeline and quota management, product analysis, sales planning, channel evaluation, and customer analysis. For those in finance, analytics can improve decision making in financial planning and analysis, expense management, revenue and profitability analysis, risk and compliance evaluation, and cash flow and balance sheet analysis.
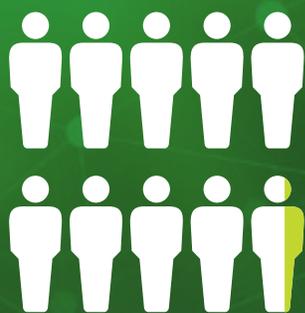
99%

of business leaders say that visibility across the digital experience is critical to measuring and managing it successfully.[3]

No matter the use case, data and analytics play a crucial role in today's digital transformation initiatives. The role of data and analytics is broader than optimizing the digital experience, as organizations have embraced data-driven transformation in all areas. According to a recent survey, 99% of business leaders say that visibility across the digital experience is critical to measuring and managing it successfully.[3] As customers increasingly expect a seamless digital experience and as competition for those customers becomes fierce, decisions made with evidence-based insights have become a necessity.

The Critical Need for Insights from Data

In today's digital landscape, there are three key market drivers that create a need for the insights found in data analytics:

1 **The empowered consumer**

2 **The competitive marketplace**

3 **The digital evolution**

ANALYTICS VALUE SOURCES

There are four key areas where analytics brings value:

Reimagined processes
Completely rethink processes by applying data insights to increase quality, lower costs, and speed time to delivery

Customer intelligence
Capture data on customer behavior and preferences for enriching experiences, tailored offerings, and loyalty

New business
Use data in new ways to create new monetization streams or uncover new opportunities

Balanced risk and reward
Increase confidence in decision making and optimize business outcomes while mitigating risk

1 The empowered consumer

The smartphone has fundamentally changed the way consumers interact with brands. The device has changed how they shop, what they shop for, and how they expect to be treated. The unlimited data, content, and information at their fingertips have set the bar higher for brands that want to stand out in a digitally cluttered world. At the same time, today's consumers expect to be understood and appealed to with personalized interactions, products, and services.

While creating a superior experience for the empowered consumer may seem like a daunting challenge, it also presents a business opportunity. With access to customer data, businesses can gain crucial insights into changing customer behaviors and help drive speed to market. Capturing data on customer behavior and preferences enables organizations to provide more enriching experiences, offer tailored products and services, and foster long-term, loyal relationships.

2 The competitive marketplace

Competition is a part of doing business. In the analytics economy, data insights often become the weapon with which businesses compete.

In the same way that data insights can improve the customer experience, analytics can help businesses gain an edge over their competitors. Using analytics to gain a competitive advantage is about more than just winning the battle for customers today. It's about building a sustainable advantage through insights that accelerate speed to market, create new avenues for innovation, and identify opportunities for growth.

Those who fail to use data to their advantage may find themselves in bankruptcy or even shutting their doors altogether. Companies that were once at the top of their industries, including Blockbuster, Toys R Us, and Sports Authority, quickly found themselves in peril after failing to meet the digital requirements set by the competition. Alternatively, traditional companies like Wal-Mart have kept up with the Amazons of the world, offering two-day shipping and using the physical store as a differentiator.

3 The digital evolution

Today's business landscape is experiencing a digital evolution. Technological innovations are growing at an exceptional pace, producing emerging technologies like IoT, artificial intelligence, machine learning, predictive analytics, and more. These technologies are proving to be catalysts for growth and enable the digital business to capitalize on volumes of data in an efficient way.

Despite this potential, evolving with the pace of the digital evolution requires more than capitalizing on the latest technologies. It requires getting answers to the questions that will guide the organization's future strategies. IDC analyst Ray Boggs said, "The benefits of advanced business intelligence can come not just from better or faster answers to current business questions, but from an appreciation of the most important questions that aren't yet being asked."[4]

Using data in new ways enables businesses to get answers to questions they might not have thought to ask. With artificial intelligence, predictive analytics, and evidence-based forecasting, businesses can uncover the insights they need to evolve and grow with the future.

> Today's business landscape is experiencing a digital evolution.… These technologies are proving to be catalysts for growth and enable the digital business to capitalize on volumes of data in an efficient way.

4 IDC Analyst Connection, "Analytics for SMBs: Sharpen Operations, Capitalize on Business Opportunities," April 2017.

The Value Gap

Despite the growing need for data insights, businesses often experience a value gap that prevents them from gaining value from their data. Due to the proliferation of data silos, the perishable nature of data, data strategy complexity, and the limitations of traditional business intelligence and query-based tools, realizing true value from analytics is often out of reach.

Data silos

Since its infancy, the analytics economy has struggled to overcome the limitations of data silos. When data resides in multiple, disparate systems across varying departments, both within and outside the firewall, creating a single source of truth is impossible. Departments often have access to only their own data and analyze that data without consideration for the broader enterprise.

Perishable data

In addition to residing in silos, data is often perishable in nature. Gaining business value from data requires timely analysis. However, without self-service analytics, businesses must rely on IT to generate reports. When fielding multiple requests from varying departments, IT often finds itself with a backlog of requests, and it can take several weeks for business decision makers to receive the insights they need. Given the perishable nature of data, this lag makes the data stale or irrelevant before the business decision maker ever has a chance to analyze it.

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Data strategy complexity

Most IT organizations today have comprehensive strategies for applications, development tools, platforms, and even storage, but few devise a strategy to ensure that data is managed as a business asset. While the value of data is clear to the business, often there is no plan to improve the access, sharing, and usage of data to realize its full potential. In addition, developing a data strategy that meets the needs of the business becomes more difficult as the digital business grows. Complex data analytics without an enterprise data strategy can result in inaccurate or incomplete insights that lead the business down the wrong path.

Traditional business intelligence and query-based tools

As the value of data becomes increasingly clear to businesses, the limitations of traditional business intelligence tools become problematic. Traditional BI stacks are complex and lack the flexibility the business needs. They take months to implement, require significant investments, center on reports instead of analysis, and are difficult to adapt to changing business requirements. By the same token, query-based visualization tools require complex data preparation, analyze only subsets of data, perform only linear exploration, and lack the governance and controls required by the enterprise.

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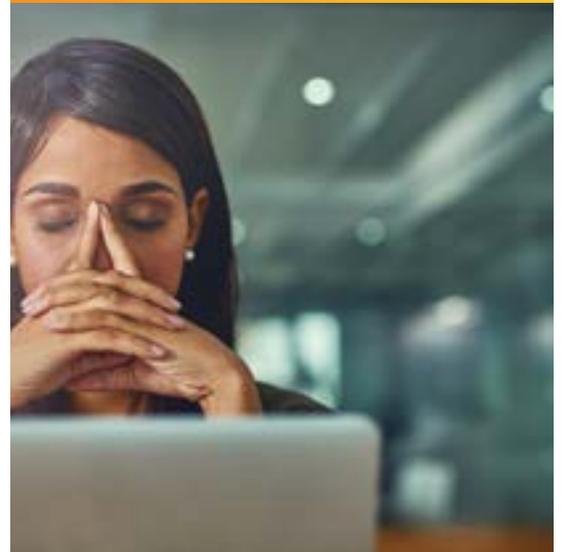
Harnessing Data Insights with Next-Generation Analytics

The power of data insights and intelligence over the digital business is undeniable. Truly data-driven transformation is possible when decision makers have access to the insights that address the needs of the empowered customer, gain an advantage over the competition, and evolve with the future of the digital marketplace.

According to Gartner's Rita Sallam, "Data and analytics is at the heart of digital transformation. It has become core to how companies deliver value to customers. For many companies, data has become core to the product itself."[5]

However, gaining access to timely, enterprise-wide data with traditional business intelligence tools is difficult at best. The obstacles associated with the value gap can only be overcome with a next-generation analytics platform.
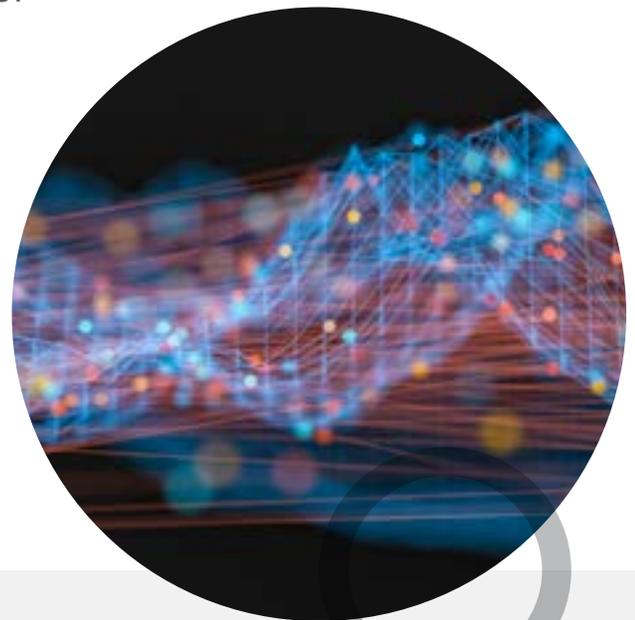
There are four key factors that define the ways in which businesses can use modern data analytics to achieve data-driven transformation:

1 Data literacy for a data-driven culture

2 Analytics at the edge

3 Emerging analytics technologies

4 Data exploration without boundaries

[5] Gartner, "Smarter with Gartner, Analyst Answers: The Biggest Challenges for Data & Analytics Leaders Today," December 11, 2017.

1

Data literacy for a data-driven culture

One of the most important aspects of gaining value from data involves creating an enterprise-wide, data-driven culture by improving data literacy. Regardless of role or skill set, everyone in the organization can benefit from intuition-based data exploration.

In an article for *Forbes*, contributor Brent Dykes wrote, "Data in the hands of a few data experts can be powerful, but data at the fingertips of many is what will be truly transformational."[6]

When everyone in the organization has the insights they need at their fingertips, they are empowered to make decisions founded on data. With evidence-based insights as the basis, the hundreds or thousands of decisions made every day become more trusted. The business gains confidence that their strategies are guided by fact, not guesswork or incomplete historical data.

In a truly data-driven culture with organization-wide data literacy, data is treated as a second language spoken by everyone. In a special report, Gartner wrote, "Data and analytics leaders must champion workforce data literacy as an enabler of digital business and treat information as a second language."[7]

"Data in the hands of a few data experts can be powerful, but data at the fingertips of many is what will be truly transformational."

[6] *Forbes*, "Why Companies Must Close the Data Literacy Divide," March 9, 2017.
[7] Gartner, "Fostering Data Literacy and Information as a Second Language: A Gartner Trend Insight Report," February 23, 2018.

Analytics at the edge

A key component of ensuring data literacy is bringing analytics to the users, embedding it wherever they may be working. Analytics at the edge enables the business to analyze real-time data without the delays and bandwidth costs that come with sending that data offsite for analysis. There are a growing number of use cases, especially around IoT, offline mobile, and immersive analytics, where organizations can benefit from running data analytics workloads at the edge.

When data insights are needed across the organization, edge analytics enables data analysis to be performed at the point where the data is collected. Rather than sending raw data back to the data warehouse to be cleaned and analyzed before it can offer any value, analytics at the edge enables timely, contextual analysis.

For example, retailers can analyze point-of-sale data as it is captured and enable cross-selling or upselling on the fly. In manufacturing, edge analytics enables the monitoring of equipment health through predictive modeling, detecting early signs of deteriorating performance and risk of failure.

Analytics at the edge is a nascent trend. However, as businesses continue to generate and rely on IoT data, edge analytics will only grow. According to Gartner, currently around 10% of enterprise-generated data is created and processed outside a traditional centralized data center or cloud…. By 2022, Gartner predicts this figure will reach 50%.[8]

"Organizations that have embarked on a digital business journey have realized that a more decentralized approach is required to address digital business infrastructure requirements," according to Gartner's Santhosh Rao. "As the volume and velocity of data increases, so too does the inefficiency of streaming all this information to a cloud or data center for processing."[8]

A key component of ensuring data literacy is bringing analytics to the users, embedding it wherever they may be working.

[8] Gartner, "What Edge Computing Means for Infrastructure and Operations Leaders," October 18, 2017.

3

Emerging AI technologies

Advancements in artificial intelligence and machine learning promise to revolutionize the way businesses interact with their data. Machine learning is a method of computational learning underlying most artificial intelligence applications. It automates analytical model building and learns from the data, identifying patterns and trends in the data with minimal human intervention. When paired with human interaction to derive context, AI becomes augmented intelligence, dramatically improving the data literacy of every user.

In a report on the topic, Gartner analysts Douglas Laney and Ankush Jain write, "Artificial intelligence is emerging as a core business and analytic competency. Beyond yesteryear's hard-coded algorithms and manual data science activities, machine learning promises to transform business processes, reconfigure workforces, optimize infrastructure behavior, and blend industries through rapidly improved decision making and process optimization."[9]

Emerging analytics technologies have several real-world applications. In retail, online sales are bolstered by recommending items based on consumers' previous purchases. For manufacturers, analyzing sensor data can help identify equipment and production efficiencies. And for business users more interested in action and outcomes than detailed analysis, machine learning builds context into business applications for sales, marketing, HR, finance, and more.

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4

Data exploration without boundaries

While artificial intelligence and automation can speed time to insight, human interaction cannot be removed from the process altogether. Decision makers need to be empowered to leverage emerging technologies while also freely exploring their data without restrictions or boundaries.

With a modern analytics platform, users can interact anywhere, within visualizations, charts, graphs, filter panes, or even a global selections interface. When analytics are dynamically calculated, users can pivot their analysis to new ideas or data without the limitations of predefined questions or hierarchies. The process builds on itself as users ask more questions, add more context, and become more informed along the way.

For example, a user might start with an open-ended question but end up asking a series of questions based on the answers to the initial question. When decision makers can interact with their data in a natural, free-form way, they can follow their natural thought processes and get relevant, contextual analysis.

This analysis at the speed of thought provides insights as quickly as the user can think of questions. Ultimately, decision makers get the answers they need without having to wait, which empowers them to make faster, better business decisions.

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CONCLUSION

The Qlik Advantage

In today's era of digital transformation, the new analytics economy has created opportunities for businesses that recognize value in their data and use it to improve decision making. The next-generation analytics solution enables organizations to achieve truly data-driven transformation. With data-driven insights, they can overcome the obstacles of traditional BI and query-based tools to more effectively address the needs of the empowered consumer, gain a competitive edge, and evolve with the digital future.

Qlik plays a crucial role in delivering the insights needed for data-driven transformation. With its Associative Difference,™ Qlik delivers an experience that allows users of all skill levels to explore their data and refine that exploration through contextual searches and selections. For the truly next-generation digital business, Qlik offers augmented intelligence that amplifies human intuition with machine intelligence-driven approaches. And to drive data literacy across the organization, Qlik's embedded analytics deliver data value across the entire ecosystem—to employees, suppliers, partners, and customers—within the applications, portals, and business processes they use every day.

No matter where an organization may be in its digital transformation journey, Qlik provides the next-generation analytics needed to create a data-driven culture and empower everyone with the evidence-based insights that result in better decisions.

For more information about the value of Qlik and its role in the analytics economy, visit **qlik.com**.