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## **Deloitte Analytics**

Take your analytics capabilities to the next level

# Deloitte Analytics

## A new data visualization approach

### Interactive visual exploration

Data visualization is the graphical display of information for two main purposes: sense-making (aka Visual Data Analytics) and communication.

Its main goal is to translate abstract information into visual representations that can be easily, efficiently, accurately, and meaningfully decoded by human mind: Data Visualization is only successful to the degree that it encodes information in a manner that our eyes can discern and our brains can understand.

As a result of the increasing size and complexity of data, faster ways to explore and interpret this data are needed and interactive data visualization has become a powerful tool for delivering insight to people in an immediate and intuitive form: that's why it is much more a science than an art.

As technology consumers, we're used to interact daily with websites that use filters and selectors to examine and navigate charts on all kinds of data, from our banking transactions to the performance of our favourite sports teams. We're used to lassoing, panning, zooming and re-visualizing data on charts and maps. Delivering this type of data visualization experience is one of the core defining attributes of a modern BI&A platform.

The insights gained from visual analytics solutions guide the customer in taking the most optimal actions to meet strategic business goals. The descriptive, predictive and prescriptive capabilities of visual analytics solutions facilitate better informed decision making. Data visualization allows to comprehend the whole picture, and intuitively interpret the data exploiting the most immediate cognitive experience for human mind. It helps identifying patterns, relations and trends and communicate these through the best use of graphical means, enabling insights at the speed of thought.

Responsive design techniques are now a standard part of HTML5-powered data visualization approaches commonly used to enable the display of desktop-authored dashboards without modifications to their design on varied screen formats. This "design once" approach is usually associated with making data visualizations useful on smaller form factor devices, allowing users to share data stories, co-analyze and explore data collaboratively as part of managerial review meetings.

What was visualization-driven disruption is now mainstream. The two main capabilities that use this functionality — analytics dashboards and interactive visual exploration — are common in organizations, reflecting the descriptive to diagnostic maturation of BI. However, just because data visualization is common in organizations does not mean they are necessarily getting as much value as they could from it. Often, only a small part of these capabilities are used. Further, the context for their application is expanding to include new use cases, including data storytelling. Finally, data visualization, like many other areas, is being positively impacted by the rise of smart, assistive approaches that have the potential to enrich and expand the experience of data visualization.



Augmented analytics marks the next wave of disruption in the data analytics market



Augmented analytics is the approach that automates insights using machine learning and natural language generation, to automate data preparation, insight discovery and insight sharing. The goal is to enable expert data scientists to focus on specialized problems and on embedding enterprise-grade models into applications so that users will spend less time exploring data and more time acting on the most relevant insights with less bias than is the case with manual approaches.

## Main features of Data Visualization solutions

- **It all starts from data:** data visualization tools allow to communicate information in a clear and efficient way through statistical graphics, plots and information graphics. Effective visualization helps users analyse and understand complex data.
- **Organizations need effective Data Visualization solutions:** the continuous fast change of reference business models and the huge increase of data volumes require a compelling and prompt reaction from business analysts. Data visualization tools allow to *expose something new* about the underlying patterns and relationships contained within the data. Understanding those relationships is key to good decision making. Today, organizations are using different strategies to ask better questions of their data and improve business decisions.
- **Free Analysis, not reporting:** Visual discovery tools are designed for Data exploration, analysis and Data mining. Users can easily build their own interactive dashboards for departmental users or perform high-performance queries against large volumes of data. The turn key is that you don't need crystallized requirements in advance but you can exploit a self-service approach of business users to BI solutions.
- **Big Data oriented Analysis is the next challenge:** Nowadays, professionals have to make their decisions and argue their cases based on data. A new data-oriented mind-set is becoming predominant in the business world, so deepening the understanding of your data is fundamental.
- **Interactive navigation:** Data visualization is not only about showing data, but also about telling a meaningful story. Each graph is designed to convey the right message and colours are balanced to highlight insights. The right chart for your data and message will make for a much more interesting and

influential chart that will tell the story almost by itself

- **Everywhere and whenever:** Always keep in mind that your dashboard may be viewed on a wide range of devices. Responsive design is an approach aimed at providing an optimal viewing and interaction experience across a wide range of devices, from desktop monitors to smartphone screens. This way, you have always access to your data.
- **New opportunities for rethinking traditional portals:** as data proliferate, organizations are eager to monetize their data assets integrating outward-facing applications with reports, dashboards and self-service analytics. Analytics Portals are the powerful blend of different technologies, obtained by the injection of data driven analytics capabilities in the classic portals driven by UX and collaboration capabilities. The outcome is an augmented workspace that enables a wider and more efficient approach for users.

## Deloitte Analytics and Qlik: a winning partnership

Data is everywhere around us, and analytics should be everywhere too. The Deloitte and Qlik partnership, at every step of customer analytics journey, provides clients with powerful business visualizations for data-driven insights.



Our services bring together two leading edge realities converging towards data visualization and design, combining Deloitte business driven strategy-level insights, industry expertise and deep technical skills with Qlik leading technology to help improve the way our enterprise clients access, visualize, and interact with their data.

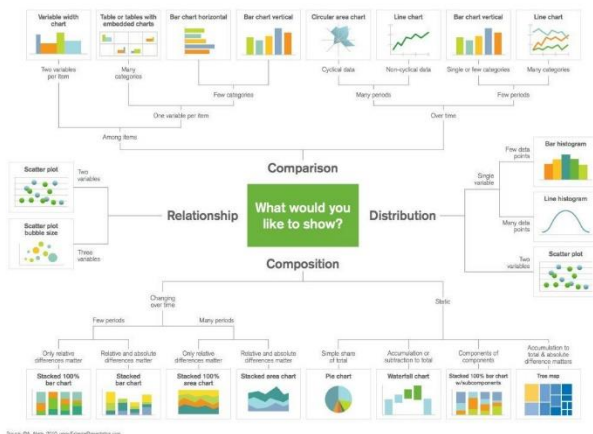
Deloitte user-experience driven methodology and holistic view enable to understand and shape where, why and how the solution will be used, and what the outcomes will be. Our focus on the core values of a product or service helps to identify and define what is really important and our consolidated visualization principles enable presenting data in the most meaningful way, for quick delivery of insights to support decision making. We make best use of graphical means (shape, colour, tone, position...) to reinforce human cognition and facilitate understanding of insight. We deploy faster to accelerate our customers time to value, ensuring they employ the right data to drive ongoing innovation keeping business one step ahead, monetizing data opportunely and inspire organization change.

We offer project management expertise leveraging our own proven methodology. Our experienced Qlik resources work in partnership with your internal teams to ensure a best-in-class, secure, and scalable implementation that comes in on time, in scope, and on budget.

Together with Qlik, we bring client-ready solutions for data discovery and business intelligence for multiple industries, including Media, Telco, Life Sciences & Healthcare, Financial Services, Retail and Manufacturing.

We bring significant experience with Qlik delivery projects: Deloitte has received several awards during this common journey (e.g. Qlik Partner of the Year and Developer awards, Partner of the Year, System Integrator Partner of the Year...)

As Deloitte Analytics, we develop tools which satisfy the increasing appetite for self-service access to data by knowledge-workers throughout the organization.



Each different type of visual graph best fits a particular analysis: this choice can enable optimal communication and sense-making

Qlik best fits all the complex scenarios based on its distinguishing features:

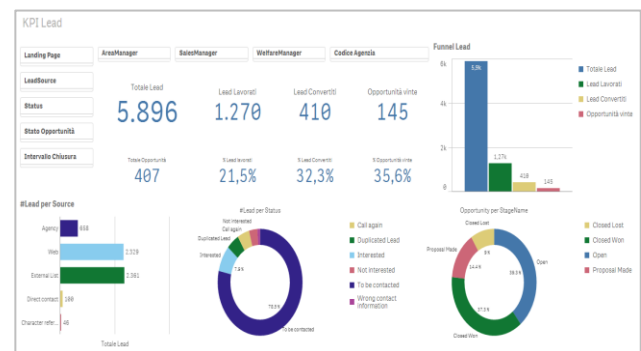
- Great ETL tool for data preparation capability
- Unique analytics approach based on the associative engine
- Ease of use and great ease in finding answers on specific forum
- Automatic creation of indexes
- Complete reporting Pixel Perfect (Nprinting)
- Custom functions with the possibility to use the proprietary programming language
- Conditional formatting of reports
- Geo Analytics additional feature
- Responsive to any device.
- Easy Mashup with Developer Hub
- Self-service BI
- Inbuilt storytelling feature
- Free extensions available for visualizations.
- Powerpoint direct export in storytelling mode
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## Data Visualization with Qlik

Qlik Associative engine allows to combine any number of data sources so you can freely explore across all your data and instantly pivot your thinking based on what you see.



Highly interactive and iterative graphs display instantaneous results in graphical form using a variety of chart types.



It means that difficult queries, usually performed in Excel, are accessible with just one click. This greatly improves efficiency and productivity. Moreover Qlik can be integrated with statistical tools, such as R and Python. So, their predictive analysis capability is combined with the powerful ability of Qlik to convey trends and insights.

Qlik works 100% in-memory. Despite advances in hard disk technology and the advent of solid state drives (SSDs), the throughput and latency of RAM vs disk is still orders of magnitude apart. Therefore, the ideal configuration for split-second responses from Qlik is still to bring all the relevant data needed for analysis in memory.

It supports connectors to almost any data sources, such as files (e.g. Excel and csv) and databases (e.g. ODBC, JDBC) and specific market solutions (e.g. SFDC, SAP)

Another distinguishing component is Qlik GeoAnalytics, which produce powerful map visualizations and location-based analytics. It means that cartographic information are available on the fly, gaining insight into patterns not easily interpreted through tables and charts and eliminating the overhead and expenses of managing access to a separate mapping database.



Adding Qlik GeoAnalytics engine, an additional analytics capability can be enabled for map visualizations and location-based analytics: route analysis, best path analysis, store location selection, branch optimization, network routing and traffic flow analysis just to mention a few examples.



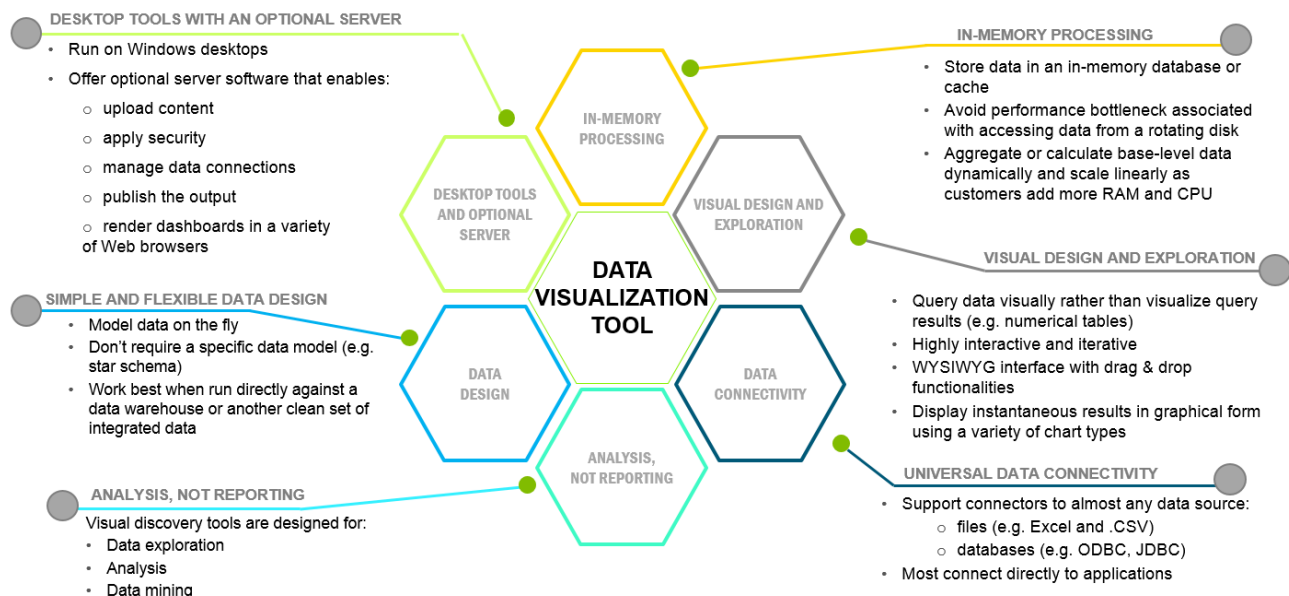
# Data Visualization risks

Visual perception is a powerful cognitive accelerator for gaining business insights out of all available data. Like any other solution, along with the pros it is important not to underestimate the limit of such knowledge instrument.

- **Showing is not Explaining:** data viz tools don't provide any explanation out of the box regarding your data. Analysts must tell the story and communicate it in an effective way. Data exploration allows users to become familiar with information they do not know yet but data viz tools are most effective when users have a good knowledge of information and business processes involved.
- **No railroad to insights:** the way that drives to considerable business insights is not a well-known path in advance. Analysts make the difference connecting the dots based on their experience but this process is not unique: different users may draw different conclusions.

- **Is it just a picture or the full story?** Graphic charts enable an immediate understanding of the context they represent but complex scenarios require a smart reasoning process.
- **Governance threat:** What if users interpreting data lacks expertise on the information they are analyzing? This might draw incorrect conclusions and decisions. Moreover the self-service approach enabled by smart data discovery solutions must be properly ruled, combined and supported by a **governance model** in terms of organization and processes, rules and monitoring.

## Data visualization key characteristics



# The 10 commandments

We have developed our *state-of-the-art* best practices to adopt in order to create an effective, user friendly dashboard keeping the focus on a really challenging timeframe:



## Why Deloitte Analytics

Like other companies we can help our clients capture, manage and analyse internal and external data.

But only **Deloitte Analytics** has the deep industry expertise, advanced analytics capability, and understanding of decision-makers roles to maximize its value – turning everyday information into useful and actionable insights.

**Deloitte Analytics can help clients addressing complex business issues that can be defined by business outcomes and not just technology requirements**

Additionally, Deloitte Analytics can provide services and solutions tailored to the specific market segment your enterprise belongs to:

- **Financial Services**
- **Consumer & Industrial Products**
- **Energy & Resources**
- **Technology Media & Telecommunications**
- **Public Sector**

## The Deloitte Difference: Exceptional People and Powerful Assets

Deloitte helps our clients address these issues through the people and offerings of its Deloitte Analytics practice. Our national team of over 250 professionals has proven experience in structuring, managing, and delivering Information Management & Analytics strategies and implementation services. Through the collective experience of local practice and leveraging assets and best practices of our global WW Deloitte Analytics team, we have serve our customers with a broad array of toolkits, accelerators, models, leading-edge practices, diagnostics, and governance approaches to accelerate and improve the quality of EIM projects and ensure a focus on value creation.

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