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Insights for Everyone:

Enabling Data-Driven Decisions

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Chapter 1:

Data Is Key to Competing in a Disruptive World

Digital transformation is rewriting all of the rules of business, and companies are under growing pressure to reconsider their top priorities. Changes are happening in every industry on every continent, as digital disruptors like AirBnB, Netflix, and Lyft shake up the status quo and challenge long-time market leaders. While agility and innovation are at the heart of this transformation—data is the engine that drives them.

To keep up with nimbler competitors, today's businesses must understand that it's not just the product that matters, it's also about the services and experiences that their brand provides. Interactions with their customers are much more complex as consumers move between multiple devices to learn and get things done. Therefore, brands must be able to digitally connect and communicate with more relevance and intelligence than ever. To do so, they need to innovate and make better, more proactive decisions.

Recent research shows that innovation is now more top of mind for businesses worldwide.

63 percent of surveyed global analytics decision makers said that innovation is a high or critical priority for their organizations.[1]

—Forrester Research

Digital transformation is not achievable without strong data management. Therefore, in this eBook, we'll focus on the data element of digital transformation and we will explore how data and analytics can enable organizations – large and small – to seize the digital transformation initiative, power creativity, and keep pace with today's market changes. We'll discuss what's needed to extend data to more departments and decision makers across the entire business with the goal that everybody has a single view of the customer, and show you some real-life examples of the benefits that organizations have already realized.

1 "Global Business Technographics Data and Analytics Survey," Forrester Research, 2016

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Data Strategies of Digital Transformation

Forbes outlines three strategies that need to be the foundation of any digital transformation strategy[2]:

- Build a single view of your customer: Relevant data may include purchase information, communication preferences, shopping behavior and social media activities. This requires connecting structured data (such as addresses, household composition, socio-economic bracket, etc.) with unstructured data (like the free-form text of a Twitter feed).

- Use location data to add precision and context: In a mobile world, it's no longer enough to know who your customers are; you also need to know where they are in order to deliver a real hyper-personalized and responsive experience.

- Create relevant communications at the right time on the right channel: As data reveals important details about customers, it's important to then be able to engage them through multiple points of conversation.

2 "Digital Transformation: Using Data-Driven Insights for Exceptional Customer Engagement", Forbes Insights, May 2017

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Big Data and Visual Analytics Take Center Stage

A customer centric digital transformation focus is not achievable without access to relevant data available at the right time. In the new digital economy, agility is not merely a competitive advantage – it's essential to survival. Companies realize that they need to understand and respond quickly to new challenges, and they're turning to big data and visual analytics to do it.

What's behind this embrace? Companies have access to a new wealth of data from sources inside and outside their organizations, and they're looking for better ways to prepare, enrich, and gain insight from it, so they can innovate and make better business decisions. According to recent Forrester research, 56 percent of surveyed global companies already prioritize leveraging data and analytics in their customer interactions and business decision making.[3]

Visual analytics and discovery tools are making the journey to data insight faster and simpler. Rather than trying to extract meaning from a group of predefined reports or simple static dashboards, users can now gain fast insights from data using intuitive data visualization. These modern visual analytics tools provide easy-to-use data preparation features for better data wrangling and improved self-service access for wider collaboration.

Data visualizations can also facilitate much simpler data storytelling, enabling business leaders to go beyond simply presenting numbers and facts. This helps people narrate the data exploration and analysis process, so that the significance and relevance of the insights are better understood.

> In an annual industry survey, **33** percent of respondents said that they are implementing data visualization for discovery and analysis now and **45** percent were planning to do so.[4]
>
> **—TDWI Research**

3 "Global Business Technographics Data and Analytics Survey," Forrester Research, 2016
4 "TDWI Best Practices Report: Visual Analytics for Making Smarter Decisions Faster", TDWI Research, 2015.

What's Holding Big Data Initiatives Back?

Industry research show that organizations are increasingly committed to leveraging big data, but most of them still face real challenges to deploying their initiatives.

Firstly, many organizations are simply struggling with the amount of data and that it is fragmented across their organization, with much of it conflicting, incomplete, inaccurate or otherwise untrustworthy. Secondly, operationalizing data insights is difficult. For example, data scientists and analysts are struggling to get their insights and models into production systems. It's also not easy working with a diverse mix of data, tools, and systems. Multiple siloed environments limit an organization's ability to easily integrate data from both internal and external sources.

> Only **34** percent of surveyed organizations feel that they have the right people and **29** percent feel they have the culture and processes to support their big data analytics efforts.[5]
>
> **—Forrester Research**

5 "The Big Data Imperative, Compressing the Analysis-To-Action Life Cycle," Forrester Consulting, January 2017

Cloud Empowers Democratizing Data to Drive the Business

Digital transformation demands a drive to be more data-driven which means organizations simply can't afford to wait for long IT development cycles or use inflexible tools to gain access to the data they need when they need it. To overcome these barriers, they need solutions that can help them move toward a democratized approach to data, where more than just the few specialists are able to discover data insights.

Cloud services are playing a vital role in this new approach, by enabling organizations to instantly provide access of and respond to immediate business demands for data and analytics. With the right technology platform, it's also possible for any company to deliver a consistent user experience whether hosting on-premises, in the cloud or across both, and supporting multiple sources of data.

Today many firms are exploring cloud service models to support their big data analytics initiatives. Research from Harvard Business Review Analytic Services finds that nearly 7 in 10 managers expect their organizations to use cloud-based business intelligence (BI) and analytics tools in the next two years.[6]

7 in **10** managers expect their organizations to use cloud-based business intelligence and analytics tools in the next 2 years.

6 "The Rising Cloud of Business Analytics," Harvard Business Review, 2015

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Chapter 2:

When It Comes to Data, One Size Does Not Fit All

Big data and analytics delivers different value to different individuals within the organization. For some professionals, it's most useful as a strategic planning tool, a way to understand and focus on long-term business imperatives. For others, they provide a fast, intuitive way to accelerate processes and lead change. However, what's common is that analytics can address some of the top challenges that both business and technical leaders face today.

Business Leaders

For business decision makers in marketing, sales, service, ecommerce, human resources, and finance departments, big data and analytics are all about finding better ways to visualize their business to drive better decisions. For example, marketers need deeper understanding of customer experience and loyalty, and more insight into effective use of digital and traditional channels. Finance professionals want greater views into business performance, which are often difficult to gather and analyze in timely manner.

Chief Data Officer / Head of Analytics

Chief Data Officers (CDOs), alongside CTOs and CIOs, are relentlessly focused on consolidating, managing, and securing data, as well as improving the efficiency of their own operations. But they may struggle to collect and secure unmanaged data that resides in multiple environments. CDO's are often the champions of data lakes—storage repositories that hold large amounts of raw data in native format until needed—which are the core of big data platforms and a foundation on which to build analytics capabilities.

Business Analysts

Business analysts are looking for better ways to employ tools to gain insight to support their organization's imperatives. But they often face issues if their new analytics solutions aren't achieving the expected business goals. They may be unable to modernize their existing analytics solutions, focusing too many resources on maintaining existing reports and dashboards.

Data Scientists

Data scientists play a critical role in helping companies unlock the potential of big data. They are extremely talented at manipulating data, but need specialized tools and open source technologies that can help them control and transform it more effectively. Most would rather spend more time putting their statistical knowledge to use instead of trying to become technology experts in assembling data.

IT Management and Professionals

Leaders in IT are concerned with managing the environment and the cost of ownership. They seek big data and analytics solutions that can deliver secure, scalable, accessible insights for the business and into their own operations and processes—making them more efficient and cost-effective.

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Chapter 3:

What's Essential for Successful Data Analytics?

Today's users are excited about taking the initiative when it comes to employing data. Self-service is on the rise, and users want to do more than simply analyze data that comes out of their transaction systems, data warehouses, and data marts. They want to combine data with personal data sources, corporate data sources, premium data sources, and even data that may come from untrustworthy sources.

Gartner recommends four key categories of critical capabilities to support today's analytics needs. [7] An effective solution should provide:

1 **A secure, scalable infrastructure**—As companies deploy analytics across the organization to more and more people, they need security and administration capabilities. They also desire the ability to connect to as many data sources as needed, plus support for cloud deployment. They want a secure, scalable infrastructure that can support self-service data analysis, as well as highly governed data discovery.

2 **Modern data management**—Modern business intelligence platforms should provide support for extract, transform, load (ETL) processes and data preparation in a self-service way. They should offer in-memory or other data storage and optimization mechanisms that are integrated directly into the platform. Meta data management and governance are also key capabilities for advanced analytics.

3 **Analysis and content creation**—Interactive visual exploration is a powerful method to gain better insights from data. Today's data professionals are looking for ways to create content, calculations, and algorithms, and analytic content that leverages more advanced analytics beyond just simple aggregations. Mobile analytics, capabilities, authoring, content creation, exploration and interactivity are also increasingly important to today's dynamic workforce.

4 **The ability to share findings with users**—To put insights in reach for more users, organizations need to be able to easily embed analytic content in a portal, dashboard, app or a custom web app. They may wish to publish analytic content to dashboards and reports, distribute it, print it, schedule it, and have alerts that generate the content. Collaboration and social capabilities can allow users to share those findings, discuss, and evaluate the content.

7 "The Industry Experts' Guide to the Changing Landscape of Analytics Webcast", Gartner and Oracle, 2016

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Aligning Strategy to Technology

Several research firms have closely examined the effect of the cloud on firms' plans for big data. In a recent report, Forrester Consulting emphasizes the need to have a big data analytics strategy that embraces public cloud.[8] Forrester notes that few firms have the skills required to keep pace with big data analytics innovation, and notes that cloud providers can deliver more capabilities at lower cost.

Forrester also recommends choosing a platform that accelerates data science, data innovation, and closed-loop systems of insight, to be able to capture feedback data, learn, and rapidly iterate to maximize benefits.[9]

TDWI has also evaluated the potential of cloud technology and its ability to drive business analytics agility. For business users who want to get started on cloud analytics fast, TDWI recommends a software-as-a-service (SaaS) model, which offers scalability for multiple users, ongoing software updates, and maintenance. They also highlight that companies can also extend the value of their investment in SaaS with platform-as-a-service (PaaS) to build custom applications. In PaaS, the provider delivers a solution stack—an integrated set of software—that provides the organization's developers with tools to build an application.

To realize the full potential of this approach, it's important to fully understand the service and confirm that it supports the visualization capabilities, data sources, SLAs, and security that's needed. TDWI also recommends that firms be aware of possible hidden costs like data transport, storage expenses, and contract termination fees.

8 "Going Big Data? You Need a Cloud Strategy", Forrester Consulting, January 2017.
9 "Delivering Business Value Faster with Visual Analytics," David Stodder and Fern Halper, TDWI, May 2016.

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Chapter 4:

Extending the Impact of Data Across the Organization

As the number of connected people and devices soars, organizations have access to more data than ever. The real power of analytics is in its ability to make sense of all that information, enabling you to ask compelling questions, explore "what if" scenarios, and build insight from new perspectives. Smart organizations across every industry are unlocking the potential of data and analytics across their extended organizations.

Learn how three, very different, forward thinking companies have brought together their disparate data and democratized it to great success.

1 Telefónica Brings Relevant Data Together to Boost Satisfaction and Drive Growth

Telefónica Spain has long invested in cutting-edge technologies. With more than 3 million customers and more than 17 million mobile customers, the company remains committed to innovation to better know its customers, personalize services, provide data control and security, and maintain industry leadership. Telefónica wanted to take advantage of its massive volume of customer data by consolidating it under a single data warehouse and applying real-time analytics to improve operations and the customer experience.

To connect the customer touchpoints across marketing, service and sales automation and make them 'smarter', Telefónica chose Oracle, to be able to store more than three petabytes of data that is continuously analyzed. While it used to take 20 days to define a target audience for a CRM campaign, now the company can market to a specific audience in real time. The solution also powers the company's television recommendation engine, improving customer satisfaction and driving business growth.

"We have a 360-degree customer view. So we are able to take all this information to our operational processes in order to improve our customer experience. It is helping us to provide all this information in a more self-service way to our employees and the whole Telefónica team."

—Carolina Bouvard, Director of Architecture, Transformation, and BI, Telefónica España.

2 mStart Consolidates Data to Enhance Retail Experience and Efficiency

A Croatian provider of business and technological IT solutions for the agriculture, industrial, and retail sectors, mStart is constantly seeking to optimize processes and improve service delivery. The firm was looking for detailed insight into the shopping behaviors and needs of global retail customers, and was seeking to optimize its supply chain processes.

Oracle lets mStart establish a data lake that provides near real-time, detailed insight to the activities of more than 2,000 stores. The solution lets retail outlets intelligently make same-day amendments to prices and promotions, to boost revenue and optimize inventory management. Combined with Oracle Retail Demand Forecasting and Oracle Retail Replenishment Optimization, mStart is enhancing its supply chain processes, and anticipates transportation cost savings of 10 percent within three years.

"Thanks to the profound insights delivered in real time by Oracle Big Data Appliance, we have increased our ability to respond to the needs of more than one million loyalty card holders who regularly use our retail network. We also expect to reduce our transportation costs."

—Ana Svetina, Head of Marketing, mStart d.o.o.

3 Valdosta State Gains Better Insight into Students to Help Them Stay on Track

Valdosta State University, a public institution in Georgia, has found a way to help IT streamline its operations, while offering superior analytics capabilities for business stakeholders. The college was looking for better insight into its students to help improve retention and graduation rates. It needed a solution that would enable its analytics team to come up with creative new data models, while providing the flexibility and agility that IT required to roll them out fast.

With Oracle BI Cloud Service, Valdosta State rapidly deploys new dashboards and metrics across other systems like financial analytics and productivity apps, to collect, correlate, and visualize data from multiple sources. The cloud-based solution helps IT reduce its infrastructure costs and cuts the time it takes to set up servers and storage. Valdosta State now provides reports within 24 hours, instead of the two weeks that previous systems required.

"Within two years we have increased our retention from 66 to 70 percent. That's a huge increase in retention rate, and it translates into millions of dollars over time in tuition revenue. We were able to cover our initial investment in less than two years by choosing Oracle."

—Brian Haugabrook, CIO, Valdosta State University

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Chapter 5:

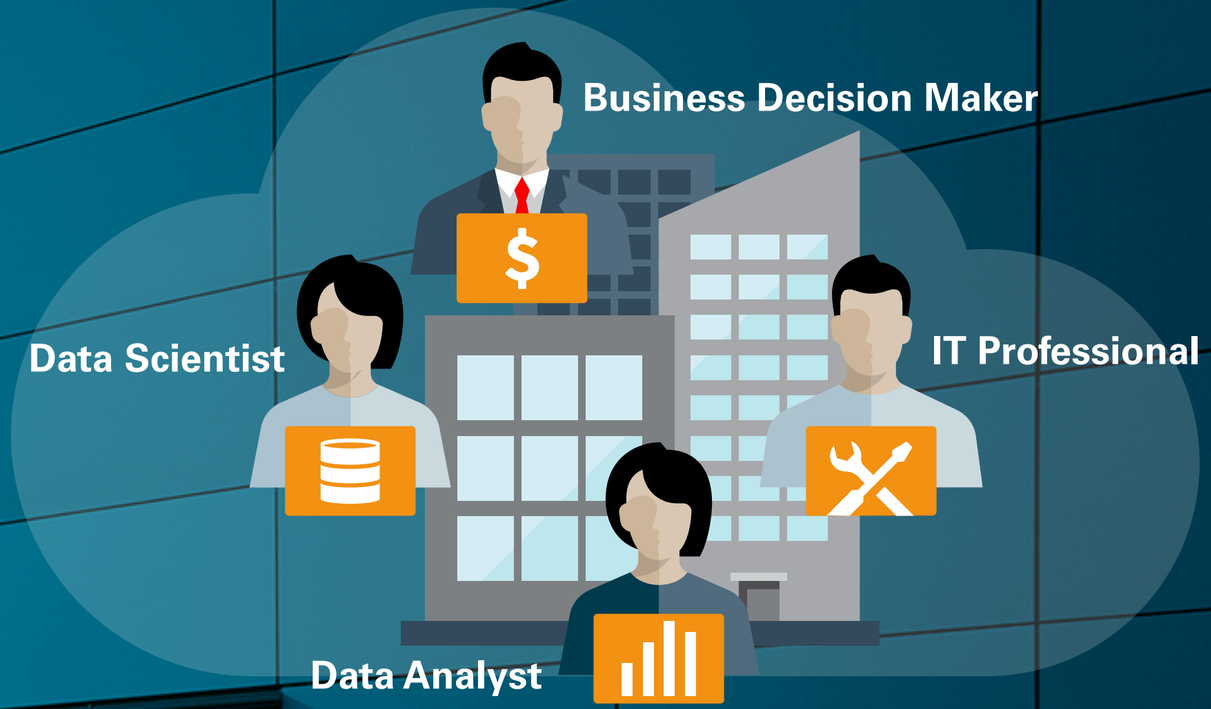
It's Time to Extend Data Analytics Across Your Business

Digital transformation is continuing to accelerate, and the responsibilities and challenges for businesses will only grow. To make it worth the investment, it's essential that your customer has a connected experience. You no longer have a choice. If you've not done so already, you must evolve to a data-driven and connected Customer Experience (CX) infrastructure. If you act fast and transform in a pragmatic way, not only will you secure the customers you already have, but you'll soon win new ones. You can learn more on why Customer Experience is at the heart of Digital Transformation by visiting our **CX Resource Centre**.

For organizations that are looking to extend the potential of data and analytics to more people in their organization, the opportunities are in plain sight. Oracle offers you a platform that can help your organization tap into the possibilities and empower your entire company to ask any question of any data in any environment on any device.

Whether an analyst, business decision maker, data scientist or IT professional, individuals can access relevant data that is needed to support their activity, decision or process—regardless of where it may be stored.

With Oracle, your organization can exercise complete control over its journey to the cloud, enjoying the ability to host on-premises, in the cloud or with hybrid deployment models that let you set your own balance between governance and user freedom.



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Experience Oracle for Yourself

Oracle Analytics Cloud (OAC) is a single strategic platform that meets your business needs for speed and scale at the same time it accommodates all users and their requirements. It fits into your organization's environment, helping you do as much of your analysis as possible in the cloud, at the same time it offers easy access to any source so you make the best use of all your data no matter where it is.

It provides a variety of options for intelligent analysis without being overwhelming to deploy and manage, making it an effective way to engage more people in analysis and extend your organization's expertise. A complete, connected, and collaborative choice, Oracle Analytics Cloud makes it easy for you to capitalize on cloud analytics today and in the future.

Complete. Connected. Collaborative.

To discover more and experience OAC capabilities, please click to

Understand the value of visual analytics to your business

See how you can use data visualization with our demo video

Test how you can use data visualization with our interactive simulation

Learn further about Oracle Analytics Cloud

Sign up to Oracle Cloud Platform now and get free credits available as a pay-as-you-go subscription

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Oracle also offers a complete and integrated CRM solution that breaks down silos to deliver a seamless customer experience across marketing, sales, commerce, service, social, and configure, price, and quote (CPQ). Whether deployed modularly to tackle specific business challenges or deployed as a comprehensive solution, Oracle's approach enables your company to:

- Provide cross-channel, consistent customer experiences using pre-built business processes that span silos
- Integrate CRM with enterprise applications, providing connections throughout the buyer's journey and making operations more efficient
- Leverage industry-specific best practices for competitive advantage and lower TCO

To learn more about Oracle's integrated solutions that take CRM to a whole new level, visit our **CX Solutions page**.

www.oracle.com/goto/today-marketing

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