# Clarity PPM

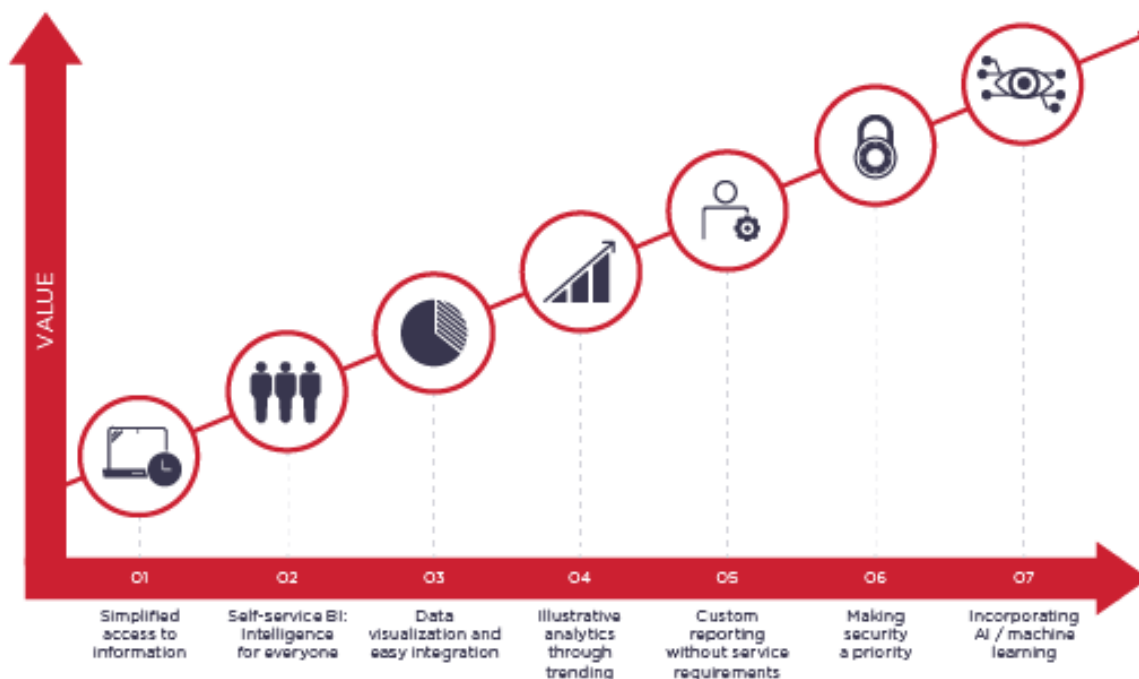## Seven Trends in Business Intelligence

## How Organizations are Leveraging Business Intelligence

## Unlocking the Value of BI

Many of the largest, most successful organizations in the world use Clarity Project and Portfolio Management (Clarity PPM) as the cornerstone of their business intelligence (BI) strategy. This allows CA Technologies, A Broadcom Company, to keep a finger directly on the pulse of the market—to see firsthand how both expectations and usage are evolving as companies adopt BI technologies.

The fundamental change is that today's users expect more than access to a sophisticated database of information. They're looking for solutions that help them unlock the value of their BI through integrations, extensive reporting capabilities, innovative visualizations, enhanced security, simplified interaction, and even the early manifestations of artificial intelligence.

**Figure 1: Unlock the value of your BI through integrations, extensive reporting capabilities, innovative visualizations, enhanced security, and simplified interaction.**

CA Technologies is responding with the delivery of new features that address these trends and at the same time help organizations gain a competitive advantage by strengthening the symbiotic relationship between BI and business agility. CA Technologies is working hand in hand with partners and customers to move BI technologies forward in several ways:
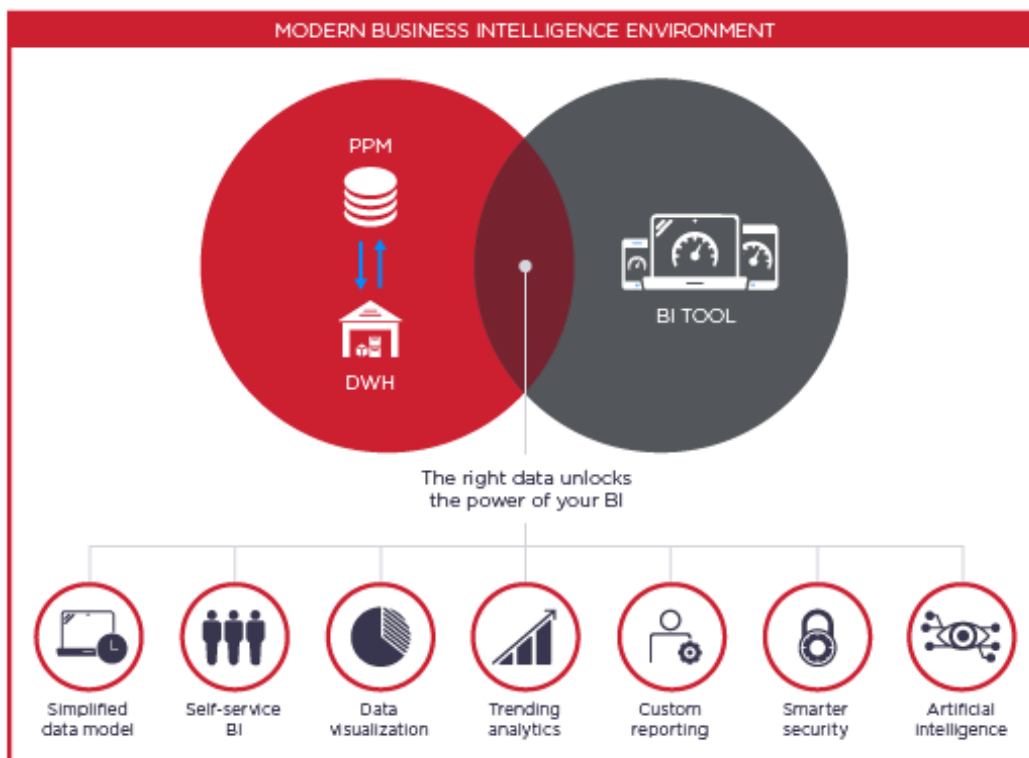
# Simplified Access to Information

Data warehouses are built to integrate, process, and organize copious amounts of data. For this reason, the BI tools that rely on them have traditionally used complicated data models that require considerable time and effort to decipher the information within. But as business cycles accelerate and project timelines shorten, decision makers need quick, easy access to high-quality information. Today's companies are responding in two ways.

First, they've come to understand that the right data warehouse can provide a significant competitive advantage. According to BI expert Treb Gatte, "A typical department spends an average of 1,600 hours per year generating ad-hoc reports, 70 percent of which is spent writing queries and cleaning up suboptimal data." A powerful data warehouse solution—made so by years of design improvements and technical upgrades—has already addressed issues like data optimization and has matured to provide a solid foundation for third-party BI tools.

Second, to complement the data warehouse, organizations are adopting BI solutions that are interactive, incorporate simplified dashboards, and provide anytime, anywhere access to data. Laid over a comprehensive data warehouse, these ad hoc BI solutions deliver the data through a far less complicated process. And they save money. According to Gatte, "Optimized data and the right reporting tool can result in up to $200,000 a year in cost savings.

**Figure 2: Clarity PPM Data Warehouse - The right data warehouse can provide a significant competitive advantage and unlocks the power of your BI solution.**

## Clarity PPM for Quick and Easy Access to High-Quality Intelligence

Unlike most data warehouses that are built with a primary focus on incorporating new data, Clarity PPM was designed for the easy extraction of information business users need for effective decision-making. While capturing the right information remains important, data that can't be quickly and easily accessed is meaningless.

The comprehensive data warehouse in Clarity PPM combines with robust BI tools like JasperSoft, Power BI, Tableau, and Qlik—or any other solution with an OData connector—to provide extensive project, resource, and financial information.

# Self-Service BI Provides Intelligence for Everyone

**"Embrace easier-to-use, more-agile tools as greater responsibility for analytics shifts to lines of business."**[1]
*-Gartner*

Complicated data models require specific skill sets. That means organizations must rely on data experts to locate, consolidate and make sense of critical business information. This reliance worked in the past because quality intelligence coming from all areas of the business was deemed more valuable than quick answers.

But in a world of big data, where the quantity of information that a company maintains, evaluates and organizes continues to expand, experts are inundated with both information and requests for it. It's not unusual for experts to be processing dozens of requests simultaneously, and as a result, they can take weeks or months to respond. By that time, the information is longer relevant.

To speed the process and remove some of the reliance on data experts, businesses are equipping their users with tools to answer questions themselves. And removing pressure from overburdened experts allows them to focus on more complex questions that truly impact the business.

## Clarity PPM Provides Intelligent Analytics for the Entire Stakeholder Community

To make data more available to all users, Clarity PPM works with tools like Microsoft Power BI. Placed atop the Clarity PPM solution, Power BI provides a simplified, ad hoc solution for business users to directly access the data they need while also facilitating the jobs of data experts. With Power BI and Clarity PPM, one expert can often service more than 100 business users requesting information.

This self-service approach to BI is supported by powerful data visualization capabilities, personalized dashboards with a 360-degree view of the business, and a mobile device option built to facilitate meetings anywhere in the world with immediate real-time answers to project questions—without the need to log in to Clarity PPM.

# Data Visualization and Easy Integration

Today's organizations are taking advantage of BI solutions that make data available through simplified interaction and present results in a way business users can easily understand. Human brain development scientist John Medina, PhD, asserts that visual information is more powerful than any other type of sensory input when it comes to processing information.[2]

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1.  Howson, C. et al., "Critical Capabilities for Business Intelligence and Analytics Platforms," March 2017.
2.  Evelson, B., "Build More Effective Data Visualizations," October 28, 2015, https://go.forrester.com/blogs/15-10-28-build_more_effective_data_visualizations/

Compelling graphics enhance visualization and aid in the decision making process. For example, suppose a business needs to evaluate different projects occurring in offices within Western Europe. Modern BI tools allow you to start with a map of the region and, through it, drill down for more information specific to that area—such as what resources exist there, which resources are currently available, and in which specific offices they're located.

Users may delve even deeper, "slicing and dicing" the data to discover additional details, such as how much money was spent on project labor in that specific office during a precise time frame. All the information can be placed on a dashboard that acts as an easily accessible information repository.

## Clarity PPM Supports Users with Enhanced Visualization and Easy Interaction

Clarity PPM works with solutions like Power BI to provide acute data visualization as well as enhanced data interaction. Users can limit their focus to just the projects they're interested in, drill down for specifics, change filtering options, and pivot as required.

The Power BI dashboard provides all of the most important metrics at a glance and on a single page. Through this highly interactive and customizable way to monitor the business, users can see the most important elements of the project and drill down into underlying reports and data sets.

# Illustrative Analytics Through Trending

Every large project comes with considerable risk, so monitoring indicators of success or failure is essential. Leading BI solutions today offer trending capabilities that allow businesses to monitor any number of ongoing components within a project. This identifies projects trending in the wrong direction.

Many BI tools provide real-time status. But trending capabilities go a step further by monitoring operations over time and allowing users to predict project success or failure far earlier and with a much higher rate of accuracy so necessary course corrections can be initiated before it's too late.

Businesses are especially interested in the number of issues and disturbances as a project nears completion. As a product release approaches, for example, project managers need to ensure that outstanding issues and dependencies are being addressed and resolved. Trending illustrates this.

## Clarity PPM and Power BI Illustrate Trends

Because most BI solutions only provide real-time status reports, to gain a clear picture of trends, organizations must build and execute multiple custom jobs. The industry-unique Clarity PPM data warehouse tracks changes over time, which enables companies to use past trends as a predictor of future performance—without the need for customization to capture the data. Clarity PPM tracks and stores this information so users can understand how their projects are progressing at any given time.

Trending helps to identify issues before it's too late. If for example, the trending feature indicates costs are running 60 percent over budget one-third of the way through the project, managers can course-correct before the entire project is in jeopardy. Trending also allows businesses to understand how they got there, helping them learn from mistakes.

# Custom Reporting Without Services Requirements

Many BI providers use online analytical processing (OLAP) cubes to provide BI, but organizations that require specific information not included in built-in reporting templates must add their own data fields. This is typically done during the configuration process.

However, manual insertion is required to have these newly configured fields reflected in each individual cube. Once cubes are designed and populated, they cannot be changed without engineering efforts. A change requires a rebuild. Moreover, the process must be repeated after each upgrade to the OLAP technology. Similarly, any changes made to the data in the cube can't be automatically pushed back to the database.

Businesses today need BI strategies that free their analytics from the few experts and enable immediate, on-demand analysis. The days of a backlog of information requests are gone. The business must sense and respond at an ever faster pace. To achieve this, they're simplifying analytics and the data model.

## Clarity PPM Provides a Simplified Data Model and Simplified Custom Reporting

With Clarity PPM's data warehouse, when configured attributes or custom fields are added, users may elect to also include them in the data warehouse, which then populates them with data and carries them forward with no assistance from services required.

Clarity PPM was designed so that when custom fields are added, the user has the ability to replicate them within the data warehouse with a click, simplifying the data model, eliminating the need for engineering assistance, and expanding the number of users who can build their own custom reports. CA Technologies believes we are the only vendor in the market to combine simple-to-use BI tools with a simplified data model

# Making Security a Priority

Because organizations use BI to facilitate activities like mergers and acquisitions, the BI system often stores and processes extremely confidential data. This makes security an imperative, underscored by recent growth in ransomware attacks[3]—malware designed to access and encrypt critical information and "sell" the encryption keys to the company.

With OLAP cubes, security can be a challenge. A security model must be continuously established at every point—from the enterprise to the cube to the BI tool—and manually inserted into custom fields. Security can also be problematic inside the cube if not handled properly.

Businesses today understand the trend toward ransomware and the fact that confidential company data is a target for cyberattack. Security must therefore be a key component of any BI technology organizations choose to implement.

# Clarity PPM and Power BI for End-to-End Security

To maintain a secure end-to-end environment, Clarity PPM connects to cloud-based reporting tools like Power BI through a secure Hortonworks data platform (HDP) connection. The HDP connector identifies new fields that have been added and marked secure, and it follows previously established security protocols to ensure data integrity is maintained from the data warehouse through the connector and into the BI tool.

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3.   Segura, J., "2017 State of Malware Report," February 3, 2017, https://blog.malwarebytes.com/malwarebytes-news/2017/02/2016-state-of-malware-report/

With the Clarity PPM data warehouse, security is a one-time event. When users secure a project or just a specific piece of information, the data warehouse immediately registers that data and identifies it as privileged information. Once data has been secured, BI analytics honor that security model.

# Incorporating Artificial Intelligence and Machine Learning

Organizations using a project and portfolio management solution today should have a clear, comprehensive picture of project history and current project status. Some Clarity PPM solutions also now help organizations identify future business possibilities. How organizations should approach them is a question that will be answered by machine learning in the future.

For now, leading organizations are focusing on incorporating voice recognition software like Microsoft Cortana into their BI environment. Users can simply ask the system business questions to get the information they need. As the technology moves forward, we'll likely see these artificial intelligence-enabled systems not only respond with data, but also have the ability to combine it with the trending feature to deliver enhanced diagnostic and predictive information and guidance as well.Businesses today are striving to create BI environments that begin with a comprehensive data warehouse that works with the most popular BI tools on the market. Together, they unlock the information users need to gain business insights through clear, reliable data, and in the process reduce reliance on experts.

Clarity PPM has made a multi-year investment in BI and is the only solution with a purpose-built data warehouse that recognizes the organization's security model, understands its configured attributes, and is simple enough to free up information for the business users who require it. Once users have the information they need to make the best decisions possible, the stage is set for any agile organization to move the business forward with confidence, speed, and ingenuity.

# Clarity PPM and Power BI Make Strides Toward Artificial Intelligence

CA Technologies has opened up its data warehouse to allow simplified access to information. One successful global entertainment company reports that it is currently using Clarity PPM with Microsoft Cortana technology to provide users with the ability to verbally interact with data. Once views are set up in Power BI, users are able to ask for information such as "Show me Q2 sales for the western region," "Show me projects at risk of going over budget in the next month," or "Show me projects trending negative."

Cortana responds with interactive charts that allow for further drill-down, and users may ask follow-up questions. This technology is already available for organizations that have upgraded to the latest version of Microsoft, and they find that the voice activation works right out of the box. The only requirement to get to the information is the right data warehouse.

**For more information, please visit: ca.com/ppm**