PYRAMID ANALYTICS

SAP & Self-Service Analytics: Five Benefits That Drive Company-Wide Success

A 2021 – 2022 Guide

WHITE PAPER

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Introduction

Find the Ideal Self-Service Extension of Native SAP Analytics

Throughout its nearly 50-year history, SAP has risen to offer one of the world's most exceptional suites of software for managing business processes. In Q1 2020, Forrester named SAP a leader in data management for analytics, and it continues to carry that torch today with two premier analytics tools: SAP Netweaver Business Warehouse (BW) and SAP HANA.

Although powerful, the native analytics capabilities that come with BW and HANA are insufficient for delivering critical enterprise functionality, performance, and self-service analytics capabilities today, for two reasons:

1. They lack functionality for sophisticated modeling, dashboarding, publication, and collaboration.
2. They fall short of providing modern self-service capabilities for enterprise users.

SAP customers, therefore, face unique challenges to close growing functionality and risk gaps in their enterprise analytics environments. But they mustn't be forced to give up valuable analytics capabilities, security, and governance, either by using SAP's native analytics applications such as the legacy BusinessObjects or the relatively new SAP Analytics Cloud, both of which come with significant drawbacks.

Fortunately, CDOs and other data decision-makers can acquire leading third-party business intelligence (BI) or analytics solutions that are reliable, drive business value, and actually bring out the best value SAP has to offer. This guide introduces the capabilities and features those leading platforms provide—specifically, state-of-the-art self-service business intelligence (BI) solutions that work directly on analytics assets in HANA and BW.

This guide introduces the capabilities and features a leading business intelligence platform can provide—specifically, state-of-the-art self-service analytics that work directly on assets in HANA and BW.

Avoid Analytics Roadblocks When Using SAP Alone

Thousands of organizations rely on SAP to support their everyday data needs. However, enterprises with significant SAP outlays struggle to find a complete set of tools. If you use SAP and haven't encountered these limitations, be aware that as your company grows, your needs for both data agility and data governance grow with it.

To understand how a third-party solution can extend the value of SAP analytics capabilities, we first must understand what those inherent capabilities are and how they function. SAP offers two powerful data stacks in the analytics marketplace: **SAP BW and SAP HANA:**

- **BW** is an enterprise business repository that provides advanced reporting capabilities. It has historically worked on external databases like SQL Server and Oracle, and it is now available on SAP's own database, HANA.
- **HANA** is an in-memory, relational database that now acts as the specific storage mechanism for SAP's ERP ("S/4HANA"). It is also a generic database system that enables data analysts to query large volumes of data in real time. HANA also has its own analytics capabilities that go beyond a simple database repository paradigm.

SAP customers shouldn't be forced to surrender the exceptional analytics capabilities BW and HANA have to offer. But BW and HANA don't offer cutting-edge self-service analytics capabilities modern businesses demand.

To close that gap, SAP offers natively integrated applications such as BusinessObjects, Lumira, and SAP Analytics Cloud (SAC). However, each offering has functional limitations:

- BusinessObjects is an old technology that completely lacks self-service capabilities and is currently in maintenance-mode only.
- Lumira, which offered self-service options, has been deprecated and is in maintenance-mode only as well.
- SAP Analytics Cloud, the new SAP BI tool, is immature and is missing a tremendous amount of functionality—with a "catch-up," even to the current competition, several years away.

Simply put, the challenge is to find a mature, self-service technology that offers "direct query" and full functionality on SAP, thereby fully leveraging SAP BW and HANA technologies without replacing them.

Preventing Duplications Is Key

The most critical benefit of this combination is eliminating the need to copy data from BW or HANA into local data model technology. Most third-party, self-service analytics tools lack close integration with either BW or HANA because their query engines do not support the core functionality SAP's analytics engines provide. Users must manually export SAP data and then import it into their new analytics tools to achieve the functionality those tools provide.

The right self-service analytics tool will use the power of the source environment hosting the data instead, without consuming additional memory. The system will not sacrifice the cardinal enterprise principles of security and governance when accessing data in BW or HANA by direct user query, either. These critical functions maintain the centrality of the SAP customer's business logic, and it also prevents the proliferation of data silos across the organization.

The right self-service analytics tool will use the power of the source environment hosting the data, without consuming additional memory.

Mature Self-Service Technology for Everyone

In addition to a mature, fully functional self-service technology that offers "direct query" and full functionality on SAP, senior data leaders must be able to grant self-service access to any and all users within the enterprise, providing server-based functionality of both SAP BW and SAP HANA within a shared but secured and governed analytics environment as well.

Also critical is data analysts' and business users' ability to access, manipulate, and collaborate on data to drive business value in their everyday functions. The quintessential analytics platform will carry over governance from SAP, even as users work with data in these ways. Next, we'll discuss the ways in which data decision-makers can leverage the full power of SAP's analytics and query engines with leading industry analytics capabilities included.

5 Capabilities That Make Self-Service Analytics Work on SAP

Some analytics tools apply modern self-service analytics capabilities to SAP BW and HANA technologies while exposing all users to server-based functionalities that power SAP's industry-leading security and governance. Enterprise CDOs and other executives can get more value out of their existing SAP BW and SAP HANA investments with a complete, enterprise-grade analytics platform of this kind.

Here we explore the five capabilities a leading analytics solution of this kind provides. We also illustrate how data leaders can provide these capabilities to any number of users within their organizations—without data extraction or duplication and while preserving the business logic and industry-leading security and governance of SAP.

1. Upgrade Query Performance

Although they align with SAP's security and governance, both BW and HANA have analytic limitations. While they have strong direct query capabilities, they are not designed for self-service—in fact, they are complex tools which require significant training and experience. That's when many third-party tools are often brought into the mix. However, while many claim to provide direct query capabilities, most third-party analytics platforms still require some degree of duplication into their own engines in many instances. SAP customers, therefore, need an SAP-compatible analytics environment that *fully*:

- offers both substantial self-service *and* direct-query capabilities
- aligns directly with querying in the SAP BW application and SAP HANA database
- retains the business logic, security, governance, and other critical capabilities BW and HANA already provide

Querying using an advanced analytics platform should not require that data be extracted from SAP and inserted into that platform at all. Upon querying SAP BW and SAP HANA directly, the right analytics solution exploits SAP-specific features, such as measure formatting, time-dependent hierarchies, alternate hierarchy captions, cascading parameters, and more.

What are the advantages of an SAP-compatible analytics platform?

- Maintain all BW and HANA analytics functionality within a superior self-service interface.
- Keep data centralized in SAP's database and application resources—no duplication required.
- Achieve a significant query performance upgrade, maximizing the value of the SAP investment.

2. Access Hidden Insights

As indicated, each of SAP's natively integrated applications comes with functional limitations. This is especially true in terms of the flexibility with which users can access, manipulate, and visualize data. Modern business users need unparalleled visibility into business data to drive real, ongoing business value—no matter their place in the organization.

Leading platforms that integrate with SAP's BW and HANA allow end users to apply intelligent data solutions while working directly on SAP, streamlining pathways to additional insights, visualizations, and benefits. These capabilities couple with powerful and sophisticated calculation options that are optimized for self-service (i.e., "point-and-click")

What are the advantages of an SAP-compatible analytics platform?

- Enjoy complete self-service analytics capabilities that enable users with varying levels of expertise to make better business decisions.
- Access complete, secure, and accurate results without extracting or duplicating data—preventing silos and the proliferation of old information.
- Simplify highly sophisticated calculations and functionality where they previously were not accessible at all.

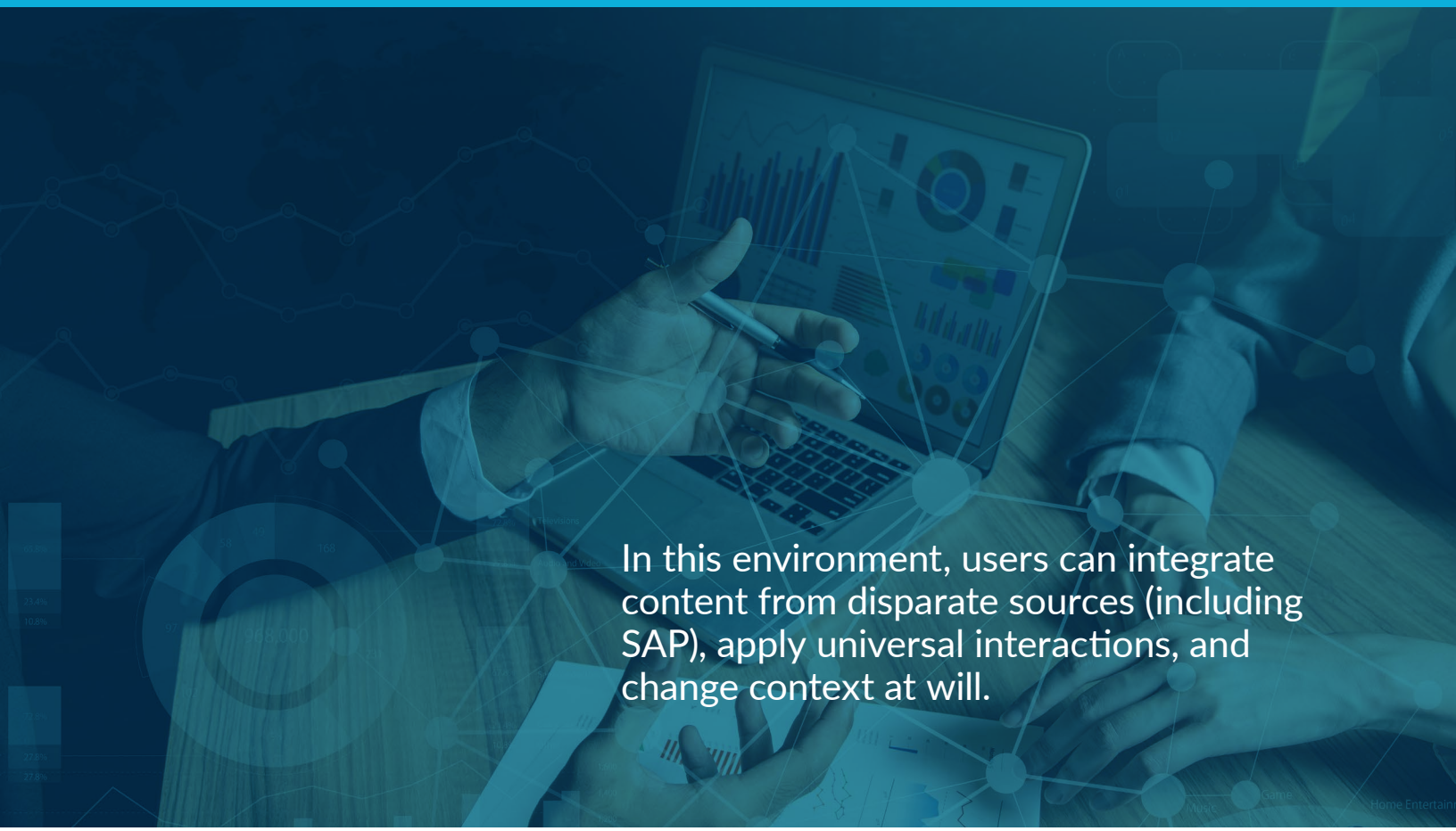
3. Retain Complete Control and Governance

As mentioned, most third-party analytics tools do not work directly with SAP BW and SAP HANA, forcing SAP customers to extract, reload, and duplicate data instead. This introduces data security and governance issues—a problem that only grows in complexity as the business and data use cases scale as well.

But SAP customers don't need to sacrifice the essential security SAP provides. Leading self-service analytics tools preserve the business logic of SAP and retain all server-based functionality governance—even while fully leveraging their superior querying performance. Specifically, they connect directly to SAP data sources without first copying the data into local data model technology.

What are the advantages of an SAP-compatible analytics platform?

- Retain complete control and governance of the data—including user, content, performance configurations, usage monitoring, and system management—even as use cases and the business itself scale.
- Provide users at all levels of the organization with robust self-service tools without concern about unwanted data duplications or security issues as a result.



4. Open SAP-Based Analytics to Non-Technical Users

SAP customers typically have massive datasets. It typically falls to technical users to access this data on behalf of business users, which causes delays and discourages data usage. Everyday users need the ability to query different datasets and their subsets using SAP BW's and SAP HANA's own parameters and variables but through an interface that any one of them can understand.

Leading analytics platforms effectively bring all their data assets into a single analytics environment—even while providing universal access to business users. In this environment, users can integrate content from disparate sources (including SAP), apply universal interactions, and change context at will. That's because data decision-makers can deploy intuitive dashboards to thousands of users who can query both BW and HANA directly, even while keeping SAP security and governance intact.

What are the advantages of an SAP-compatible analytics platform?

- Protect users from needing deeper technical expertise (e.g., writing code) by enabling "point and click" and "drag and drop" functionalities.
- Consolidate workflows and analytics efforts to dramatically lower TCO from both a software stack and integration perspective.
- Offer machine learning (ML) capabilities to streamline user processes, such as ML "workbenches" within a single, end-to-end web-based environment.

5. Support End-to-End Enterprise Analytics

SAP BW and SAP HANA already centralize data models, provide some calculation logic, and support leading data governance and security. But even after extending those benefits to sophisticated analytics tools, SAP customers have gotten only part of the way in their journey towards a seamless, end-to-end analytics environment.

With the right third-party analytics solution, SAP customers benefit from a complete set of enterprise-grade self-service capabilities—including features for sharing and collaboration. These empower everyday users to perform data wrangling, engage in data discovery, and access purpose-built, multi-model dashboards with advanced reporting without formal technical training. But they also enable users to access advanced sharing and collaboration tools, opening analytics to team and cross-departmental environments without sacrificing security and governance.

What are the advantages of an SAP-compatible analytics platform?

- Facilitate an end-to-end analytics environment that can reach any user or team, without decentralizing data or creating new security and governance risks.
- Enable self-service analytics users to easily share insights with colleagues and senior leaders, increasing opportunities to improve data literacy across the organization.
- Drive greater efficiency from shared business insights and reusable logic.

Real Self-Service BI That Works Directly on SAP

How can a platform keep SAP data centralized, support SAP's classic analytics features—ragged hierarchies, data formats, multiple currencies, and alternative captions, among others—and prevent the duplication and export of data? And also prevent other backend manipulations and hacks?

The answer is by offering users full MDX or SQL function libraries through its query engine. In this way, the platform helps resolve the mathematical and set-based logic needed for analysis while working directly on SAP BW or SAP HANA. The platform's logic is executed as part of the direct querying process, without any functional or performance penalties.

Meanwhile, users access self-service functions as "builders" and "editors" via intuitive interfaces, manipulating and sharing data without risk to the core data assets themselves. These users don't need to have sophisticated technical experience or rely on technical users to take advantage of these capabilities.

Functional Capabilities

In practice, a querying engine of this type provides a wide range of capabilities for formulations, calculations, and sets that are devised in the platform but executed and run natively in SAP BW or SAP HANA. Here's a closer look at how a leading analytics platform gets the greatest value from both SAP BW and SAP HANA—individually, and in both environments simultaneously:

KEY CAPABILITIES OF AN SAP-COMPATIBLE ANALYTICS PLATFORM

FOR SAP BW + HANA	FOR SAP BW ALONE	FOR SAP HANA ALONE
Direct query capabilities, obviating the need to duplicate and ingest SAP data into another BI tool's native database environment	SSO via SNC and Active Directory or Logon Tickets	Data modeling capability that can write data models and mash-ups back into SAP HANA itself
Sleek, self-service functionality with drag-and-drop capability for collaboration		SSO via SAML
Time intelligence		HANA 1.0 and 2.0
Context calculations		
Full dashboarding with publishing, scheduling, and security capabilities*		

*Includes:

- Report-bursting, allowing users to distribute published documents in a variety of pixel-perfect formats (Word, PowerPoint, Excel, PDF, HTML, PNG, JSON, XML)
- Support for multiple data connections, each with different parameterization
- Support for ragged hierarchies, numerical formats, multiple currencies, and captions
- Support for time-dependent hierarchies
- Support for full logical, mathematical functions
- Support for multi-lingual data model and cubes
- Deep support for SAP parameters and variables

Recommended Next Steps

If you represent an SAP customer, you can provide your teams with best-in-class functionality and performance that also preserves the security and governance inherent in your SAP environment—capabilities you continue to value and rely upon today.

Because SAP's native analytics tools are insufficient on their own, many organizations turn to third-party business intelligence (BI) or analytics solutions that are reliable, drive business value, and actually bring out the best value SAP has to offer. However, not all independent BI solutions are capable of fully exploiting the power of SAP.

Pyramid Analytics is one of the few software solutions on the market that can support enterprises with large investments in SAP that are seeking self-service BI and analytic tools. As an official member of the SAP® PartnerEdge® open ecosystem, the Pyramid Analytics platform is certified by SAP to interoperate with SAP BW/4HANA and SAP HANA.

If you would like to learn more about opportunities with your existing SAP capabilities, or if you are interested in a free trial of Pyramid Analytics, contact one of our analytics experts today.

PYRAMID ANALYTICS

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