WHITE PAPER

A 2022-23 GUIDE

SAP & Self-Service Analytics

Five Benefits That Drive Company-Wide Success

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CONTENTS

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INTRODUCTION

Find the Ideal Native Self-Service Extension to SAP

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. Year after year, analysts praise SAP as a leader in the data management space with its two premier tools: SAP Business Warehouse (SAP BW) and SAP HANA.

Users can experience the full power of BW and HANA by giving users a complete self-service analytics experience that includes:

1. The ability to leverage all of their SAP data without having to ingest or duplicate it by using direct query capabilities.
2. Preserving SAP business logic, hierarchies and investments, while also enabling blending of both SAP and non-SAP data.

SAP customers have an opportunity to take their investments in SAP to the next level while maintaining security and governance.

To make optimal decisions using SAP data, enterprises can leverage the Pyramid Decision Intelligence Platform, which natively extends the analytics capabilities of SAP and surfaces the business value of your SAP investments.

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

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Avoid Analytics Roadblocks to Leveraging Your SAP Data

Thousands of organizations rely on SAP to support their everyday data needs. Enterprises with significant SAP investments can now leverage those investments whether on premises, in the cloud, or both.

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

- **SAP Business Warehouse (SAP BW)** provides tools and functions that help decision-makers make well-founded decisions based on data. In SAP BW, you can integrate, transform, and consolidate relevant business information from productive SAP applications and external data sources. SAP BW provides you with a high-performance infrastructure that helps you evaluate and interpret data.

- **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 beyond a simple database repository paradigm.

SAP customers can now preserve and extend the value of BW and HANA with a modern self-service analytics platform.

Many analytics platforms require SAP to be ingested into proprietary, in-memory databases, which fails to extend the value of your current business logic and hierarchies. Additionally, many of these solutions have other functional limitations:

- Legacy BI tools lack governed self-service capabilities
- Several tools attempting to natively extend the value of SAP have failed to gain traction due to functional shortcomings
- Other native approaches are less mature and less functional

Simply put, the opportunity 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 SAP's analytics engines' core functionality. With Pyramid SAP data stays in SAP. Other platforms force users to export SAP data and then import it into their new analytics tools to achieve the functionality those tools offer.

The right self-service analytics technology 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, preventing the proliferation of data silos across the organization.

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 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.

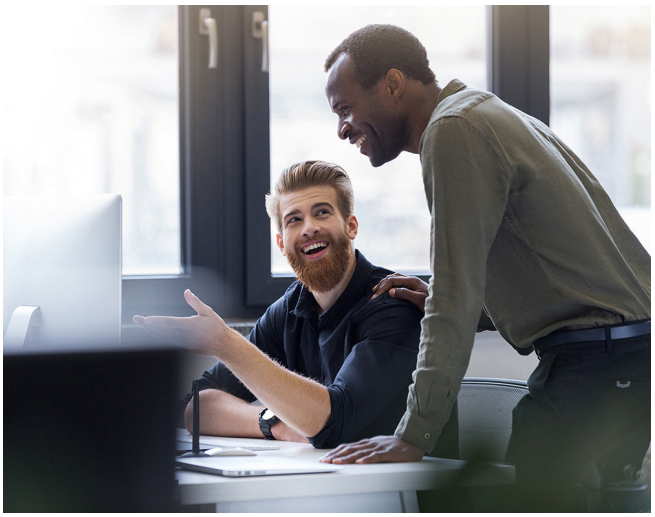
Also critical is data analysts' and business users' ability to access, manipulate, and collaborate on data to drive business value in their everyday functions. The ideal analytics platform will preserve governance from SAP, even as users work with data in these ways. Next, we'll discuss how data decision-makers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

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

Five 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. Organizations 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 provides. We also illustrate how data leaders can deliver 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.



01 Upgrade Query Performance

Current tools aiming to natively extend the value of BW and HANA feature direct query, but they are complex tools that do not support self-service analytics. 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. 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, ragged hierarchies, 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.

02 Access Hidden Insights

Current approaches to natively extending the value of SAP analytics have functional limitations. This is especially true in terms of the flexible ways 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 to data prep, business analytics, and data science in a single Decision Intelligence platform with descriptive, diagnostic, predictive, and prescriptive capabilities.
- 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.

03 Retain Complete Control and Governance

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, which only grow in complexity as the business and data use cases scale.

But SAP customers don't need to sacrifice the essential security SAP provides. A best-in-class self-service analytics platform preserves the business logic of SAP and retains 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 users, 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 capabilities without concern about unwanted data duplications or security issues.

A best-in-class self-service analytics platform preserves the business logic of SAP and retains all server-based functionality governance.

04 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.

Leading analytics platforms can enable direct query access to all of their data assets in a single, unified platform, providing access to all authorized 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?

- Simplify the analytics experience by delivering a code-free analytics experience ("point-and-click" and "drag-and-drop" interface).
- 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.

05 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 platform, 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 preparation, 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 capabilities, 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.

Self-Service Business Analytics 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 maintain both data security and governance?

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 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 and keeping the core clean. This reduces the requirements for technical expertise and reduces IT overhead, empowering users with self-service via an intuitive interface.

Functional Capabilities

Pyramid's querying engine provides a wide range of capabilities for formulations, calculations, and sets 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 and 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	Query BW Cubes directly	SSO via SAML
Time intelligence	Blend SAP BW with other sources	HANA 1.0 and 2.0
Context calculations		Seamless integration with SSO
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, and 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; and deep support for SAP parameters and variables.

Recommended Next Steps

If your organization runs on SAP, 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 current solutions are insufficient on their own, many organizations turn to third-party tools, vendors, and solutions that are reliable, drive business value, and bring out the best value SAP has to offer. However, not all independent business analytics solutions can fully exploit the power of SAP.

The Pyramid Decision Intelligence Platform is one of the few software solutions on the market that can support enterprises with significant investments in SAP seeking to make data-driven decision-making a reality. 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 are interested in learning more about Pyramid Analytics, contact one of our analytics experts today.

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SAP® Certified
Integration with SAP BW/4HANA

SAP® Certified
Integration with SAP HANA®

SAP® Certified
Integration with SAP NetWeaver®

ABOUT PYRAMID ANALYTICS

Pyramid is what's next in analytics. Our unified decision intelligence platform delivers insights for everyone to make faster, more informed decisions. It provides direct access to any data, enables governed self-service for any person, and serves any analytics need in a no-code environment. The Pyramid Decision Intelligence Platform uniquely combines Data Prep, Business Analytics, and Data Science in a single environment with AI guidance, reducing cost and complexity while accelerating growth and innovation.

Pyramid Decision Intelligence Platform.
Shape Your Decisions.

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