



## **BARC Score**

### **Integrated Planning & Analytics**

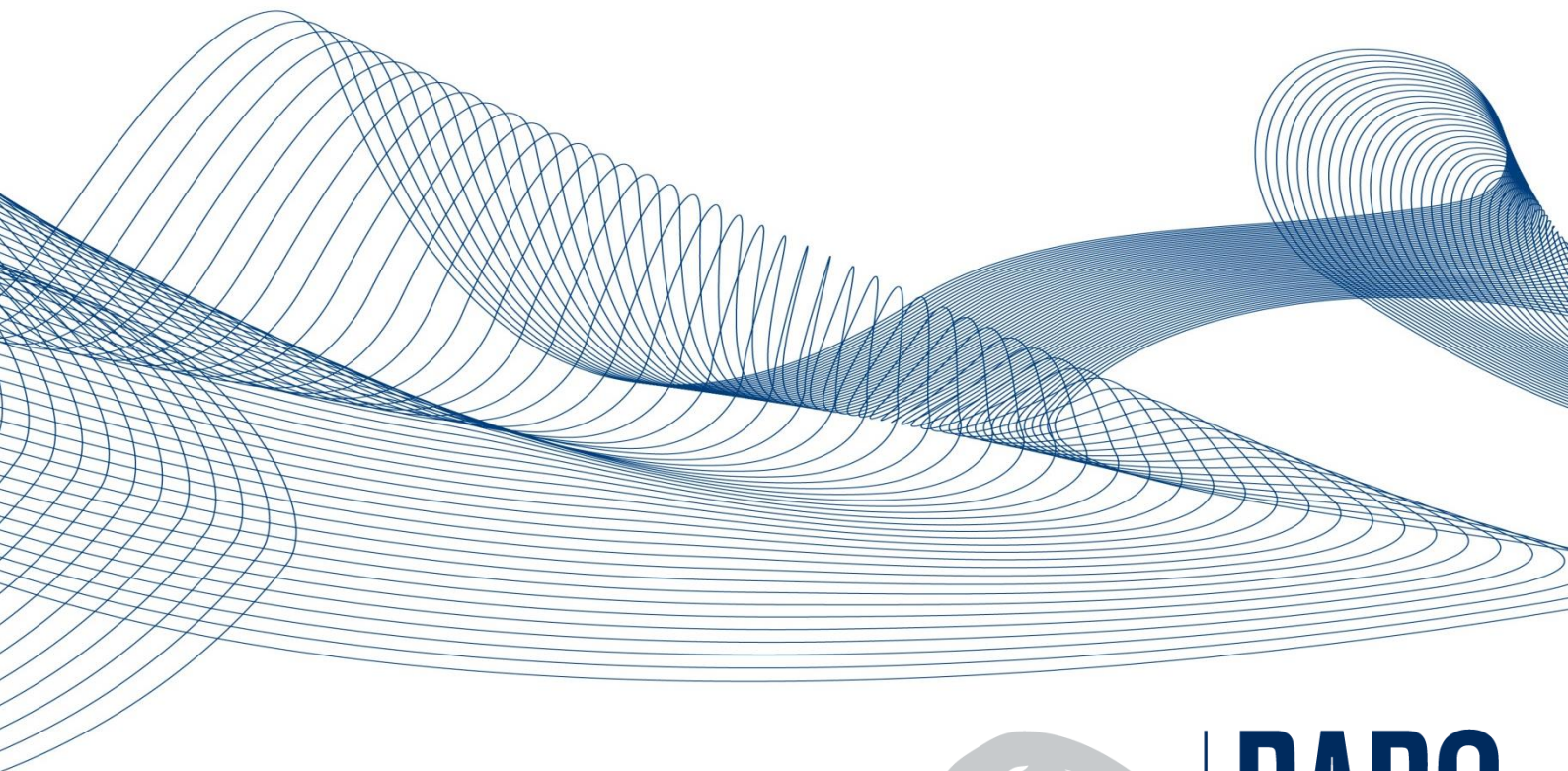
#### **Portfolios for planning, reporting and analysis**

Authors: Christian Fuchs, Larissa Baier and Julia Förth

Publication: March 2<sup>nd</sup>, 2020

#### **Abstract**

Planning is an important element of management control to align operational business with strategic corporate objectives. However, successful planning processes require comprehensive analytics and business intelligence (BI) functionality. This BARC Score focuses on the market for integrated planning and analytics products and portfolios due to the importance of both topics in combination for many companies, especially in the mid-market. Based on data points from The Planning Survey, The BI Survey and numerous analyst interactions, vendors are rated on a variety of criteria, from product capabilities and architecture to sales and marketing strategy, financial performance and customer feedback.



## Table of contents

Overview.....	3
Inclusion Criteria.....	4
Evaluation Criteria .....	4
Portfolio Capabilities .....	4
Market Execution .....	7
Score .....	9
Score Regions .....	10
Evaluated Products .....	11
Vendor Evaluations .....	12
Anaplan.....	13
Board International.....	15
IBM.....	16
Infor .....	18
Jedox.....	20
Longview .....	22
OneStream Software .....	24
Oracle.....	26
Prophix.....	28
SAP .....	30
Unit4 Prevero .....	32
Wolters Kluwer   CCH Tagetik .....	34
Workday (Adaptive Insights).....	36
Other Vendors .....	38
Related Research Documents .....	41
BARC Score Consulting Services .....	42

## Overview

The simplest definition of management is to plan, steer and control an organization's performance. Planning and controlling this performance relies on the analysis of the past outcomes of operational processes. Planning tries to anticipate and reflect future developments in the enterprise's process goals and structures. Supporting this closed-loop management cycle from reporting and analyzing process results to prediction and planning for adapting the operational processes is a key task for analytics and business intelligence (BI).

For this reason, the integration of corporate performance management (in particular, planning) and analytics has been one of the most stable and relevant trends for companies for several years. Many companies and users know that there can be no planning without supporting functionality for reporting, analysis and monitoring (dashboarding). The integration of planning and analytics with specialist software solutions in one common platform is therefore essential to optimally support the management cycle. To avoid time-consuming and error-prone data transfer processes between software systems, an integrated database for actuals and plan data represented in a consistent data model forms the basis for integrated software solutions. The centrally harmonized master data provides a single, common data basis for planning and analytics as well as other performance management processes such as risk management, financial consolidation, etc.

Today, the reality in many companies is that integrated planning and analytics is an often proclaimed, but seldom achieved goal. Reasons such as internal policies or difficulties with historically grown system landscapes could account for this. So Excel, as the lowest common denominator, is often the default first choice for integrating planning with analytics. However, the lack of coherence of data and functionality resulting from using multiple tools for planning and analytics, and using Excel instead of specialized software tools, are frequently cited reasons for user dissatisfaction, inconsistencies or error susceptibility with planning and analytics in companies today.

Nevertheless the integration of planning and analytics in common software platforms is a means of avoiding problems and user dissatisfaction in planning and analytics processes. In particular, best-in-class companies recognize this important relationship and therefore regularly opt for integrated software platforms. Companies that use integrated software platforms for planning and analytics experience far fewer problems than those that address both topics separately with different software tools. Paying attention to the integration of planning and analytics is therefore especially important for companies when selecting software products to support the whole management cycle mentioned above.

The software market for planning and analytics products is highly competitive. Besides a few international software generalists offering their planning and analytics portfolios worldwide, there are many local specialists challenging the big vendors. This report focuses on the planning and analytics market and analyzes the strengths and challenges of all the leading vendors as well as many smaller vendors that often have less visibility, but equally offer outstanding value to their customers.

Planning and analytics initiatives always include more than just the front-end products. The technical architecture also includes data warehouses and data marts (e.g., for planning), data integration and data quality components, dictionaries, repositories and many other technologies. Organizations should have a proper corporate performance management and analytics strategy that goes well beyond an architecture blueprint to include non-technical requirements, alignment with corporate strategy, organizational models, outcome-based priority settings and a proper roadmap.

Still, when it comes to kicking off or expanding a planning and analytics program, the initial focus almost always lies on the required toolsets. While this may not be the ideal starting point, at some stage a platform, portfolio or product decision has to be made. This document will help with the selection process by evaluating the market leaders and most commonly used product sets.

## Inclusion Criteria

There are two principal inclusion criteria for this BARC Score: the first is associated with each vendor's products and the other is linked to the financial results relating to those products. Functionality for planning (including write-back of planning data to a central database and other advanced planning features such as workflows, simulation, etc.) is the entrance ticket to be evaluated in this BARC Score. Moreover, a vendor has to supply additional functionality for all four analytics technologies from the following platform portfolio in a solution not merely focused on one industry or use case:

- Formatted reporting
- Ad hoc query and reporting
- Analysis
- Dashboarding

In addition, the vendor has to generate a minimum of 25 million EUR in license revenue per year with the evaluated product set in this BARC Score, spread across Europe and at least two additional geographies. Furthermore, the product set must have a significant number of implementations and license revenues across different geographies to be considered as global. We consider the following regions as individual geographies:

- Europe, Middle East and Africa
- North America
- Latin America
- Asia/Pacific

There is no differentiation between on-premises offerings and cloud-based product sets.

## Evaluation Criteria

Every vendor is evaluated on two dimensions: Portfolio Capabilities and Market Execution. Each represents one axis on the Score. These two dimensions include the following sub-criteria.

### Portfolio Capabilities

The Portfolio Capabilities criteria selected to rank the planning and analytics vendors in this Score include the following technologies and their corresponding weightings (see Table 1). In general, Portfolio Capabilities reflect functional and architectural criteria. A special emphasis is placed on the integration of planning and analytics functionality within the vendors' product portfolios. An additional and important evaluation criterion is ease of use for business users.

**Please note: Only vendor-distinct functionality is rated in our vendor portfolio ratings, not that of integrated OEM products or partner solutions.**

### Planning

An essential software requirement for planning is to write back planning data from planning forms in the front end to a planning data model in a central database. The planning model consists of planning structures (master data), key figures and planning logic, and combines different operational and financial plans. Both the planning forms and planning model are created using a planning solution. The coordination of the various planning activities and planners involved is handled by process control functionality

(workflow). For plan data entry, specific planning functionality (e.g., data allocation, simulation and comments) is provided.

### **Portfolio evaluation**

Portfolio evaluation includes assessing each vendor's overall portfolio from a customer perspective. Consistency and seamless integration are important criteria for the optimal support of planning and analytics processes and the whole management cycle. Planning is generally not possible without reporting (e.g., results reports or reports on intermediate results) or analysis functionality (e.g., analyses of planned and actual values). Having all planning and analytics functionality in one integrated product on one database is certainly preferable to an integration, for example, at database level between different products with the need for ETL processes to transfer data. Moreover, the product's lifecycle and maturity are assessed. Customers often complain about reliability and stability in early product releases. Early versions are rarely as functionally rich as mature products so they usually do not meet all their customers' functional requirements. And sometimes vendors offer mature products that are no longer being enhanced with innovative, new features. As a consequence they may not fulfill new and emerging requirements.

### **Ad hoc query and reporting**

Reporting can be either formatted (standard reporting) or interactive ad hoc query and reporting. In many cases, users require greater interactivity than they receive from formatted reports. Ad hoc query and reporting are geared to non-professional report developers and provide basic filtering and navigation features (e.g., drill down, ranking and conditional formatting).

### **Analysis**

Data analysis differs from basic reporting in that it probes much more deeply into (operational) data and generates new information, which can be interpreted and acted upon by the business. Further analyses can be carried out using mathematical methods. Traditional online analytical processing (OLAP) provides dimensional (versus reporting) data views which make it easy for users to drill down, drill across and pivot dimensions as well as apply sophisticated calculations without scripting. Certain analysis products also offer methods to support set-based, visual or discovery-oriented data analysis.

### **Formatted reporting**

Formatted standard reports are usually page-oriented reports running on regular schedules. These include static reports, which usually appeal to the widest audience in a company because they are simple to use, and prompted reports, which enable users to filter reports based on predefined parameters. Aside from pixel-perfect displays, which provide developers with precise control over how they place report objects and images on a screen, formatted reports also support rich printing options, dynamic page sizing and a WYSIWYG ("what you see is what you get") development interface.

Virtually every analytics product is able to provide some type of report. The importance of page orientation, scheduling and other advanced reporting features, however, varies depending on the customer's requirements.

### **Ease of use for business users**

Ease of use considers the general user-friendliness of a planning and analytics product for business users in areas such as model design, screen generation, report development, administration in business departments, etc. This criterion is included because ease of use for business users is often a very important criterion in software selection processes.

### Infrastructure evaluation

Infrastructure evaluation focuses on the overall architecture of each vendor’s product portfolio and includes a broad range of technical criteria. This includes the integration of the various components, from the perspective of the front-end and user experience as well as at infrastructure levels, including data access, models and metadata. In addition, support for different platforms, scalability, performance optimization techniques and security settings are considered in this evaluation.

### Dashboarding

Dashboards are also referred to as cockpits, scorecards or analytics applications. They provide graphical views of key performance indicators and the ability to drill down to details. Some dashboards offer self-service functions so end users can create their own layouts without any outside help. Others (especially analytics applications with guided navigation) require support from technically savvy business users or programmers. Scorecards often incorporate strategy maps and applications to manage improvement initiatives.

### Advanced analytics

Advanced analytics represents a non-directed, hypothesis-free form of data analysis. Various algorithms scan the database searching for patterns used for a segmentation, classification or association of data. The methods cover statistical data analysis, neural networks, decision trees, time series and many other algorithms. Users must be well trained in order to use these methods and to gain the expected insights. Advanced analytics often contains data integration and analysis process support functionality. In the context of planning, advanced and predictive analytics methods often support forecasting processes by calculating suggestions for future planning data which can be used or overwritten by planners.

**Table 1: Portfolio Capabilities – Weighting of Criteria**

Criteria	Weighting
Planning	High
Portfolio evaluation	High
Ease of use for business users	High
Ad hoc query and reporting	Medium
Analysis	Medium
Infrastructure evaluation	Medium
Dashboarding	Medium
Formatted reporting	Low
Advanced analytics	Low

## Market Execution

On the Market Execution axis, we rate the planning and analytics vendors in this Score using the following criteria and corresponding weightings (see Table 2).

### Product strategy

This is the most important of all the criteria. Vendors are rated on their product development track record, product roadmap and innovation, as well as the company portfolio's alignment with current market trends and demands.

### Customer satisfaction

Here, we include the 'Customer satisfaction' KPIs from BARC's Planning Survey and The BI Survey. These take into account product satisfaction, vendor support and implementer support, recommendation and price-to-value ratings reported by customers. The ratings of vendors that provide more than a single product are combined into a single rating. Vendors not included in The Planning Survey or The BI Survey (e.g., due to a limited number of survey responses from their customers) receive an average rating. This average rating stands for "satisfied" and does not negatively affect the score.

### Financials

This criterion covers the financial position of the vendor, from market capitalization, cash position and EBITDA to profitability, burn rate and investment rounds. For private companies or vendors that don't break out the numbers for individual product lines, estimated figures are used.

### Geographical coverage

Vendors are evaluated on their global presence. We look at the various geographic regions and major countries in which the company conducts business with both a sales and marketing presence as well as development and support functions.

### Ecosystem

In this category, we evaluate the extended ecosystem in which the vendor participates. This includes business partner networks, hardware or cloud infrastructure providers, consulting firms and systems integrators, and other technology alliances.

### Sales strategy

To rate a vendor's sales strategy, we look at the various channels through which the company goes to market: with both direct and indirect sales teams, through distributors, value-added resellers (VARs), online channels and OEM relationships. We also evaluate the vendor's product pricing and sales models, such as perpetual licensing, support subscription, open source and freemium.

### Organizational strength

Vendors are rated on their organizational stability, which is influenced by consistency of corporate strategy, continuity of executive leadership, but also staff turnover, reorganization and layoffs.

### Marketing strategy

A vendor's marketing strategy is evaluated by rating its corporate and product messaging, the company's presence in printed media, advertising and social networks, as well as its ability to run events, such as conferences, seminars, roadshows and webinars.

**Table 2: Market Execution – Weighting of Criteria**

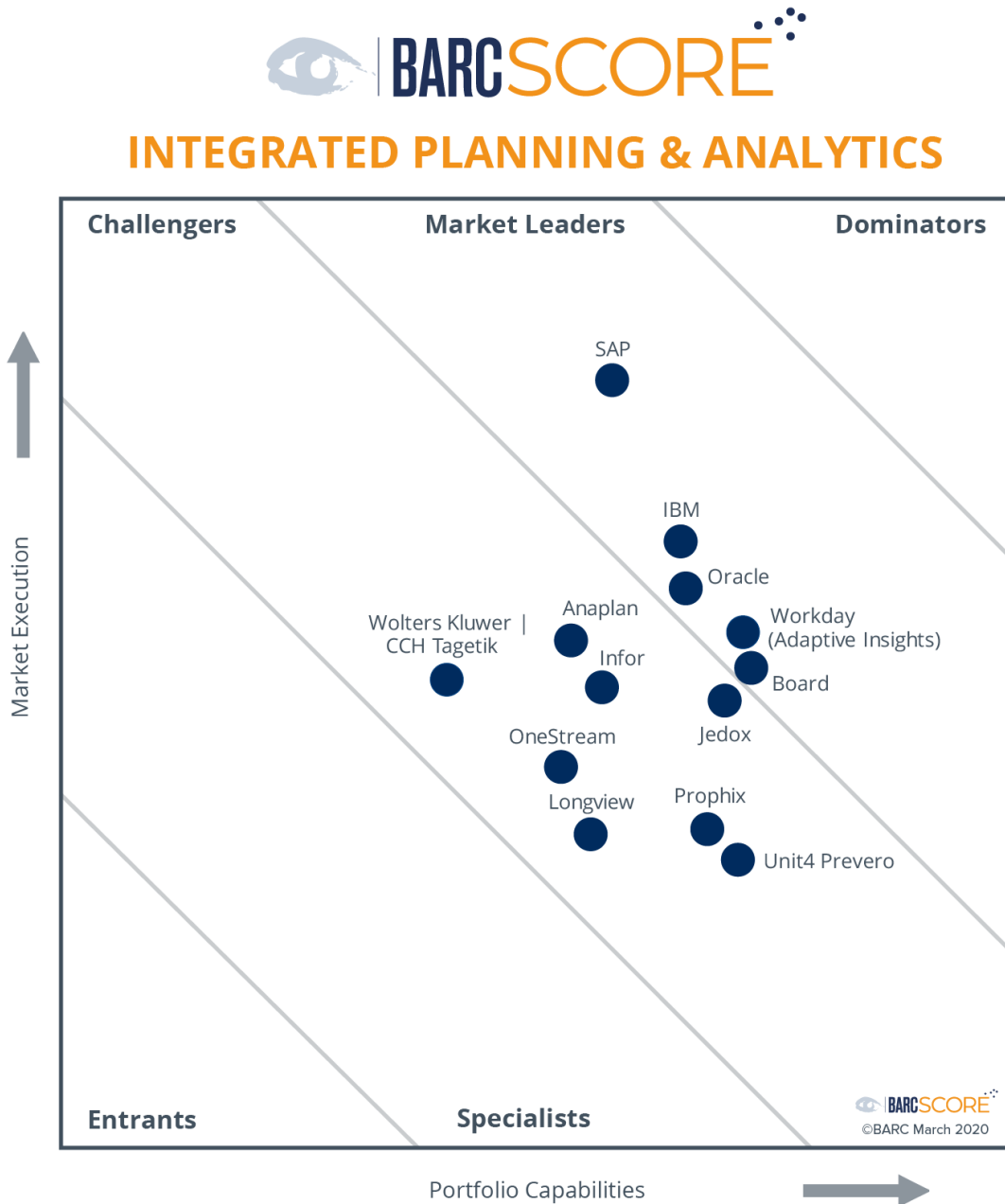
<b>Criteria</b>	<b>Weighting</b>
<b>Product strategy</b>	High
<b>Customer satisfaction</b>	High
<b>Financials</b>	Medium
<b>Geographical coverage</b>	Medium
<b>Ecosystem</b>	Medium
<b>Sales strategy</b>	Medium
<b>Organizational strength</b>	Medium
<b>Marketing strategy</b>	Low



## Score

Calculating the individual ratings for all criteria and all vendors produces two scores per company: the Portfolio Capabilities score and the Market Execution score, each being plotted on the corresponding axis and thus resulting in the vendor's dot on the following BARC Score graphic (see Figure 1).

**Please note: Only vendor-distinct functionality is rated in our vendor portfolio ratings, not that of integrated OEM products or partner solutions.**



Disclaimer: BARC Score is published by BARC GmbH (BARC). This chart is part of a larger research document, which contains explanations of the methodology and criteria behind the chart, and should be viewed in the context of the full document. BARC does not endorse any of the vendors featured in its research documents, and does not advise readers to select only those vendors with the highest ratings. Vendors appearing in the bottom left corner of this chart are market entrants or specialists and should not be interpreted as inferior. Those vendors in the top right area are not necessarily superior, but have strong portfolio capabilities and market execution.

**Figure 1: BARC Score Integrated Planning and Analytics– Portfolios for planning, reporting and analysis**

## Score Regions

Vendors can be positioned in one of five regions, depending on their total score on each of the two axes.

### Dominators

Dominators are vendors that drive both technology and market adoption in a highly influential manner. They possess both a broad portfolio of market-leading and dominating products with a strong brand as well as a robust commercial prowess through best-in-class sales and marketing programs, an extensive ecosystem of business partners and alliances, and a rock-solid financial position. Dominators are considered a contender in virtually every planned implementation.

### Market Leaders

Market Leaders are well established vendors that drive strong market adoption, supported by technology innovation and strategic acquisitions and by leveraging robust account management and a solid track record. Their portfolio enjoys high brand awareness in the market and covers an extensive range of technologies and services with only few gaps. Market Leaders typically have a large market share, making them a viable contender in almost all implementation scenarios.

### Challengers

Challengers come in various shapes and sizes. They can be large vendors tapping into a new market by acquisition and pushing their way in with force, small innovative companies with a promising portfolio but limited sales and marketing resources, or vendors that attempt to disrupt a market with a new technology approach or different business model.

### Specialists

Specialists are usually smaller vendors with a portfolio focused on a specific market segment. They can be either limited in their technical capabilities by concentrating on certain features and functions, or they may only focus on select geographic regions rather than the global marketplace.

### Entrants

Entrants are usually startups with limited reach and visibility in the market. Their product capabilities are incomplete when compared to competitors, and their long-term market potential is still unproven.

## Evaluated Products

The latest versions of the following products are evaluated in this BARC Score:

Vendor	Product(s)
<b>Anaplan</b>	Anaplan
<b>Board International</b>	Board
<b>IBM</b>	IBM Planning Analytics powered by TM1 IBM Cognos Analytics IBM Watson Studio IBM SPSS
<b>Infor</b>	Infor d/EPM Birst
<b>Jedox</b>	Jedox
<b>Longview</b>	Longview Plan powered by Tidemark Longview Plan (On-Premises) Longview Analytics
<b>OneStream Software</b>	OneStream XF
<b>Oracle</b>	Oracle EPM Cloud Oracle Hyperion Planning Oracle Analytics Cloud Oracle Analytics Server Oracle Analytics for Applications
<b>Prophix</b>	Prophix
<b>SAP</b>	SAP Analytics Cloud SAP Business Planning and Consolidation SAP BusinessObjects BI
<b>Unit4</b>	Unit4 Prevero
<b>Wolters Kluwer   CCH Tagetik</b>	CCH Tagetik
<b>Workday (Adaptive Insights)</b>	Adaptive Insights

## Vendor Evaluations

In the following section, we discuss each vendor and highlight their strengths and challenges based on customer surveys and market research by the authors.

Each vendor description includes vendor-related information, products covered in the BARC Score, and strengths and challenges.

## Anaplan

San Francisco, CA, USA

[www.anaplan.com](http://www.anaplan.com)

Anaplan is a US-based software vendor headquartered in San Francisco and founded by the people behind Adaytum (ex-IBM Cognos Planning). The company currently has more than 1,200 employees worldwide. Several major investors have financed Anaplan's growth and global expansion.

The Anaplan product began its development in 2006 and was officially released in 2008. The company's name is a combination of analytics and planning. The product represents a new generation of planning platforms developed with state-of-the-art technologies on a modern software architecture. Anaplan is a purely cloud-based product using an in-memory database to store data (with patented Hyperblock technology). The goal behind Anaplan's development was to create a new planning platform with the ease of use and flexibility of a spreadsheet and the scalability of an enterprise planning product in the cloud (software-as-a-service).

Anaplan targets corporate finance and business departments for financial planning and analysis as well as multiple supported use cases across sales, supply chain, human resources and marketing in large enterprises and groups worldwide. It has no particular industry focus. According to the vendor, it has more than 1,300 customers worldwide. Implementations range from double-digit to several thousand users per installation.

As a cloud-based platform, Anaplan flexibly provides functionality for top-down as well as decentralized bottom-up planning approaches. With its platform approach, customers can create various planning models on different aggregation levels (strategic and operational planning) for an integrated enterprise planning approach (including financial planning). Anaplan's mission is to "make all planning for all people a reality and connect communities of people with data to enhance decision-making in dynamic environments", so the goal is to support customers with a modern tool by joining people together with plans and data. The vendor's in-memory database supports detailed planning models with data up to transactional level (articles, stores, employees, etc.). Moreover, Anaplan and its partners offer more than 200 apps and planning models as predefined content via the App Hub site (e.g., for financial planning, sales planning, financial consolidation, strategy execution, etc.).

### Strengths

- Technologically a modern and scalable cloud-based planning platform for use across various business departments with complementary analytics functionality.
- Flexibility for a wide variety of planning approaches (centralized top-down, decentralized bottom-up) and planning topics (operational planning, financial planning, workforce planning, sales planning, etc.) with no industry focus.
- Lots of predefined planning models and applications on Anaplan's App Hub site (e.g., for demand planning, capex planning, financial consolidation, strategy execution, etc.).
- Integrated advanced analytics functions and predictive algorithms leveraging machine learning (ML), artificial intelligence (AI) and optimization techniques.

### Challenges

- Cloud-only – the product is purely cloud-based and not available on-premises. Web access is essential to use the product (except for offline planning in the Excel add-in).
- Anaplan is essentially a planning product rather than an analytics product. However, Anaplan does support functionality for OLAP analysis and screen-based, self-service dashboarding. Its native mobile app enables access to insights on-the-go, and recent enhancements to add-ins

now support formatted reporting, as well as self-service data exploration (pivot, slice, dice) in Excel. There is also a partnership in place with Tableau to further support reporting and analytics.

- Compared to its mid-market focused competitors, Anaplan is relatively expensive.

## Board International

Chiasso, Switzerland

[www.board.com](http://www.board.com)

Board was founded in 1994 and employs more than 420 people worldwide. Both its European head office and software development headquarters are located in Chiasso, Switzerland. A second regional US headquarters is located in Boston, Massachusetts. Board has 27 offices worldwide and a global partner network. More than 3,000 customers worldwide use Board to implement analytics and CPM projects. The company currently has a strong focus on internationalization, particularly by building up its presence in the United States.

Board provides a combined product consisting of a front end and a proprietary multidimensional in-memory database called WAVE, which also allows for business-user-friendly data modeling. It is a web-based flexible development environment for creating dashboarding, reporting, analysis, planning and predictive analytics applications and can also be used for financial consolidation and strategy management. Users can create and tailor a broad range of applications specifically to their own needs. Board offers strong functionality, especially for planning and simulation use cases, and provides a consistent environment for administration, development and utilization. Due to its tightly integrated front and back ends, the proprietary Board database allows only limited access for third-party front ends.

Board's product strategy is based on an "all-in-one" philosophy. The goal is to deliver an easy-to-use and technically homogeneous environment in support of analytics and CPM. Board's vision is to enable business users to implement tailored solutions without significant IT support, based on an easy-to-use toolkit. Over the past few years, Board has strongly enhanced its innovative capacity, focusing on trending topics and providing new functionality. Besides BEAM (the vendor's analytical engine for advanced analytics), Board has introduced a cloud offering based on Microsoft Azure, self-service data preparation (called Data Fast Track), storytelling, collaboration and cognitive capabilities incorporated into the system (including cognitive search by natural language query (NLQ)).

### Strengths

- Flexible, fully web-based analytics and CPM product with tightly integrated system architecture of multidimensional in-memory database and front ends.
- Graphical, business-user-oriented development environment for creating complex and flexible analytics and CPM applications without technical programming skills.
- Comprehensive functionality for bottom-up (including workflow functionality) and top-down planning approaches.
- Company is strongly focused on growth, internationalization and innovation.

### Challenges

- Limited access to the proprietary Board database for third-party front ends.
- Board strongly focuses on enabling individually tailored solutions. Predefined business content provided by Board itself is currently in development. Applications such as financial consolidation and lease accounting are already available with more to follow. Moreover, Board offers blueprint models for specific industries such as retail/fashion or automotive that can be adapted to customers' individual needs.
- Relatively new but improved capabilities for formatted and print-oriented reporting.
- The product's flexibility can lead to quite complex handling for inexperienced users when implementing and building intricate applications.

## IBM

Armonk, NY, USA

[www.ibm.com](http://www.ibm.com)

IBM® is one of the world's largest vendors of IT hardware, software and services. The company has a global workforce of approximately 380,000 employees and is active in over 170 countries. In 2007, IBM purchased the Canadian software vendor Cognos for about \$5 billion (including IBM TM1®) to become the center of its future analytics product portfolio. IBM's performance management portfolio is completed by IBM Cognos Controller for financial consolidation and regulatory reporting.

IBM offers a comprehensive portfolio of on-premises and cloud analytics, performance management (planning, consolidation) and advanced analytics solutions. The core offerings consist of IBM Cognos Analytics, IBM Planning Analytics powered by TM1, IBM Watson Studio and IBM SPSS.

IBM Planning Analytics powered by TM1 – the vendor's strategic planning product – is a core element in IBM's performance management portfolio and has been on the market since the 1980s. Due to its rich functionality for planning and OLAP analysis, and its in-memory technology, the product plays a strategic role for IBM. Planning Analytics is a high-performance, multidimensional in-memory database for planning and analysis with Excel and web front ends. The product is a development environment targeted at power users that, like Excel, is initially open for all kinds of applications (planning, analysis, strategy management). Therefore it has no dominant focus on particular topics and only a little pre-defined business content is available with the product. Planning Analytics is available in both classical on-premises (Planning Analytics Local) and cloud (Planning Analytics) versions.

IBM's enterprise business intelligence solution – Cognos Analytics (formerly Cognos BI) – provides functionality for dashboards, formatted reporting, ad hoc reporting and OLAP analysis in a web-based, integrated user experience. The product is typically used in larger scenarios supporting the needs of many concurrent users as well as large data volumes. With a continuous release development cycle, IBM continues to broaden its functionality on a quarterly basis. As an example, IBM has integrated former IBM Watson Analytics functionality into Cognos Analytics. The solution now offers search-oriented data analysis with encapsulated cognitive capabilities aimed at business users.

For advanced analytics and data mining, IBM positions Watson Studio as its primary platform. Besides the widely known SPSS capabilities, Watson Studio also includes new data science modules based on Jupyter Notebooks for development in R and Python, AutoAI capabilities, and embedded Decision Management capabilities.

### Strengths

- IBM Cognos Analytics is an extensive, scalable and well integrated product for formatted and ad hoc reporting; OLAP analysis; visual and advanced analysis; and dashboards.
- IBM Planning Analytics offers comprehensive flexibility for business power users to create planning and analytics applications based on a high performance in-memory database.
- Comprehensive Excel-based functionality for preparing individual planning and analytics content in IBM Planning Analytics (modeling, custom planning forms, etc.) and publishing it to the web.
- Broad capabilities for data mining and advanced analysis with IBM Watson Studio as well as visual business-user-oriented data discovery and cognitive BI with IBM Cognos Analytics.
- Well established and expansive partner community with global product support and knowledge.



## Challenges

- Only limited predefined business content currently available with Planning Analytics (e.g., blueprints, project best practices). However, predefined business content is available from partners.
- Currently, integration between the Cognos Analytics, Planning Analytics and Watson Studio products is incomplete. However, the integration of Cognos Analytics and Planning Analytics has improved in recent versions and Watson Studio includes embedded Cognos Analytics dashboarding.
- Apart from the embedded Jupyter Notebooks capability there is limited functionality for advanced analysis directly in IBM Cognos Analytics. However, IBM Watson Studio and IBM SPSS are available as dedicated product offerings.
- Comparatively expensive analytics and planning products, although the cloud versions of IBM Cognos Analytics and IBM Planning Analytics offer alternatives for cost savings and faster time to value.

## Infor

New York, NY, USA

[www.infor.com](http://www.infor.com)

Infor is a global US-based vendor of ERP, CRM, analytics, SCM and other industry-focused business software solutions. The company was founded in 2002, has 170 locations worldwide and supports over 68,000 customers in around 200 countries. Infor is privately held by Golden Gate Capital, Koch Industries and Summit Partners.

Infor Dynamic Enterprise Performance Management (d/EPM), formerly Infor BI, the vendor's original analytics and CPM product, was initially developed by MIS long before 2002. Several acquired products were combined into Infor d/EPM, which includes components for dashboards, reporting, OLAP analysis, planning and financial consolidation. Since then, Infor has re-architected all products into a single, integrated platform. With the acquisition of Birst in 2017, Infor's analytics portfolio has been enhanced with an enterprise class, cloud platform for BI and analytics. In addition to providing formatted and ad hoc reporting, dashboarding, self-service data discovery and advanced analysis, Birst differentiates by offering a full-stack solution that includes ETL and data preparation, data warehousing, mobile access, and machine learning integration. Since the acquisition, Infor has changed its go-to-market and product positioning strategy significantly, splitting its portfolio into analytics and CPM products, which are integrated with each other. Birst is now positioned to serve analytics usage scenarios and Infor d/EPM – Infor's existing CPM product – to serve CPM usage scenarios. Infor d/EPM and Birst are marketed to mid-sized companies and large corporations in all industry sectors. Both products can be used with Infor's existing ERP, CRM or SCM applications via predefined connectors but also standalone with third-party data sources (e.g., SAP, Salesforce, etc.). Infor d/EPM and Birst are sold by Infor directly as well as by more than 1,750 partners (resellers and OEMs) worldwide.

Infor d/EPM is a flexible CPM product combined with business content. The platform provides a multi-faceted development environment for tech-savvy business power users to build custom CPM and analytics applications. Predefined CPM applications are available for various business functions and industries, including strategy management, budgeting, planning, financial consolidation, workforce planning and budgeting and others. Recently, the vendor introduced a new version of Infor d/EPM with modernization improvements such as business-user-friendly, web-based modeling and administration, scalability and performance and redesigned user interfaces.

Birst is Infor's cloud-based flagship BI and analytics platform and plays a significant role in Infor's unified cloud strategy, providing single provisioning for all cloud application services. According to the vendor, Birst connects to Infor's business applications such as ERP and CRM, to Infor d/EPM's underlying OLAP database, as well as to non-Infor systems. One of Birst's particular strengths is its ability to connect to many different data sources, and automatically generate an analytic-ready data warehouse and semantic layer. In fact, for selected Infor Applications (e.g., CloudSuite Analytics, Lawson Analytics), Infor provides an analytic-ready data warehouse with semantic layer, predefined KPIs, reports and dashboards.

### Strengths

- Infor d/EPM as an integrated application suite for dashboards, reporting, analysis, planning and forecasting as well as financial consolidation with proprietary multidimensional data storage.
- Multifaceted development environment for tech-savvy business power users to build tailored CPM and analytics applications. Predefined CPM applications for various business functions and industries.
- Strong functionality for ad hoc analysis and planning integrated in Microsoft Excel.
- Birst as a cloud-based enterprise analytics platform with a modern, flexible semantic layer concept to provide both governance and consistency. IT can extend data models and customize

reports to meet new business requirements. Business users can blend edge data with self-service data preparation.

### Challenges

- Like some of its competitors, Infor splits its portfolio into analytics (Birst) and CPM products (Infor d/EPM). Integration between analytics and CPM takes place at data level with the capability to display visualizations from both systems into a single view dashboard in either system or on the Infor Ming.le collaboration platform.
- Infor d/EPM is generally available on-premises and in the cloud (Amazon Web Services). However, some services like Infor Coleman AI are available in the cloud version only as they leverage cloud-based services like Amazon building blocks for AI.
- Infor d/EPM's flexibility can lead to complex handling when implementing/building intricate applications.
- According to The BI Survey 19, many customers express negative feedback for Infor d/EPM, particularly in areas such as business value (e.g., business benefits, project length), customer satisfaction (e.g., recommendation, product satisfaction), customer experience (e.g., query performance) and innovation.

## Jedox

Freiburg, Germany

[www.jedox.com](http://www.jedox.com)

Established in 2002, Jedox has grown into a team of more than 270 employees. The vendor serves over 2,500 clients in 140 countries worldwide through its headquarters in Freiburg, Germany, its seven international offices, and a network of 250 partners and global alliances. Besides implementers, the vendor has extended its technology partner network to include Qlik, Microsoft (Azure, Office, Power BI) and Salesforce.

The company's flagship product is Jedox, a flexible CPM and analytics platform with planning, reporting, analysis and financial consolidation capabilities. The solution, which offers both an Excel client and web interface as front ends, was first launched in 2004. The Excel add-in is a classic spreadsheet interface combining well-known Excel functions with additional Jedox features. The web client has a browser-based spreadsheet interface – a type of Excel on the web – with additional functions. The underlying philosophy of Jedox Suite is to extend the familiar Excel environment with specific analytics functionality. The software can be run on-premises, in the cloud and also in hybrid scenarios (e.g., development on-premises and production in the cloud).

The product is aimed at business power users who create individual planning, reporting, analysis and financial consolidation applications. With the company's own in-memory database, users have the advantage of a flexible multidimensional experience while staying in their familiar spreadsheet environment. However, tasks such as integrating data into Jedox OLAP Server using the vendor's web-based Jedox Integrator product may require IT support. Trained business users can later take on responsibility for the administration and further development of Jedox applications. These applications can be published to large groups of users through Jedox Web and Jedox Mobile. Both centralized top-down and decentralized bottom-up planning scenarios can be implemented with Jedox. Furthermore, Jedox provides predefined content for different topics and industries created itself or by partners (e.g., for financial planning and management, financial consolidation and close, sales, HR, predictive forecasting and workflow management). This content is built on best practices and is available in Jedox's own marketplace, which is integrated in the product.

Besides CPM functionality, Jedox offers good ad hoc reporting and OLAP analysis capabilities for business users. Reporting generally takes place in Excel using Excel's own functionality, or in Jedox Web, which offers additional options for dynamic reporting and report distribution. Users can create reports, analyses and dashboards on the web from a spreadsheet interface closely resembling the functionality, look and feel of Excel. Both clients offer standard Excel charts for visualizing information as well as SUCCESS charts, which are compliant with the International Business Communication Standards (HICHERT®/IBCS) for reporting.

With its recent releases, the vendor has strengthened its cloud offering and has introduced its first automated AI features (Alsissted™ Planning), which are a strategic initiative for Jedox. Alsissted™ Planning is technically leveraging machine learning functionality in Microsoft Azure as a web service using Jedox Integrator to support planners in tasks such as predictive forecasting and pattern recognition (e.g., for clustering, classification). Jedox's strategy is to create wizards and predefined models around the aforementioned technology stack to help business users to use AI-enabled and machine learning features for increased agility and augmented planning and forecasting.

### Strengths

- Flexible and business-user-friendly CPM and analytics platform for planning, reporting, analysis and financial consolidation designed for business users, available on-premises and in the cloud (public and private).

- Uses Excel and spreadsheet resembling Excel in the web client as user interfaces with good integration between Excel, web clients and mobile access to Jedox content.
- Development environment for creating custom planning models, primarily via Excel formulas, with supplementary marketplace for predefined but flexibly adaptable solutions.
- Web-based modeling of Jedox's in-memory OLAP database and data integration processes.
- BARC's Planning Survey 19 revealed a high level of satisfaction with the business value Jedox provides, its good price-to-value-perception as well as planning, forecasting and reporting/analysis functionality.

### **Challenges**

- Jedox's flexibility as a development environment for CPM and analytics can lead to complex handling when implementing/building intricate applications.
- Comparatively limited predefined workflow functionality. Custom workflows can be built using the new and freely available building block in Jedox's marketplace or as part of the implementation project.
- Limited functionality for formatted print-oriented reporting within the Excel client and web client.
- Often used in departmental or small and medium scale scenarios (source: The Planning Survey 19). However, implementation projects have been growing in terms of numbers of users and data volumes in recent years. Enterprise customers should evaluate similar references.

## Longview

Markham, Canada

[www.longview.com](http://www.longview.com)

Founded in 1994, Longview is a Canada-based CPM vendor with over 200 employees serving more than 1,200 customers worldwide. The company is privately held and backed by Marlin Equity Partners, a global investment firm, which acquired Longview in 2014. In 2015, Longview merged with Germany-based vendor arcplan to enhance its capabilities for BI and analytics. In 2017 Longview announced the completion of another merger with Tidemark, an enterprise financial and corporate planning cloud software company. Based upon three companies and more than 25 years of experience, Longview's stated mission today is "Connected Finance", providing integrated CPM and analytics products to empower the digital transformation of the finance department for companies of all sizes and industries.

Longview's product portfolio includes solutions for the key processes of today's finance organizations: planning and budgeting (Longview Plan), consolidation and close management (Longview Close), tax management (Longview Tax), transfer pricing (Longview Tax Operational Transfer Pricing), and dashboards, reporting and analysis (Longview Analytics). Due to Longview's history as a consolidation, tax and planning vendor since 1994 and its merger with Tidemark in 2017, Longview Plan is available in two versions today: (a) as an on-premises version based on Longview's well-established platform technology (e.g., Close and Tax) and (b) in a public cloud version based on Tidemark's modern planning technology leveraging AWS. Depending on customer requirements and strategic directions, companies can freely choose between both options.

The Longview platform, including Plan (on-premises), Close and Tax, leverages relational data storage and provides a multidimensional in-memory data engine, accelerating performance and adding financial intelligence for planning, close and tax processes. Longview Plan (on-premises) is a flexible planning product for various kinds of planning applications. Pre-configured planning models are available and can be adapted to the needs of customers. Longview Close and Tax complement Plan with feature-rich, out-of-the-box functionality for legal and management consolidation as well as tax management.

Longview Plan powered by Tidemark brings together financial planning, people planning and operational planning, along with profitability modeling and in-context analytics for planning processes. Born in the cloud, it offers a web-based dynamic computational engine that processes data and calculations. Built-in workflow, monitoring, task management and collaboration features help to support all kinds of planning approaches (top-down, bottom-up and combinations of both). Predefined planning applications are available at no cost and can be adapted to customer-specific needs and requirements.

Longview Analytics, the former arcplan portfolio, complements Plan, Close and Tax with mobile reporting, dashboarding and analytics solutions. At its core, the product is a versatile platform for developing tailor-made BI applications across all major databases, applications and systems (Longview and other third-party data sources). Users typically access these analytics applications via a web browser. Leveraging the product's web client, Longview Analytics can be used to connect all Longview solutions and provide integrated BI and analytics within Plan, Close and Tax. It can also be used as a standalone BI and analytics platform to connect to financial, operational and external data sources.

### Strengths

- Integrated CPM and analytics product offerings for planning, consolidation and tax as well as dashboarding, reporting and analysis. Different solution offerings and deployment options depending on customer requirements and strategic directions of companies.
- Integrated functionality for strategic and operational planning, consolidation and closing as well as tax management in the Longview platform (Longview Plan (on-premises), Close, Tax).

- Cloud-based, comprehensive planning capabilities in Longview Plan powered by Tidemark for a wide range of individual subplans with complementary workflow and collaboration functionality to support top-down and bottom-up planning processes.
- Longview Analytics complements the Longview platform (Plan, Close, Tax) and Longview Plan powered by Tidemark with comprehensive dashboarding, reporting, analysis and mobile BI functionality or can be used standalone on a large number of supported data sources (Longview and other third-party data sources).

### Challenges

- Functional overlaps in on-premises and cloud product portfolio (especially for planning).
- Most Longview platform (Longview Plan (on-premises), Close, Tax) and Longview Plan powered by Tidemark software sales, as well as consulting and support capabilities, remain in North America. Prospects outside this region should evaluate the vendor's local consulting and support capabilities.
- Longview Plan powered by Tidemark is relatively new to the market, only launching in 2010. The product is a long way from achieving the same market presence and global visibility of rival planning products.
- High flexibility in Longview Analytics can make handling complex. Developing intricate analytics applications requires technical knowledge and is only suitable for trained business power users.

## OneStream Software

Rochester, MI, USA

[www.onestreamsoftware.com](http://www.onestreamsoftware.com)

OneStream Software is an independent US-based CPM software company. The vendor was founded by the people behind Oracle Hyperion Financial Management and UpStream Software, now known as Oracle Hyperion Financial Data Quality Management (FDM). Currently the vendor has ten offices in the US and Europe with more than 400 employees globally. In 2019, OneStream received significant external investment from KKR, funded through a combination of KKR's private and growth equity funds.

OneStream's CPM platform was first released in 2011 and unifies financial consolidation, reporting, planning, budgeting, analysis and data quality in one single application. The product is available for deployment in the cloud (Microsoft Azure) or on-premises. The vision behind OneStream XF was to create a single platform which allows for a unified approach to support all the various CPM processes and information streams in companies. Furthermore, the OneStream XF MarketPlace provides more than 50 productivity tools and business solutions that allow customers to extend the platform with additional capabilities. An example is OneStream's new Predictive Analytics 123 solution, with out-of-the-box predictive analytics functionality for business and financial planning and modeling. All OneStream-developed XF MarketPlace solutions are fully supported and available free of charge to active customers.

OneStream targets mostly finance and business users in mid-sized and large international companies across all industries. The vendor employs a direct sales model to sell the product. A comprehensive partner network is in place to support customers with implementation services. According to its own accounts, almost 500 customers currently use OneStream XF.

OneStream XF is a financial consolidation and planning platform with built-in financial data quality functionality that focuses on supporting the full range of financial performance management. The product provides a proprietary in-memory financial analytic engine, relational data engine and column store engine with built-in financial intelligence that uses Microsoft SQL Server as a data store. Company-wide consolidated financial results statements and plans (balance sheet, P&L, cash flow, operational plans) at subsidiary or group level can be created using ten predefined and eight user-defined dimensions. Each of the eight additional dimensions can be utilized in multiple ways across the chart of accounts. In addition, OneStream invented Extensible Dimensionality<sup>®</sup> which provides the ability to extend the account and other dimension structures to support both corporate and line-of-business financial and operational planning and reporting in one application. User-defined dimensions can be either financial or operational for building free-form operational planning models. OneStream also provides fully supported operational planning solutions in its XF MarketPlace including People Planning, Capital Planning, Sales Planning and Thing Planning (i.e., a flexible structure for planning virtually any topic). For individual, flexible (ad hoc) reporting and analysis, OneStream includes a spreadsheet interface or Excel add-in. In 2019, OneStream introduced Analytic Blend, including a new relational column store engine that blends together detailed operational data with financial data. Financial analytics, detailed operational analysis or a "blended" view of both can be presented within the same dashboard.

### Strengths

- Integrated CPM platform for financial consolidation, close, reporting and planning with built-in financial analytic engine and financial data quality capabilities, available as OneStream XF Cloud (Microsoft Azure) or on-premises.
- Integrated analysis and reporting functionality for (print-oriented) production reporting, financial reporting (disclosure management) with self-service dashboards and visualizations, and ad hoc analysis via Microsoft Excel.



- MarketPlace with more than 50 predefined business and productivity solutions. OneStream has a development team and roadmap specifically dedicated to the XF MarketPlace. All OneStream-developed XF MarketPlace solutions are fully supported and available free of charge to active customers.
- Excellent customer feedback for many important KPIs in BARC's Planning Survey including 'Ease of use', 'Planning content', 'Performance satisfaction', 'Product satisfaction', 'Project success' and 'Vendor support'. Many companies benefit from using the product.

### Challenges

- For free-form modeling of, for example, operational planning scenarios, there are only eight free additional dimensions per model in addition to the ten standard dimensions. However, OneStream provides Extensible Dimensionality® and predefined solutions for several types of operational planning in its XF MarketPlace.
- OneStream XF is a rich internet application developed using Microsoft Silverlight technologies and requires Silverlight 5. The further development of Silverlight was discontinued by Microsoft. OneStream's strategy is to leverage its own Windows app to eliminate dependency on browser types and version support. The platform also provides HTML5 mobile support for consumption of data.
- OneStream lacks the market presence and global visibility of its main rivals Oracle, IBM and SAP today. However, OneStream's win rate is quite good when it comes to competitive evaluations.

## Oracle

Redwood Shores, CA, USA

[www.oracle.com](http://www.oracle.com)

Oracle is a global provider of enterprise cloud computing, offering software as a service, platform as a service, infrastructure as a service and data as a service capabilities. The company employs more than 138,000 people worldwide. With more than 430,000 customers and deployments, Oracle offers a comprehensive stack of cloud applications, platform services and engineered systems.

Oracle's analytics and enterprise performance management (EPM) portfolio contains various products. In 2014, the vendor changed its general release strategy to "Cloud First" and now has a major strategic focus on enhancing its cloud-based portfolio. However, Oracle continues to develop its on-premises solutions for analytics and EPM (e.g., the well-known Oracle Hyperion EPM portfolio). The cloud portfolio is packaged as Oracle Analytics Cloud, Oracle's flagship product for analytics, and Oracle EPM Cloud. A variety of other cloud and on-premises offerings complete Oracle's comprehensive product portfolio. Oracle's EPM portfolio includes applications for planning and budgeting, financial consolidation and close, performance reporting and analysis, financial strategy management, profitability and cost management, account reconciliation and tax reporting.

Oracle's entire EPM portfolio is available in the cloud. This includes Planning Cloud (i.e., Enterprise Planning and Budgeting Cloud Service, Planning and Budgeting Cloud Service), Financial Consolidation and Close Cloud Service, and Profitability and Cost Management Cloud Service. All Oracle EPM Cloud solutions are based on a consistent technical architecture and can be deployed in a modular fashion.

For customers who prefer to manage EPM applications on-premises, Oracle's Hyperion EPM portfolio is still available. Oracle Hyperion Planning, the vendor's on-premises planning product, has a long history and was acquired with Hyperion Solutions in 2007. It is one of the most widely used planning products in the world with thousands of implementations. Based on Oracle Essbase as a multidimensional database, the platform is suitable for corporate planning as well as integrated financial planning. Oracle Hyperion Planning is integrated with the vendor's other on-premises EPM products, such as Oracle Hyperion Financial Management for financial consolidation.

For analytics, Oracle Analytics Cloud incorporates business-user-oriented capabilities for data preparation, data visualization, enterprise business intelligence and scenario management. It offers modules for developing and deploying dashboards, formatted reporting, ad hoc reporting and self-service discovery/analysis. Oracle Analytics Cloud also includes Oracle Essbase Cloud, a multidimensional database, which can be used for scenario modeling, OLAP analysis and the creation of Excel-based applications. Oracle Analytics Server, the on-premises version of Oracle Analytics Cloud brings all the capabilities of the cloud platform to organizations requiring on-premises deployment options.

Complementing the portfolio, machine learning algorithms are embedded out of the box with Oracle Analytics Cloud. R and Python scripts can be embedded in Oracle Analytics Cloud for custom advanced analytic capabilities. In 2018, Oracle acquired the machine learning platform [datascience.com](http://datascience.com), which can be leveraged for ML-related use cases.

### Strengths

- Comprehensive portfolio of EPM applications in the cloud and on-premises covering financial and operational planning, financial consolidation and reporting.
- Oracle Planning and Budgeting Cloud Service (PBCS) offers comprehensive functionality for web-based, integrated corporate planning in top-down and bottom-up planning scenarios suitable for large implementations. Moreover, Oracle Essbase Cloud can be used for scenario planning and what-if simulations.

- Web-based analytics product portfolio for formatted and ad hoc reporting, analysis, visualization, data preparation, and dashboarding in one suite available on-premises and in the cloud.
- Recently introduced machine learning-driven capabilities to power the analytics experience with natural language query and generation, personalized mobile and predefined advanced analytics functions.

### Challenges

- In contrast to other vendors, Oracle's strategy sees analytics and EPM as separate product lines. Therefore, integration between product lines such as Oracle Analytics Cloud and Oracle EPM Cloud is at data level leveraging data models and structures. However, these product lines are not integrated at report/visualization level.
- Oracle's on-premises planning product, Hyperion Planning, is not well suited to a self-service approach in business departments. Due to its comprehensive functionality and setting options, the back end requires tech-savvy power users for administration tasks and to set up individual planning applications. Conversely, back end complexity is much reduced with Oracle EPM Cloud as the vendor takes care of the technical operation of the system. Furthermore, packaged application content and wizard-based configuration enable faster deployment in the cloud.
- Oracle's cloud-first strategy for its analytics and EPM portfolios leads to transient functional disparity between cloud and on-premises offerings.
- Oracle is comparatively expensive but the pricing of analytics and planning products is transparent. The cloud versions offer alternatives for cost shifting to future periods and faster time to value.

## Prophix

Mississauga, Ontario, Canada

[www.prophix.com](http://www.prophix.com)

Founded in Canada in 1987, Prophix began as a software distributor implementing financial applications. In the year 2000, the organization released its own performance management software, also called Prophix, recognizing the market's need for innovative planning and reporting systems. Today, Prophix has more than 250 employees worldwide and over 3,000 customers in more than 100 countries, covering all company sizes and industries. Prophix customers mainly come from North America, while approximately 350 are located in Europe.

Prophix is a unified corporate performance management solution that delivers insight into finance, operations and business performance with a focus on business user experience and ease of use to streamline model and process management. The product is focused on budgeting, forecasting, reporting and analysis, operational planning, personnel planning, revenue planning, project planning and financial consolidations. Reports, plans, budgets and forecasts can also be pushed to PowerPoint, Word or PDF through a scheduled process or on demand. Data and metadata in Prophix is stored in Microsoft SQL Server as well as in Analysis Services, the database's multidimensional component.

The vendor has a strong focus on business departments in mid-size companies with typically 50-100 users per implementation. However, there are much larger implementations as well. Prophix is available on-premises or in the cloud leveraging AWS.

Prophix does not confine itself to any one single planning topic (financials, sales, HR etc.). The product can be used to create individual planning applications with capabilities for top-down and bottom-up planning including workflow functions to control planning processes. It contains little predefined business content (e.g., for financial planning). However, some partners do offer predefined content for specific topics and industries. Planning forms, like reports, are created in an Excel-like environment in Prophix. An installed Windows client, an HTML5 web client and an Excel add-in are available as front ends to enter plan data or to work with reports, analyses and dashboards.

Besides planning, Prophix also provides comprehensive capabilities for BI and analytics. Standard reporting in a formatted and (if required) print-oriented way is supported, as are ad hoc queries based on OLAP methodologies (drill functionality, slice and dice, pivoting, etc.). For visualizing data (e.g., in management cockpits or dashboards), standard business graphics as well as more advanced chart types are available.

### Strengths

- Flexible and business-user-oriented CPM solution for planning, reporting, OLAP analysis, dashboarding and consolidation with a focus on mid-sized companies based on Microsoft technology, available on-premises and in the cloud.
- Comprehensive planning functions for top-down and bottom-up planning with good workflow capabilities for controlling planning processes.
- Supplementary integrated functions for standard reporting (if required, also formatted and print-oriented), ad hoc query and OLAP analyses (drill operations, slice and dice, pivoting, etc.).
- BARC's Planning Survey 19 revealed a high level of satisfaction with the business value Prophix provides, its good price-to-value-perception, ease of use and planning, forecasting and reporting/analysis functionality.

## Challenges

- 79 percent of the Prophix users who responded to BARC's Planning Survey 19 were planning users – well above the survey average of 63 percent – reflecting the fact that Prophix is essentially a planning tool rather than a BI and analytics tool.
- Prophix provides its own tool for data integration, while third-party ETL tools have also been used for (cloud) deployments in the past. Users give Prophix a low ranking for its predefined data connectivity in BARC's Planning Survey 19. Prophix has since released a new version of its Data Integration Service, which wraps advanced ETL capability into the product within a business-user-friendly interface.
- Canada-based Prophix is predominantly used in North America. Globally speaking, the product is seldom considered for purchase in software evaluations and is a long way from achieving the same market presence and visibility of rival planning products.

## SAP

Walldorf, Germany

[www.sap.com](http://www.sap.com)

SAP was founded in 1972 as a business applications company. The vendor today employs more than 100,330 people worldwide and has a turnover of €24.74 bn. SAP is one of the largest business software vendors in the world.

The vendor's portfolio of analytics solutions encompasses cloud-based and on-premises solutions for business intelligence, predictive analytics and planning.

SAP's original strategy was to view analytics as an extension of its all-inclusive ERP offerings. Therefore, the company launched SAP Business Warehouse (BW) in 1998, a completely packaged and plug-and-play analytics solution designed to complement SAP ERP applications. Today, integrated analytics, planning and predictive capabilities are available in SAP Analytics Cloud for cloud or SAP BusinessObjects BI and SAP Business Planning and Consolidation (BPC) for on-premises deployments. SAP is investing heavily in developing SAP Analytics Cloud, which is the central component of SAP's analytics, planning and predictive portfolio. SAP's current mission statement for planning is 'Collaborative Enterprise Planning', which aligns and connects plans from all departments and business units across organizations, while breaking down silos and bringing teams together. SAP Analytics Cloud offers functionality for all individual planning activities in companies including strategic, operational, functional and financial planning, which integrates with all major SAP enterprise applications (e.g., SAP S/4HANA). SAP also continues to provide on-premises solutions such as SAP BusinessObjects BI and SAP BPC. In the cloud analytics segment, additional solutions are available such as SAP Digital Boardroom, SAP Analytics Hub (both part of SAP Analytics Cloud, which is built on the SAP Cloud Platform) and SAP S/4HANA Finance for Group Reporting (for financial consolidation).

SAP Analytics Cloud, SAP's strategic cloud offering and analytics platform, brings together analytics capabilities such as data discovery and visualization, planning and augmented analytics for different user roles into one integrated product and user experience. With a large and growing development team, SAP Analytics Cloud is becoming richer in features such as application design, planning and predictive functionality as well as planning business content (e.g., for financial and line-of-business planning). In addition to using it with its own data models, the product can also be used as a front end for other SAP data sources in hybrid cloud scenarios (e.g., with SAP HANA, SAP BW/4HANA, etc.) without moving, caching or persisting the data into the cloud. SAP Analytics Cloud is a fully web-based solution providing an HTML5 web client, which can be used with popular browsers such as Google Chrome and Microsoft Edge.

SAP BPC – SAP's recommended product for those requiring an on-premises planning and financial consolidation solution – was originally developed by OutlookSoft and based on Microsoft SQL Server as a database platform. Since the acquisition, SAP has developed a second version for BW. Since release 10.1, capabilities from BW Integrated Planning (SAP's own former BW-based planning product) have been introduced into SAP BPC. The product is an integrated, Microsoft Excel and web-based solution for planning and financial consolidation that can be used to develop individual, workflow-based planning applications for various kinds of planning topics (sales, financials, etc.). The latest version 11.1 uses BW/4HANA as a basis. As an additional front-end option, SAP BPC customers can combine SAP Analytics Cloud with the product's planning engine. SAP Analytics Cloud can access SAP BPC's planning model (data and structures) using a 'BPC Live Connection' without replicating data, thus providing write-back options for planning data directly into SAP BPC's planning model in BW/4HANA through write-back enabled queries.

For financial consolidation and close, SAP has introduced financial consolidation functionality with S/4HANA Finance for Group Reporting, which is embedded within SAP S/4HANA and available in the cloud as well as on-premises. For customers requiring a standalone on-premises deployment within

BW/4HANA, SAP BPC is the recommended financial consolidation solution from SAP. Furthermore, SAP offers additional on-premises products for reporting and disclosure (SAP Disclosure Management).

On-premises analytics capabilities in the SAP portfolio are available via SAP BusinessObjects BI. These are designed to work together with SAP Analytics Cloud. SAP BusinessObjects BI incorporates various end-user tools with a moderate level of integration. The suite contains strong individual products as well as several clients for various types of analysis and capabilities for building custom guided analytics applications that can be published to the web or mobile devices.

Complementing the portfolio, organizations can access and manage both on-premises and cloud content from SAP and third parties with SAP Analytics Hub, which is an add-on to SAP Analytics Cloud.

### Strengths

- SAP Analytics Cloud is an integrated business-user-oriented solution for analytics and planning with embedded functionality for augmented analytics (including predictive), data discovery and application design (Analytics Designer). It also serves as the platform for applications such as SAP Digital Boardroom and live connectivity to SAP's on-premises solutions.
- SAP BPC as a mature and highly scalable integrated on-premises product for planning and financial consolidation, providing functionality for web and workflow-based planning and consolidation scenarios.
- Extensive analytics platform for formatted and ad hoc reporting, analysis, dashboarding and custom application design, suitable for medium and large deployments (SAP BusinessObjects BI).
- Exclusive connectivity to (e.g., live access and direct write-back) and pre-built content available for SAP's own data sources and applications (e.g., SAP Analytics Cloud with SAP S/4HANA, SAP BPC with SAP BW/4HANA).
- Well established and expansive partner community with worldwide product support and expertise. Knowledge of SAP products in the DACH region is especially strong.

### Challenges

- SAP offers a broad cloud and on-premises portfolio of analytics and planning products for different use cases. Customers are recommended to consider SAP Analytics Cloud for analytics, planning and predictive use cases in the cloud or SAP BusinessObjects BI suite and SAP BPC for on-premises use cases.
- SAP Analytics Cloud is available in the cloud only (although live access to selected on-premises data sources is provided) and is a rapidly evolving product. Many SAP customers are currently evaluating SAP Analytics Cloud. While there are still fewer productive implementations in the market compared to other SAP solutions (e.g., SAP BPC), its customer base is growing rapidly.
- If the 'embedded' modeling option in SAP BPC is chosen, the product's back end in BW/4HANA requires technical staff to set up the database (cubes) and queries, which is not very business-user-friendly.
- Strong focus on products such as SAP Analytics Cloud is leading to less innovation and fewer updates for the rest of the analytics and planning product portfolio. However, SAP is continuing to invest in SAP BusinessObjects BI and SAP BPC. SAP has announced plans to deliver a new version 4.3 for SAP BusinessObjects BI in Q2 2020.

## Unit4 Prevero

Munich, Germany

[www.unit4.com/cp/prevero](http://www.unit4.com/cp/prevero)

Prevero was founded in 1994 to deliver Corporate Performance Management (CPM) capabilities for planning, budgeting, forecasting, analytics and reporting. Acquired by enterprise resource planning (ERP) provider Unit4 in July 2016, Prevero has now been fully integrated into Unit4's ERP application ecosystem, to provide the Financial Planning & Analysis (FP&A) solutions of Unit4. While Unit4 Prevero historically attracted a strong customer base in the DACH and EMEA region, their appeal has subsequently broadened to mid-market and enterprise-level customers in North America too.

Unit4 Prevero solutions focus on people-centric industries, namely professional services, the public sector, not-for-profit organizations and higher education, but they also have a strong customer base in the utilities, manufacturing and retail industries. These sectors are supported with predefined business applications for financial planning, statutory consolidation, workforce planning and people analytics, as well as IFRS 16. Unit4 Prevero solutions are available as both standalone applications and integrated into Unit4's People Experience Suite. They deliver performance management technology with native integration to Unit4's enterprise solutions.

Built on a highly flexible platform, Unit4 Prevero applications are adaptable to various CPM and analytics use cases. The solutions give business users the platform and tools they need to configure their planning and reporting to meet individual requirements, without having to have a technical background. For data storage and navigation, Unit4 Prevero uses a ROLAP approach and offers typical OLAP navigation capabilities in its clients.

Unit4 Prevero provides comprehensive capabilities for supporting top-down, bottom-up and mixed planning processes. Planners can enter budget data in the full client, HTML5 web client or Excel add-in. Unit4 Prevero also offers predefined best practice models that can be reused and adjusted to the customer's requirements. The platform uses artificial intelligence to help build forecasts and detect deviations and anomalies in data entries. Functionality is also available for reporting and application creation with a spreadsheet format that closely resembles Excel in the full client.

For consolidation purposes, Unit4 Prevero offers an in-house developed application. This application includes legal consolidation covering several consolidation standards and also offers reporting capabilities and predefined disclosure statements.

### Strengths

- Feature-rich platform for CPM and analytics aimed at business users.
- Strong reporting functionality with development in a spreadsheet environment (full client).
- Comprehensive functionality for top-down, bottom-up and mixed planning methods.
- Predefined business applications and content (topical and industry-focused applications) allow for quick project implementation.
- Microsoft Office Add-ins (Word, PowerPoint and Excel).

### Challenges

- Comparatively limited functionality for tool-based ad hoc reporting for business users. Currently only available in Unit4 Prevero full client (it is restricted in the web client).
- Currently, the functionality of the HTML5 web client is limited compared to the full client (e.g., no administration, no modeling).



- Besides incorporated AI functionality, there is no support for open libraries such as R or Python to leverage existing advanced analysis models created by data scientists.
- According to BARC's Planning Survey, performance seems to be an issue for some customers. In environments with large amounts of data and concurrent users, organizations should evaluate Unit4 Prevero's performance.

## Wolters Kluwer | CCH Tagetik

Lucca, Italy

[www.tagetik.com](http://www.tagetik.com)

Wolters Kluwer | CCH Tagetik offers enterprise-scale performance management software solutions for the office of the CFO. CCH Tagetik was founded in 1986 and is headquartered in Lucca, Italy and Stamford, CT. In 2017, Tagetik was acquired by Wolters Kluwer, a Dutch company with revenues of €4.26bn that provides expert solutions and services to a variety of industries worldwide. The group serves customers in over 180 countries, maintains operations in over 40 countries, and employs approximately 19,000 people worldwide. CCH Tagetik, a part of the Tax and Accounting division of Wolters Kluwer, provides solutions to CFOs, which are available on-premises and in the cloud. According to CCH Tagetik, over 50,000 users at more than 1,000 customer organizations in 35 countries worldwide use its solutions.

The product CCH Tagetik is a unified web-based platform for CPM (financial consolidation, planning and budgeting, profitability management, reporting and analytics), financial corporate management, risk management and compliance as well as disclosure management. CCH Tagetik targets mid-size and large companies (or groups of affiliated companies) with lots of users involved in corporate planning and/or financial consolidation processes. Additional solutions (e.g., IFRS 16/17, Solvency II, Tax, iXBRL) are available in the CCH Tagetik application marketplace. These solutions are based on the platform technology and include predefined starter kits, pre-packages and tech solutions developed by CCH Tagetik itself and its partners.

From a planning perspective, CCH Tagetik is focused on integrated corporate planning and budgeting, with top-down, bottom-up and mixed approaches all supported. CCH Tagetik contains a predefined model for integrated financial planning (balance sheet, profit and loss statement, liquidity) that can be used by individual subsidiaries or at group level. Consolidation of plans is possible thanks to CCH Tagetik's integrated functionality for financial consolidation and close. Additionally, the integrated Analytic Information Hub offers more flexible and scalable possibilities in the context of open data modeling, financial performance management (e.g., regulatory reporting), planning and analytics. From a technical perspective, the Analytic Information Hub is based on a relational data model (e.g., Microsoft SQL Server or SAP HANA), which can be administered in business departments using the CCH Tagetik user interface and modeling tools. Write-back to the Analytic Information Hub is possible with CCH Tagetik's standard client interfaces (Excel add-in, web). Comprehensive workflow functionality (especially for bottom-up approaches) is available to control planning processes involving lots of planners.

In terms of reporting and analysis, CCH Tagetik's integrated functionality is geared to end-user self-service with on-screen display of reports and dashboards. Recently, a new analysis panel in the web client and Excel add-in was introduced for analyses by cell (drill down to details in a specific cell), by cube (pivot analysis for a specific range of data) or anywhere (free filtering of data room). Moreover, CCH Tagetik enables wizard-driven automatic cube generation for Microsoft SQL Server Analysis Services and third-party analytics products (partly OEM) from SAP, Microsoft, Qlik and XLCubed. The relational CCH Tagetik data model, stored in Microsoft SQL Server, Oracle, PostgreSQL or (since 2014) SAP HANA, is open to third-party access.

### Strengths

- Integrated product for financial planning (balance sheet, P&L, liquidity) for individual subsidiaries or at group level with additional CPM functionality (financial consolidation, risk management, disclosure management) targeted at mid-size and large companies. The offering is expanded by the Analytic Information Hub making the processing of mass financial and operational data available on a granular level.

- Comprehensive predefined set of business rules for financial corporate management (financial planning and financial consolidation) and selected operational plans.
- Comprehensive web-based workflow functionality with transparent status monitoring.
- Possibility to leverage SAP HANA as a platform and use built-in HANA connectivity for real-time data access (e.g., via table ACDOCA).
- Business-user-friendly web-based planning forms and Microsoft Office integration with Excel for data entry and reporting with Word and PowerPoint.

### Challenges

- Implementation at SMEs with simple requirements includes upfront training for finance to become self-sufficient, and therefore greater effort than other vendors.
- Flexibility of CCH Tagetik's standard financial data model is limited. For free modeling of operational planning scenarios for example, there are just five additional dimensions (with the opportunity for double occupancy) in addition to the eleven predefined dimensions. Flexibility for more granular financial and operational data is enhanced by the Analytic Information Hub, with no limit to dimensions.
- For BI and analytics, CCH Tagetik itself offers on-screen-based reporting and dashboarding, Microsoft Word add-in-based disclosure management and a Microsoft PowerPoint add-in. This is supplemented by third-party analytics products (OEM) such as SAP, Microsoft, Qlik and XLCubed using CCH Tagetik as the central data source to allow customers to use their business intelligence tool of choice.

## Workday (Adaptive Insights)

Pleasanton, CA, USA

[www.adaptiveinsights.com](http://www.adaptiveinsights.com)

Adaptive Insights was founded in 2003 with headquarters in Palo Alto (CA, USA). The vendor serves more than 4,500 customers (approximately 500 of them in EMEA) of various sizes and from a wide range of industries in over 50 countries worldwide. In August 2018, Adaptive Insights was acquired by Workday, a cloud-based ERP vendor (with a particular focus on human capital management and financial management).

Adaptive Insights is a business-user-oriented CPM solution with functionality for various performance management processes. As a flexible and scalable platform, Adaptive Insights supports planning processes including modeling, scenario planning, monitoring, reporting, analysis and consolidation. The creation of models is mainly done by drag-and-drop or point-and-click and does not require technical programming. The platform enables continuous, active planning across the enterprise – from enterprise-wide financial planning and analysis to detailed planning for specific functional areas such as HR, sales, marketing or operations. Adaptive Insights offers built-in financial intelligence with a native understanding of account types such as assets, liabilities, revenues and expenses.

The solution can be used together with Workday or with non-Workday solutions. Workday's marketing and sales strategy focuses on positioning Adaptive Insights as a standalone product sold to non-Workday customers as well as offering it as a suite to Workday HCM and Workday Financial Management customers. In particular, positioning the product within the existing Workday customer base is a strategic future direction for Workday. Workday has a partner ecosystem of more than 250 business partners trained and certified on Adaptive Insights.

Adaptive Insights is a purely cloud-based CPM platform that leverages Amazon Web Services (AWS) as its hosting provider. The product is used via a fully web-based application (HTML5), which is compatible with popular browsers and can also be run on browsers on mobile devices. Supplementary Microsoft Office add-ins are available. Adaptive Insights is based on a multidimensional in-memory engine (Elastic Hypercube Technology), with data being relationally persisted in an Oracle database in the background, which is not directly accessible by the user (only through the application). All calculations and aggregations are performed in-memory at runtime. Data integration capabilities are available in Adaptive Insights or third-party solutions can be used (e.g., Dell Boomi, Informatica).

### Strengths

- Cloud-based, business-user-oriented CPM solution with integrated functionality for planning, reporting, dashboarding, analysis and consolidation.
- Flexibility for a wide variety of planning approaches (centralized top-down, decentralized bottom-up) and planning topics (operational planning, financial planning, etc.) with no industry focus.
- Built-in financial intelligence with a native understanding of account types such as assets, liabilities, revenues and expenses. Integrated consolidation capabilities are also available, which automate currency exchange, allocations, eliminations, reclassifications and minority interest.
- Client-independent (HTML5) with use via different popular browsers, also on mobile devices. Add-ins for Microsoft Excel (currently two add-ins), Word and PowerPoint.
- The acquisition by Workday enables access to larger organizations and more international reach (Workday has locations in all important geographies worldwide).

## Challenges

- Cloud-only – the product is purely cloud-based and not available on-premises. Web access is essential to use the product (except for offline planning using Excel templates).
- No automated report distribution (scheduling) available at the time of writing. However, a link to any report or dashboard can be sent manually by email. Users can also schedule the sending of a link to a dashboard snapshot for recurring delivery.
- Limited capabilities for predictive analytics and advanced analysis within Adaptive Insights, but both are focus topics for the future. Workday customers can also use Workday Prism Analytics for analytics.
- Most of Adaptive Insights' business is in the United States. International revenue represented approximately 22 percent of total revenue in 2018. Prospects outside North America should evaluate the vendor's local consulting and support capabilities.

## Other Vendors

There are many other established software vendors that provide mature and very useful technology, which may be ideal for organizations looking for a planning and analytics solution. However, due to the inclusion criteria applied in this report, those vendors are not evaluated in detail. To complete the market overview, here is a selection of those providers (this does not claim to be a complete list).

### **Bissantz**

Nuremberg, Germany

[www.bissantz.com](http://www.bissantz.com)

Flexible, integrated BI product for dashboards, ad hoc reporting, advanced analysis (including statistical and data mining methods) and operational planning featuring patented visualization capabilities.

### **CoPlanner**

Graz, Austria

[www.coplanner.com](http://www.coplanner.com)

Flexible development environment for creating individual planning applications based on Microsoft SQL Server with integrated functionality for reporting, analysis and financial consolidation.

### **Corporate Planning**

Hamburg, Germany

[www.corporate-planning.com](http://www.corporate-planning.com)

Integrated suite with solutions for operational management, integrated financial planning, financial consolidation and strategy management. All modules have a common user interface and are based on an integrated database in Microsoft SQL Server.

### **Cubeware**

Kolbermoor, Germany

[www.cubeware.com](http://www.cubeware.com)

Integrated, business-user-oriented platform for data management, modeling, dashboards, ad hoc reporting, OLAP analysis and operational planning based on multidimensional databases.

### **cubus, a Serviceware company**

Herrenberg, Germany

[www.cubus.eu](http://www.cubus.eu)

Software tool for planning, analyzing and monitoring business financial performance. It is an integrated CPM solution with functionality for planning, simulation, project portfolio management and strategy implementation. For ad hoc reporting and dynamic OLAP analyses on the web, cubus EV Analytics (now called Serviceware Performance AL, formerly IBM Cognos Executive Viewer) is integrated in Serviceware Performance.

### **evianza**

Salching, Germany

[www.evidanza.de](http://www.evidanza.de)

Product portfolio that includes tools for analytics, planning and middleware solutions. The core product – evidanza MaC – is a flexible platform with capabilities for building individual planning and analytics applications.

### **IDL**

Schmitten, Germany

[www.idl.eu](http://www.idl.eu)

IDL's CPM suite includes modules for financial planning, operational planning, reporting and analysis and financial consolidation. It also has complementary products for annual reports, e-balance filings, XBRL reporting requirements in banks and structuring of raw data for analysis.

### **Kaufman Hall (Axiom Software)**

Skokie, IL, USA

[www.kaufmanhall.com/axiom-software](http://www.kaufmanhall.com/axiom-software)

Cloud-based solution that supports planning and budgeting, forecasting, performance reporting, cost accounting, decision support, strategy management, and analytics including solutions for healthcare, financial institutions and higher education.

### **Kepion**

Seattle, WA, USA

[www.kepion.com](http://www.kepion.com)

Integrated planning and analytics platform based on Microsoft technologies that supports both financial and operational planning processes, providing dashboards as well as reporting and analytics.

### **LucaNet**

Berlin, Germany

[www.lucanet.com](http://www.lucanet.com)

LucaNet's software portfolio comprises solutions for financial consolidation, planning and budgeting, financial reporting and additional financial management topics, which can be used in any combination. All products are targeted at business users and are based on a proprietary multidimensional, in-memory database (LucaNet.Financial OLAP Server).

### **Planful**

Redwood City, CA, USA

<https://planful.com>

Cloud-based platform that supports planning and budgeting, dashboarding, analysis, financial reporting and collaboration, as well as financial close management.

## **Vena Solutions**

Toronto, Canada

[www.venasolutions.com](http://www.venasolutions.com)

Cloud-based solution that supports planning and budgeting, forecasting, reporting and analytics based on Microsoft Excel (desktop and Office 365) as its user interface.



## Related Research Documents

The following BARC documents complement this BARC Score report:

- **BARC Access:** Access to BARC's complete research portfolio, including product reviews with detailed insights into more than 40 BI and analytics solutions, covering all the major players in the market. Link: <http://barc-research.com/research/business-intelligence/>
- **BARC Study "Softwarewerkzeuge für die Planung":** Detailed information on the market-leading planning products in the DACH region. The study scores products from different vendors for use in mid-size and large companies (in German language only). Link: <http://barc.de/planung>
- **BARC Scores:**
  - **BARC Score Financial Performance Management DACH:** This BARC Score focuses on the market for financial performance management products and portfolios in the DACH region (Germany, Austria and Switzerland). Link: <http://barc-research.com/barc-score/barc-score-financial-performance-management-dach/>
  - **BARC Score Enterprise BI and Analytics Platforms:** A clear overview of the international BI and analytics products market based on a combination of detailed end-user feedback and thorough analysis of products and vendors. Link: <http://barc-research.com/barc-score/bi-score/>
- **Product-related surveys:** <https://bi-survey.com/>
  - **The BI Survey:** BARC's major annual report on the global business intelligence (BI) software market. It is based on the world's largest survey of BI users, with a sample of over 3,000 survey responses – that is why so many companies trust the results of The BI Survey and base their software purchasing decisions upon it.
  - **The Planning Survey:** The Planning Survey offers an in-depth comparison of up-to-date planning solutions to decision-makers who are looking for new planning software. Based on feedback from more than 1,300 users, the latest edition evaluates over twenty leading planning products.
  - **The Data Management Survey:** The voice of the data management community: The Data Management Survey is BARC's new annual report on the data management software market. This BARC survey examines data management products in terms of their functionality, application areas and usability.
- **Other research:**
  - **BARC BI Trend Monitor:** BARC's BI Trend Monitor study gives BI practitioners a platform to have their say on the trends currently shaping the BI and data management market, supplemented by additional commentary and analysis from BARC analysts. Free to download at: <http://barc-research.com/research/bi-trend-monitor/>

## BARC Score Consulting Services

What's included	BARC Score Inquiry	BARC Score Workshop	BARC Score Short list
	990 EUR	4,900 EUR	11,900 EUR
<ul style="list-style-type: none"> <li>• BARC Score Paper               <ul style="list-style-type: none"> <li>○ Score methodology</li> <li>○ Score graphic</li> <li>○ Vendor and product summary with                   <ul style="list-style-type: none"> <li>▪ Vendor and product description</li> <li>▪ Strengths and challenges</li> </ul> </li> </ul> </li> </ul>	✓	✓	✓
<ul style="list-style-type: none"> <li>• Analyst inquiry time (connect directly with BARC analysts)</li> </ul>	One hour	During the workshop	During the workshop
<ul style="list-style-type: none"> <li>• Explanation of the BARC Score concept</li> </ul>		✓	✓
<ul style="list-style-type: none"> <li>• Overviews of the software vendors rated in BARC Score as well as other interesting players</li> </ul>		✓	✓
<ul style="list-style-type: none"> <li>• Requirements discussion and weighting</li> </ul>		During the workshop	Dedicated requirements analysis workshop
<ul style="list-style-type: none"> <li>• Verbal tool recommendation</li> </ul>		✓	✓
<ul style="list-style-type: none"> <li>• Presentation of short list (including filters, exclusion criteria and explanation per excluded vendor)</li> </ul>			✓

Copyright © BARC GmbH 2020. All rights reserved.

**Business Application Research Center – BARC GmbH**



**Germany**

BARC GmbH  
Berliner Platz 7  
D-97080 Würzburg  
+49 931 880651-0  
[www.barc.de](http://www.barc.de)

**Austria**

BARC GmbH  
Meldemannstraße 18 / 01.14  
A-1200 Wien  
+43 660 6366870

**Switzerland**

BARC Schweiz GmbH  
Täfernstr. 22a  
CH-5405 Baden-Dättwil  
+41 76 3403516

**Rest of the World**

+44 1536 772-451  
[www.barc-research.com](http://www.barc-research.com)

