

How we score products in the BI Verdict

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Abstract

BARC provides detailed analysis for dozens of products. A major part of our analysis is based on criteria catalogs. These catalogs allow the user to compare products directly, and the scores are aggregated to give the overall scores in the individual categories.

Introduction

The product evaluations we carry out are based on the table of criteria presented at the end of this document, which is filled out in each product review. However, years of experience in evaluating products has shown that there is no straightforward way to aggregate a catalog of this nature to produce the answers readers are looking for at a glance. There are several reasons for this.

First, some criteria play a role in more than one area. For example, mobile devices are a useful criterion for standard reporting and dashboards. Second, the same criteria may not be required elsewhere. For example, mobile devices are not an important criterion for planning tools. Third, some criteria are more important in some areas than in others. For example, data query features are more important to formatted reporting than search, but both are legitimate criteria.

Three of the evaluations are not based on an aggregation of the criteria: Portfolio maturity, Portfolio maturity, Portfolio width. These scores are simply based on our global judgment of the product as a whole.

The purpose of this document is to give the user an overview of how we arrive at our ratings based on the information we provide.

Use cases

Our use case analysis is not intended to comment on the quality of the software, but simply to show where we think it is appropriate to use it. The scores for the use cases are presented in a radar chart to indicate our view of the product's market position.

Formatted reporting

Formatted reporting is reporting for page based reports. We do not include user defined content, analysis and queries or planning features in our analysis of this use case.

The criteria are used in a highly differentiated way to produce aggregated scores.

Only component integration is not represented among the architecture scenarios. Some of the strongest formatted reporting tools are weakly integrated with the suite they are sold in. We include the criteria platform, architectural robustness, clients and API.

Access to local data and unstructured data is rarely a major issue for formatted reporting, but we include the criteria databases and special databases from the data source criteria.

Formatted reporting is often enterprise reporting, and administration is an important issue. We evaluate metadata storage, semantic layer, self-service modeling and administration, the rights system as well as load balancing and availability.

The best formatted reporting tools have multiple output formats. For information delivery we evaluated scheduling and alerts, report bursting, export and printing, mobile clients and portal integration.

To evaluate the user interface for formatted reporting we look at user environment and navigation, look and feel, charts and search.

We give report design greater weighting than other areas for formatted reporting. We include the criteria development environment, formatting and layout, interactivity features and queries and federation. Similarly, all areas of performance are included in our analysis of formatted reporting.

Formatted reporting is most common in enterprise solutions.

Dashboards

Dashboards are a visual style of reporting. As a result, few of our generic criteria can be applied in deciding whether a product is appropriate as a dashboard, especially in the back end. Much depends on the customers' needs, which can vary substantially.

We do not include report design, performance, user defined content, analysis and queries or planning in our evaluation of whether a product is fitting for the dashboard use case.

Dashboards come in many different guises. We evaluate only two architecture issues: architectural robustness and clients. Furthermore, we only evaluate a dashboard tool's ability to access relational and multidimensional databases.

Of the administration criteria, only the semantic layer and rights system are analyzed for dashboards. The term dashboard is primarily a description of a style of presentation. How the data is acquired or administered can vary a great deal from solution to solution without compromising its applicability to at least some dashboard environment.

Dashboards are much like formatted reporting tools in the area of information delivery, but without report bursting. We evaluate scheduling and alerts, export and printing, mobile clients and portal integration.

User interface is an important topic in dashboards, but we do not include strategy maps or search in our definition. We evaluate user environment and navigation, look and feel and charts.

Ad Hoc Reporting

Ad hoc reports are reports defined by business users for business users. The systems provide good report design features for business users, to allow them to create reports and share them with their colleagues. We only analyze architectural robustness and the range of clients. The best ad hoc reporting tools are readily available in a variety of formats to the business user without complex administration.

Ad hoc reporting usually presupposes a semantic layer, and sometimes requires access to local data as well. We include access to standard databases and to local sources as criteria. The key administration issues for ad hoc reporting are the semantic layer and the rights system.

Briefing books are particularly important to ad hoc reporting, and seldom produced by IT staff or programmers. We do not consider most of the report distribution functions in the context of information delivery for ad hoc reports because they are not actually part of ad hoc reporting per se. We do include scheduling and alerts.

User interface is an important issue in ad hoc reporting. We give particular weight to the issue of look and feel, but do not take strategy maps or search into account. We also look at user environment and navigation as well as charts. The report design features in our catalog are intended for standard reporting. Only interactivity features are taken into account here.

Ad hoc reporting is usually for a relatively small audience with high demands on performance. We include data caching and storage in our analysis, but not scalability.

Ad hoc reporting is primarily about user defined content, so these criteria in our catalog are all included. On the other hand, only the more basic analysis features are crucial for ad hoc reporting. These are navigation in data and ad hoc modeling. We also include the comments and workflow planning features.

Analysis

Analysis tools help users reduce complex data sets into simpler content to improve understanding. No report design criteria are included, and of the architecture features, only architectural robustness is included. We take all types of data sources into account for analysis.

Administration is not a key issue in analysis, but we include the semantic layer and self-service modeling and administration. Also, information delivery is not a major issue in analysis. But we include two points of interest, briefing books and export and printing. Only data caching and storage are taken into account for performance.

However, a good user interface plays a key role in analysis, and we include all our criteria here. Furthermore, like ad hoc reporting, analysis requires users to create their own content. We include all the criteria in user defined content.

Analysis and Queries are the key features of analysis. All are included and weighted more heavily than other criteria. Of the planning criteria, we include comments and workflow for improved collaboration.

Ad hoc reporting is reporting by business users for business users.

Planning

Planning tools combine analysis with the ability to write data back to the database. These tools offer a wide ranging set of features. The idea here is to give a general overview of a suite's planning capabilities. Planning tools by themselves are analyzed separately. We do not discuss information delivery or report design as part of a planning tool at all.

Planning involves writing back and usually has a separate data model.

We only include architectural robustness and clients among the architecture criteria. We do not concern ourselves with data sources at this high level of analysis, but access to local data is important. A semantic layer and a rights system are very important for planning. Our other administration criteria are not taken into consideration.

User environment and navigation are important in planning, but the tools are often very plain looking. Of the performance criteria only data caching and storage are important to planning, which requires high speed updates, but usually has little data and few users.

User defined content is important, as planning processes have complex business requirements and change so often. All criteria are included. Simple analysis and simulation are also crucial for a successful planning tool. We included navigation in data, ad hoc modeling and calculated analysis.

The planning criteria are the core requirements for a planning tool. They are all included and weighted heavily.

Functional evaluations are qualitative.

Functional evaluations

The functional evaluations are qualitative assessments of the products abilities to attain specific goals in the company.

Enterprise deployment

Enterprise deployment refers to deployments of a single instance of the software to relatively large numbers of users, based on centralized data sources. The key issues in enterprise deployment are user and data scalability and the administration issues associated with it. Architecture is an issue primarily because large systems such as these have a greater need to conform to enterprise standards. We include all our criteria.

Ease of use and flexibility for report designers are less important, as are accessibility for business users to advance content creation and administration. The issues of user defined content are not taken into account for enterprise deployment. In many cases, IT workers, not business users, create the reports. We consider this with the criteria for development environment and queries and federation.

In most cases, relational databases are the norm for enterprise deployments, but we have included the special databases criterion because other data sources, such as columnar databases, are used in some industries. Administration issues are particularly important for enterprise solutions. We include metadata storage, the rights system as well as load balancing and availability. The key issues in information delivery for enterprise deployments are scheduling and pre-calculation of reports. We also include all performance criteria.

Printed reports are more common in enterprise deployments than elsewhere. We also take portal integration and report bursting into account.

User interfaces are not a key concern in enterprise deployment. However, because this type of project tends to amass large numbers of reports, we include search.

Self-service

Self-service is business users carrying out tasks with little or no support from IT. Self-service users are not usually interested in architecture issues or the report design features other application types demand. Planning is often a self-service task, but we do not view it as a prerequisite.

In the area of architecture, only the client is taken into account. Access to local data is the only deciding factor in a self-service environment. This type of project often makes use of informal data sources or locally stored extracts from operational systems or data warehouses. Data caching and storage that combine fast query results and easy administration are important in self-service projects.

A good semantic layer hiding the complexity of the underlying data is important to business users. We also consider self-service modeling and administration and the rights system.

For self-service projects, the emphasis in information delivery is on the form of the output, not performance or even reliability. We include the criteria briefing books and mobile clients.

In the user interface the ability to move freely in the environment is the key in a self-service tool. We view this as even more important than good presentation, especially in planning tools, which tend to have uninspiring user interfaces. We limit our criteria in this area to user environment and navigation.

User defined content is important to self-service, but collaboration and publishing to other users is often carried out informally. We consider the criteria query definition, analysis features in finished reports and navigation and other actions. In the area of analysis and queries, navigation in data is important for end users. The data needs to be accessible to business users so that they can create their own reports.

Self-service tasks encompass data management tasks as well as report building.

Collaboration

Collaboration is users communicating with each other. Collaboration has always been important, but BI tools are just beginning to focus on explicit features to make it easier. Collaboration and self-service are closely related ideas.

Collaboration is a relatively narrow issue, so the total number of criteria used is relatively small.

- No architecture or performance criteria are taken into account when analyzing collaboration.
- Access to local data is important for informal exchanges between peers.
- For information delivery, we only take scheduling and alerting into account.
- Interactivity features in report design are also important for collaboration.

Of our administration criteria, we consider the semantic layer and self-service modeling and administration. We also take the user interface criteria user environment and navigation and search into account.

User defined content is the most important area for collaboration.

- Analysis features in finished reports
- Comments
- Publishing to other users

Analysis and queries, and particularly self-service are important for collaboration when several business users are collaborating. We include all features in this area.

Collaboration is most heavily used in planning processes. Thus there is an overlap between planning and collaboration. We include plan data administration, planning process and comments and workflow.

Operational BI

Operational BI is the application of BI tools to less strategic tasks. Operational BI is a growing area for BI applications, which puts particular emphasis on low latency, but not performance per se. Report design and user defined content are not crucial issues.

Architecture per se can vary a great deal among operational systems. In our view, however, there is an important connection between operational BI and mobile clients. We include the architecture criteria architectural robustness and clients.

Operational BI cannot rely on the usual data warehouse approach due to data latency issues. As a result, these systems need to support a diverse set of data sources. We include the criteria databases, special databases and unstructured data, but not access to local data.

Operational BI rights include the rights to trigger events in underlying operational systems. Availability is crucial in this kind of system because decisions may need to be made in near real time, as is proper rights administration.

Users in an operational environment are not always able to return to the desk to carry out analyses, and require mobile clients. Alerts are a particularly important feature for near real-time decision making. We include the information delivery criteria scheduling and alerts, export and printing, mobile clients and portal integration.

Strategy maps and similar methods of presentation are important to operational BI because cause and effect may need to be charted in real time. We consider user environment and navigation, look and feel, charts and strategy maps.

Monitoring is particularly important to support low data latency. Operational BI also has large numbers of users in some cases. Thus, we consider the performance criteria monitoring and optimization and data and user scalability.

Operational BI sometimes requires specific visual support for analysis. One good example of this is applications in manufacturing. We include the analysis features navigation in data and visual analysis.

Operational BI is a growing area of business intelligence.

Operational BI is commonly associated with the ability to plan or to trigger outside events. We see it as related to planning in many ways, and include the planning criteria plan data administration, planning process, comments and workflow and planning and simulation features.

Strategy management

Strategy management includes planning and a somewhat eclectic set of content-heavy analytical applications designed to support strategic decision making.

- Architecture is not an important issue in most cases.
- Data sources are only an issue because unstructured data is sometimes analyzed.
- Administration of these tools, which often address a small audience of specialized knowledge workers, is minimal, but self-service modeling and administration is often required.
- Report design is seldom a major issue.
- Performance is not crucial, as analysis tends to be carried out on small quantities of highly aggregated data.

Strategy management tools are content rich and have highly specific user interfaces.

Information is often exported as briefing books from strategy management tools, and high quality formatting is often very important. Strategy management often requires highly specific user interfaces. Some of these are not particularly elegant. Planning is often carried out on basic tables with little functionality or adornment. But in other applications a good looking, highly functional interface is the key to the application's success. We include the following user interface criteria:

- User environment and navigation
- Look and feel
- Charts
- Strategy maps

Collaboration and interactive, guided analysis are important for these content rich applications. We consider the user defined content criteria navigation and other actions, comments and publishing to other users.

Guided analysis requires specific features in the area of queries and analysis. We include navigation in data, ad hoc modeling and visual analysis. Furthermore, strategy management and planning go hand in hand and we include all planning features.

The criteria catalog

Architecture

Criteria	Description
Platform	Operating system, Web servers and application servers
Architectural robustness	Architectural simplicity, common development language, common administration/installation
Clients	Web, full client, mobile, Office, offline
API	functions: component design, automation (such as designing reports), access to results/reports
Component integration	Content exchange, common graphic engine, common GUIs, common data access

Data sources

Criteria	Description
Databases	relational, MDBs
Special DBs	Proprietary, in memory, column based etc.
Unstructured data	Access to text data, including web services
Access to local data	Access to local disks, informal formats such as Excel, ability to upload to or access from server

Administration

Criteria	Description
Metadata storage	Data storage for metadata, (reports, settings, security & semantic data) versioning, parallel access, transport/life cycle, backup
Semantic layer	Dimensions, attributes, complex hierarchies, persistence off line
Self-Service Modeling and Administration	The ability of business users to model data without requiring support from IT
Rights system	Authentication and authorization
Load balancing and availability	Multiple servers, load balancing algorithm, "executive user" feature, failover concepts

Information delivery

Criteria	Description
Briefing books	Separate reports output in a single file format such as PDF, Excel
Scheduling and alerts	Ease of use for end users, integration with system, special features such as cache seeding or object hiding
Report bursting	Methods for dealing with large numbers of users
Export and printing	Formats
Mobile clients	Platforms, quality
Portal integration	Standards, security

User interface

Criteria	Description
User environment and navigation	General ease of use, conformance to UI standards, any particular conveniences
Look and feel	Is the interface modern, does it fit standards
Charts	Chart types, appearance, interactivity
Strategy maps	KPIs in a network including cause an effect, bubble up displays
Search	What exactly can you search?

Report definition

Criteria	Description
Development environment	Including testing
Formatting and layout	Layout type, page support special features such as conditional display etc.
Interactivity features	Methods of defining prompts, actions etc.
Queries and federation	Features of the query engine, performance, federation abilities

Performance

Criteria	Description
Monitoring and optimization	Includes monitoring, pre-calculation.
Data caching and storage	Caching methods, interaction with security, offline data storage, performance features such as compression, just in time aggregation etc.
Data and user scalability	Concurrent users, not named users

User defined content

Criteria	Description
Query definition	Ease of use, flexibility, application integration (e.g. using application variables in queries)
Analysis features in finished reports	Including the ability of the report designer to control which features are available to the end user
Navigation and other actions	Jumps between reports, parameter settings, calculations, triggering external actions
Comments	In final reports, scope, formatting overview reports
Publishing to other users	Ease of use, flexibility

Analysis and queries

Criteria	Description
Navigation in data	Slice & dice, pivoting, filtering & sorting
Ad hoc modeling	Grouping, drill anywhere, time intelligence
Advanced analysis	Pareto, multivariate methods, predictive functions clustering
Visual Analysis	Analysis based on interactive charts
Calculated analysis	Calculations, drill through, logic functions

Planning

Criteria	Description
Plan data administration	The right balance between accessibility to end users and security
Planning process	Graphical interface, alerts, database locks
Comments and workflow	
Planning and simulation features	Data distribution, structural simulation, private scenarios, season distribution, algorithmic forecasting
Business content	Predefined financial reports, specialized input such as for investment or HR planning

Related documents

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