Ingo Hilgefort

Reporting and Analytics with SAP® BusinessObjects

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By first understanding the typical customer requirements for a reporting and analysis solution, we can then map those requirements to the SAP BusinessObjects portfolio and to typical user profiles in the Business Intelligence (BI) area.

2 Reporting and Analysis — Customer Case Study

In the following sections, we’ll map the SAP BusinessObjects BI client tools to typical customer requirements and user profiles. Based on the scope of this book, coverage will be limited to the most common scenarios, but this should provide a good overview of the main criteria for the SAP BusinessObjects portfolio and how to select the right tool for the right job.

2.1 Motivation

When SAP acquired BusinessObjects, many customers began looking for some simple guidance on “Why” and “When” they should use the new options offered in the BusinessObjects portfolio. In the past, SAP NetWeaver Business Warehouse (BW) customers bought their BI solution from companies such as Cognos, Microstrategy, or BusinessObjects. However, in the postacquisition landscape, the standard choices offered by SAP BusinessObjects are much broader and offer a greater number of tools. Not only are customers looking for some general guidance on the capabilities of the SAP BusinessObjects portfolio, they are also looking for guidance on the migration of their existing environments to the new software.

This is the starting point for this chapter. We’ll provide a list of criteria based on different conditions so that you can use your reporting and analysis requirements to find the right tools. It should be noted, a single chapter can’t replace the experience and guidance of a BI consultant, and that is not the intent here. We’ll provide
you with the tools and information you need to ensure you understand the main criteria to make your own decisions. You will be able to understand the major differences between the tools, so that you can ask the questions you need to ask during the gathering of your reporting and analysis requirements.

2.2 Customer Requirements and Usage Scenarios

We'll now outline some common customer requirements from different areas that we'll then match to the SAP BusinessObjects toolset. The requirements are broken into separate areas because we'll use those areas in the following chapters to provide more detail on creating the actual reports and analytics. The requirements are based on common usage scenarios or use cases. We'll focus on the following areas: Financials, Sales and Distribution (SD), Human Resources (HR), Management/Executive Information Systems. We won't explain each of these areas in full, but rather focus on typical requirements and scenarios so that you can differentiate the tools and see which scenarios lend themselves to which tools. Please keep in mind, the goal of this book is to explain the usage of the reporting and analytics tools from SAP BusinessObjects and not to describe all SAP NetWeaver BW– or SAP ERP–related topics for each area.

2.2.1 Financial Reporting and Analysis Requirements

The following is a brief description of the typical requirements for financial reporting. These requirements represent a typical usage scenario and focus on reporting and analytics for customers in the financial area. Please note that references to “content” refer to the objects created with the SAP BusinessObjects BI tools.

- The content must be available in a web-based environment and in a Microsoft Office environment (especially Microsoft Excel).
- For specific content (such as an income statement or a balance sheet), the design needs to be layout focused with the actual print of the report being a high priority.
- The reporting and analysis tools need to let the user create new calculations and formulas and share those with other consumers of the content.
The reporting and analysis tools need to allow for the usage of hierarchies and navigation along those hierarchies in the actual content.

The reporting and analysis tools need to leverage custom structures that have been defined on a BW query layer.

The content needs to resolve the time dependency defined for the financial cost and profit center hierarchies.

Some of the content can leverage precalculated data, but the user needs to refresh all of the content on-demand, when needed.

The consumer of the reports should be able to call the content in real-time with historical data.

The user needs to navigate from aggregated data to more granular items, for example, navigating from a cost center aggregated value to the actual line items per cost element.

In some content, it’s required to navigate into the actual SAP transaction to retrieve further detail.

Example content from the financial area:

- Income Statement
- Balance Sheet
- Cost Center — Actual and Plan Comparison
- Profit Center — Actual/Plan/Variance Comparison

As you can see, based on the preceding descriptions, there is a wide range of requirements in the financial area alone. Without going into detail, it should be clear that those requirements will need more than one tool from the BusinessObjects BI portfolio to fulfill them.

2.2.2 Sales Reporting and Analysis Requirements

The following is a brief description of the typical requirements for the sales area. We’ll use these requirements in combination with the other reporting and analytics deliverables to determine which tools will be used to fulfill these requirements.

- Content must be available online and offline (for sales representatives on the road).
Distribution of content via email may be required.

Users need the capability to change the view of the actual content. For example, changing a weekly sales statistics broken down by country into a weekly sales statistics broken down by sales region and quarter.

Content has to leverage real-time data in most of the reports. Historical data may be required for comparisons.

The content is often compared to data from different time series.

Ideally, users should be able to modify existing reports or create new reports ad hoc.

Users should be able to drill down or navigate to more detail-oriented data.

Users should be able to perform scenario-based analysis, where the user is able to see the data but can also influence certain factors and see the impact on the overall numbers. For example, a what-if analysis in a sales planning workflow.

Example content from the sales area:

- Opportunity Pipeline Analysis
- Sales Opportunity Planning
- Opportunity Monitoring
- Incoming Orders from Customers
- Product Profitability Analysis

2.2.3 HR Reporting and Analysis Requirements

Similar to the previous sections, the following is a list of requirements for reporting and analytics in the HR area.

- The content needs to leverage data from several different sources (SAP and non-SAP) and present it in a single report.
- The content needs to present highly textual information in a layout-focused format.
- Some of the content (such as employee appraisals or performance reviews) will be used as official documentation and therefore needs to follow strict layout rules.
Customer Requirements and Usage Scenarios

2.2 All of the tools need to leverage the security of the underlying system.

The leveraged tools for the content need to leverage specific features, such as date-specific aggregation to show the correct numbers for items like a headcount statistic or a salary at a given date for an employee. Resolving these time-dependent key figures is very important for the content.

Example content from the HR area:

- Personal Development — Appraisals and Qualifications
- Employee Master Sheet
- Employee Termination Statistics
- Termination Trend Analysis
- Employee Recruitment Planning
- Salary and Bonus Comparisons per Year

2.2.4 Executive Leadership and Management Reporting and Analysis Requirements

In this section, we’ll highlight the executive and management reporting requirements, which are valid for all of the previous areas as well but should be discussed separately. These requirements come up in all of the areas that require a BI solution, because all of those areas need to deliver numbers to their management team. The following are the typical requirements for the executive and management areas:

- The content needs to present highly aggregated information with alerts for important key performance indicators (KPIs).
- The data needs to be shown in a highly visualized manner and the main KPIs need to be presented in a single dashboard.
- The reports and analytics need to allow for further navigation to more detailed-oriented reports and further analysis of the summarized data.
- The consumption of the reports and analytics needs to be simple and easy to use and critical information needs to be identifiable right away.
- The response time for this audience is critical and the information needs to be presented in a dashboard within 5 - 10 seconds (otherwise people might navigate away from the page).
Example content for the executive and management area:

- Sales Management Overview
- Sales Pipeline Overview and Forecast
- Operational KPI Dashboard
- Employee Turnover

### 2.3 Mapping SAP BusinessObjects Tools to Customer Requirements

In this section, we’ll look at all of the requirements from the previous sections and map them to the different tools. Based on the requirements we previously identified, it should be obvious that no solution using the BI portfolio involves only a single tool. The requirements go from simple printable reports in the financial area to highly visualized dashboards for the executive team. To simplify the mapping of SAP BusinessObjects BI tools to the actual requirements, we have grouped the requirements into areas and ranked the BusinessObjects tools based on how well they fulfill the criteria (see Figure 2.1). Please keep in mind, the focus of this book is on the BusinessObjects XI 3.x release of products. As such, Pioneer, which will be released with the next major release of the SAP BusinessObjects platform, will be referenced alongside the Business Explorer (BEx) Suite (BEx Analyzer, BEx Web reporting). Pioneer and the BEx Suite are mentioned in parallel and, depending on when you consider using the tools, you can either choose to keep using the BEx Suite of tools or move to Pioneer.

In Figure 2.1, you can see a ranking of the SAP BusinessObjects BI tools mapped to several key requirement areas. Now let’s take a look at the details of these requirements and provide more background and insight into the ranking.

- **Highly Formatted Layout**
  
  In this category, it’s important that the tool provides full control over the layout and that you are able to create a report that is going to look identical in all web clients or when exported to an external format, such as portable document format (PDF). The extreme example for this is creating reports that are identical to legal forms. However, formatted layouts can be very important in other areas
Mapping SAP BusinessObjects Tools to Customer Requirements

as well where it is important to have a well-structured and formatted report, such as a delivery notice, customer invoice, or a balance sheet.

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<th>Crystal Reports</th>
<th>Web Intelligence</th>
<th>Xcelsius</th>
<th>BusinessObjects Explorer</th>
<th>Pioneer</th>
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<td>Hierarchical awareness</td>
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<td>Dashboarding &amp;</td>
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<td>Guided Navigation</td>
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Figure 2.1  SAP BusinessObjects BI Tools Mapped to Requirements

- **Parameterized Layout**

With parameterized layouts, we’re referring to the concept that the layout can be influenced by the consumer of the report simply by changing some parameters. A good example is a report that allows you to see the data grouped, or as a simple list, or as a chart. The user is able to influence the layout of the report by simply setting a value for a parameter that selects one of those options. The other example of a parameterized layout is one that has the capability to show different types of data visualization based on user input. For example, showing a weekly, quarterly, or monthly comparison after the user has selected one of the three options. In addition, part of a parameterized layout is its capability to influence
the layout based on defined conditions and the data being retrieved. The simplest example of this functionality is the ability to highlight a key figure based on a value and thresholds. A more complete example is to completely suppress a Top 5 chart in cases where only three values exist and thus would all be shown.

- **Self-Service/Free Form Layout**
  Self-service reporting (sometimes referred to as free form layout-driven reporting) allows the user to create or change content without involving the Information Technology (IT) department to create a new report or make changes to an existing report. The concept of self-service reporting is more of the actual tool functionality than it is the type of reports or analytics that can be created. Self-service reporting is focused on offering the consumer a tool that provides him with an easy-to-use environment that puts the user in the “driver's seat” of the report — enabling him to create or edit the report as needed.

- **Hierarchical Awareness**
  In this category, the tools are compared based on the capability of leveraging an existing hierarchy from SAP NetWeaver BW and being able to present the hierarchy properly as part of the report. The tool should not only be able to actually identify the hierarchy, but also create a hierarchical organized report; allow formatting of the report based on hierarchical information, such as the hierarchy level; and also recognize things like a hierarchy variable and hierarchy node variable. In addition, this category also includes the actual hierarchy navigation a consumer of the report can perform.

- **Dashboarding and Visualization**
  This category focuses on the set of capabilities needed to visualize actual data and to provide a dashboard of capabilities. It is important to recognize that this is not a comparison of all of the different charting options of the tools. Charting is one element of the data visualization capabilities. Other elements include interactive navigation and the ease-of-use of the visualization.

- **Interoperability**
  Interoperability is the term used to describe the capability of the BusinessObjects BI client tools to work together. A typical workflow for this category could be that the sales manager starts in SAP BusinessObjects Explorer and searches for the revenue numbers for a specific product. After he finds the numbers and navigates in SAP BusinessObjects Explorer to see further details, he can then
use the data and navigate to Web Intelligence so that he can conduct further analysis in Web Intelligence.

As you can see in the ranking in Figure 2.1, not all of the SAP BusinessObjects tools have the same ranking. These rankings are based on how easy or how difficult it is to set up the navigation from one tool to any other tool.

Guided Navigation

The term “guided navigation” is used to describe the capability to provide ad hoc analysis and to limit the scope of change for the user, so that the user is only able to change specific parts of the analysis workflow. In addition, guided navigation refers to the functionality that the designer of the analysis workflow can create a pre-determined workflow for the actual consumer of the information. Think about a sales management analysis, where the user is able to see his Top 10 customers and the Top 10 opportunities in his pipeline on the initial view of the analysis. In addition, he can see the Top 10 opportunities with the highest risk factor of not getting closed in the current quarter. Instead of having to navigate through the data, the sales manager can click on a button and be “guided” to the second page of his analysis, where he sees more details regarding the 10 opportunities that are at risk. You can see that guided navigation helps create a predefined workflow for the consumer that is geared towards anticipating and providing answers to the most commonly asked questions.

Based on the preceding reporting and analysis categories and the brief descriptions of the compared functionality in each of them, you should now have a much better understanding of the strengths and weaknesses of each tool — even though this chapter did not show and compare every detail of every tool. The material up to this point is meant to provide you with an overview. We’ll use these categories and the use cases to help you to determine which SAP BusinessObjects tool to use for your requirements. You will see how the tools differentiate from each other in the following chapters, where you are going to use the products and create the reports, analytics, and dashboards yourself.

In the following section, we’ll look at the different user types of the BI solutions and how the tools align with those user types. We’ll also look at some of the skills that define each user type. It’s important to understand both, the requirements and the audience, when making a decision on actual product usage. For example, you might need a report that provides information along several characteristics, which
can be created with Crystal Reports, Web Intelligence, and Pioneer. However, because your audience is a group of not-very-IT-oriented information consumers, you may decide to use prepared reports with a small set of parameters (category: parameterized layout) to offer such functionality. Based on your understanding of report requirements and user type, you decide to go with Crystal Reports.

### 2.4 Mapping SAP BusinessObjects Tools to User Types

It's very important to understand the different user types for the SAP BusinessObjects BI tools and how those user types map to the different products. Before we begin, it should be stated that not every product from the SAP BusinessObjects BI portfolio has been created for each user type. Each tool delivers a specific reporting and analysis user experience to a defined group of user types and has not been created with each user type in mind.

Before we start mapping the BI toolset to the user types, we need to clarify what those user types are, and more importantly, the needs and skills associated with the user types. We must look at this issue from two sides: what the user wants and what he actually needs to do his day-to-day job. Beyond these two points, you must also consider the skill level of the user. Sometimes the choice of tool can be based solely on product features and functionality, but other times you also have to consider the skills of the person using the tool.

To keep it relatively simple we will break down our user types into three categories:

- **Information Consumer**
- **Business Analyst**
- **Executive/Leadership/Management**

You may notice that these user types do not include a role called “Report Designer” or “IT Administrator.” The reason is that we want to focus on the consumption of information and how a user can leverage the BI tools to make informed decisions based on the provided information. The person creating the reports and analytics may have a different skill set compared to these user types. We’ll focus on the actual creation of the content in this book, but it is important to understand the
consumer types of the reporting and analysis content. By doing so, you'll be better equipped to provide them with the right information in the right tool. Let's define the typical characteristics and skills of our user types. We'll characterize each user type based on the following:

- What are some typical goals of users working in a BI environment?
- What are some typical tasks for the user type?
- What other software does the user work with on a regular basis?

These tasks and goals are not meant to be specific to an area such as sales or finance, but should rather be seen as generic descriptions of a certain type of task or goal.

**User Type: Information Consumer**

**Goals**

- Review regular sales reports and monitor individual accounts and sales status.
- Review regular account statements to control customer invoices and vendor accounts.
- Review actual operational measures against goals.
- Fulfill management requests for information as simply as possible.

**Tasks**

- Find a prepared report, view the information, and print or export the information.
- Receive and review alerts from prepared reports and analytics.
- Schedule prebuilt reports and review the resulting information.
- Use predefined navigation steps and alerts to receive needed information.
- If required, provide information to the IT department for additional reports and analytics based on the needed information.

**Regularly Used Software**

- Microsoft Excel
- Microsoft PowerPoint
User Type: Business Analyst

Goals

- Analyze KPIs to find areas for improvement.
- Create deeper analysis to find details on anomalies.
- Leverage actual data and historical data to create detailed planning scenarios to enable more realistic forecasting and planning of future company key goals.
- Leverage the data and tools to provide answers ad hoc to the management and leadership team so that decisions are based on solid information.

Tasks

- Review prepared reports for KPIs and analyze the prepared data for anomalies.
- Edit existing reports and, if required, create new reports and analytics on the fly to answer related business questions.
- Share analysis and results with a larger audience and the management/leadership team.
- Act as the go-to person for the management/leadership team by providing required analysis for informed decisions.

Regularly Used Software

- Microsoft Excel
- Microsoft PowerPoint
- Microsoft Word
- Microsoft Outlook
- Microsoft Access
- Internet Browser
User Type: Executive and Management Team

Goals

- Analyze overall companywide operational metrics and ensure agreed targets are met.
- Analyze department/line-of-business performance and evaluate different scenarios for planning and forecasting purposes.
- Leverage the information for analyzing, monitoring, and planning purposes to continuously improve company performance.
- Combine the analytics with company strategies and goals and integrate these strategies and goals into each employee’s workflow and goals.

Tasks

- Review companywide metrics (including past, actual, and forecasted values) and make informed decisions and take necessary actions.
- Set goals and targets for middle management and link them back to companywide goals and metrics. Continuously monitor and review those goals and targets.
- Regularly review operational KPIs and look for opportunities to improve operations and profit.

Regularly Used Software

- Microsoft Excel
- Microsoft Outlook
- Internet Browser

Now that we’ve defined our user types, we need to map these user types (based on their needs and skills) to the SAP BusinessObjects BI tools.

Figure 2.2 shows the three user types and the optional tools to address their needs. This does not mean, for example, that you cannot use SAP BusinessObjects Explorer for a typical business analyst audience, but it is possible that business analysts will not be 100% satisfied with the tool and they may prefer a tool like Pioneer to perform their work.
Figure 2.2  Mapping BusinessObjects BI Tools to User Types

Figure 2.2 is not an exclusive statement, meaning that the user types can only use the tools shown. It is a guide for tool selection. As you become more familiar with the tools in SAP BusinessObjects you will be able to use your own judgment and add your own criteria to the decision-making process. In cases where a tool only covers part of a user type (for example, Web Intelligence and Business Analyst), you can assume that you will be able to address some of the requirements and needs of that particular user type with the tool, but that there still will be some areas that might be better addressed by a different tool. In addition, keep in mind when selecting the tool, there is no single tool that provides all of the functionality that you might need. However, each tool does have a main purpose (see Figure 2.1).

In Figure 2.3, you can see the tools in a slightly different way. The tools are ordered based on the skill set required from the consumer's point of view (not the report designer's point of view). This figure also shows the recommended user type matched to the products as well.
All three previous figures (Figure 2.1, Figure 2.2, and Figure 2.3) should provide you with a good overview on how to differentiate the tools and make an informed decision on which tool to use for the different user types. In the next section, we will create a simple decision based on some key questions to determine the best tool for your requirements.

2.5 Decision Path for SAP BusinessObjects Tools

Based on all of the information provided in the previous section, we'll now try to combine all of this information and criteria to provide a simplified decision tree that can be used to select a tool based on your requirements. Please keep in mind, such a simplified approach can never be perfect and it's recommended you use this decision tree in combination with all of the other information presented in the previous sections (and the upcoming chapters) to make a fully informed deci-
The purpose of this decision tree is to provide you with a simplistic view of a complex topic.

In Figure 2.4 you can see the first part of the overall decision tree.

![Decision Tree — Part 1](image)

In Figure 2.5, you can see the second part of the decision tree.
As previously mentioned, the decision tree is not intended to provide you a perfect answer just by answering a set of four to five questions. The intention is to provide you with guidance on the toolset and to provide you some criteria that you can use to make the right decision.
2.6 Summary

In this chapter, you learned about the criteria that are important to consider when selecting a tool from the SAP BusinessObjects portfolio. In addition, you learned that not only are the functional criteria important, but the user type and skill set are as well. In the next chapter, we'll look into the requirements for Enterprise Reporting and evaluate which requirements we can fulfill using Crystal Reports.
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