The BI & Analytics Survey 25

The voice of the BI & analytics community

Sample, Products, Methodology and KPIs

This document provides background information to help gain a clearer understanding of The BI & Analytics Survey 25

BARC

Table of contents

Data Decisions. Built on BARC. 3
Research 3
Consulting 3
Events 3
Survey background 4
The sample 7
Sample size and make-up 7
Organization sizes by headcount 9
Vertical markets 12
Featured products 13
Peer groups 16
Overview of the key calculations in The BI & Analytics Survey 25 18
Measuring business benefits 18
Project success 20
Means and medians 20
Understanding multiple response questions 20
Survey data collection 21
Product picklist used in The BI & Analytics Survey 22
Understanding the KPIs 24
Reading the KPI charts 25
The aggregated KPIs 28
How to use the KPIs 29
Peer groups 29
Complete sample 29
The KPIs (overview) 30

Data Decisions. Built on BARC.

BARC is a leading analyst firm for data & analytics and enterprise software with a reputation for unbiased and trusted advice. Our expert analysts deliver a wide range of research, events and advisory services for the data & analytics community. Our innovative research evaluates software and vendors rigorously and highlights market trends, delivering insights that enable our customers to innovate with data, analytics and AI. BARC's 25 years of experience with data strategy & culture, data architecture, organization and software selection help clients transform into truly data-driven organizations.

Research

BARC user surveys, software tests and analyst assessments in blogs and research notes give you the confidence to make the right decisions. Our independent research gets to the heart of market developments, evaluates software and providers thoroughly and gives you valuable ideas on how to turn data, analytics and AI into added value and successfully transform your business.

Consulting

The BARC Advisory practice is entirely focused on translating your company's requirements into future-proof decisions. The holistic advice we provide will help you successfully implement your data & analytics strategy and culture as well as your architecture and technology. Our goal is not to stay for the long haul. BARC's research and experience-founded expert input sets organizations on the road to the successful use of data & analytics, from strategy to optimized data-driven business processes.

Events

Leading minds and companies come together at our events. BARC conferences, seminars, roundtable meetups and online webinars provide more than 10,000 participants each year with information, inspiration and interactivity. By exchanging ideas with peers and learning about trends and market developments, you gain new impetus for your business.

For further information see:

www.barc.com

Survey background

The BI & Analytics Survey 25 is the largest and most thorough fact-based analysis of the BI and analytics software market currently available. It is not based on anecdotal accounts or personal opinions, unlike much analyst research, neither is it intended to be a measure of market shares. Instead, it sets out to analyze market trends and produce meaningful comparisons of competing products across a wide range of critical software and vendor-related criteria. The BI & Analytics Survey also provides a detailed quantitative analysis of why customers buy BI and analytics tools, what they are used for, what problems they experience with the tools and how successful they are.

This is the 23rd edition of The BI & Analytics Survey. It has been conducted annually since 2000. Based on the real-world experiences of 1,136 respondents, much of its value lies in the effective analysis of such an impressive, well-distributed sample.

The BI & Analytics Survey 25 features 17 BI and analytics products from 13 different vendors. It includes not just products from well-known global giants such as IBM, Oracle and SAP, but also tools from much smaller vendors that ordinarily don't get much press but which, in many cases, offer outstanding value to customers.

After data cleansing and removing responses from participants unable to answer specific questions about their use of BI and analytics products, we were left with a sample of 779 end users, 132 consultants and 71 vendor and reseller employees. Participants from all over the world took part in The BI & Analytics Survey 25.

The findings from The BI & Analytics Survey 25 are presented in several documents, each focusing on a specific set of the survey results.

Document	Description
The BI & Analytics Survey 25 - The Results	An overview and analysis of the most important product-related findings and topical results from The BI & Analytics Survey 25
The BI & Analytics Survey 25 – Sample, Products, Methodology and KPIs	Provides information about the sample and an overview of the survey methodology. It also includes descriptions of the KPIs we use in The BI & Analytics Survey, as well as details of our calculation methods.
The BI & Analytics Survey 25 - Vendor Performance Summaries	A series of executive reports on each product featured in The BI & Analytics Survey 25. Each report contains a product review by BARC's analyst team plus a summary of the relevant product-related results from The BI & Analytics Survey.

The BI & Analytics Survey Analyzer contains information on all The BI & Analytics Survey results and key performance indicators (KPIs). This online tool allows users to carry out their own analysis. The entire sample can be analyzed, and it is also possible to filter results by region, company size and other criteria.

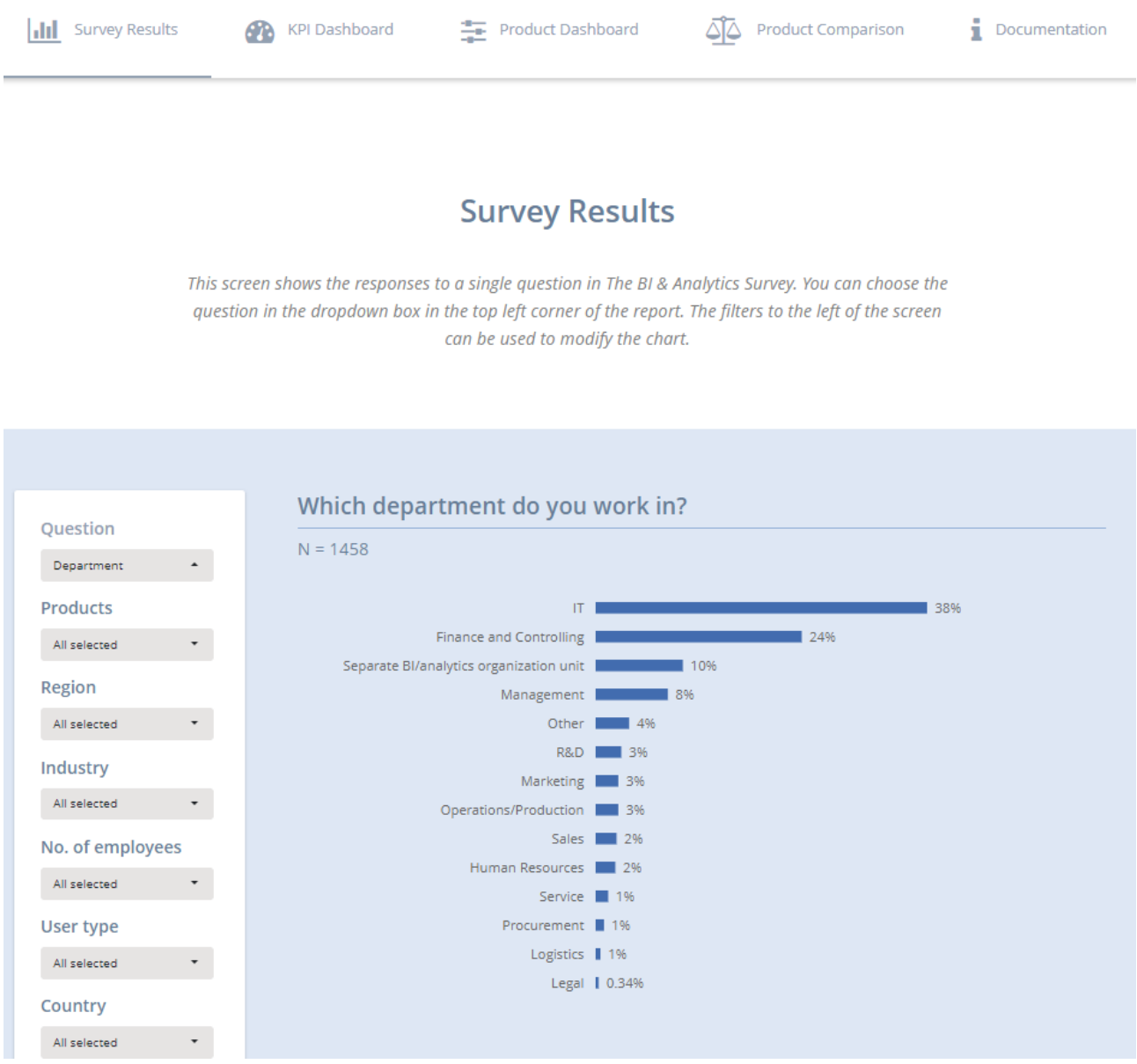

Figure 1: Screenshot from The BI & Analytics Survey Analyzer online tool

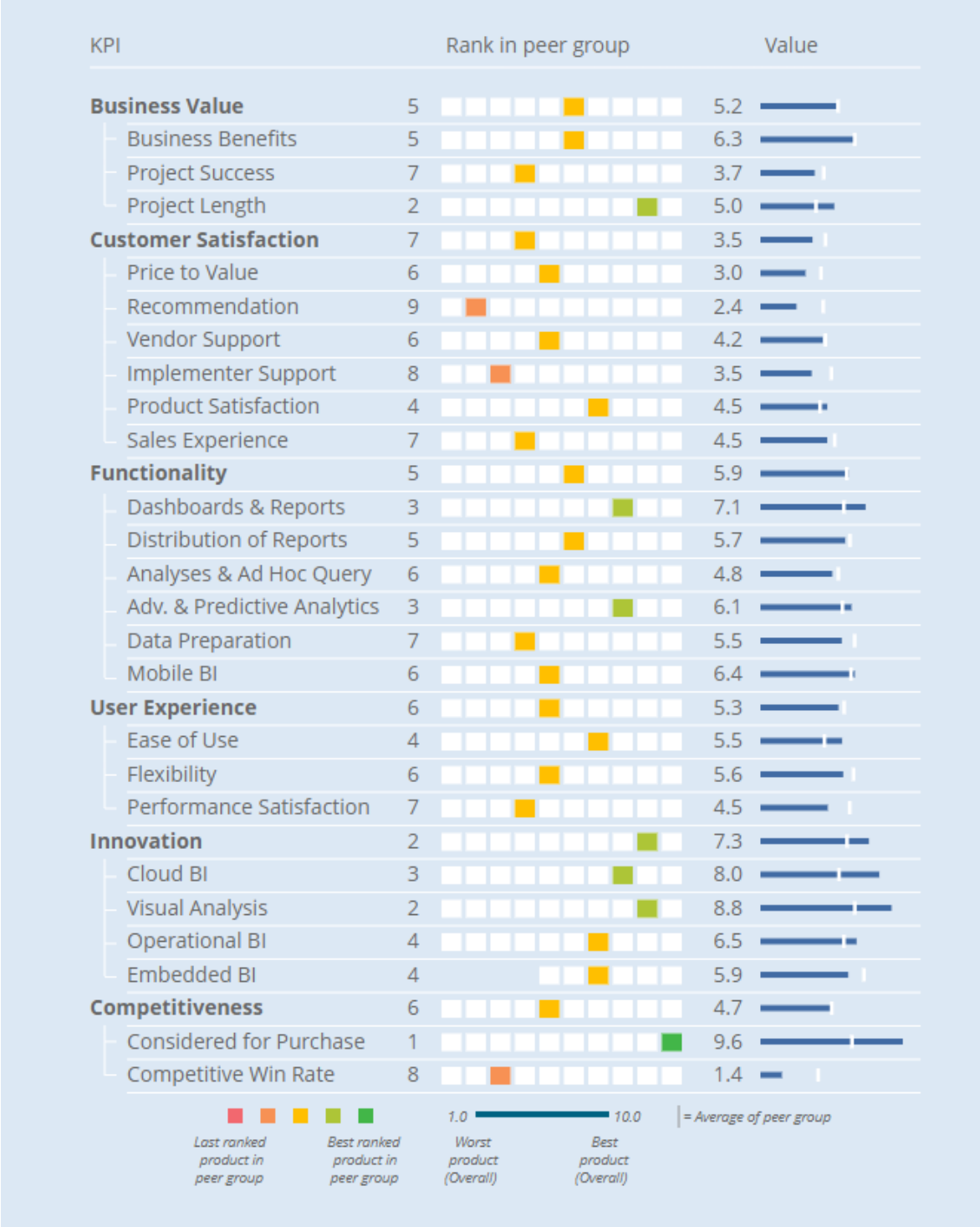

Figure 2: Screenshot from The BI & Analytics Survey Analyzer online tool

The BI & Analytics Survey documents do not need to be read in sequence. *The Results* and the *Vendor Performance Summaries* can be read independently.

The *Sample, Products, Methodology and KPIs* (this document) provides additional background information.

The sample

Most surveys are conducted or sponsored by an organization based in, and focused on, one country. However, BI and analytics is a worldwide market and we wanted, as far as possible, to capture a large international sample. This not only presents a more accurate global picture, but also allows international variation to be analyzed.

The three largest BI markets are the United States, Germany and the United Kingdom, so The BI & Analytics Survey 25 was produced as a collaboration between organizations in each of these countries, and in partnership with publishers and vendors in these and other countries. It features not just the well-known US products, but also products from other regions including Europe and Australia.

Sample size and make-up

Many thousands of people around the world were invited to participate in The BI & Analytics Survey 25 using social media, dozens of email lists, publications and websites. As in previous years, the questionnaire offered different sets of questions for vendors and users (or consultants answering on behalf of users). This seems to produce better quality data as, in the past, some vendors pretended to be users when they saw they were not being asked relevant questions.

Last year's participants who indicated that they would like to be part of our panel received a pre-filled questionnaire with their answers to last year's questions. They were asked to update their responses, and then to answer the new questions in this year's survey.

The results of the online data collected are shown in the following chart, with the numbers of responses removed also displayed.

Table 1: Responses removed from the sample

	Responses
Total responses	1,136
Filtered during data cleansing	-142
Remaining after data cleansing (total answering questions)	**994**
Not yet considered buying	-12
Total answering questions	**982**

The number of responses is split between users, consultants, vendors and non-users. Vendors answered a different set of questions to those answered by end users. This document focuses on the analysis of the user results.

Table 2: Total responses analyzed in The BI & Analytics Survey 25

	Responses
Users	779
Consultants	132
All users	**911**
Vendors/Resellers	71

Geographical distribution

One of the key objectives of The BI & Analytics Survey is to achieve a geographically balanced sample that reflects the current global market for BI and analytics products. Therefore, the online questionnaire was published in three languages: English, German and French.

Having a geographically balanced sample has two major benefits:

Firstly, the results are more closely representative of the world market, rather than being largely based on US experience, as is the case with many other surveys.

In regions where knowledge of English is sparse, such as South America and much of Asia and southern Europe, it is difficult to obtain a good level of feedback and the BI market is less mature in these countries. Since the fourth edition of this survey, we have significantly boosted the German sample by specifically targeting users in German-speaking countries, using a fully translated online questionnaire. We also used a French questionnaire, further increasing our European coverage.

Organization sizes by headcount

BI products are most commonly found in large organizations and a high percentage of the responses we receive are from users in companies with more than 2,500 employees.

Nevertheless, mid-sized companies make up nearly half of this year's sample.

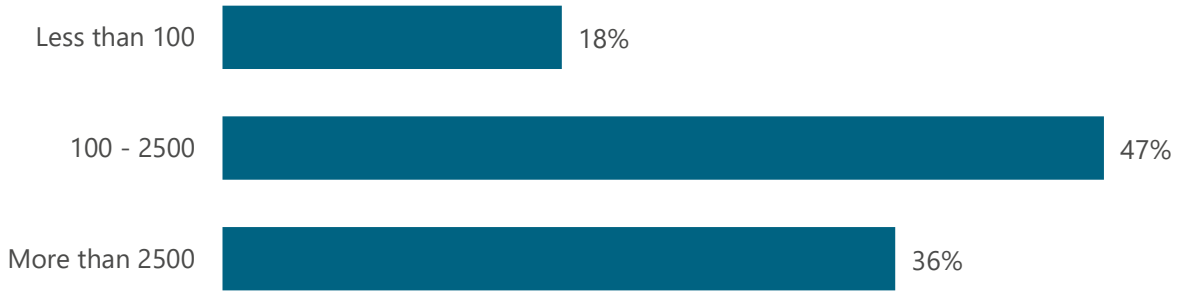

Figure 3: How many employees are there in your entire organization, including all of its branches, divisions and subsidiaries? (n=971)

Figure 4: How many employees are there in your entire organization, including all of its branches, divisions and subsidiaries? (n=971)

The following chart (Figure 5) shows the median headcount of respondents' companies analyzed by the product they answered questions about. Most of the products have a wide range of deployment sizes.

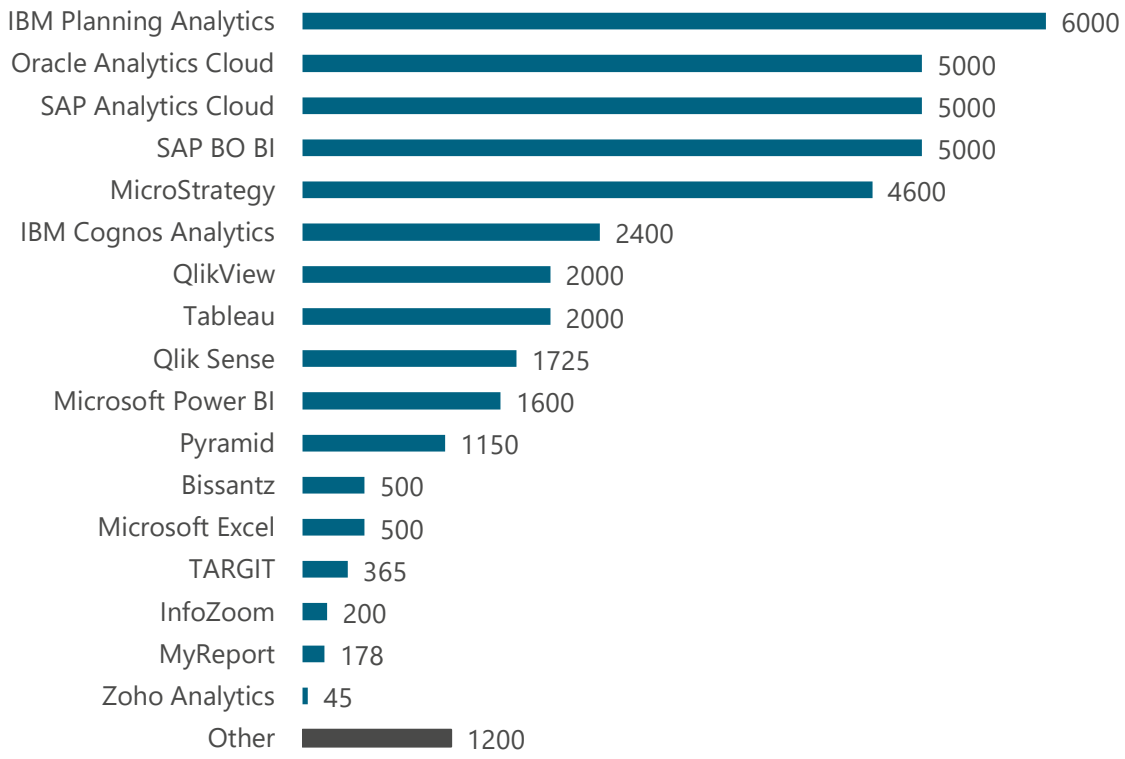

Figure 5: Median employee count of user organizations analyzed by product (n=899)

Vertical markets

We asked all respondents their company's industry sector. The chart below shows the results of this question and only includes data from respondents who answered product-related questions in The BI & Analytics Survey. Manufacturing tops the list this year, followed by financial services, services and retail/wholesale in joint second place.

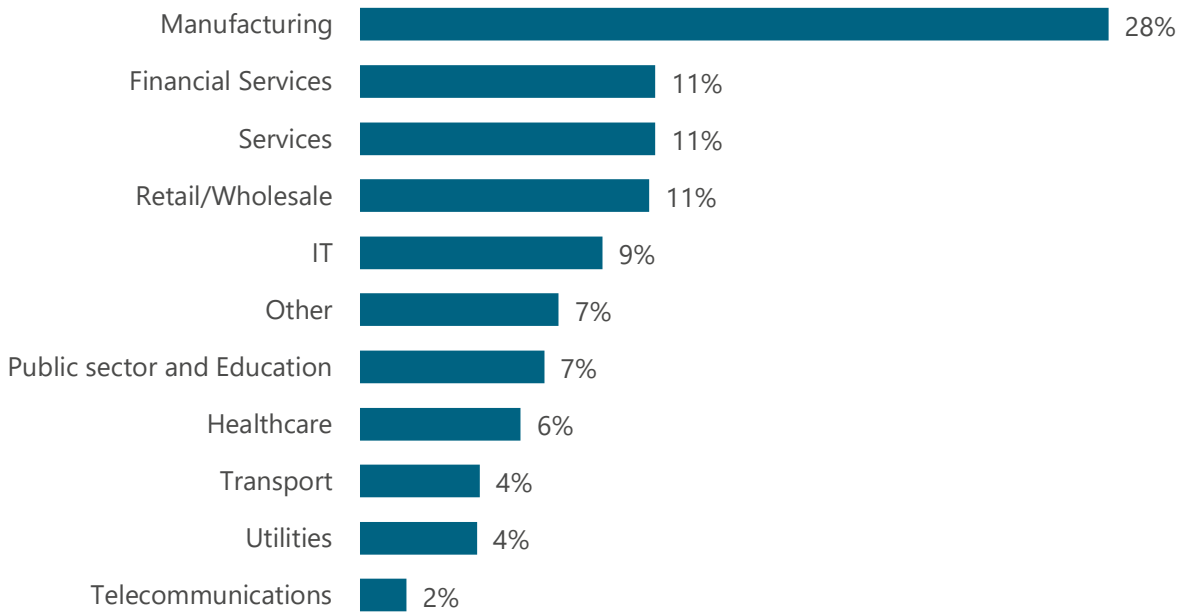

Figure 6: Which of the following best describes your organization's industry sector? (n=923)

Featured products

When grouping and describing the products featured in The BI & Analytics Survey, we do not strictly follow the naming conventions that the vendors use. In some cases, we combine various products to make analysis more convenient. In those cases, we have labeled the groups of products as shown in Table 1. Note that the names we use in this document are our own and are not always the official product names used by the vendors.

One of the key reasons for this is that the products we analyze are not necessarily the latest version of the software. Vendors will often change a product's name between versions, making it difficult to have a single official name for several versions of the same product.

Another reason is that we sometimes bundle related products into a single group to increase the sample size, even if the vendor prefers to view them as distinct for marketing reasons. In both these cases, the point is not to challenge the naming conventions of the vendor, but simply to reduce the complexity of the survey findings for the convenience of the reader. In some cases, we also shorten the names of the products to improve the formatting of the charts.

We asked respondents explicitly about their experiences with products from a predefined list, with the option to nominate other products. This list is updated each year and is based on the sample size of the products in the previous year, as well as additional new products in the BI market. Our predefined list can be found at the end of this document. In cases where respondents said they were using an 'other' product, but from the context it was clear that they were using one of the listed products, we reclassified their data accordingly.

We solicited responses on all surviving products with more than a minimal response in last year's survey, plus a few others whose numbers have potentially grown to the point where there is enough data to be analyzed.

The following table shows the products included in the detailed analysis. The number of the 'other' responses is also included in this chart.

Table 1: Products included in the sample (excluding 'don't know')

Product label	Product name	Respondents
Microsoft Power BI	Microsoft Power BI	135
Bissantz	Bissantz DeltaMaster	51
SAP BO BI	SAP BusinessObjects BI	51
Tableau	Tableau	51
Qlik Sense	Qlik Sense	50
SAP Analytics Cloud	SAP Analytics Cloud	49
Microsoft Excel	Microsoft Excel	44
TARGIT	TARGIT Decision Suite	40
InfoZoom	InfoZoom	38
MicroStrategy	MicroStrategy ONE	38
MyReport	MyReport	32
Oracle Analytics Cloud	Oracle Analytics Cloud	29
QlikView	QlikView	23
Pyramid	Pyramid Decision Intelligence Platform	22
IBM Cog. Analytics	IBM Cognos Analytics	21
IBM Plan. Analytics	IBM Planning Analytics	19
Zoho Analytics	Zoho Analytics	19

The last few years have seen an increase in the proportion of German respondents. This is partly due to cooperation with German vendors and the presence of strong German subsidiaries of international vendors, reflected through providers such as SAP.

The following table contains the products that generated responses but are not included in the detailed analysis. In The BI & Analytics Survey Analyzer, these products are grouped together under the label 'Other'.

Other Products
Amazon QuickSight
Board
DigDash
Dimensional Insight Diver Platform
Domo
Dundas, part of Logi Analytics
Entrinsik Informer
ibi WebFOCUS (formerly Information Builders)
Incorta Unified Data and Analytics Platform
Jedox
Logi Analytics Platform
Looker, part of Google Cloud
Looker Studio (formerly Google Data Studio)
Microsoft Power BI paginated reports
Microsoft SQL Server Reporting Services (SSRS)
Oracle Analytics Server (formerly Oracle BI, OBIEE, OBIFS)
SAP Lumira
SAS Intelligence Platform (incl. SAS Enterprise BI Server)
SAS programming language (e.g., Base)
SAS Viya
Serviceware Performance AL (formerly IBM Cognos Executive Viewer)
Sisense
Spotfire
ThoughtSpot

Peer groups

Peer groups are used to ensure that similar products are compared against each other both in fairness to the vendor and for the benefit of the end user. The groups are essential to allow fair and useful comparisons of products that are likely to compete. They are primarily based on the results from the survey, how customers say they use the product and our knowledge of the products.

Peer groups act as a guide to the reader to help make the products easier to understand and to show why individual products return such disparate results. They are not intended to be a judgment of the quality of the products. Most products appear in more than one peer group.

The peer groups are defined using the criteria described in the following table. These peer groups are used in a consistent way in our analysis as well as in The BI & Analytics Survey Analyzer.

Table 2: Peer group descriptions

Peer group	Description
Report and Dashboard Focus	Includes products that mainly focus on the creation and distribution of standardized and governed content such as dashboards and reports.
Analysis Focus	Includes products that mainly focus on ad hoc query, data navigation and analysis.
Midsize/Departmental Implementations	Products in this peer group are typically (but not exclusively) used in small and midsize scenarios and/or departmental implementations with a moderate number of users and data volumes.
Large/Enterprise-Wide Implementations	Products in this peer group are typically (but not exclusively) used in large scenarios and/or enterprise-wide implementations with large numbers of users and data volumes.
International BI Giants	Includes products from companies with annual revenues of $400m+ and a truly international reach (partner ecosystem, on-site locations, global installations and revenues).

Table 3: Products by peer group matrix

	Report & Dashboard Focus	Analysis Focus	Midsize/ Departmental Implementations	Large/ Enterprise-Wide Implementations	International BI Giants
Bissantz	x	x	x		
IBM Cognos Analytics	x	x		x	x
IBM Planning Analytics		x		x	x
InfoZoom		x	x		
Microsoft Excel		x	x		x
Microsoft Power BI	x		x		x
MicroStrategy ONE	x	x		x	x
MyReport	x		x		
Oracle Analytics Cloud	x	x		x	x
Pyramid	x	x		x	
Qlik Sense	x	x		x	x
QlikView	x			x	x
SAP Analytics Cloud	x			x	x
SAP BO BI	x	x		x	x
Tableau	x	x		x	x
TARGIT	x	x	x		
Zoho Analytics	x	x	x		

Overview of the key calculations in The BI & Analytics Survey 25

Measuring business benefits

Business benefits are the real reason for carrying out any BI and analytics project and The BI & Analytics Survey has been studying them directly for years. We ask respondents the extent to which they realize a list of benefits.

For each potential benefit, respondents are asked to indicate the level of achievement, if any, with five levels. We use a weighted scoring system, as shown in the table below, to derive a composite score for each of the possible benefits, based on the level of benefit achieved. We call this the BBI (Business Benefits Index).

Table 4: The Business Benefits Index weighting system

Level of benefit reported	Weighting
High	10
Moderate	6
Low	2
Not achieved	-2
Don't know	0

This rating system is the basis of the most important index in The BI & Analytics Survey. It is a dimensionless number with an arbitrary value, but as long as the weighting system remains constant it can be used for comparisons between segments of the sample, such as the sample for individual products or regions, to name just two.

Participants were asked to rate each benefit. Business benefits are calculated by counting the number of each reported level of benefit and multiplying this number by the corresponding weighting. The products are then divided by the number of responses for that particular benefit to find the average response.

The figure below shows the overall answers to the business benefits questions using shortened descriptions. Each column is individually color-coded, with higher scores shown on darker backgrounds. The weighted score in the last column shows which benefits were achieved the most.

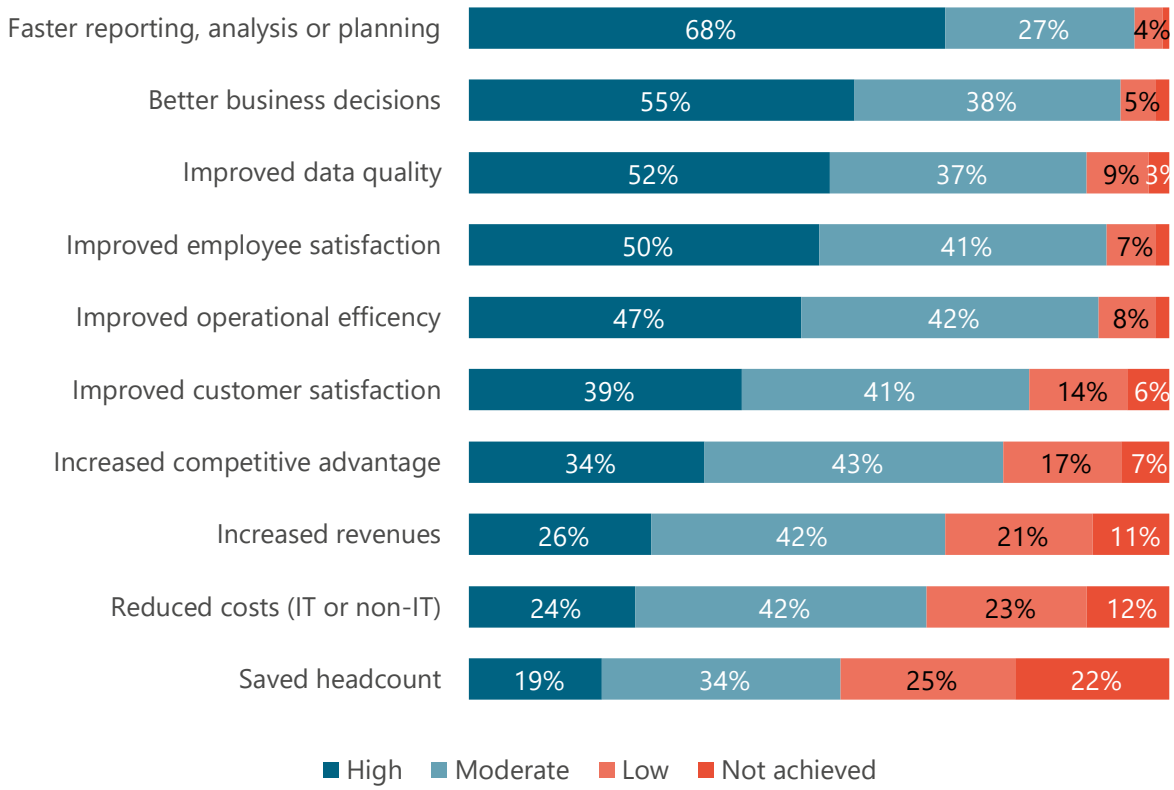

Figure 7: Benefits overview

'Faster reporting, analysis or planning' is the benefit most likely to be achieved. This is a similar result to previous years. We would expect this of any system whose primary purpose is to deliver analysis and reports. A large majority — about 95 percent — said that this benefit had been achieved to a high or moderate degree. However, it could be argued that improved reporting is not in itself a business benefit; it is how the improved reports are used that determines whether business benefits are achieved.

'Better business decisions' is the second most likely benefit to be achieved, with 93 percent claiming to have proven this benefit to a high or moderate degree. We expect all BI and analytics projects would hope to achieve this benefit, but it is not possible to predict this outcome while planning and attempting to cost-justify a project.

Project success

The *Project Success* KPI is based on three factors. We asked participants to judge their satisfaction level with their implementations. We also asked the level of success with which their projects were completed on time and on budget and weighted the responses to calculate project success.

The weightings of the possible responses are shown in the following chart.

Table 5: Responses and weightings for *Project Success*

Level of project success reported	Weighting
Good	10
Moderate	5
Poor	0

Means and medians

This survey makes frequent references to different forms of averages — means and medians. Just in case your statistical knowledge is a little rusty, here is a quick reminder of the definition of the terms:

The mean is the usual arithmetic average. Its value is affected by every value in the sample, so a single large outlier can materially affect the mean, particularly with small samples.

The median is the value in the middle of the sample; that is, half of the sample is larger than the median, and the other half is smaller. It could be regarded as the 'typical value', and is affected by the number, but not the value, of outliers. One or two large or small outliers therefore do not affect the median.

Understanding multiple response questions

Several questions in The BI & Analytics Survey 25 allow the user to make multiple responses. For example, we asked users what problems (if any) they encountered in their projects. Because many users had more than one problem, the number of responses is larger than the number of respondents.

This means that there are two ways to calculate the percentage of a given response: based on the total number of responses or based on the total number of respondents. We present The BI & Analytics Survey results based on the number of respondents.

Calculating percentages based on the number of respondents tells us how likely a given respondent is to have the problem but results in percentages higher than 100 percent when all the problems are added together. Conversely, calculating percentages based on the total number of responses would result in a total of 100 percent.

Survey data collection

The BI & Analytics Survey 25 was conducted by BARC, with data captured from mid-March to early June 2024. All data was captured online from a total of 1,136 respondents.

Respondents were solicited individually from several vendors and independent lists and from websites from many different countries, with emailed invitations being sent to the lists in a staggered fashion.

At our request, most of the vendors notified their customers about The BI & Analytics Survey using either their regular newsletters, social media or websites. We also asked some bloggers to mention the survey. Each list and website had a different URL, though in all cases, the same questionnaire (in English, German and French) was used.

BARC

Product picklist used in The BI & Analytics Survey

Amazon QuickSight

Bissantz DeltaMaster

Board

Cyberscience Cyberquery

DigDash

Dimensional Insight Diver Platform

disy Cadenza

Domo

Dundas BI

Entrinsik Informer

GoodData

ibi WebFOCUS (formerly Information Builders)

IBM Cognos Analytics (formerly IBM Cognos BI)

IBM Planning Analytics (formerly IBM Cognos TM1)

Incorta Unified Data and Analytics Platform

InfoZoom

Jedox

Logi Analytics Platform

Looker

Looker Studio (formerly Google Data Studio)

Microsoft Excel (Excel only and Power Pivot)

Microsoft Power BI

Microsoft Power BI paginated reports

Microsoft SQL Server Reporting Services (SSRS)

MicroStrategy Analytics Platform

MyReport

Oracle Analytics Cloud

Oracle Analytics Server (formerly Oracle BI, OBIEE, OBIFS)

Phocas

Pyramid Analytics BI Office

Pyramid Analytics Pyramid

Qlik NPrinting

Qlik Sense

QlikView

SAP Analysis for Office

SAP Analytics Cloud

SAP BO Web Intelligence

SAP Crystal Reports

SAP Lumira

SAS Base

SAS Intelligence Platform (incl. SAS Enterprise BI Server)

SAS Visual Analytics and Visual Statistics

SAS Viya

Serviceware Performance AL (formerly IBM Cognos Executive Viewer)

Sisense

Suadeo

Tableau

TARGIT Decision Suite

Tellius

ThoughtSpot

TIBCO Spotfire

Yellowfin

Zoho Analytics

Other, please specify

Don't know

Understanding the KPIs

The goal of this document is to help the reader spot winners and losers in The BI & Analytics Survey 25 using well designed dashboards packed with concise information. The BI & Analytics Survey includes 6 aggregated KPIs, which can be absorbed at a glance. It also includes a set of 26 normalized KPIs, which we refer to as 'root' KPIs for each of the 17 products. The 'aggregated' KPIs are aggregations of these root KPIs.

This year we have calculated a set of KPIs for each of the 5 peer groups. The values are normalized on the whole sample. Peer groups are used to enable fair and useful comparisons of products that are likely to compete.

The KPIs all follow these simple rules:

- Only measures that have a clear good/bad trend are used as the basis for KPIs.
- KPIs may be based on one or more measures from The BI & Analytics Survey.
- Only products with samples of at least 20 to 30 responses (depending on the KPI) to each of the questions that feed into the KPI are included.
- For quantitative data, KPIs are converted to a scale of 1 to 10 (worst to best).
- A linear min-max transformation is applied, which preserves the order of, and the relative distance between, products' scores.
- In some instances, adjustments are made to account for extreme outliers.

KPIs are only calculated if the samples have at least 15 - 30 data points (this varies from KPI to KPI) and if the KPI in question is applicable to a product. Therefore, some products do not have a full set of root KPIs. It is important to exclude KPIs based on small (and therefore not representative) samples to ensure that the graph scales are not distorted by outlier KPIs. In such cases, the product is still shown in the tables, but with a blank KPI value and no bar in the bullet graph or bar chart.

Reading the KPI charts

We provide two different types of dashboards for viewing the KPIs. The first type is the Product Dashboard. A Product Dashboard displays all the KPIs for a single product. The second type is the KPI Dashboard, which displays the KPI values for each product in a peer group.

The KPIs are presented using simple bar charts.

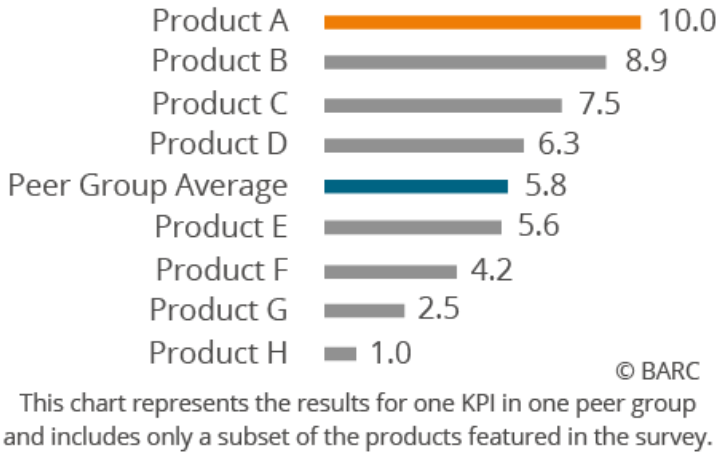

Figure 8: KPI Dashboard used for displaying KPIs

Products are sorted by value in the KPI Dashboards. The better the product, the higher the value. The scale starts at zero and the KPI score of all the products in the chart is indicated. The sample average in each chart is represented by a blue bar.

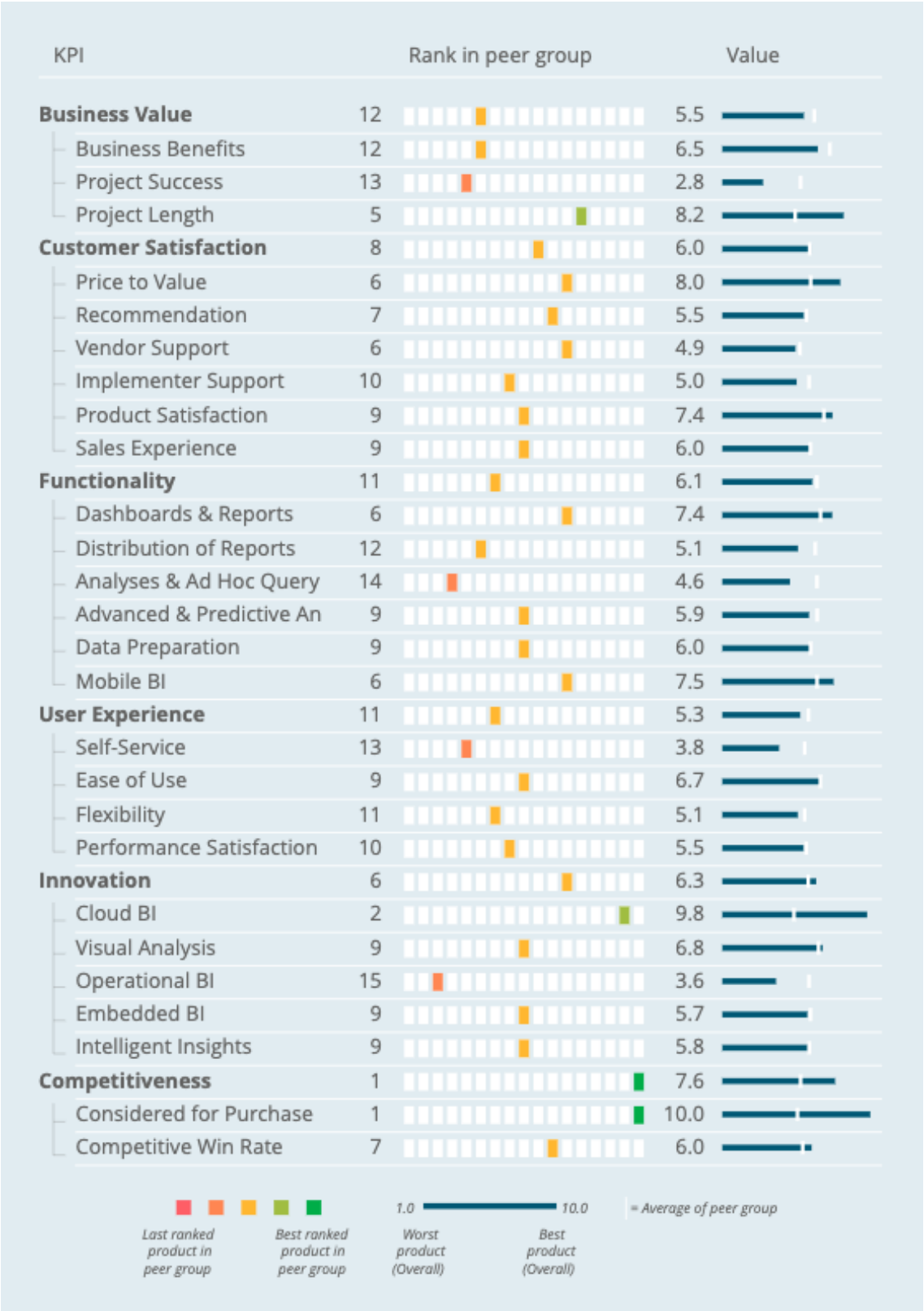

Figure 9: Product Dashboard used for displaying KPIs in the Analyzer

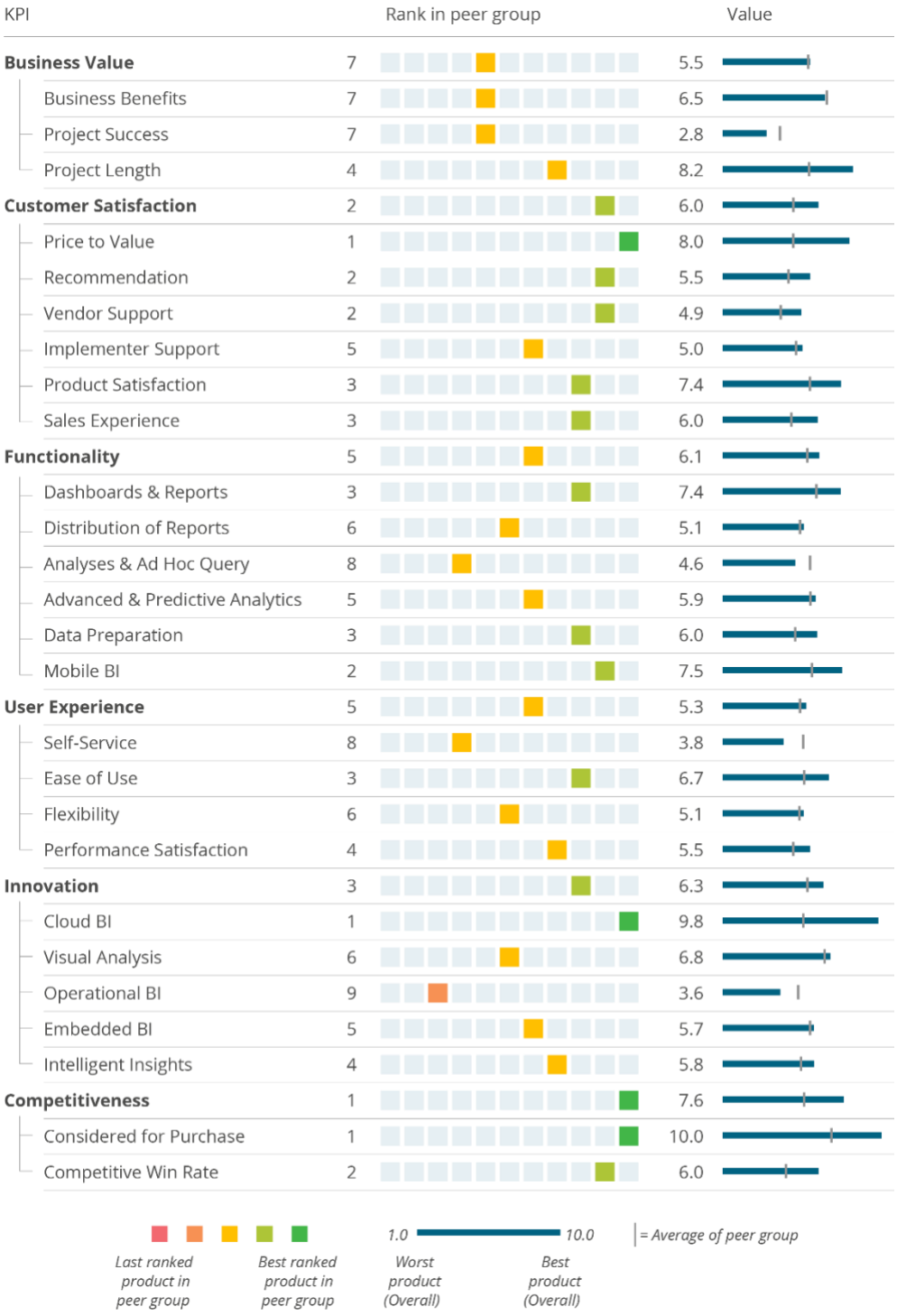

Figure 10: Product Dashboard used for displaying KPIs in the Vendor Performance Summaries

In Figure 9 and Figure 10, the blue bars on the right represent the KPI values for the product in question in each KPI. The gray/white vertical line represents the peer group average. The colored squares/bars in the middle represent the product's rank in the peer group for each KPI.

The aggregated KPIs

The calculation of aggregated KPIs is described in the following table. The aggregates are based on a weighted scoring of the root KPIs according to the importance of each root KPI to the aggregated KPI.

Table 6: Aggregated and root KPIs

Aggregated KPIs	Root KPIs
Business Value	Business Benefits
	Project Success
	Project Length
Customer Satisfaction	Price to Value
	Recommendation
	Vendor Support
	Implementer Support
	Product Satisfaction
	Sales Experience
Functionality	Dashboards & Reports
	Distribution of Reports
	Analyses & Ad Hoc Query
	Advanced & Predictive Analytics
	Data Preparation
	Mobile BI
User Experience	Self-Service
	Ease of Use
	Flexibility
	Performance Satisfaction
Innovation	Cloud BI
	Visual Analysis
	Operational BI
	Embedded BI
	Intelligent Insights
Competitiveness	Considered for Purchase
	Competitive Win Rate

How to use the KPIs

Different readers will have their own views on which of these KPIs are important to them. For example, some people will regard ease of use as very important, whereas others may regard recommendation or innovation as more important.

The aggregated KPIs above provide a good selection from which readers can choose those that they regard as key to their requirements.

Peer groups

Complete sample

We use responses from users of all products to calculate product-independent analyses. A typical question would be: What proportion of all your organization's employees currently makes regular use of business intelligence software? This question can be analyzed per product, but it can also be analyzed without reference to any specific product to provide insight into the market as a whole.

Products with less than 30 data points are included in the 'others' group.

In The BI & Analytics Survey Analyzer, you will find the results for the complete sample in the 'Survey Results' tab.

The KPIs (overview)

The following section contains the entire list of KPIs calculated for The BI & Analytics Survey 25, as well as a description of the calculations.

KPIs are only calculated if the samples (from The BI & Analytics Survey) have at least 15 or 30 data points (depending on the KPI), so some of the products do not have a full set of root KPIs. It is important to exclude KPIs based on small (and therefore unreliable) samples to ensure that the graph scales are not distorted by outlier KPIs based on small data samples. In such cases, the KPI is displayed in Product Dashboards with a blank value, and the product is excluded from the relevant KPI Dashboards. For example, the sample of responses to our question in a previous edition about data preparation from Looker users was too small to assign a *Data Preparation* KPI value to Looker. Therefore, a blank KPI value was assigned to Looker in the Product Dashboard bar chart and Looker did not appear in the *Data Preparation* KPI Dashboards.

All the KPIs are presented in The BI & Analytics Survey Analyzer web application, both as Product Dashboards and KPI Dashboards.

Business Value

Every BI and analytics project should be conceived with the idea of bringing value to the business, so the *Business Value* KPI is possibly the most important KPI of all, focusing on the bottom-line value of BI and analytics projects. Business intelligence that does not deliver broad business value is superfluous.

The *Business Value* KPI shows how a successful BI and analytics software product can provide benefits in the real world. The KPI is an aggregation of the *Business Benefits, Project Success* and *Project Length* KPIs.

Business Benefits

What we measure

We measure the real benefit of projects after implementation whereas other surveys of business intelligence usage limit their questions to technical or organizational issues.

Why it is important

Unlike core transaction systems, BI and analytics projects are optional, not mandatory, so they must pay their way in terms of delivering business benefits.

How we measure

We ask users to judge project benefits based on real measurements the company has made. Using this information, we weighted their responses and calculated the Business Benefits Index (BBI). The KPI is a normalized version of this index.

The following benefits were evaluated by survey participants:

- Better business decisions
- Faster reporting, analysis or planning
- Improved customer satisfaction
- Improved data quality
- Improved employee satisfaction
- Increased revenues
- Reduced costs (IT or non-IT)
- Saved headcount (in business departments and IT)
- Improved operational efficiency
- Increased competitive advantage

Project Success

What we measure

This KPI is based on a combination of three measures: the level of general user satisfaction with implementations, as well as the frequency with which projects are completed on time and on budget.

Why it is important

The initial success of a BI and analytics project can have a great bearing on the business benefits achieved over time. Previous editions of this survey have consistently found that long-lasting projects are likely to become more costly than first anticipated, deliver fewer business benefits and often lead to other significant problems. Therefore, the speed with which a product is implemented can be crucial. User and administrator satisfaction is also an important indicator that the tool has been adopted as envisaged at the outset of the project.

How we measure

As with our calculation of *Business Benefits*, we ask participants to judge their satisfaction level with their implementations. We also ask the level of success with which projects were completed on time and on budget and weight the responses to calculate *Project Success*. The KPI is a normalized version of this index.

Project Length

What we measure

We measure how long it takes to implement projects.

Why it is important

Rapid implementation is a key measure of project success. Our research over the years has shown that projects with about a three-month implementation time deliver the most business benefits.

How we measure

We calculate the grouped median of project implementation durations and combine it with the average number of users in the company.

Customer Satisfaction

We combine the *Price to Value, Recommendation, Product Satisfaction, Vendor Support*, *Implementer Support* and *Sales Experience* root KPIs to calculate this aggregated KPI. These six factors are clearly related: if one is lacking, then the importance of the others is accentuated.

Price to Value

What we measure

We ask participants to judge the price-performance ratio of their chosen product.

Why it is important

Price-to-value is an important metric in today's cost-conscious age. As many companies have found, the cost of buying and supporting BI and analytics software quickly adds up, especially when attempting to cost-justify adding new users. As more BI and analytics capabilities are pushed out to the business, this perception of value becomes even more critical.

How we measure

We ask participants to rate the price-performance ratio of their chosen product. To obtain the final KPI, we calculate an average weighted score per product.

Recommendation

What we measure

We measure whether customers already using a product would recommend that product to others.

Why it is important

No one knows more about how a product performs in the real world than the customers already using it. All too often, they find that products do not live up to expectations, or that the vendor does not support the product properly. Therefore, if existing users say they would recommend the product, we regard this as a positive indicator of the product's value.

How we measure

Users are asked whether they would recommend the product they are most familiar with. This is the sum of positive responses.

Vendor Support

What we measure

We measure user satisfaction with the level of support provided for the product by the vendor.

Why it is important

Product support from the vendor is a key determinant for project success. This is an area where there are major differences between vendor ratings.

How we measure

We ask participants to rate the quality of the vendor's support. To arrive at the final KPI, we calculate an average weighted score per product.

Implementer Support

What we measure

We measure user satisfaction with the level of support provided for the product by the implementer.

Why it is important

Product support is a key determinant for project success. As with *Vendor Support*, this is an area where we see major differences between products. The implementer's role can be just as important as the vendor's.

How we measure

We ask participants to rate the support they received from the implementer. To obtain the final KPI, we calculate an average weighted score per product.

Product Satisfaction

What we measure

We measure the level of satisfaction with each user's chosen product.

Why it is important

If a product proves unreliable at a critical time, the results can be debilitating, and can even render an application unusable.

However, not all customers have the same dependency on reliability, as some applications are not mission critical or time critical.

How we measure

We ask participants to rate their level of satisfaction with their chosen product. To obtain the final KPI, we calculate an average weighted score per product.

Sales Experience

What we measure

We measure how companies describe their sales experience with the vendor.

Why it is important

In a competitive market like the BI and CPM software market, a highly professional sales organization is essential in order to become successful and continue to win new customers. In an increasingly complex, competitive and digitalized world, vendors that can quickly understand organizations' needs, provide industry-specific knowledge, and offer competitive pricing and contract flexibility are more likely to create a positive sales/purchasing experience for the customer. A positive experience in this regard can be as important to making the right software decision as functional and technical considerations.

How we measure

We ask users to rate their dealings with their vendor in the following seven aspects of the sales/acquisition experience.

- General conduct
- Timely and thorough response to product-related and technical questions
- Overall rating of product evaluation and contract negotiation
- Ability to understand organization's needs
- Pricing and contract flexibility
- Industry-specific knowledge
- Marketing/sales promises were kept or are in line with expectations

Using this information, we weight the responses and calculate a *Sales Experience* index. The KPI is a normalized version of this index.

Functionality

We combine the *Dashboards & Reports, Distribution of Reports, Analyses & Ad Hoc Query*, *Advanced & Predictive Analytics*, *Data Preparation* and *Mobile BI* root KPIs to calculate this aggregated KPI. These factors are clearly related: if one is lacking, then the importance of the others is accentuated.

Dashboards & Reports

What we measure

This KPI is based on how highly users rate their BI and analytics tool for creating dashboards, analytics applications and scorecards (data selection, data visualization, formatting/layout).

Why it is important

Dashboard applications offer a high degree of flexibility for building screen-based applications. Generally, dashboards display aggregate performance indicators, which usually have a high level of aggregation for management and decision support. Dashboard applications can be very well implemented using BI development environments. Important features for dashboards include data selection, data visualization and formatting/layouting. Buyers should evaluate a product's functionality and decide whether it matches their present requirements as well as those in the foreseeable future.

How we measure

We ask participants to rate their chosen product's functionality for creating reports and dashboards (data selection, data visualization, formatting/layouting, interactivity). To arrive at the final KPI, we calculate an average weighted score per product.

Distribution of Reports

What we measure

This KPI is based on how highly users rate their BI and analytics tool in terms of its support for the distribution of reports (dispatch/publication, scheduling, alerts, formats).

Why it is important

Functionality for report distribution (e.g., dispatch/publication of reports, scheduling, publication formats) is particularly important for standard reporting use cases. Standard reporting refers to the creation and distribution of predefined and precalculated reports. At recurring points in time, data is queried and prepared and made available in a predefined report layout for report recipients. Reports are typically distributed by email or in a portal as HTML/PDF documents. Buyers should evaluate a product's functionality and decide whether it matches their present requirements as well as those in the foreseeable future.

How we measure

We ask participants to rate their chosen product's functionality for the distribution of reports (dispatch/publication, scheduling, formats). To arrive at the final KPI, we calculate an average weighted score per product.

Analyses & Ad Hoc Query

What we measure

This KPI is based on how highly users rate their BI and analytics tool in terms of its support for ad hoc queries (data access, drag-and-drop, usability) and for performing analyses (navigation, visual support, automated insights).

Why it is important

Giving easy and fast access to all relevant data coupled with the flexibility to inspect it from every angle is the core promise of BI and analytics. As such, this is one of the key attributes that buyers look for in their tools. Their ways to answer urgent business questions and glean new insights differ but the goal remains: access to all data for all users.

Efficiently and effectively querying data requires sophisticated semantic models such as relational semantic models, cubes or data sets generated through data preparation. Each has different strengths and weaknesses and is destined to support different styles of analyses and ad hoc queries from visual analyses to dimensional (OLAP) analyses and ad hoc queries fired against relational sources.

The flexibility to analyze data from every angle, to slice and dice it, and the capability to calculate deviations and KPIs are as important as ease of use in feeding the information need for a large number of business users.

How we measure

We ask participants to rate their chosen product's support for ad hoc queries (i.e., data access, drag-and-drop, usability) and for performing analyses (i.e., navigation, visual support, automated insights). To arrive at the final KPI, we calculate an average weighted score per product.

Advanced & Predictive Analytics

What we measure

This KPI is based on how many survey respondents use advanced and predictive analysis (such as data mining, machine learning) with their BI tool and how users rate those capabilities.

Why it is important

Employing advanced analytics to find clusters, patterns and trends in data helps to identify relevant signals, especially in huge data sets, and can enable companies to gain a competitive edge. Powerful and robust algorithms can be used to make predictions in a broad range of use cases – from customer behavior to product defects. By predicting future events, companies can make more suitable offers to customers and determine more cost-efficient maintenance schedules. For advanced users, such as data scientists, BI and analytics platforms offer facilities to integrate advanced analytics models, such as notebook integrations, and to create and run scripts in the back end as well as the front end.

Advanced analytics functions are increasingly included in business-user-oriented analytics and BI too. As such, they power automated insights, data preparation and visualization recommendations or they are incorporated as prebuilt functions that can be used without coding.

How we measure

We ask participants whether the tool they are most familiar with is being used for advanced and predictive analytics by their company. We also ask them to rate the advanced and predictive analytics capabilities of their chosen product. The KPI is based on the frequency with which advanced and predictive analytics is being performed and how highly the relevant capabilities are rated. To arrive at the final KPI, we calculate an average weighted score per product.

Data Preparation

What we measure

This KPI is based on how users rate their BI tool in terms of data preparation.

Why it is important

Achieving efficient and agile data preparation is of utmost importance in today's economy. It is the key to increasing the ability to efficiently use enterprise and external data in a distributed manner to optimize business processes or to enabling new, innovative business models.

How we measure

We ask participants to rate their chosen product in terms of data preparation. To arrive at the final KPI, we calculate an average weighted score per product.

Mobile BI

Mobile BI has been available for years but has still not gained huge traction in the marketplace. New mobile hardware is making this software increasingly versatile.

What we measure

This KPI is based on how users rate the use of their BI tool on a mobile device.

Why it is important

Mobile BI is considered by many as a big trend in BI and analytics. It gives decision-makers access to critical enterprise data and insights from their devices, regardless of where they are working or traveling.

How we measure

We ask participants to rate their chosen product in terms of its mobile BI capabilities. To arrive at the final KPI, we calculate an average weighted score per product.

User Experience

Delivering a superior customer and user experience is more important than ever. BI and analytics professionals don't want to have to spend a lot of time figuring out how a product works, attempting to learn interfaces or waiting around for a query to finish. With the current vogue for agility and self-service capabilities and the increasing need for users to be able to access a variety of data sources, the user experience of a BI and analytics product is an important consideration for many organizations.

To calculate the quality of customer experience of a BI and analytics tool, we combine the *Self-Service*, *Ease of Use*, *Flexibility* and *Performance Satisfaction* KPIs.

Self-Service

What we measure

We measure how many sites are using self-service BI with their BI and analytics product.

Why it is important

Self-service BI speeds up processes and eliminates the middleman. Independence from IT processes is a commonly cited need in BI and analytics projects.

How we measure

This KPI is based on two factors: (1) whether the tool respondents are most familiar with is being used for self-service by their company; and (2) how often it is used by business users for creating team reports and dashboards, creating enterprise reports and dashboards, and preparing data and creating data models. Each of the above is given equal weighting in calculating a normalized KPI value.

Flexibility

What we measure

We measure the degree to which respondents consider their BI and analytics software to be flexible.

Why it is important

With the current vogue for agility and self-service capabilities and the increasing need for users to be able to access a variety of data sources, user flexibility is an important consideration for many organizations.

How we measure

This KPI is based on two factors: (1) how users rate the flexibility of their BI tool; and (2) the frequency of complaints about user flexibility post-implementation. Each of the above is given equal weighting in calculating a normalized KPI value.

Ease of Use

What we measure

We measure the degree to which respondents consider their BI and analytics software to be easy to use.

Why it is important

Ease of use is often considered the holy grail of software. It is an important consideration for any vendor seeking to expand its footprint within enterprise sites. Business decision-makers don't want to have to spend a lot of time in training or attempting to learn interfaces.

How we measure

This KPI is based on how various user types rate the ease of use of their BI & analytics tool. Each type of user is given equal weighting in calculating a normalized KPI value.

Performance Satisfaction

What we measure

We determine how satisfied users are with the system's performance.

Why it is important

Performance satisfaction is crucial in business intelligence projects, and often affects project outcomes.

In some ways, complaints about performance are more important than performance measured in seconds, because acceptable delays can vary depending upon how the system is used.

Performance is not only the most frequent product-related problem. Along with data quality, it has been the most frequently reported problem overall in recent years. Beyond that, poor query performance leads to reduced *Business Benefits* and *Project Success*, so it is more than just a technical problem.

How we measure

We ask participants how satisfied they are with the performance of their chosen product. To arrive at the final KPI, we calculate an average weighted score per product.

Innovation

New ideas and technologies are the lifeblood of the software industry. However, some vendors prefer to rest on their laurels, relying on existing technologies and lucrative maintenance contracts with loyal customers. If a BI and analytics tool cannot keep up with recent developments, it becomes outdated very quickly and cannot deliver the same level of benefits as rival tools.

The *Innovation* KPI looks at five technologies – *Cloud BI, Visual Analysis, Operational BI, Embedded BI* and *Intelligent Insights* – to measure a product's level of innovation.

Crucially, we do not investigate whether the vendor has promised the feature; we measure whether innovative features are in use by customers.

Cloud BI

What we measure

We measure how many survey respondents are using their BI and analytics product in a cloud environment.

Why it is important

Many software categories have adopted cloud computing. However, there have been concerns regarding security. Business intelligence has been a late adopter of cloud technology, but this is now a growth area in the BI and analytics space.

How we measure

We ask participants whether the tool they are most familiar with is being used in a cloud environment by their company. The KPI is based on the proportion of sites using BI and analytics in the cloud.

Visual Analysis

What we measure

We measure how many survey respondents are using visual analysis with their BI and analytics product.

Why it is important

Visual analysis enables decision-makers to quickly digest insights on trends through highly visual representations. As data grows increasingly complex, many decision-makers find they can more readily see insights and detect outliers if they are plotted in visual charts and graphs, versus being buried in data tables. This is an important feature that is increasingly being sought by enterprises seeking more effective ways for decision-makers to absorb and act on data.

How we measure

We ask participants whether the tool they are most familiar with is being used for visual analysis by their organization. The KPI is based on the probability that products are being used in this way.

Operational BI

What we measure

We measure how many survey respondents are using their BI and analytics tool with real-time data from transactional systems.

Why it is important

Operationalization of BI is one of the most important trends in the BI and analytics area. In operational BI, insights are derived from data coming directly out of production systems. Analysis results are used directly in operational processes for ad hoc monitoring, the optimization of those processes and the removal of possible process failures. Furthermore, many enterprises are looking for ways to blend archived analytical data within operational data to be able to gain situational awareness of opportunities or issues impacting their businesses.

How we measure

We asked participants whether the tool they are most familiar with is being used for BI with real-time data from transactional systems by their organization. The KPI is based on the probability that products are being used in this way.

Embedded BI

What we measure

We measure how many survey respondents use their BI and analytics product embedded within other applications.

Why it is important

Integrating intelligence in operational applications is growing steadily in popularity. From dashboards and BI applications to prediction and optimization models, users can access complementary functions directly in their specific operational processes and act on the findings – closing the classic management loop from information to action.

How we measure

We ask participants whether the tool they are most familiar with is being used in an embedded environment by their company. The KPI is based on the proportion of sites using embedded BI.

Intelligent Insights

What we measure

We measure how many survey respondents are using automated insights (e.g., ML-generated forecast trends, regressions, drivers, clusters etc.) in their BI and analytics product.

Why it is important

With the rise of ML and GenAI trends, more and more assistance is incorporated into BI and analytics software. Intelligent insights are automated analysis assistants and functions which help business users to recognize anomalies and patterns in data faster and draw their attention to the right place.

How we measure

We ask participants whether the tool they are most familiar with is being used by their company to provide them with intelligent insights. The KPI is based on the proportion of sites using intelligent insights.

Competitiveness

Competitiveness is a combination of *Considered for Purchase* and *Competitive Win Rate* KPIs.

Considered for Purchase

What we measure

We measure how often products are *considered* for purchase, regardless of whether they are eventually purchased or not.

Why it is important

There are myriad reasons why a product might be considered for purchase by an organization. Factors such as vendor marketing, a pre-existing relationship with the vendor and word-of-mouth can all have an influence. Taking all these factors into account, this KPI provides an interesting indicator as to the strength of a product's market presence.

How we measure

The KPI scores in this category are based on the relative frequency with which products are considered for purchase.

Competitive Win Rate

What we measure

We measure how well products perform against other products in head-on competitions to win customers.

Why it is important

Recognizing which products to evaluate entails understanding those that have fared well in other organizations' product selections. Eliminating 'losers' at an early stage is important.

The BI & Analytics Survey has consistently found that products from some large vendors are often bought with little or no evaluation and therefore appear to have an artificially high win rate compared to products from smaller, independent vendors, who have to fight for every sale.

How we measure

We calculate the win rate for products chosen by organizations in the last three years that have evaluated at least one other product. We divide the frequency with which the product was chosen by the frequency with which the product was evaluated.

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