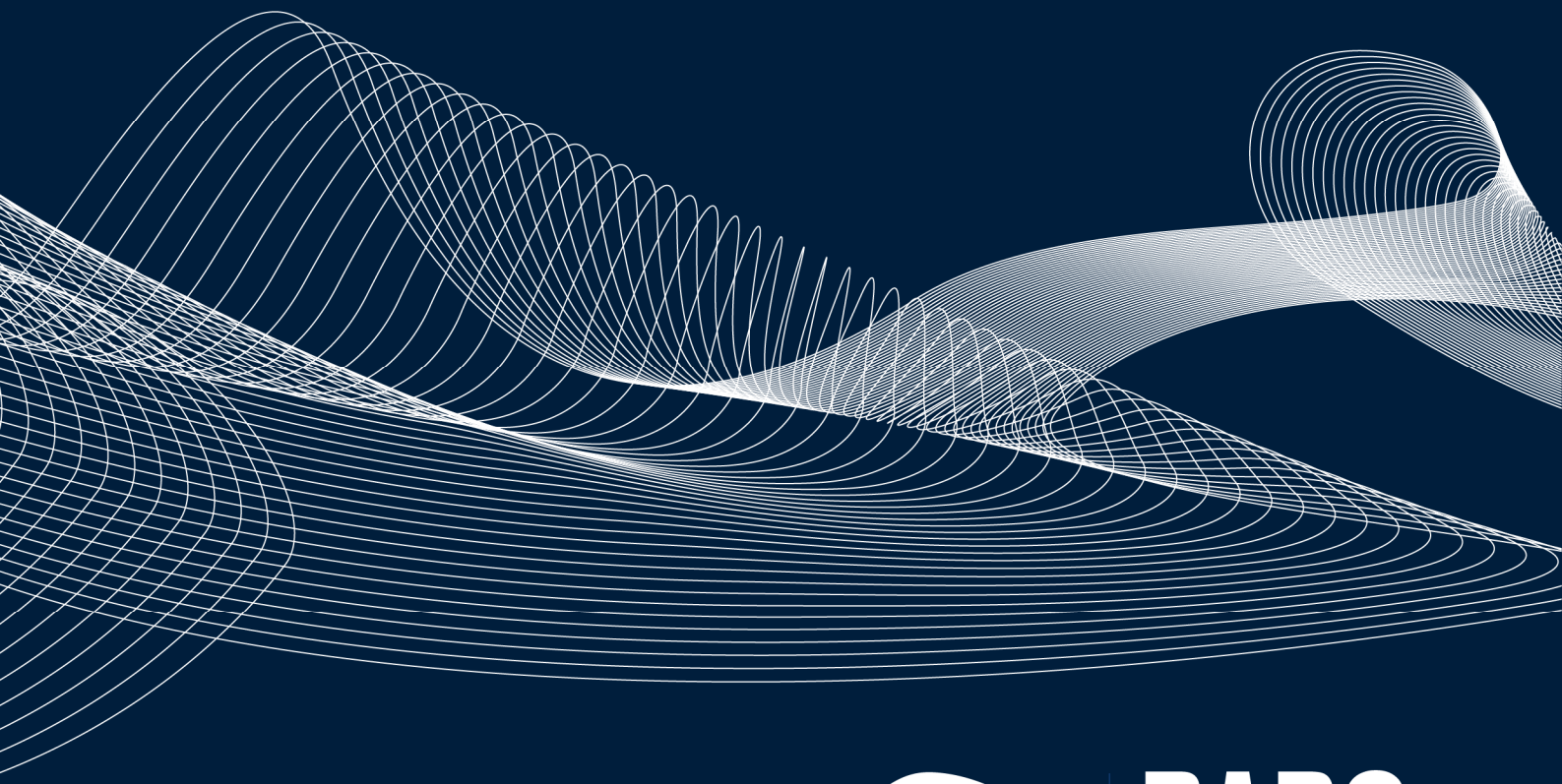
THE BI SURVEY 15

The world´s largest survey of business intelligence software users

Participant Summary

A complimentary summary of some of the key findings from The BI Survey 15



BARC

A CXP GROUP COMPANY

Table of contents

Introduction

The BI Survey 15 follows on from 13 successful editions of The BI Survey (formerly The OLAP Survey). The Survey provides a detailed quantitative analysis of why customers buy business intelligence (BI) tools, what they are used for, what problems they experience with the tools and how successful they are.

Based on the real-world experiences of 3,267 respondents, the value of The Survey depends on us analyzing a sufficiently large, well-distributed and unbiased sample effectively. The BI Survey is the largest and most thorough fact-based analysis of the BI market currently available, using 14 years of experience to analyze market trends and challenge some of the myths surrounding the BI industry.

The range of products included in The BI Survey 15 is wider than ever before, featuring 35 tools from 30 different vendors. It includes not just products from well-known BI giants, but also specialist tools from much smaller vendors and open source vendors.

The BI Survey is not based on anecdotal accounts or personal opinions, unlike much analyst research, neither is it intended to be a measure of market shares. It does not attempt to forecast future trends - indeed it often provides evidence that undermines the reliability of many such forecasts.

The findings from The BI Survey 15 are presented in several documents, each focusing on a specific set of results from The Survey.

Document	Description
The BI Survey 15 - The Results (this document)	An overview and analysis of the most important findings and topical results from The BI Survey 15
The BI Survey 15 - Best Practices	Provides advice to buyers of BI software as well as users and administrators of existing BI solutions based on the results of our analysis.
The BI Survey 15 - Sample, Products, Methodology	Provides details of the sample and an overview of our methodology including details of our calculation methods.
The BI Survey 15 - KPIs and Dashboards	This document provides descriptions of the KPIs we use in The BI Survey, including calculation methods.
The BI Survey 15 - Vendor Performance Summaries	A series of executive reports on each product featured in The BI Survey 15. Each report contains a product review by BARC's analyst team plus a summary of the relevant product-related results from The Survey.

Figure 1: Overview of The BI Survey 15

The BI Survey Analyzer is an online tool containing information on all The BI Survey 15 results and key performance indicators (KPIs). It enables users to carry out their own analysis of The BI Survey data, and to filter the results by region, company size and other criteria. The tool allows users to export reports to PDF and PowerPoint.

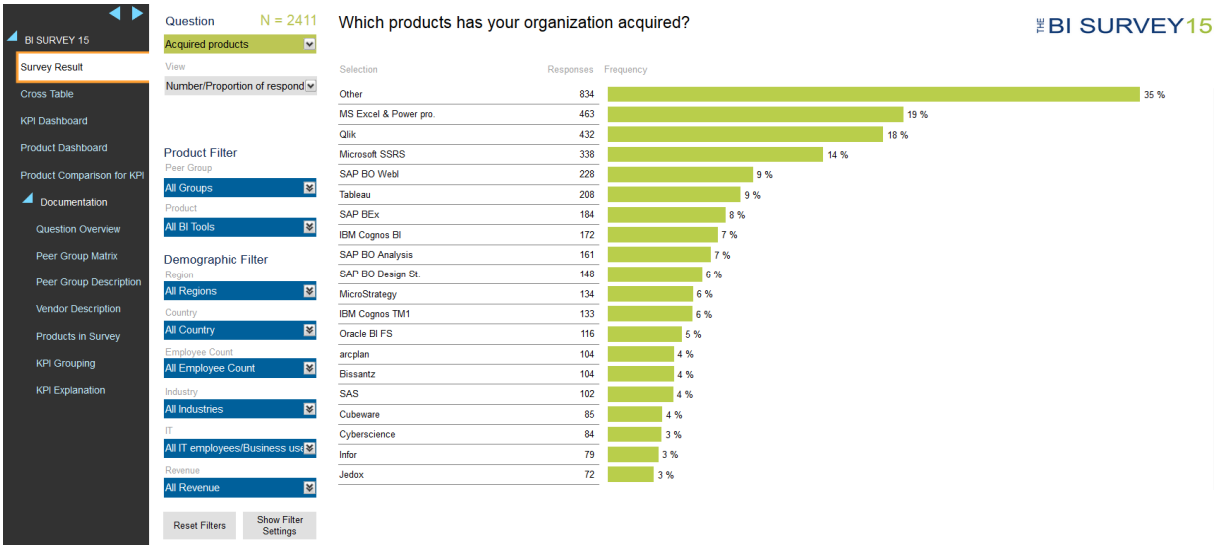


Figure 2: Screenshot from The BI Survey Analyzer Web app

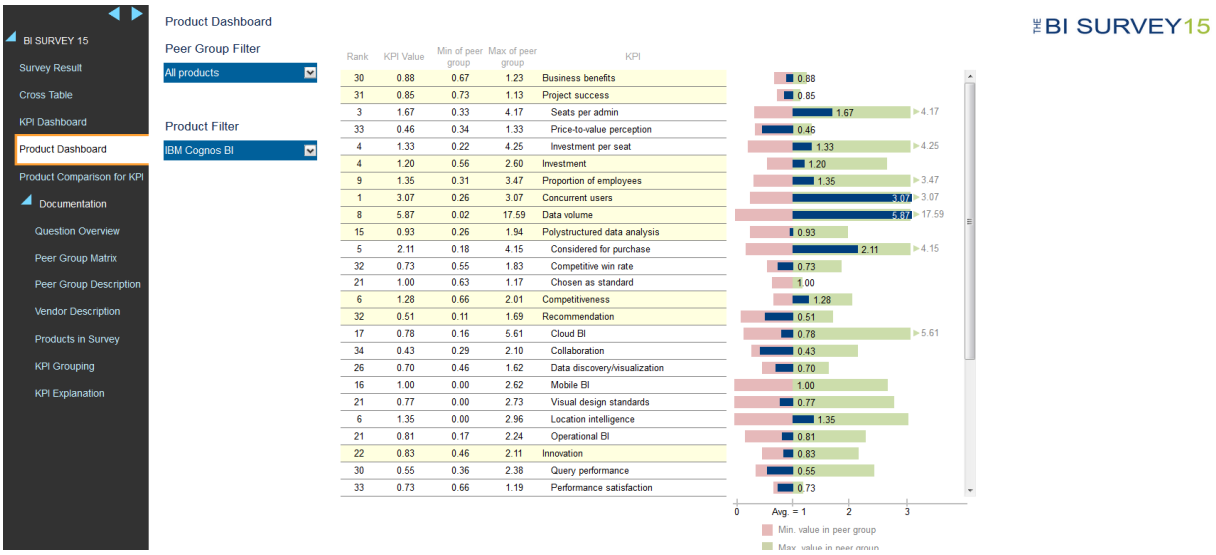


Figure 3: Screenshot from The BI Survey Analyzer Web app

Survey Background

The value of a survey like this depends on having a sufficiently large, well-distributed and unbiased sample. This section describes the characteristics of the people who took part in the study and how we recruited them.

Objectives for the Data Sample

We had a number of specific objectives when compiling the sample. It must:

- Be large, for statistical reliability
- Include viable samples from as many BI products as possible
- Be well distributed
- Be unbiased.

A Large and Varied Sample

The BI Survey 15 has the largest sample of any survey of business intelligence users available on the market. While a sample of 500 respondents may seem impressive and statistically acceptable, the problem comes when trying to compare sub-samples for, say, individual products.

The BI Survey has a rule that, as far as possible, only sub-samples containing 30 or more data points should be reported. It is easy to get sub-samples larger than this for the more widely used products, but less easy for others. Sometimes it is surprisingly difficult to find viable sample sizes for products even from large vendors, such as Oracle. This means that the overall sample needs to be at least 1000 in order to obtain useful sub-samples.

Unbiased

To produce unbiased results we encouraged all vendors to promote The Survey, eliminating the risk of a small number of vendors encouraging their favored customers to participate without our knowledge. This year a number of vendors promoted The BI Survey 15 through their public Web sites, and many emailed not just their customers, but also their prospects.

It transpires that many vendors' mailing lists include not just their own customers, but also prospective customers who may well be current or previous users of other vendors' products. This meant that we obtained adequate samples even from customers of vendors who did not promote The Survey.

We thank the vendors for the professional way in which they collaborated in this venture. None of them attempted to influence the questionnaire or the analysis and presentation of the data.

We are always aware that some vendors could be tempted to enter data themselves, purporting to be genuine customers. Vendors are warned that if we discover examples of this practice, all entries that come via their invitation will be removed from The Survey.

We apply increasingly stringent data cleansing rules, using a number of different tests. This year we detected an increase in the number of examples of suspect data that purported to be from user sites. All such data was removed from the sample.

Sample, Products and Methodology

Most surveys are conducted or sponsored by an organization based in, and focused on, one country. However, BI 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 Survey 15 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.

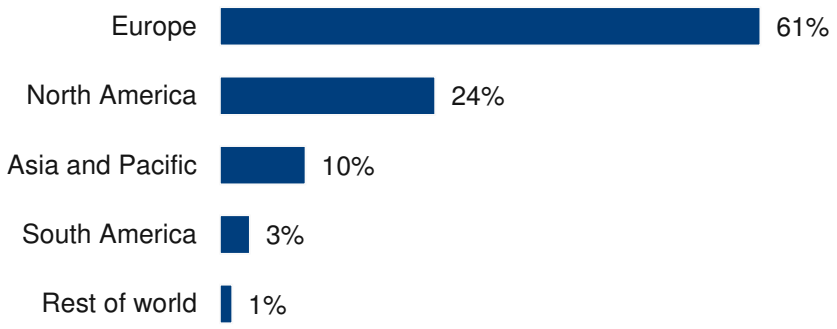


Figure 4: Respondents analyzed by region (n=2971)

The net result was an extraordinarily international panel. Respondents were located in 90 countries. Five countries had 100 or more respondents, and twelve had 50 or more; 29 countries had ten or more respondents.

Geographical Distribution

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

Having a geographically balanced sample has two major benefits:

Firstly, results of The Survey 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 The BI Survey, we have significantly boosted the German sample by specifically targeting users in German-speaking countries, using a fully translated online questionnaire. A Spanish language questionnaire was included to boost responses from Spain and Latin America. We also used a French questionnaire, further increasing our European coverage.

Sample Size and Make-Up

Hundreds of thousands of people around the world were invited to participate in The BI Survey 15, using dozens of email lists, magazines and Web sites. As in previous years, the questionnaire offered different sets of questions for vendors and users (or consultants answering on behalf of a user). 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.

Participants from last year who indicated that they would like to be part of our panel received a pre-filled questionnaire with answers from last year's questions that had remained the same. 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.

	Responses	
Total responses	3,267	100%
Filtered during data cleansing	-196	-6%
Remaining after data cleansing	3,071	94%
Not yet considered buying	-119	-4%
Total answering questions	**2,952**	**90%**

Figure 5: Responses removed from the samples

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

	Responses	
Users	2,110	72%
Consultants	367	12%
All users	**2,477**	84%
Vendors/Resellers	475	16%

Figure 6: Total responses analyzed in The BI Survey 15

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, responses from small organizations have been catching up over the years.

The split between respondents from small and large enterprises is well-balanced this year.

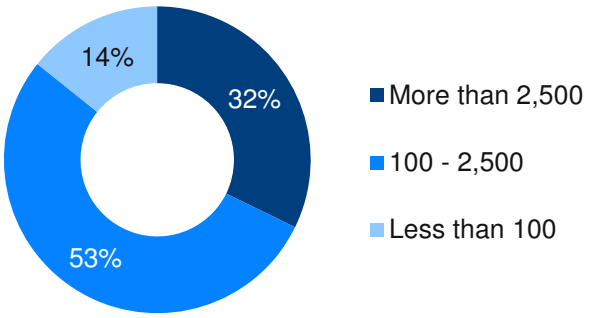


Figure 7: Frequency of employee count in respondent organization (n=2297)

The following chart shows the median headcount of respondents' companies analyzed by the product they reported on. Of the products defined in the 'Large international vendors' and 'Large deployments' peer groups there was a higher median number of employees in customer organizations than the sample average.

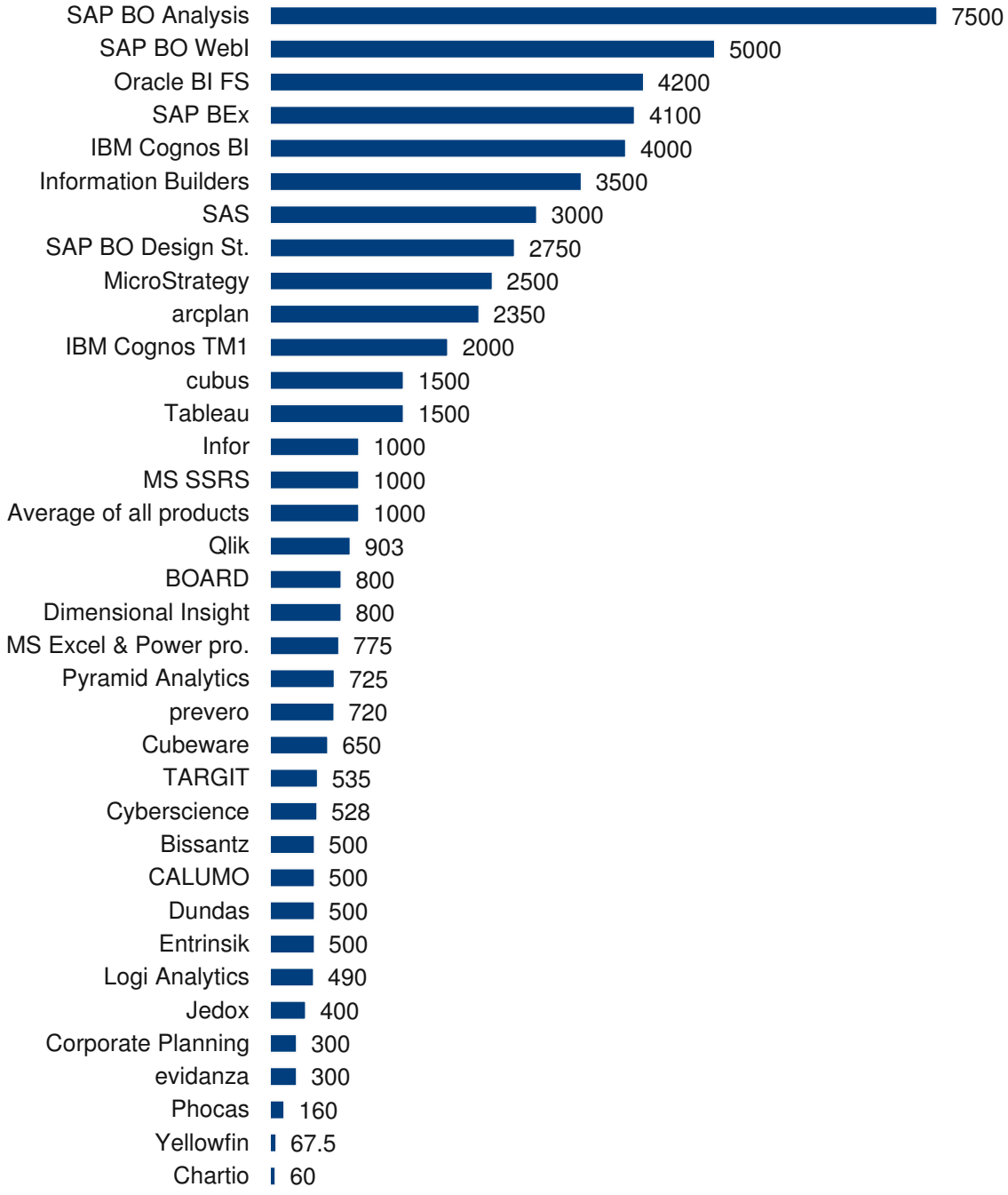


Figure 8: Median employee count of user organizations analyzed by product

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 Survey.

Manufacturing dominates the list, as it has in previous years.

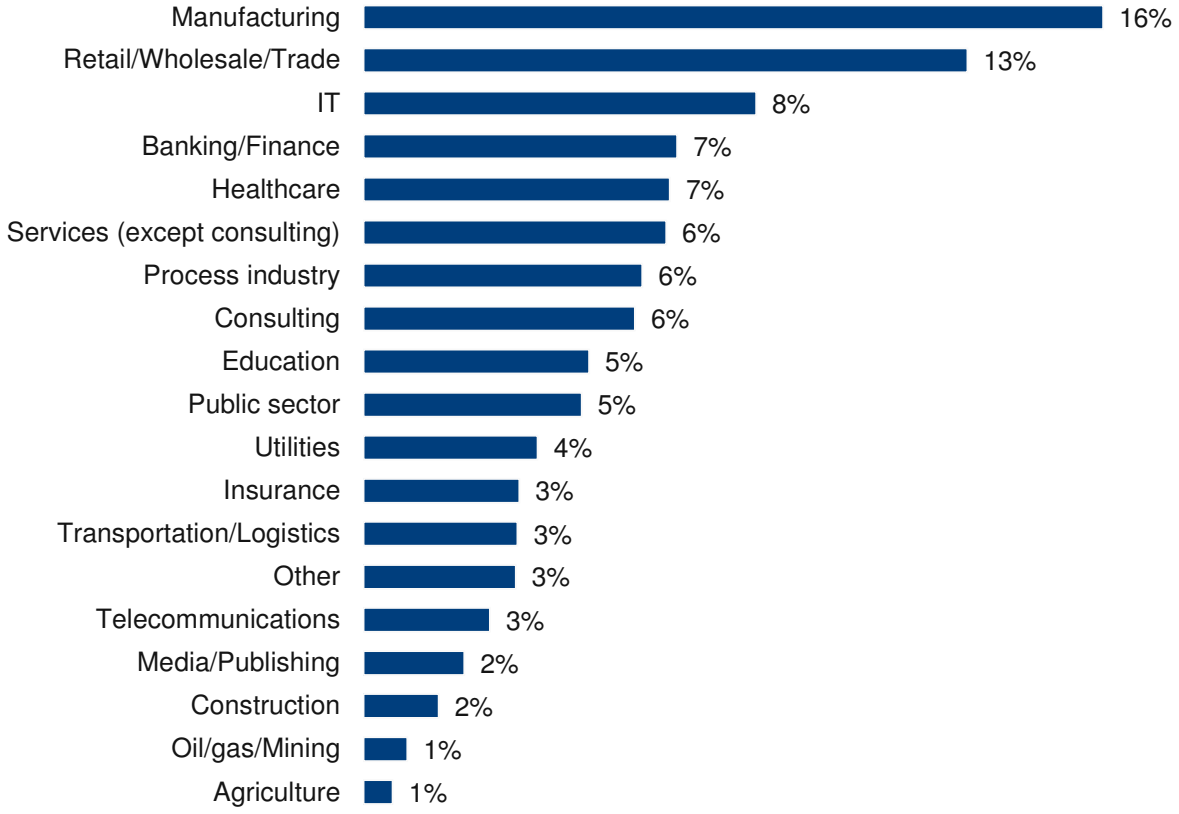


Figure 9: Responses analyzed by industry (n=2543)

Featured Products

When grouping and describing the products featured in The BI Survey, we did not strictly follow the naming conventions that the vendors use. In some cases, we combined various products to make analysis more convenient. In those cases, we named the groups of products as shown in Figure 10. 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 tool. Vendors often change the product 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 pre-defined 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 pre-defined 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 actually 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 the last 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.

Product labels	Product name(s)	Respondents
arcplan	arcplan Enterprise/Edge	69
Bissantz	Bissantz DeltaMaster	88
BOARD	BOARD	61
CALUMO	CALUMO	37
Chartio	Chartio	34
Corporate Planning	Corporate Planner	39
Cubeware	Cubeware Cockpit	76
cubus	cubus outperform	43
Cyberscience	Cyberscience Cyberquery	81
Dimensional Insight	Dimensional Insight	55

Product labels	Product name(s)	Respondents
Dundas	Dundas Dashboard	38
Entrinsik	Entrinsik Informer	50
evidanza	evidanza	46
IBM Cognos BI	IBM Cognos BI (Cognos 8 and 10)	81
IBM Cognos TM1	IBM Cognos TM1 IBM Cognos Express	39
Infor	Infor BI	51
Information Builders	Information Builders WebFOCUS	36
Jedox	Jedox Base and Premium	58
Logi Analytics	Logi Analytics	32
MS Excel & Power pro.	Microsoft Excel	164
	Microsoft Power Pivot	
	Microsoft Power BI	
	Microsoft Power View	
	Microsoft SharePoint Server Excel Services	
MS SSRS	Microsoft SQL Server Reporting Services	83
MicroStrategy	MicroStrategy	81
Oracle BI FS	Oracle BI Foundation Suite	59
Phocas	Phocas	47
prevero	prevero 8/prevero Enterprise P7	40
Pyramid Analytics	Pyramid Analytics	30
Qlik	Qlik QlikView	254
SAP BEx	SAP Business Explorer (BEx)	86
SAP BO Analysis	SAP BusinessObjects Analysis	31
SAP BO Design St.	SAP BusinessObjects Design Studio	30
SAP BO Webl	SAP BusinessObjects Web Intelligence	92

Product labels	Product name(s)	Respondents
SAS	SAS Base	35
	SAS Enterprise BI	
Tableau	Tableau	82
TARGIT	TARGIT BI Suite	44
Yellowfin	Yellowfin	40
Other		202

Figure 10: Products included in the sample (excluding 'don't know')

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 products like arcplan, Bissantz, BOARD, Cubeware and SAP.

This year we also included a few new vendors including Chartio and CALUMO.

The following table contains the products that had responses but are not included in the detailed analysis. In the BI Survey Analyzer these products are grouped together under the label 'Others'.

Other products
TIBCO
Pentaho
SiSense
SAP Crystal Reports
Oracle Hyperion Planning
Oracle Hyperion Smart View
SpagoBI
Jaspersoft
prevero Prof. Planner
SAP BW IP
Qlik Sense
SAP Lumira
SAS Visual Analytics
Tagetik
Birst
Actuate

Other products
Dodeca
iDashboards
Jinfonet JReport
Prophix
Adaptive Planning
Corporater
Indicee

Figure 11: Products in the sample but not in the detailed analysis

Peer Groups

The BI Survey 15 features a wide range of BI tools so peer groups are used to help readers identify and compare competing products. The peer groups are defined using the following criteria and are used in our analysis as well as in The BI Survey Analyzer.

To reflect usage scenario size, and to help readers compare similar tools in terms of the user numbers they typically support, the tools are divided into those used in large-scale and mid-sized deployments. Actual reported median user numbers from The BI Survey are used to categorize the products.

Over recent years, we have observed a trend of commoditization in the BI space whereby traditionally distinct BI functionalities such as dashboarding, reporting and analysis are all covered by most BI vendors nowadays. Of course there are differences between the products but some level of functionality for dashboarding, reporting and analysis is almost always provided. For this reason we decided to move away from the functional peer groups used in previous years.

In our opinion, the most significant differences between the products lie in their coverage of trending topics such as mobile BI, data discovery or location intelligence. These trends are examined in the Survey results.

Because organizations require local contacts, resources and implementer knowledge to conduct projects in their own country, we further divided products deployed in mid-sized scenarios into regional peer groups based on whether they have a significant presence in each geographical region and the location of respondents in The BI Survey. To compare vendors with global coverage, a final peer group featuring only large international vendors was created.

With this new approach to grouping products, we have reduced the number of peer groups while increasing the average number of products in each group. This provides greater transparency for readers by producing less ‘winners’. Furthermore, locally competing vendors and markets are better reflected and easier to compare with our new method of market segmentation.

The table on the following page contains details of the peer groups used in The BI Survey 15.

Peer group	Description
Large international BI vendors	Includes products from companies with annual revenues of $200m+ and a truly international reach
Large deployments	A median number of over 100 users (twice the median of all products, which is 50) was the threshold we used to define this peer group. Unlike the mid-sized deployments peer groups below, it is not split into regions since all the vendors present have a global outreach.
Mid-sized deployments (German speaking region)	A peer group for products used in mid-sized deployments (i.e., with a median number of 100 or less users) where the vendor has a significant presence in the DACH region (Germany, Austria and Switzerland).
Mid-sized deployments (Americas)	A peer group for products used in mid-sized deployments (i.e., with a median number of 100 or less users) where the vendor has a significant presence in the Americas.
Mid-sized deployments (EMEA)	A peer group for products used in mid-sized deployments (i.e., with a median number of 100 or less users) where the vendor has a significant presence in EMEA.
Mid-sized deployments (APAC)	A peer group for products used in mid-sized deployments (i.e., with a median number of 100 or less users) where the vendor has a significant presence in the APAC area (Asia Pacific).

Figure 12: Peer group descriptions

Products by peer group	Large international vendors	Large deployments	Mid-sized deployments (German speaking region)	Mid-sized deployments (Americas)	Mid-sized deployments (EMEA)	Mid-sized deployments (APAC)
arcplan			x	x	x	x
Bissantz			x			
BOARD			x	x	x	
Calumo						x
Chartio				x		
Corporate Planning			x		x	
Cubeware			x		x	
cubus			x		x	
Cyberscience				x	x	
Dimensional Insight				x	x	
Dundas				x		
Entrinsik				x		
Evidanza			x			
IBM Cognos BI	x	x				
IBM Cognos TM1	x		x	x	x	x
Infor	x		x	x	x	x
Information Builders	x	x				
Jedox			x		x	
Logi Analytics				x	x	
MS Excel & Power pro.	x		x	x	x	x
Microsoft SSRS	x		x	x	x	x
MicroStrategy	x	x				
Oracle BI FS	x	x				
Phocas				x	x	x
prevero			x			
Pyramid Analytics				x	x	
Qlik	x		x	x	x	x
SAP BEx	x	x				
SAP BO Analysis	x	x				
SAP BO Design St.	x		x	x	x	x
SAP BO Webl	x	x				
SAS	x		x	x	x	x
Tableau	x		x	x	x	x
TARGIT			x	x	x	
Yellowfin				x	x	x

Figure 13: Products by peer group matrix

Deployment

Percentage of BI Users in Company

After two years of slight decline, the median percentage of "BI users in a Company" increased by more than 2 percent on last year to over 13 percent. Out of 2,071 responses, 45 percent of companies have less than 10 percent of employees who use BI while 12 percent have more than 50 percent of employees using BI.

Rising use cases and buying preferences around self-service, mobile, ease of use, and support for more concurrent users foretell growing penetration rates. As a potential early indicator, consider that while the "less than 5 percent" and "5 to less than 10 percent" groups in Figure 15 declined from 2014, we see upticks for the "50 to less than 75 percent" and "More than 75 percent" groups. Though small, the penetration tiers seeing increases confirm the desire for companies to deploy BI to more employees.

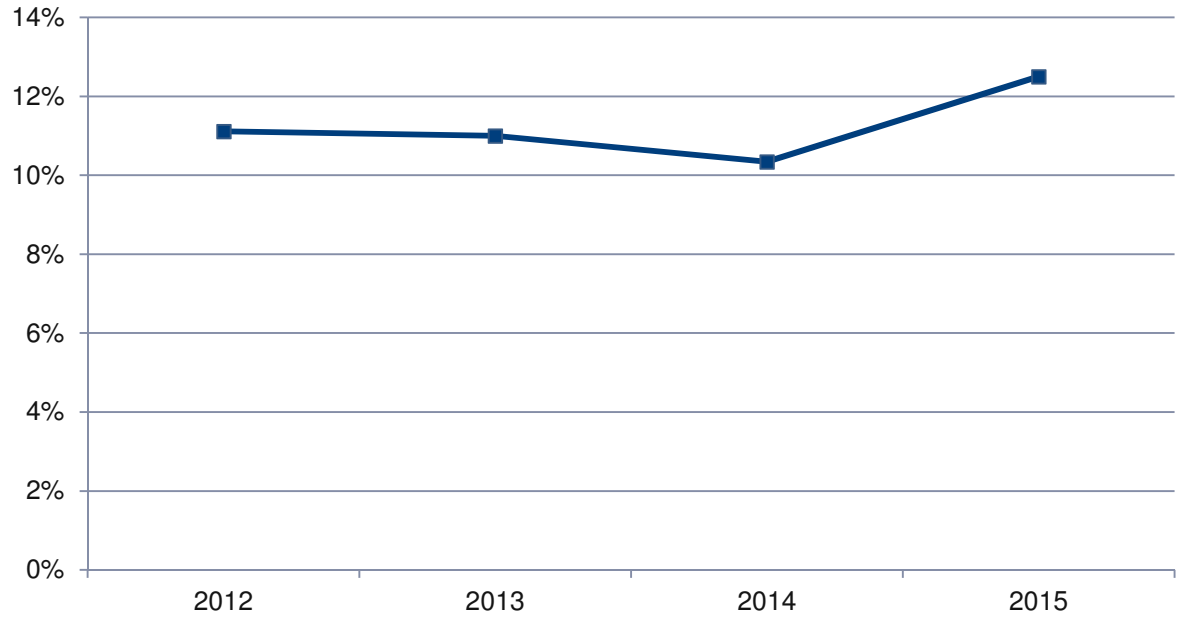


Figure 14: Percentage of BI users in company, timeline (median numbers) (n=changing basis)

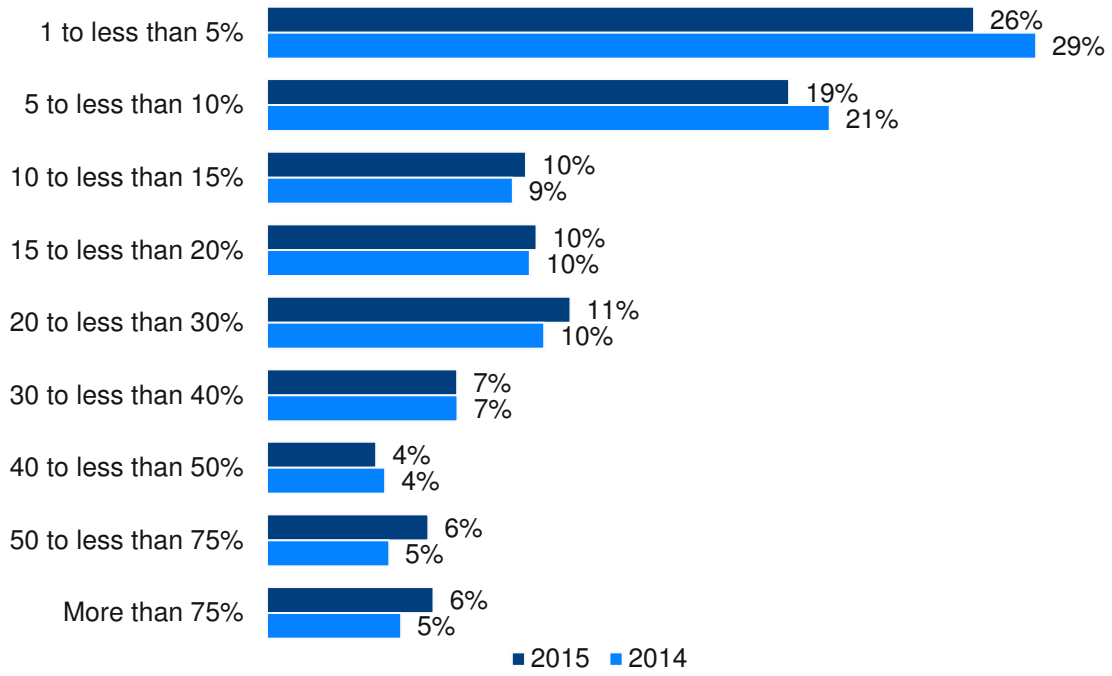


Figure 15: Percentage of BI users in company, 2014 and 2015 (n=2051/2071)

Percentage of Employees Using the BI Product

Against an industry backdrop marked by growing demand for self-service, measuring the percentage of employees using a given product helps inform us which vendors might have products better suited to empower users. Achieving high employee penetration rates in most corporate environments involves execution on multiple factors including ease of use, ease of accessibility, price and pricing model.

SaaS cloud BI models have the potential to play a role in all of these factors and many traditional on-premise vendors are formulating strategies and rewriting products to thrive with this new delivery model. For 2015, Chartio, a San Francisco-based company that envisions a future where all business users create dashboards, takes the top spot with customers reporting a median of 29 percent employee penetration.

Just 1 percent below is Yellowfin, an Australian provider of a full-stack BI platform. Both companies support cloud BI but in different ways. While Chartio operates a SaaS BI service, Yellowfin makes its software available on Amazon's EC2 and Microsoft's Azure marketplaces with a 'bring your own license' (BYOL) model.

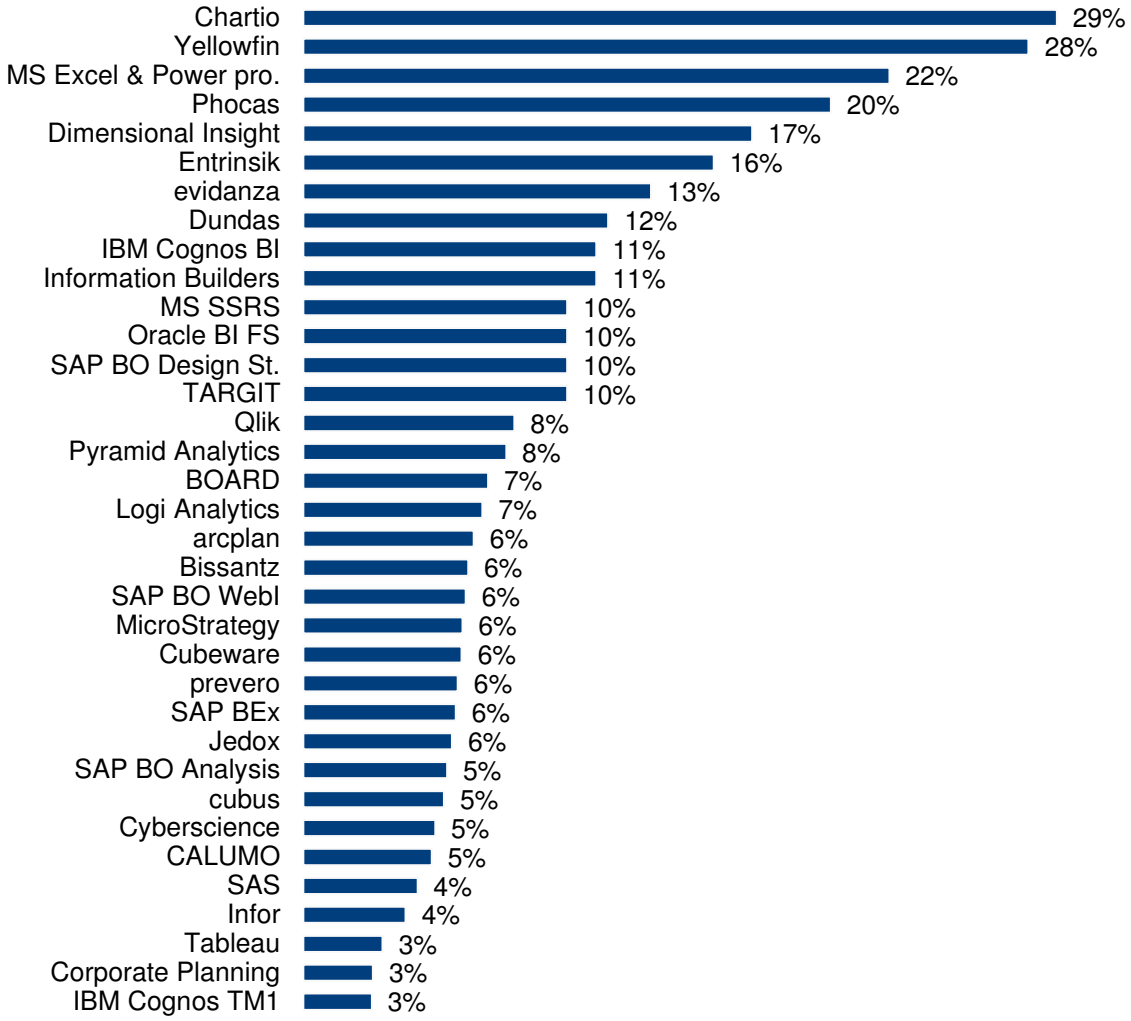


Figure 16: Percentage of employees using the BI product, median numbers (n=2183)

Departments Using BI

Finance, management and sales departments continue to lead in the use of BI, with the latter two having continued their declines from 2014. Marketing has continued to increase use after pausing growth in 2014 while production/operations continues its fast adoption of BI.

If current trends continue, production/operations could overtake sales and IT to become the third biggest user of the technology to improve performance within two to four years.

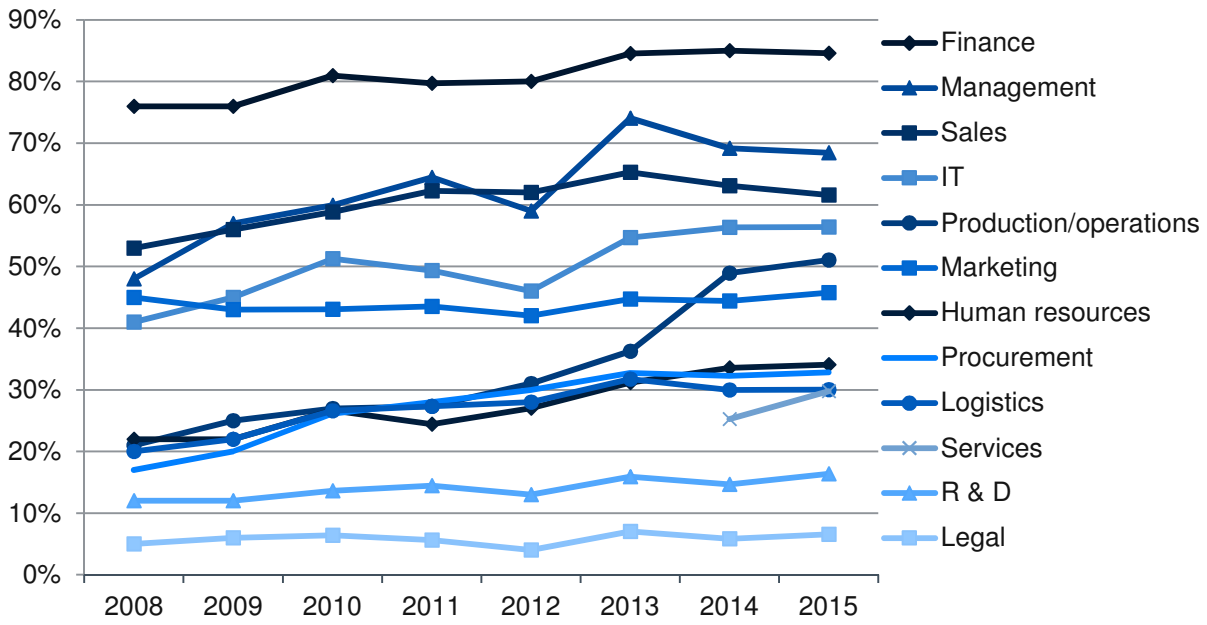


Figure 17: Which departments are using BI? Timeline (n=changing basis)

The Selection Process

Reasons to Buy

When differentiating between small and large deployments, additional insight emerges by comparing and analyzing the top reasons for selecting a given product:

Large Deployment: Top Reasons

- Functionality (50 percent)
- Corporate Standard (30 percent)
- Large number of concurrent users (29 percent)

Medium Deployment: Top Reasons

- Functionality (54 percent)
- Ease of use for report recipients (45 percent)
- Price-Performance Ratio (44 percent)

As deployment/firm sizes decrease, price and ease of use, viewed as key influencers of total cost of ownership, become more significant factors. In fact, the factor that accounts for the greatest difference between the peer groups is price-performance ratio with a 25 point spread between large and medium implementations.

	Large deployments	Mid-sized deployments
Functionality	50%	54%
Support of large numbers of concurrent users	29%	15%
Large data handling capacity	22%	17%
Ease of use for report designers	22%	38%
Ease of use for report recipients	26%	45%
Fast query performance	19%	36%
Predefined data connection	28%	28%
Innovative capacity of the vendor	11%	14%
Vendor/product reputation	22%	13%
Size/Financial stability of the vendor	19%	5%
Flexibility of the software	17%	38%
International focus of the software	9%	4%
Price-performance ratio	19%	44%
Vendor listed as corporate standard	30%	8%
Availability of local support	12%	16%
Proof of concept faster or better	11%	13%
Vendor relationship	6%	6%
Bundled with another product	18%	7%
Deployment option	1%	3%
Availability of people skilled in toolset	13%	17%

Figure 18: Why was the BI product chosen? Timeline by peer group (n=2084)

Selection Method – Timeline

In 2015, we see the formation of a downward trend for buyers conducting a formal competitive selection process before purchasing. However, buyers still use competitive evaluations (63 percent) with three times the frequency of single product evaluations (19 percent) or no formal evaluation at all (19 percent).

Drivers for the reduction in up-front selection rigor may include increased departmental purchases where buyers are seeking a tool to solve a specific problem. In these instances, there are fewer requirements to validate when evaluating tools.

Another driver is the availability of information that vendors are publishing to explain the features and capabilities of their products. Everything from videos to demo sites and on-line knowledge bases, on top of analyst reviews, Web sites, collateral and whitepapers are now available to help buyers make informed selection decisions.

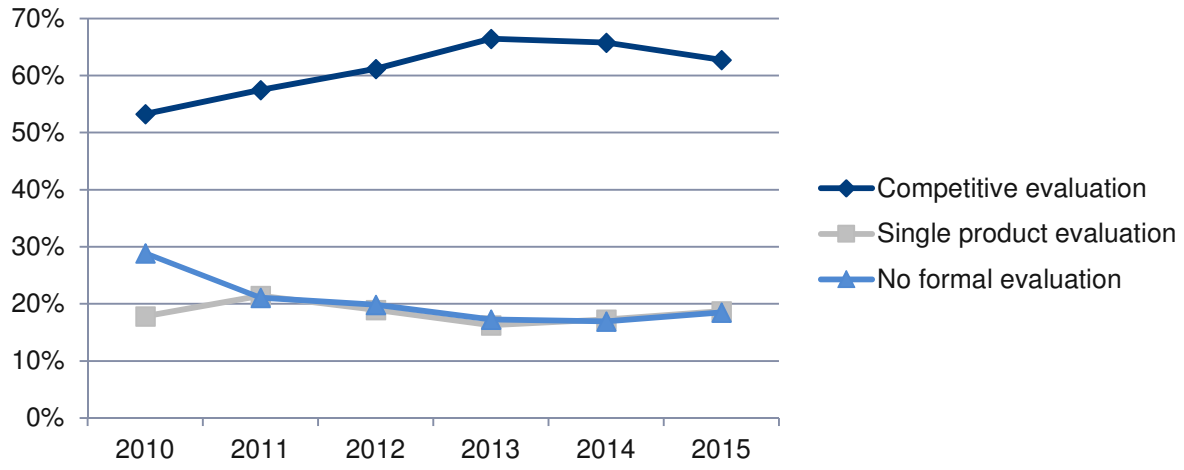


Figure 19: Selection method, timeline (n=changing basis)

Why BI Products Are Chosen – Timeline

Summarizing the results around why companies choose certain products, buyers are placing greater emphasis on enabling more users at the expense of choosing more specialized features. If this trend continues, it bodes well for a number of newer vendors who target high employee penetration rates through ease of use and deployment via cloud-based computing grids that offer economies of scale. Vendors charging premiums for highly specialized features may want to review value propositions and ensure differentiation is clear.

Although the trending BI topics covered in this report are clear, each year we see a number of shifts in the reasons why firms choose a given product. While an opposite movement from the prior year captures attention, new data points extending the same direction into a third or fourth year form an interesting pattern and signal the possibility of longer-term trends. Below, we briefly summarize trends in purchasing drivers in 2015.

- The market continues to focus on price-performance ratio
- Fast performance continues to decline as a reason to choose a BI product
- Though it has never exceeded 20 percent since BARC began tracking it, buyers are reducing the role that a better proof-of-concept plays in the buying decision

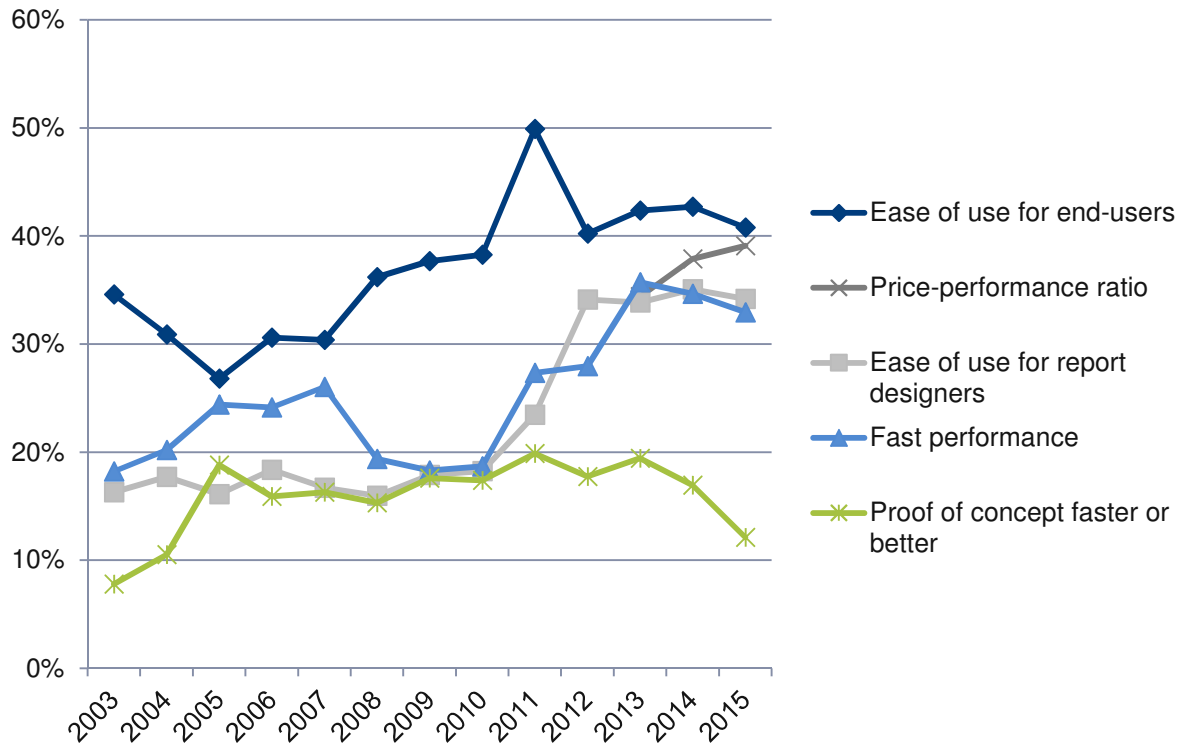


Figure 20: Why was the BI product chosen? Timeline (n=changing basis)

- Now at just under 35 percent, software flexibility achieved its second straight increase
- Though slowing, predefined connections are still important. This is partially driven by the fact that most products now offer a good variety of pre-built connectors

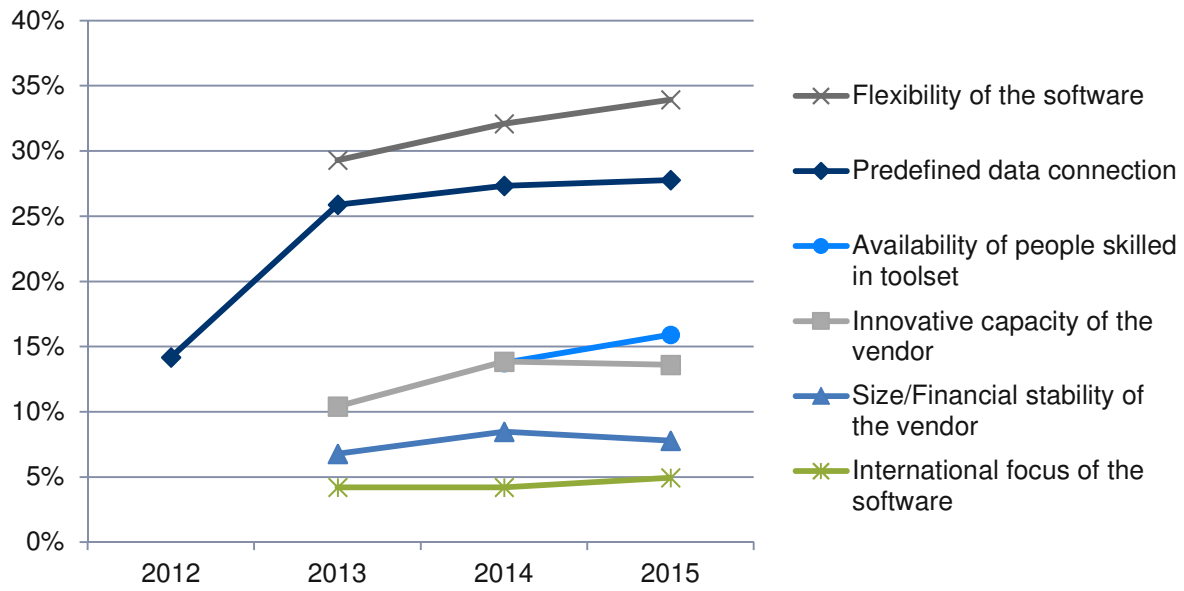


Figure 21: Why was the BI product chosen? Timeline (n=changing basis)

- Bundling might be on the verge of becoming popular again. It is almost a double-digit factor at 9 percent having increased for the second straight year
- Availability of local support continues a steady increase
- After a major decline in 2013, vendor relationship is still declining, albeit at a slow rate

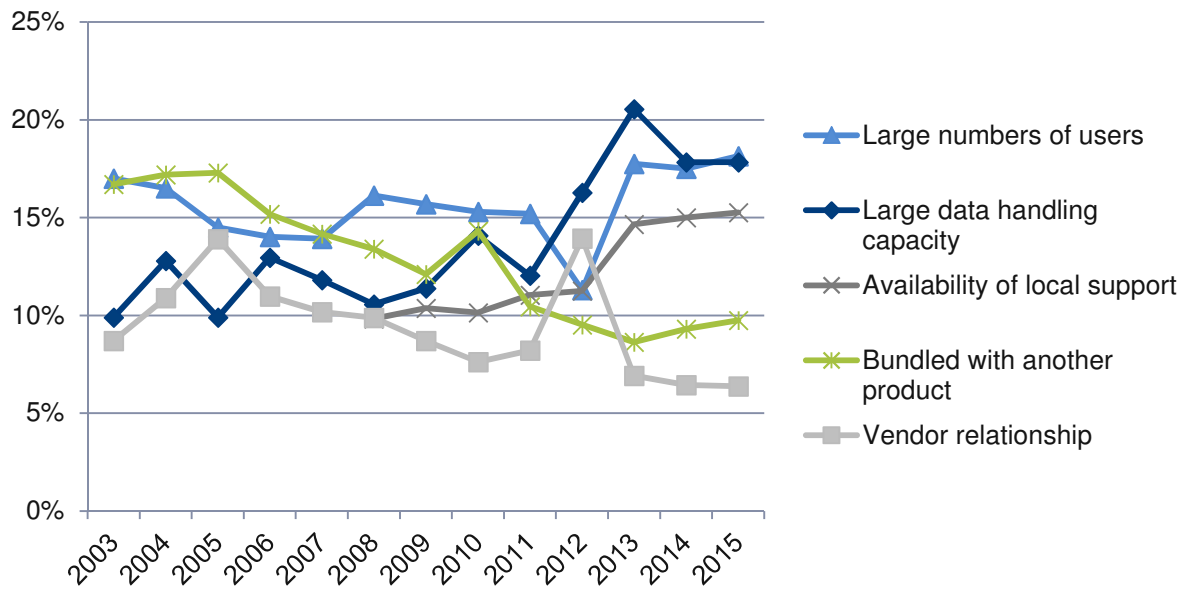


Figure 22: Why was the BI product chosen? Timeline (n=changing basis)

To summarize, BI product selection drivers that increased include:

- Price performance ratio (greatest increase)
- Support for large numbers of users
- Bundled with another product
- Functionality
- Corporate standard

BI product selection drivers that decreased included:

- Ease of user for end-users
- Ease of use for report designers
- Fast performance
- Proof of concept faster or better (largest decline)
- Vendor reputation

Choosing a product to support large data volumes or because of an existing vendor relationship were largely unchanged from last year.

BI Implementation, Usage, and Satisfaction

Timely implementation success of BI projects depends on the combination of customer and vendor resources as well as the capacity to rapidly change to align around a new product. Even if successful initially, follow-up support remains critical as situations change. Many BI solutions end up as shelf-ware within enterprises due to difficulties in setting up software, difficulty in using tools, or lack of user engagement. The ability to seamlessly incorporate BI software and platforms into corporate decision-making processes and integrate BI solutions into operations is crucial.

BI Tasks…Today and Tomorrow

Reporting, ad-hoc query and analysis are the top tasks performed by respondents with their BI product. At 62 percent, dashboards are in fourth place. As our "visual" age (charts, emoticons, infographics) continues to permeate everyday activities and insights from millions of records get condensed into a single icon, dashboards, as opposed to traditional reports, are certain to move up this benchmark. Interestingly, a combined 60 percent of respondents plan to use their BI software to perform predictive analysis/data mining at some point in the future, which would triple the current rate.

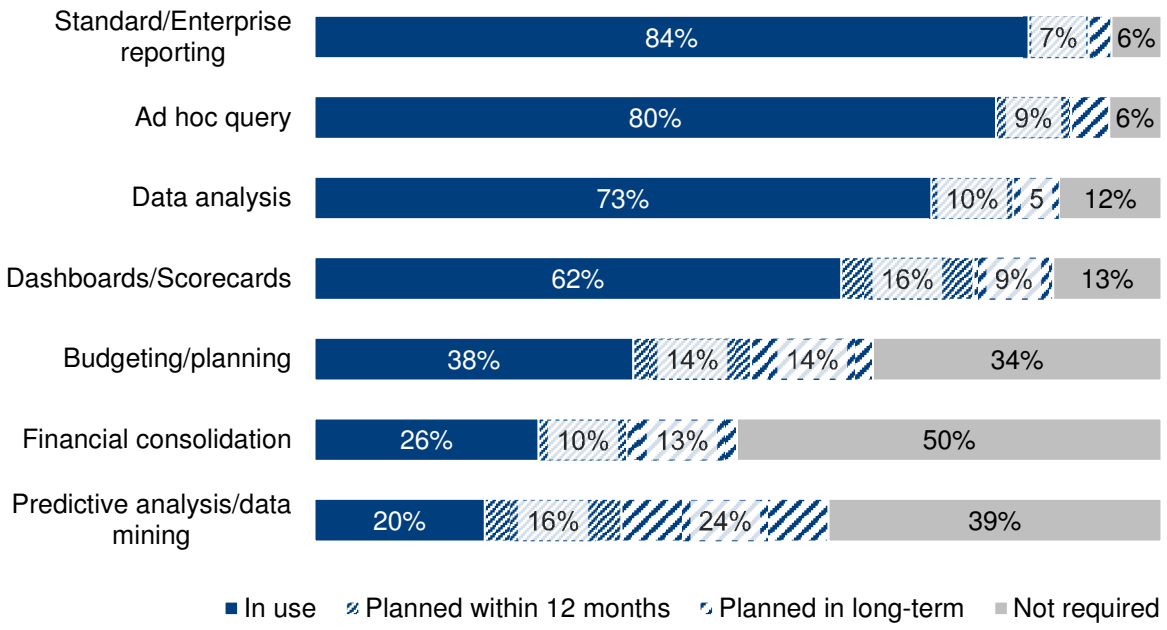


Figure 23: Tasks where BI is used (n=2429)

What Do You Do With Your BI Product?

Whether needed or not, customers gain significant versatility from most of today's BI products. The chart below provides a window into what companies do with their BI investments when it comes to the latest trends. Data discovery and self-service BI essentially share the top spot with more than half of the 2,376 respondents indicating that one of these is a use case in their company.

Machine data analysis, closely associated with the "Internet of Things", takes fifth spot with 26 percent, four points higher than mobile BI. Social media analysis, which typically requires the analysis of large volumes of unstructured data to distill public sentiment on events or products, is the only trend in single digits at 5 percent. These new BI applications deliver new insights, increase accessibility and reduce costs. BI leaders and buyers need to consider how these trending applications fit in their own businesses and include them in evaluation criteria when making future purchases.

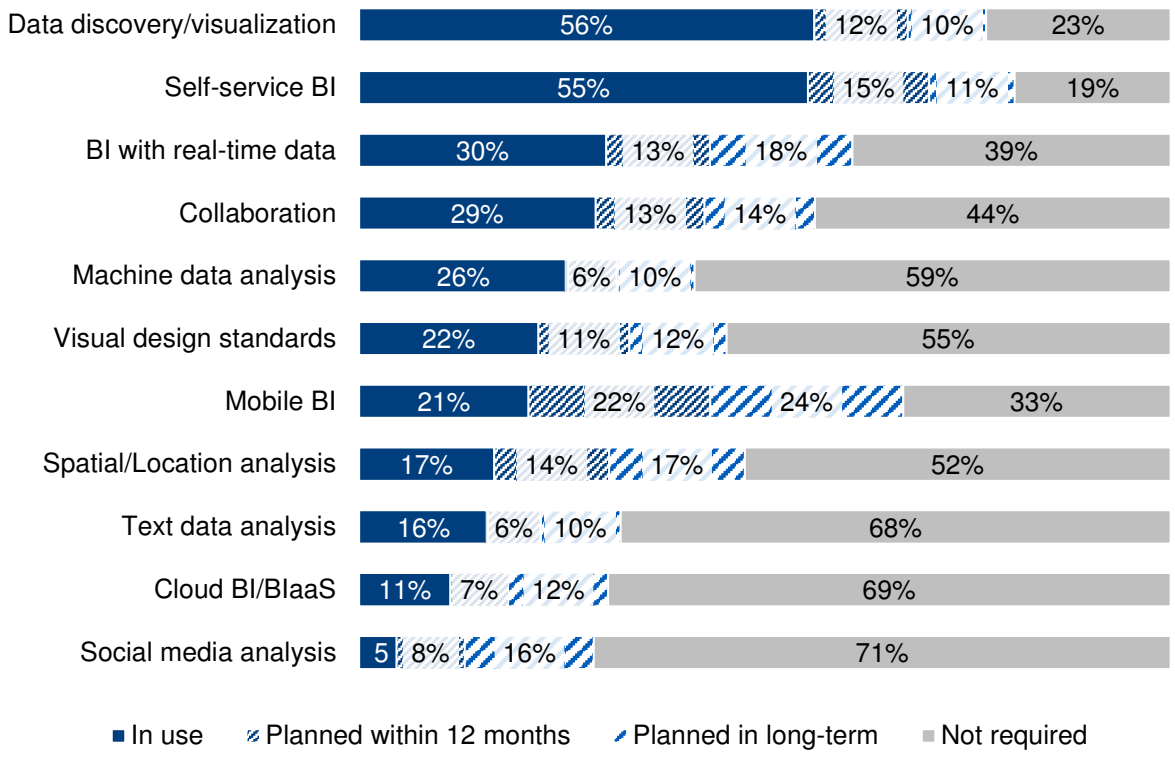


Figure 24: What do you do with your BI product? (n=2376)

Usage of BI Across Departments by Region

Although we live in a small world, professionals across different geographic regions still have unique preferences when it comes to the utilization of BI across different business units. If we take, for a moment, the traditional view that BI helps businesses to report, optimize and control, the following chart provides interesting insights into which functions embrace this the most, and least, across key parts of the world.

Below are some relationships that stand out for each department:

- Management teams in Europe and the rest of the world (ROW) place the highest priority on BI
- Finance departments across the world appear united in their preference for BI with European finance teams using BI most frequently
- The ROW's HR professionals are using BI at higher rates than their counterparts in Europe, Asia, North America and South America
- North America and ROW's IT professionals use BI the most
- Legal teams in Asia and South America are equally disinterested in BI with 3 percent usage
- European-headquartered companies may be running smarter supply chains with a world-leading 34 percent use in their logistics departments
- South American purchasing departments prioritize BI lower than other regions of the world
- The rate of BI use across the world's operations/production departments is fairly similar. BI is found most frequently in North American production departments
- North American R&D departments favor BI use most often
- The ROW's sales and services teams favor BI use by at least 10 points more than any other region

Vendors who invest the time to research these differences and their drivers may uncover opportunities to increase addressable markets. Some of the differences may lie in cultural norms or regional variation in business climates. Other drivers could simply be an overlooked critical feature requiring localization.

	Europe	Asia and Pacific	North America	South America	ROW
Management (CXO)	72%	57%	67%	26%	76%
Finance and Controlling	91%	71%	75%	74%	72%
Human resources	35%	30%	33%	23%	52%
IT	52%	49%	69%	56%	72%
Legal	6%	3%	8%	3%	12%
Logistics	34%	21%	25%	28%	28%
Marketing	44%	40%	51%	49%	56%
Procurement	37%	25%	28%	15%	32%
Operations/Production	48%	49%	59%	54%	44%
R&D	16%	14%	20%	8%	12%
Sales	66%	47%	57%	62%	76%
Service	31%	21%	30%	18%	44%

Figure 25: Usage of BI across departments by region (n=2073)

Casual vs. Power Users

Casual and power users enjoy significant attention with today's new offerings. While self-service and ease of use cater to casual users, advanced analytics and scripting languages help power users achieve their projects. Other charts in the study indicate that smaller companies typically have fewer power users and therefore place more emphasis on ease of use and price-value proposition.

Defining a clear profile of casual vs. power users at any given company and making accurate assessments on mix is critical to selecting the right product. Failure to accurately characterize an environment can result in overtaxed IT resources, product dissatisfaction, and possibly even product replacement.

51 percent of respondents indicate that casual users make up at least 70 percent of all users while only 10 percent of respondents claim that power users make up at least 90 percent of their user base. Buyers should prepare to decipher a wide range of terms that vendors use to describe the various types of users (e.g., consumers, creators, data scientists, analysts, and so on). Because application of these terms varies from vendor to vendor, we recommend basing selection decisions on a detailed mapping of actual user skillsets to each product's workflows.

BARC's Vendor Performance Summaries evaluate BI products based on KPIs such as "seats per administrator", "self-service", "flexibility for users" and others that provide additional customer insight into each product's ability to service its users.

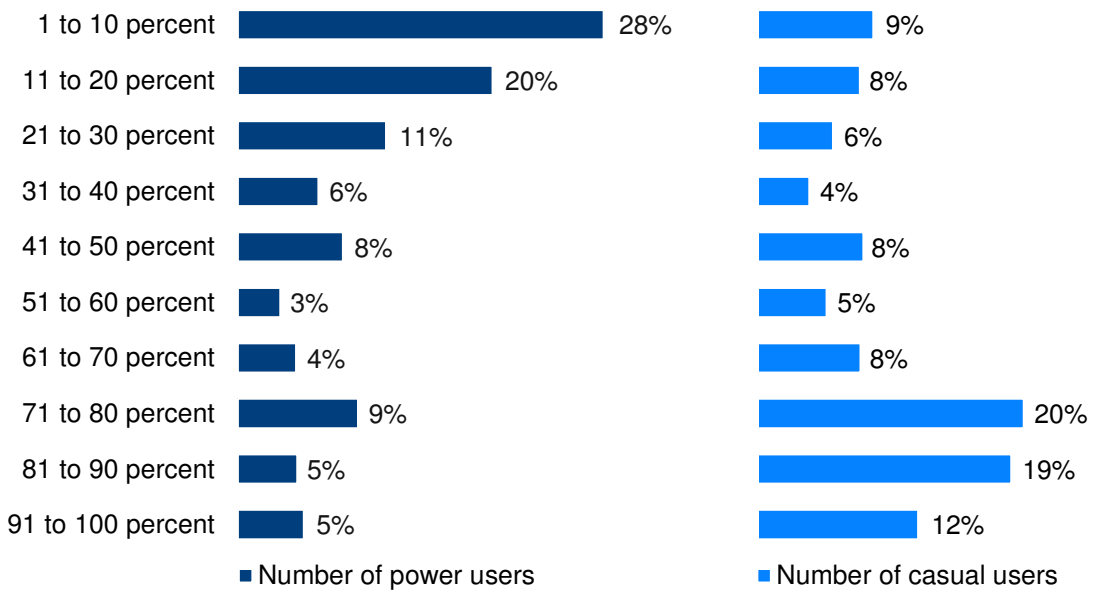


Figure 26: Percentage of casual and power users, distribution (n=2231)

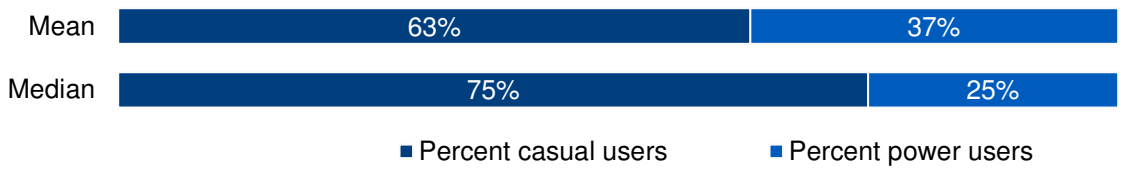


Figure 27: Percentage of casual and power users, median and mean (n=2231)

Challenges

Implementation Problems by Peer Group

BI projects have the potential to invite many types of problems ranging from confidence issues with underlying data, to organizational politics, to the product itself. Across large organizations, the top three problems are: lack of resources (cited by 23 percent of users), software issues (22 percent) and data migration (20 percent).

When looking at mid-size companies, the top three implementation issues are resources (18 percent), data migration (17 percent) and unclear requirements (16 percent). With a 12 point spread, the greatest difference between the two peer groups is in the area of software-related problems, with large enterprises facing the issue more than twice as frequently.

Vendors such as Dundas focus on providing professional services that address the often-difficult process of defining KPIs as well as technical services. Many problems can be avoided through sound SDLC processes that engage business stakeholders early and often. Buyers should find out how vendors address these issues during the evaluation process.

	Large deployments	Mid-sized deployments
Lack of resources on the project team	23%	18%
Software-related issues	22%	10%
Data migration	20%	17%
Unclear requirements	20%	16%
Costs higher than expected	16%	7%
Tight deadline	16%	13%
Lack of expertise by the implementation partner	14%	6%
Training-related issues	12%	9%
Customization of the product	11%	8%
Lack of support from management	10%	9%
Lack of project management	7%	6%
Lack of communication in the project team	4%	3%
Lack of resources by the implementation partner	3%	3%
No significant problems	19%	40%

Figure 28: Implementation problems by peer group (n=2122)

Most Serious Implementation Problems

The most serious problems encountered during BI implementations are not directly related to the BI product itself. As a matter of fact, resource and requirements issues are common offenders in any type of software development project. However, looking down the chart, one can see problems where the choice of BI product can either mitigate or exacerbate the issue. Below are some ways in which a BI product can impact on (minimize, exacerbate, provide an alternative) implementation issues.

Data migration: some BI products include ETL tools and databases that could provide a solution; some products are designed to generate reports and dashboards directly from the source, eliminating the need to migrate data.

Training-related issues: sometimes accessible classes, on-line tutorials and professional services consultants are not enough to turn the tide with regard to training-related issues. Ease of use and a product's design paradigm play major roles in determining which types of users can quickly learn and become effective with the product.

Customization of the product: there's a difference between customizing a data model and changing a default reporting interface to include or exclude twenty features. While some BI products are built for out-of-the-box use after configuration and setup, others offer a platform designed to help customers build and customize applications for deployment.

The interesting fact to keep in mind here is that BI development is increasingly becoming a continuous process by non-technical people. Perhaps the results shown in this chart reinforce why self-service, agile models are on the rise.

Figure 29: Most serious implementation problems (n=2330)

Most Serious Problems Encountered During Use by Business Users

The most serious issue arising during the use of BI is query performance. At 19 percent, it is a full five points higher than the next problem (lack of interest by business users). Perhaps the lack of interest relates to the third most serious issue, which is poor data quality.

Although increased rigor during product evaluations may help in some cases, BI deployments grow much faster than most managers can envision when making the initial purchase. BI environments degrade quickly if the overall architecture was not designed to handle increased loads. Most BI products cannot solve data quality issues, instead exposing them so companies can determine the extent of them.

Reviewing the issues here and structuring projects to account for the ones that apply in a given company will increase overall project success. Most BI projects experience smooth sailing post deployment with 39 percent of the 2,422 respondents to this question reporting no significant problems.

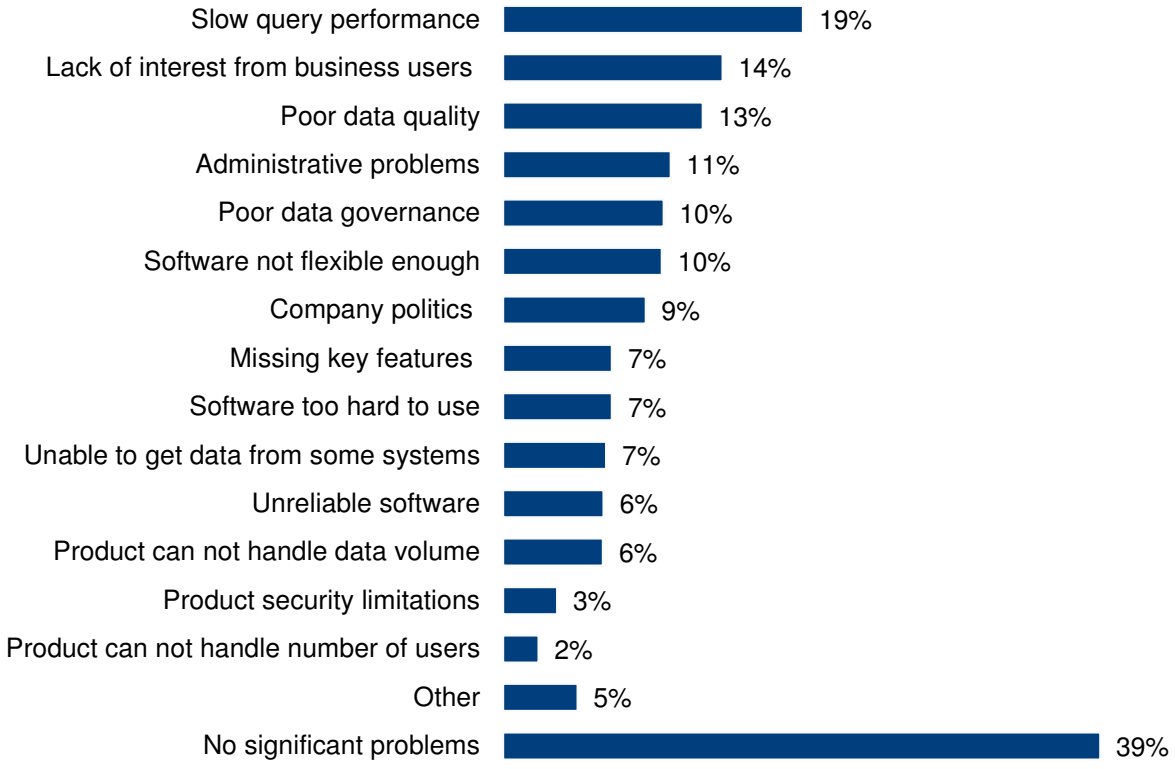


Figure 30: Most serious problems encountered during use by business users (n=2422)

Reasons for Replacement

Replacing BI software happens for a variety of reasons and is often painful, especially if recent investments failed to deliver on strategic promises. The BI Survey 15 results indicate that the frequency of replacements usually increases as the size of the company, in terms of employees, increases. As BI technology is typically composed of a "portfolio" of tools at larger companies rather than one product, large companies may be better equipped to weather the impacts of a replacement.

Buyers have many options for reducing the chance that the "reasons" below will surface at their companies. Methods include increasing rigor during product evaluation, establishing a supportive political environment, or properly scoping dependencies like data quality training, and security issues into the overall project scope and costs.

When it comes to buyer's remorse due to a product's fitness for the job, cloud-based delivery models with monthly subscription prices offer the advantage of limiting upfront investment and might be the best option when it's not possible to make a quality selection decision.

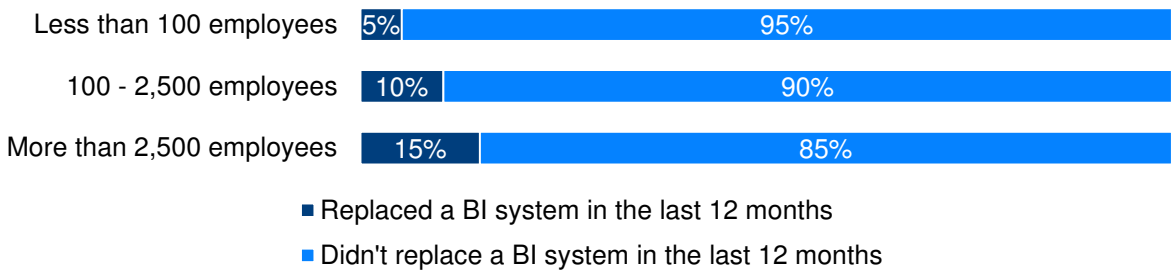


Figure 31: Replacement of a BI system in the last 12 months by company size (n=1649)

Figure 32: Reasons for replacing BI systems (n=192)

Trending Topics

BI With Real-Time Transactional Data by Company Size

Digging deeper, we see in the chart below that approximately one-third of companies, regardless of number of employees, apply BI in real-time solutions. Small companies of less than 100 employees, where adoption is currently the greatest at 33 percent, are planning for a 14 percent increase over the next 12 months: the largest across all three company size bands. Over the longer term however, the largest sized companies are targeting the greatest increase in real-time BI with 34 percent projected increases, more than doubling their current rate of 27 percent.

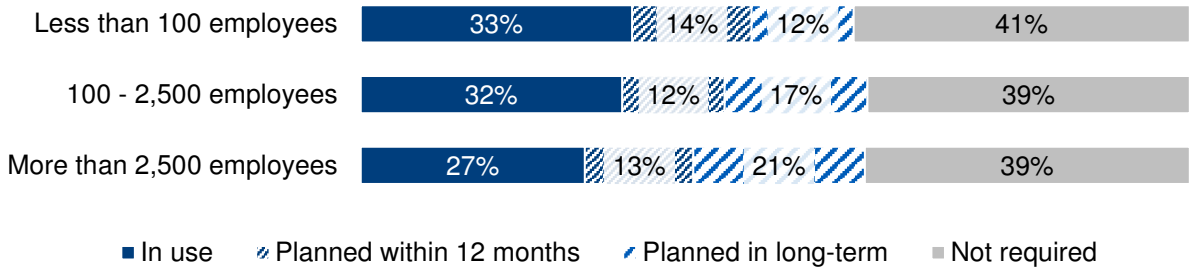


Figure 33: BI with real-time data from transactional systems by company size (n=2341)

Machine Data Analysis by Industry

Typical large enterprises can easily generate over a terabyte of data just from software applications and data centers. Telecoms, utilities and even transportation companies with thousands or millions of machines and sensors are capable of generating far more. Harnessing this data to increase efficiency and effectiveness is a domain closely associated with the "Internet of Things", which is set to propel BI growth for years to come.

Across the nine counted industries, an average of 25 percent of respondents perform machine data analysis with their BI infrastructure. The largest adoption increases over the next 12 months are expected to come from telecoms and IT. For now, the transport industry leads adoption with an average of 41 percent of respondents reporting existing machine data analysis projects.

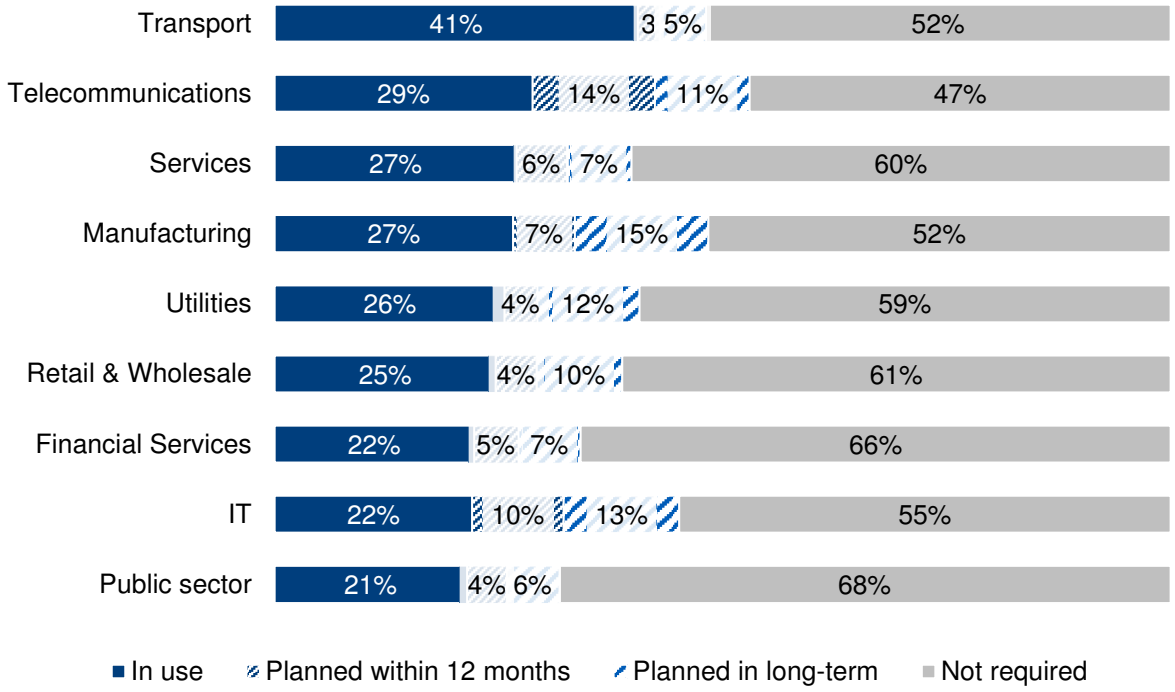


Figure 34: Machine data analysis by industry (n=2376)

Mobile BI – Timeline

For the past 5 years, mobile BI has seen positive gains in adoption. In 2015, it increased by 3 percent to 21 percent, more than doubling since 2011. Interestingly, respondents indicating mobile BI was not in use or not needed increased by 1 percent to 33 percent. With smartphone growth continuing and tablets making their way into the enterprise, we will likely continue to see steady gains in mobile BI for years to come.

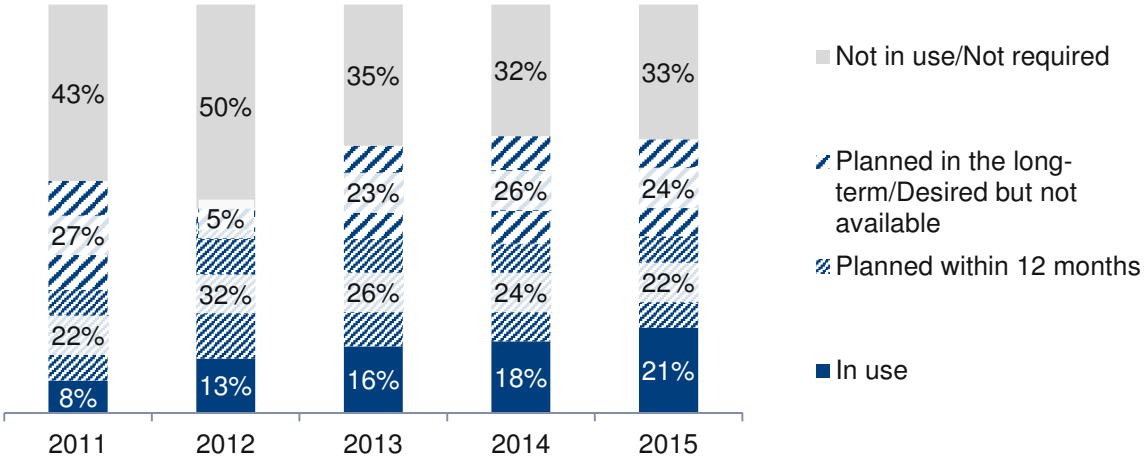


Figure 35: Mobile BI, timeline (n=changing basis)

Cloud BI by Industry

As mentioned earlier, cloud BI holds the potential to impact many of the key factors that affect employee adoption and penetration rates. Technology-savvy industries have been faster in leveraging the cloud. In the case of BI, the IT and service industries have taken charge with 19 percent and 15 percent penetration respectively.

Surprisingly, financial services, a tech-savvy industry, is last at 4 percent. Perhaps there are still concerns around performance, reliability and security. Standing at 8 percent, the public sector is the next lowest adopter. With the ability to scale performance and user licenses up or down as needed, industries seeking to use BI with less infrastructure management responsibility need to evaluate cloud options.

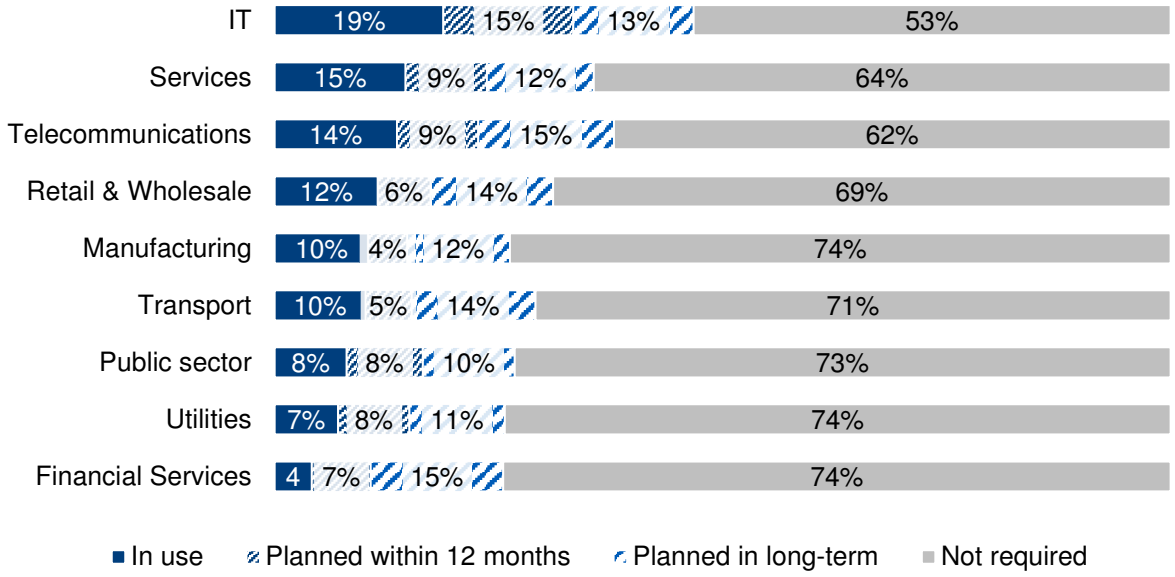


Figure 36: Cloud BI by industry (n=2376)

Self-Service by Industry

Understanding industry characteristics when it comes to buying and building a BI product is critical. Companies like Dimensional Insight attribute a great deal of their success to knowledge and execution against requirements in highly regulated environments like hospitals and the alcoholic beverages industry. When looking specifically at self-service across all industries, there isn't too much variation in terms of usage rates except the utilities sector lags behind while IT has a slight lead.

More interesting information in this chart comes when analyzing how each industry views its ceiling for self-service use. Whereas the transport and IT industries are working towards 90 percent+ penetration, utilities and public sector organizations forecast the lowest penetration. While these are certainly the best forecasts today, we've seen technology force industries (telecoms/cable, healthcare, etc.) to reinvent themselves time and time again so readers interested in self-service adoption may want to keep up with this one over time.

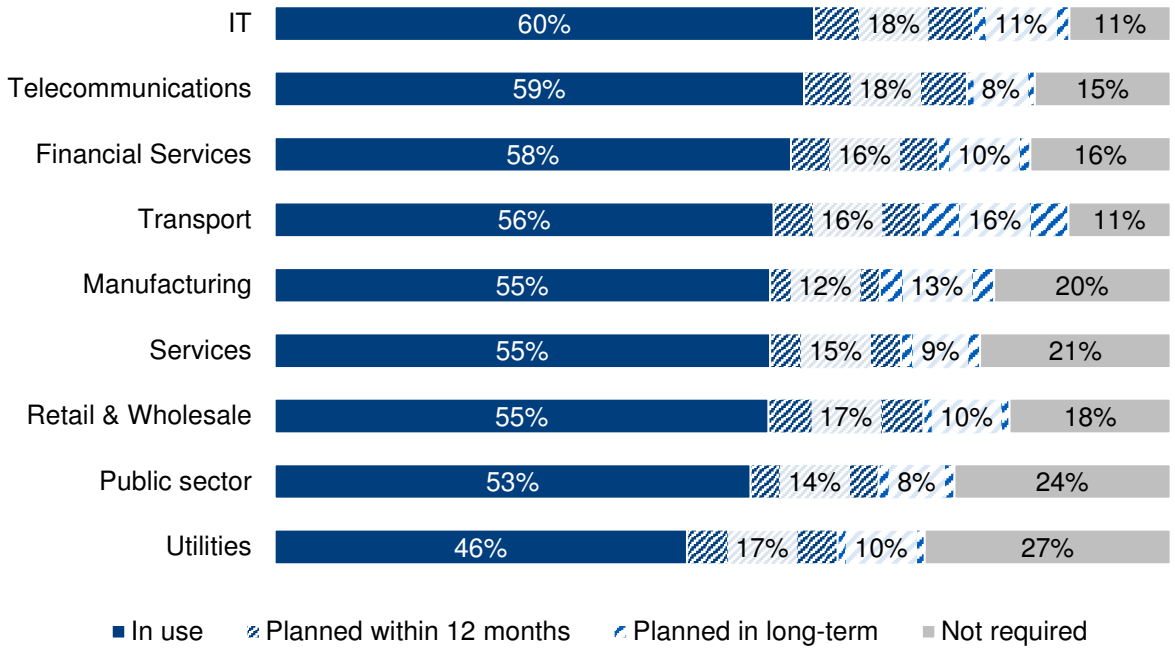


Figure 37: Self-Service by industry (n=2376)

Self-Service BI by Number of Employees

When looking at self-service penetration and future adoption plans by company employee size, we see a similar pattern across small, medium and large companies. Though results indicate double-digit adoption growth across all three tiers in the coming years, the largest companies have the greatest ultimate ambitions (84 percent) for enabling self-service BI. Current usage of self-service BI is fairly even across all three tiers today with the smallest companies set to make the biggest adoption increase over the next 12 months.

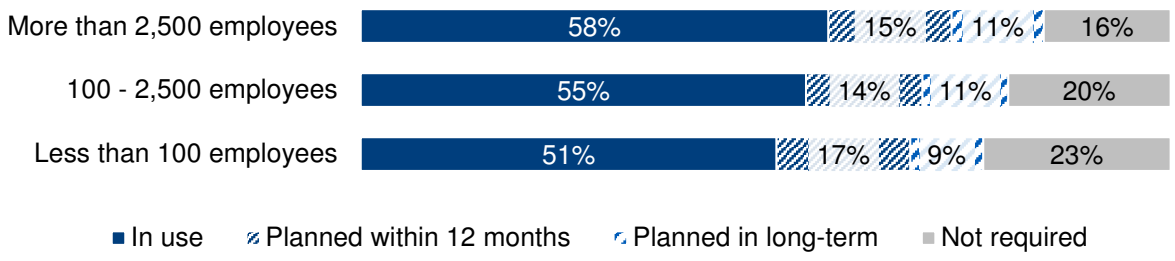


Figure 38: Self-service by company size (n=2341)

BI Trends (in use) – Timeline

2015 witnessed increased adoption in all of the major BI trends except for collaboration, which took a very minor dip. Data discovery applications made the biggest jump, followed by visual design standards and mobile BI. Surprisingly, self-service growth was minuscule while cloud BI continued its steady uptrend.

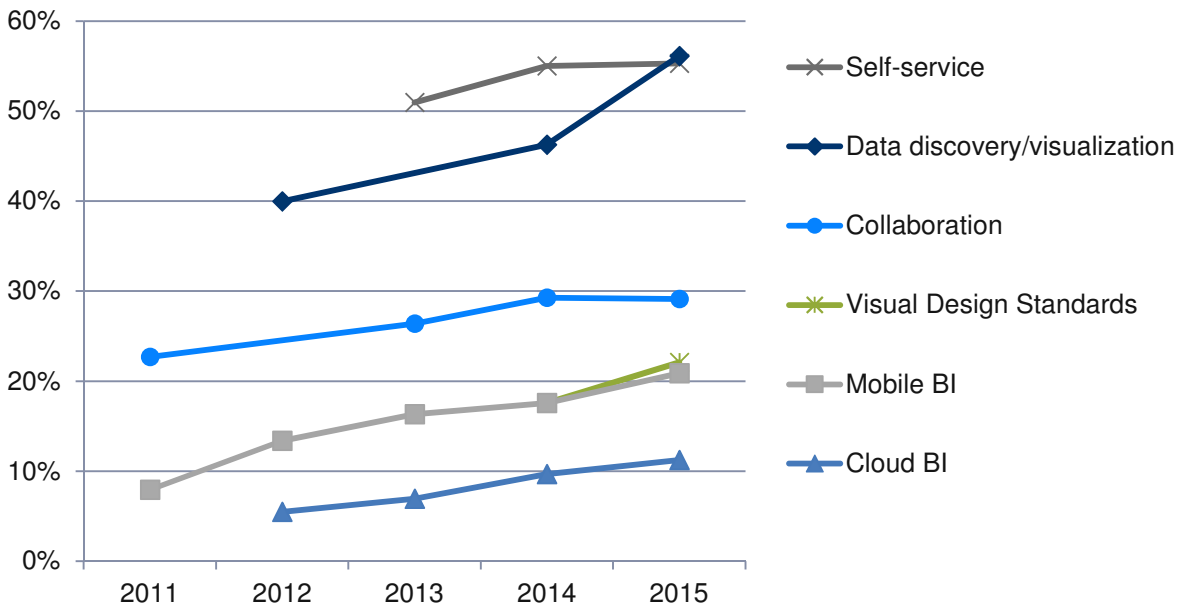


Figure 39: BI trends (in use), timeline (n=changing basis)

Data Discovery/Visualization by Industry

Finding new insights by utilizing a visual paradigm to manipulate data is the essence of data discovery's power for users. At usage exceeding 60 percent, it's the hottest BI trend in The BI Survey 15 results. Data Discovery, or exploration as some call it, is typically an individual task. It requires skills in navigating graphical interfaces, an understanding of the data relationships, and analysis functions that can transform data to reveal insights.

Based on the chart below, the technology sector has the highest current rates of discovery applications and sees itself as the industry that will use this BI paradigm the most in the future. In contrast, 32 percent of respondents from the utilities industry don't see that they will ever need data discovery applications.

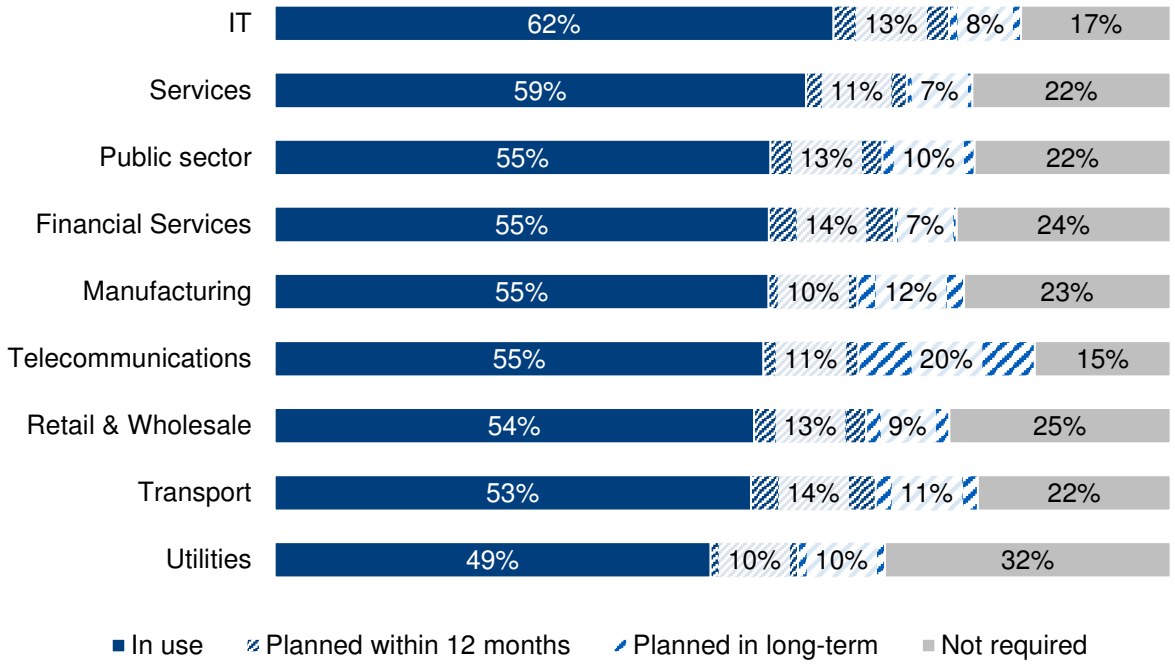


Figure 40: Data discovery/visualization by industry (n=2376)

Data Discovery – Timeline

The percentage of respondents executing data discovery jumped 10 points to 56 percent in 2015. Another 22 percent are planning to implement data discovery in the future which leads to the conclusion that almost 80 percent of the market will depend on their BI solution to address this use case within 3 to 5 years.

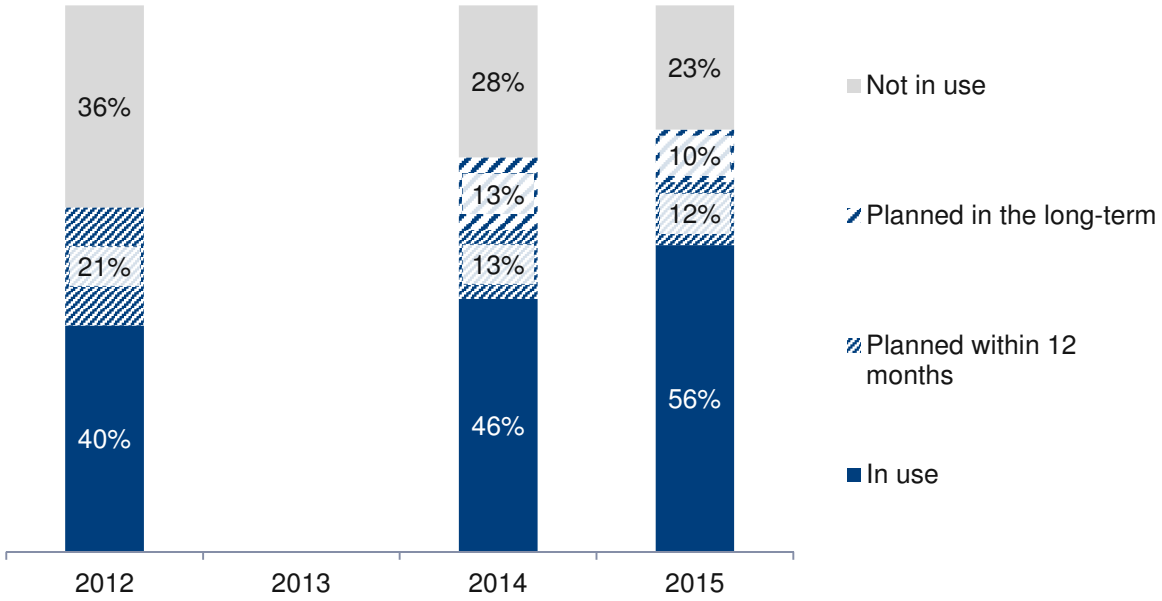


Figure 41: Data Discovery/visualization, timeline (n=changing basis)

Business Application Research Center – BARC GmbH

Germany
BARC GmbH
Berliner Platz 7
D-97080 Würzburg
+49 (0) 931 880651-0
www.barc.de

Austria
BARC GmbH
Goldschlagstraße 172 / Stiege 4 / 2.OG
A-1140 Wien
+43 (1) 8901203-451

Switzerland
BARC Schweiz GmbH
Buchhaldenstraße 7
CH-5442 Fislisbach
+41 (0) 763403516

Rest of the World
+44 1536 772 451
www.barc-research.com