BI Trend Monitor 2018

The World´s Largest Survey on BI Trends

BARC Research Study

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Table of Contents

4 | Foreword

6 | Management Summary

9 | Survey Results

10 | BI Trends Overview

12 | BI Trends Development

14 | The Trends in Detail

16 | Master Data/Data Quality Management

18 | Data Discovery/Visualization

20 | Self-Service BI

22 | Data Governance

24 | Data Preparation for Business Users

26 | Real-Time Analytics

28 | Data Warehouse Modernization

30 | Collaboration

32 | Mobile BI

34 | Agile BI Development

36 | Big Data Analytics

38 | Predictive Analytics/Machine Learning

40 | Integrated Platforms for BI and PM

42 | Using External/Open Data

44 | Embedded BI

46 | Data Storytelling

48 | Visual Design Standards

50 | Spatial/Location Intelligence

52 | Cloud BI

54 | Data Labs/Science

56 | Top 5 Trends per Category

59 | Recommendations

61 | Sample & Methodology

63 | BARC Company Profile

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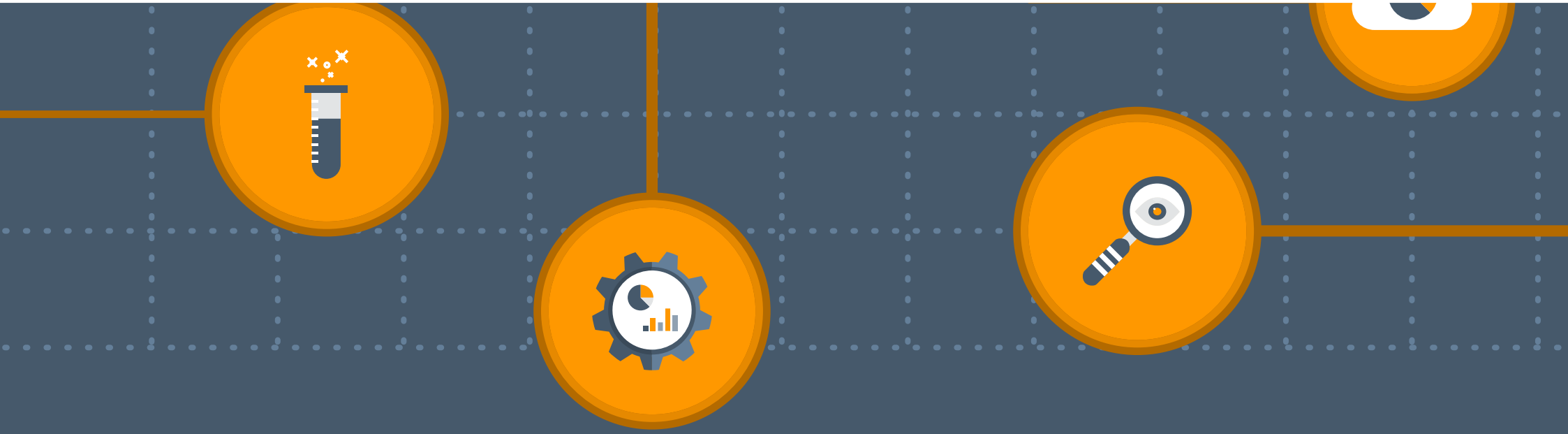
Foreword



The IT industry and the world at large have always been subject to technology and business trends, sometimes undergoing major changes, such as the development of the personal computer, client/server computing, the evolution of the internet, and now cloud computing. Over the last few years, new trends have emerged that have had an enormous influence on how organizations work, interact, communicate, collaborate and protect themselves.

IT 'meta-trends' influence organizations' strategies, operations and investments in a wide variety of ways: Digitalization and security & privacy seem to make the most headlines now, but agility, cloud, mobile and artificial intelligence are also major technology drivers. These meta-trends can be considered as the main drivers behind a number of important trends, either related to the use of software and technologies for business intelligence/analytics (BI) and data management or to the way the use of technology is organized in companies.

The BI Trend Monitor 2018 from BARC reflects on the trends currently driving the BI and data management market from a user perspective. In order to obtain useful data for the BI Trend Monitor, we asked 2,770 users, consultants and vendors for their views on the most important BI trends. Their responses reveal a comprehensive picture of regional, company and industry specific differences and deliver an up-to-date perspective on the BI market.

Dr. Carsten Bange

Würzburg, Germany. November 2017.

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Management Summary

The market for BI and data management is constantly changing. As an industry analyst, we frequently highlight and predict important topics that have an impact on the agendas of organizations and the people within them. For this study we took a unique approach in identifying trends: we asked close to 2,800 users, consultants and vendors for their views on the most important BI trends, revealing a comprehensive picture of regional, company and industry specific differences and delivering an up-to-date perspective on the BI market. We have summarized the main findings of this study into six themes.

Result area 1 | Top trending topics

For the first time, BI practitioners identify data quality and master data management as the most important trend in their work. In second place last year, the importance of data as a driver of digital transformation seems to have propelled it into first place this year. The related trend towards more data governance (the fourth most important trend this year) also supports this impression.

Data discovery/visualization and self-service BI follow in second and third place and maintain their strong positions among the top three trends this year. At the other end of the spectrum, data labs/data science and cloud BI were voted as the least important of the twenty trends covered in this report. This shows that 'hyped' topics or initiatives in early-moving companies are not winning a greater mindshare as important trends than more mainstream or fundamental topics that are relevant to the current work of our survey participants.

It is interesting to note that the average rating of most trends has decreased this year. It looks like the overall importance of BI has decreased, although it remains at a good level with absolute average scores of 6.4 to 6.9 for the top three rated trends.

Result area 2 | Best-in-class companies

Best-in-class companies* attach greater importance to all BI trends than organizations that see themselves as laggards*. The perception of some trends like agile BI development, cloud BI and data governance is very similar between these two types of companies. But there are also some trends that best-in-class companies consider much more important than laggard companies. This year, the gap was widest for collaboration, mobile BI and using external/open data.

Laggard companies might consider how to improve the acceptance of these topics to become more data and analytics driven.

* Best-in-class companies comprise the top 10 percent in terms of achievement of specific BI-related business benefits (e.g. "Faster reporting, analysis or planning" and "Increased competitive advantage") in this survey. Laggards represent the lowest 10 percent.

Result area 3 | Vendors vs. users

Vendors, consultants and users often agree on their rating of the importance of BI trends. However, a difference of opinion can be seen when it comes to cloud BI, data storytelling and mobile BI. Vendors consider these topics to be much more important than users do, especially business users. And the gap is particularly wide when it comes to cloud BI. Increasing interest and spending from users in this area indicate that they are more concerned with the quality and what they can do with data rather than how they access the software.

Conversely, users attach greater importance to master data/data quality management than software vendors do. Vendors of BI software rely on the quality of the data reported, visualized and analyzed, and we are now seeing some of them add capabilities for their users to deal with data quality concerns.

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Result area 4 | Industry comparison

Generally speaking, the manufacturing industry considers BI trends less important than other industries despite the ongoing discussion around big data analytics, digitalization and the industrial internet. The same is true for utilities companies.

Telecommunications and services generally regard BI trends as more important than other industries. This probably reflects the level of BI maturity in this highly competitive sector.

The biggest differences in the perception of importance of trends between industries can be seen with cloud BI (important for technology companies, but much less important for manufacturing), data governance (most important in financial services, but less so in utilities) and real-time analytics (important for telcos, but less important in financial services).

Result area 5 | Global differences

Overall, Asia, North America and especially South America seem to view BI trends as more important than Europe. It is unclear whether there might be cultural factors favoring a more euphoric response behavior, or if they really do regard most BI trends as more important.

Looking at Europe, particularly the German-speaking region (see Hot Spot 6), almost all trends are rated as less relevant than in other regions. On a global level, the biggest differences from region to region can be seen in predictive analytics/machine learning, mobile BI, agile BI and cloud BI.

Result area 6 | Europe

The perception of importance of BI trends varies significantly across different regions of Europe. Participants from Eastern Europe generally view trends as more important. Compared to the rest of Europe, BI practitioners in Eastern Europe attach greater significance to predictive analytics/machine learning, mobile BI and data labs/science.

The German-speaking countries (“DACH”) are more reserved and assign medium to medium-high importance to most trends – with one notable exception: visual design standards. This trend is much more relevant to companies in the DACH region than anywhere else. Compared to other European countries, survey participants from the DACH region see less significance in a wide range of topics including collaboration, data governance, cloud BI, data discovery, data preparation for business users, and data storytelling.

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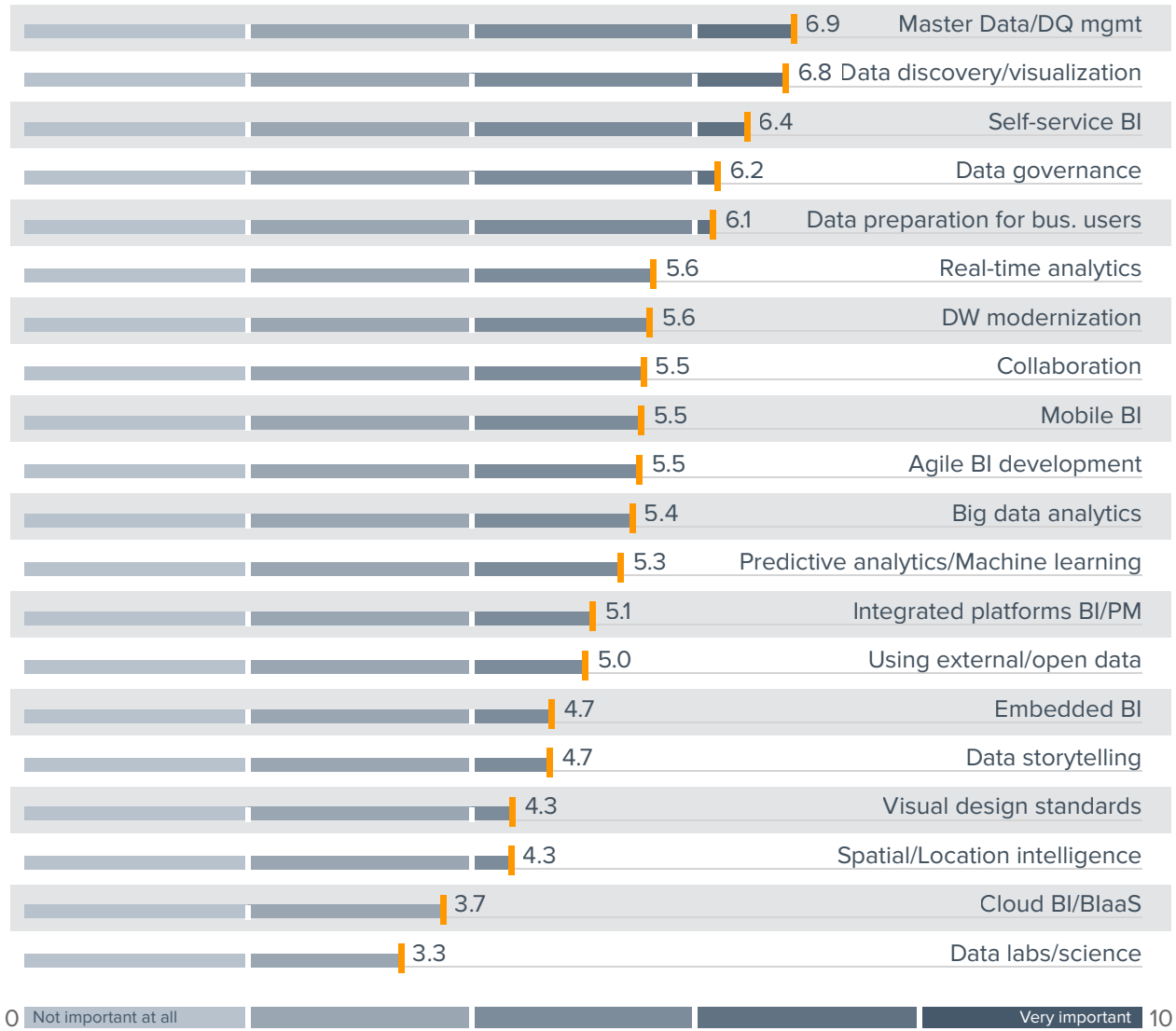
Survey Results

BI Trends Overview

Data quality/master data management, data discovery/visualization and self-service BI are the top trends.

Importance of BI trends from "not important at all" (0) to "very important" (10)



n = 2770

BARC Viewpoint

We asked users, consultants and software vendors of BI and data management technology to rate their personal view of the importance of twenty trending topics that we presented to them. For the first time, data quality and master data management was voted as the most important trend this year. Our 2,770 participants send a strong message – highly appealing topics like data discovery, visualization and self-service BI are nothing without a solid foundation of data. We hope this perceived importance does not lead to initiatives that are announced with a fanfare before quickly moving down the list of priorities – as has often happened in the past. Business intelligence will not work without comprehensive data integration and data quality initiatives, but these have to be backed up with the right level of attention, resources and funding.

All four of the following top trends - data discovery / visualization, self-service BI, data governance and data integration for business users – are related. Business users need more autonomy and agility when it comes to integrating, analyzing and visualizing data. Often they achieve it (e.g. by using self-service tools), but when too many people have too much freedom to manipulate and communicate data, a call for more data governance is the natural reaction to restore trust in data and efficiency in decision-making.

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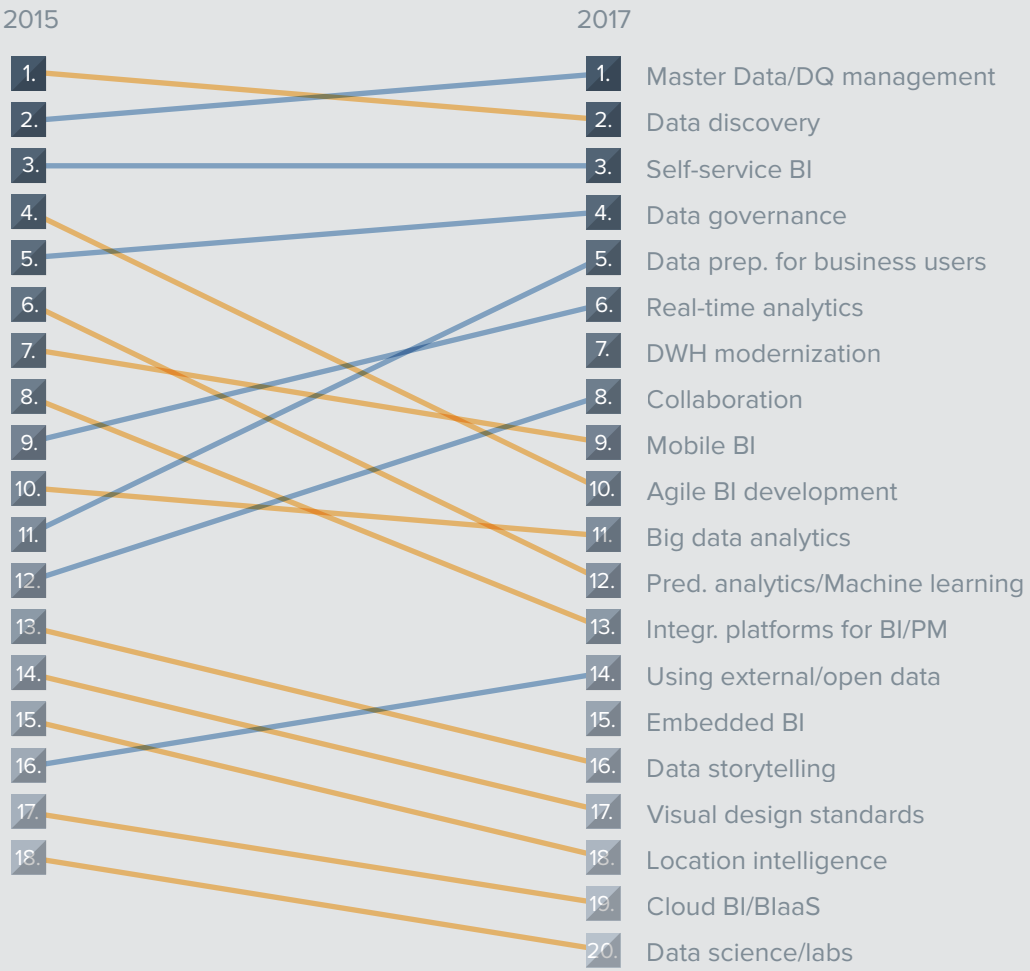
BI Trends Development

Development of rankings of BI trends



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BARC Viewpoint

Trends that ranked higher compared to previous years include real-time analytics, collaboration and using external/open data. While collaboration is a more organizational topic, which supports the increased use of BI across different user types within the organization, real-time analytics and using external/open data are more commonly linked to typical digitalization initiatives. Analyzing IoT/sensor or log data in real time and expanding the available data space beyond internally available data (e.g. for building predictive models) are new application areas that companies are exploring. While concrete big data use cases are thriving, participants rank the more (maybe too) general topics “big data analytics” and “predictive analytics” as considerably less important than in previous years. The same is true for mobile BI, agile BI development and integrated platforms for BI and performance management. This perceived decrease in importance might result from the maturity of the trends and the fact that many companies have already adopted them, making room for other topics to gain in importance.

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The Trends in Detail

16 | Master Data/Data Quality Management
18 | Data Discovery/Visualization
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22 | Data Governance
24 | Data Preparation for Business Users
26 | Real-Time Analytics
28 | Data Warehouse Modernization
30 | Collaboration
32 | Mobile BI
34 | Agile BI Development
36 | Big Data Analytics
38 | Predictive Analytics/Machine Learning
40 | Integrated Platforms for BI and PM
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44 | Embedded BI
46 | Data Storytelling
48 | Visual Design Standards
50 | Spatial/Location Intelligence
52 | Cloud BI
54 | Data Labs/Science

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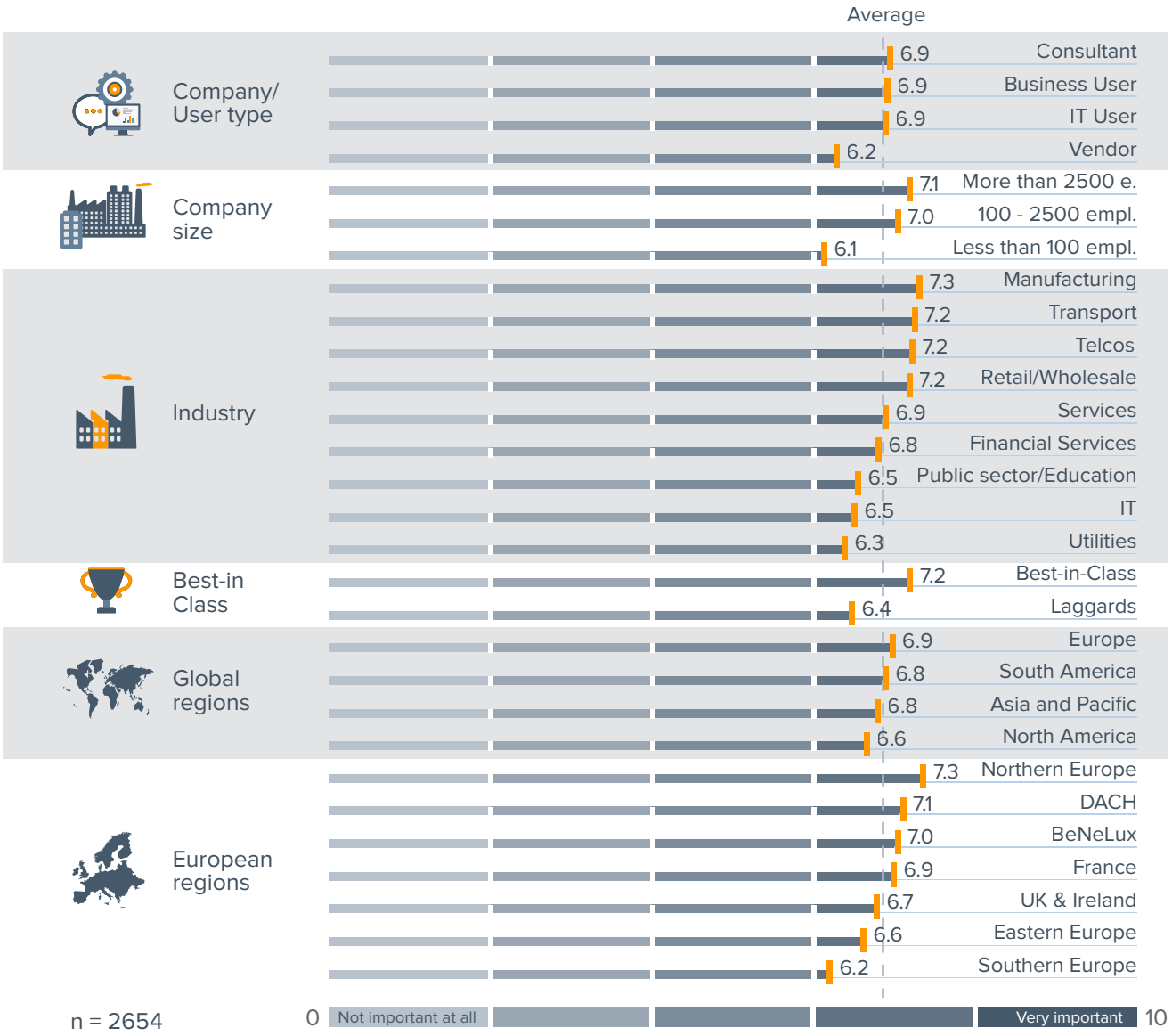
Master Data/Data Quality Management

Importance of master data/data quality management from “not important at all“ (0) to “very important“ (10)



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The importance of data quality and master data management can be explained very simply: people can only make the right decisions based on accurate data. Through their aggregation mechanisms, BI reports and analyses can help reveal data quality issues. Operational and decision-making processes also profit from high data quality.

The goal of master data management is to bring together and exchange master data such as customer, supplier or product master data across multiple systems. Aside from a “master” ERP system, many companies also work with other CRM or SCM systems, use web services, or need to merge systems following corporate mergers, or to co-operate as partners effectively.

There are proven concepts for increasing data quality and implementing master data management. One example is the Data Quality Cycle, which many software vendors have implemented in their tools.

In today’s digital age, in which data is increasingly emerging as a factor of production, there is a growing need to use or produce high quality data in new services and products. Defining roles and responsibilities as well as monitoring and optimizing quality assurance processes within a well-devised software solution for data quality and master data management are critical success factors.

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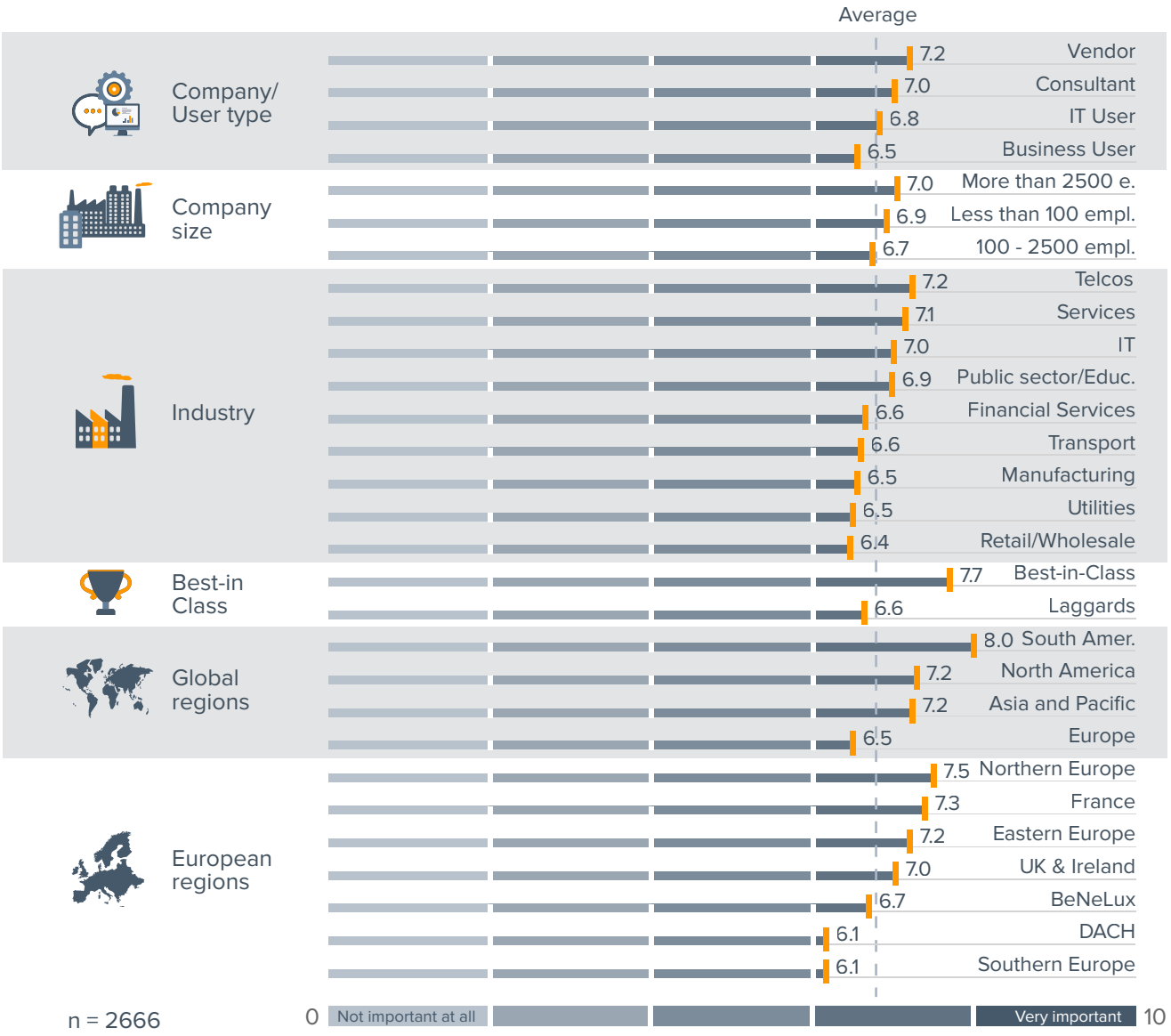
Data Discovery/Visualization

Best-in-class companies value data discovery/visualization very highly, the German-speaking region and Southern Europe less so.

Importance of data discovery/visualization from "not important at all" (0) to "very important" (10)



BARC Viewpoint

Data discovery is the business user driven and iterative process of discovering patterns and outliers in data. To efficiently and effectively identify and evaluate patterns and outliers, modern data discovery has to cover three functional areas in a tightly integrated manner to support iterative analytics. In order to enable users to execute their self-reliant discovery endeavors, cleansing data, enrichment and connection to diverse data sources must be supported to create data sets for analytics (data preparation). These data sets can be analyzed in an interactive and explorative fashion based on rich visualizations (visual analysis) or by applying advanced analytics in a user-friendly manner to find patterns not visible to the human eye (guided advanced analytics).

Within the area of data discovery, two major developments towards increasing efficiency and quality are happening right now. Improving user guidance is at the top of the agenda for most vendors. Machine learning is increasingly being added to data discovery tools to guide business analysts through all steps of discovery. To connect diverse and distributed data preparation and discovery efforts, we are also observing a tendency to integrate data discovery with BI suites that are typically strong on data governance.

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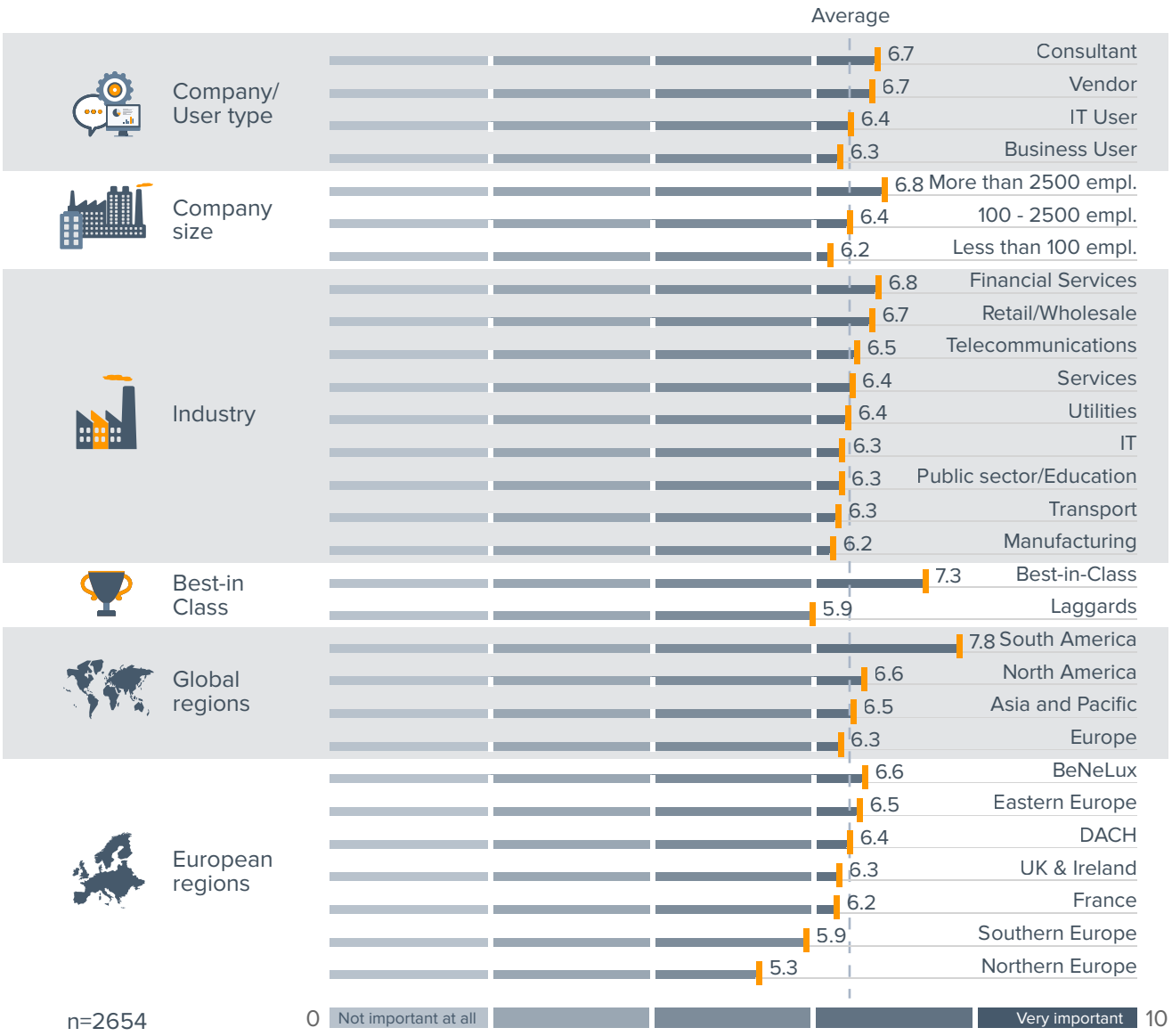
Self-Service BI

Importance of self-service BI from "not important at all" (0) to "very important" (10)



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Self-service BI has been on organizations' wish lists for a long time and data from our survey confirms that it is still a high priority. The continuously high demand from business users and equally high rates of implementation underpin its importance.

Departmental users require data to be accessible anytime, anywhere and on any device, and new analyses and reports have to be provided at short notice. This is increasing the pressure on IT and BI organizations by showing that traditional development methods are simply not suitable for many use cases. As a result we are continuing to see an increasing number of implementations that enable business users to build or design their own queries, reports, dashboards or explorative analytics (data discovery).

With largely decentralized content creation, connecting and governing the efforts of business users is becoming increasingly challenging. Self-service provides the required agility and increases the time-to-market. But this must not take place at the expense of quality for critical use cases or efficiency. So it is important to support content reuse and to find the right level of self-service for all types of use cases and users.

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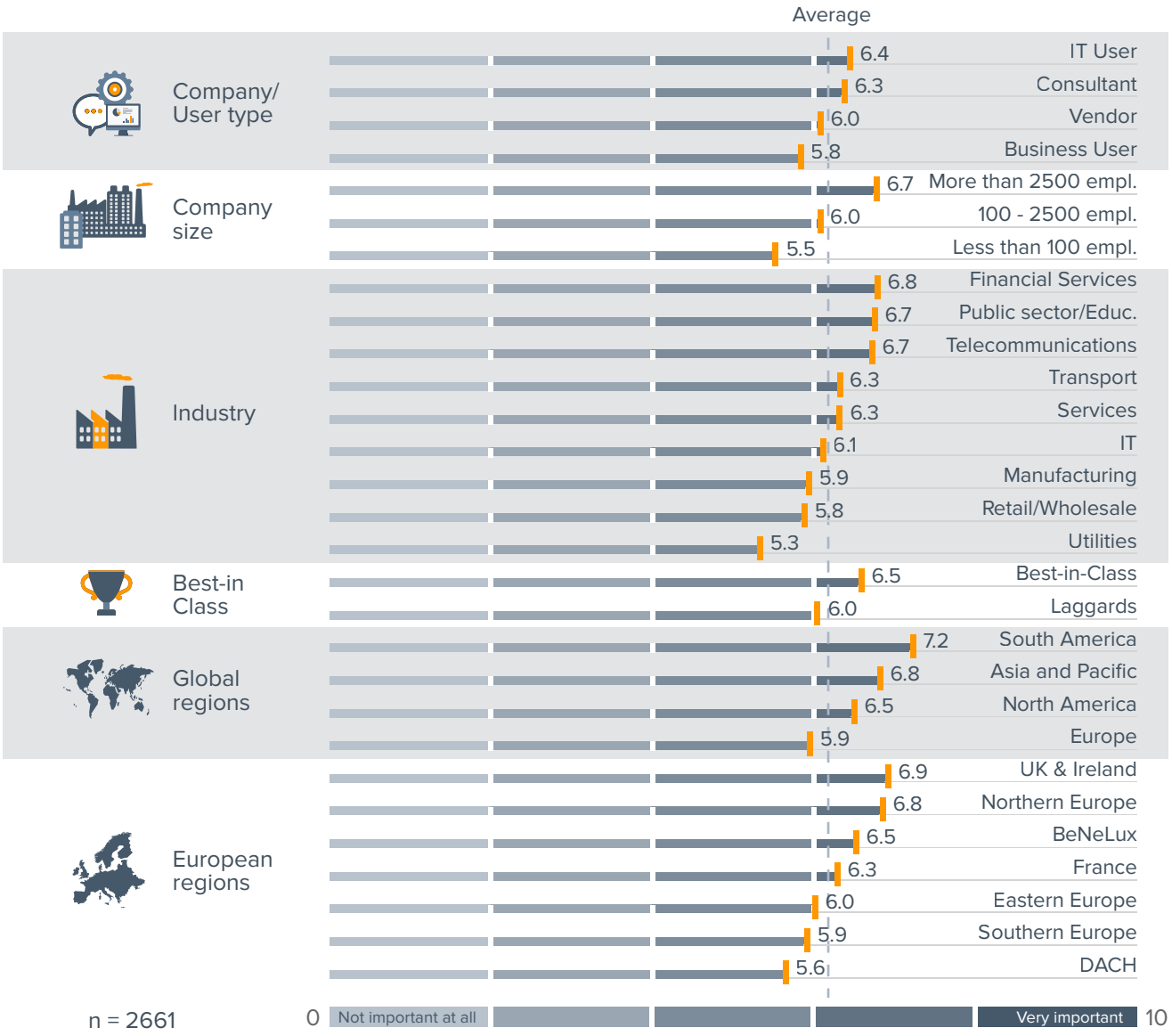
Data Governance

Importance of data governance from "not important at all" (0) to "very important" (10)



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Unlike BI governance, which centers on analytics, data governance focuses on the data in analytics and operational systems. Data governance is essential for data-driven companies that are extending existing BI investments with exploratory and operational analytics. Governance must go beyond classic BI systems and, from a data perspective, incorporate operational systems. This ensures that companies can utilize new findings and modify processes directly, but also requires broader thinking in terms of knowledge, organization and technology.

A proper data strategy orchestrates how business strategy is translated into data and analytics. Data strategy manages the exploitation of data across all business processes to promote business efficiency and innovation. Data governance is the steering mechanism needed to implement data strategy, including policies and frameworks to manage, monitor and protect data capital while taking people, processes and technologies into account. Establishing data governance is a long-term endeavor. Most of all, it requires a clear, conscious management decision on how to work with and use data.

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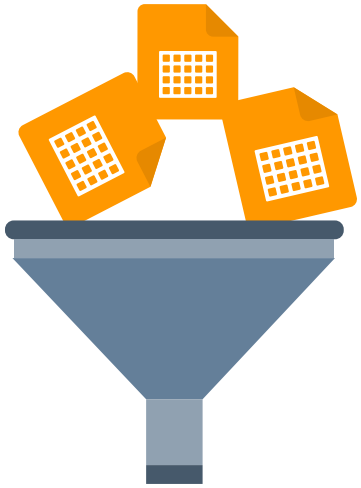
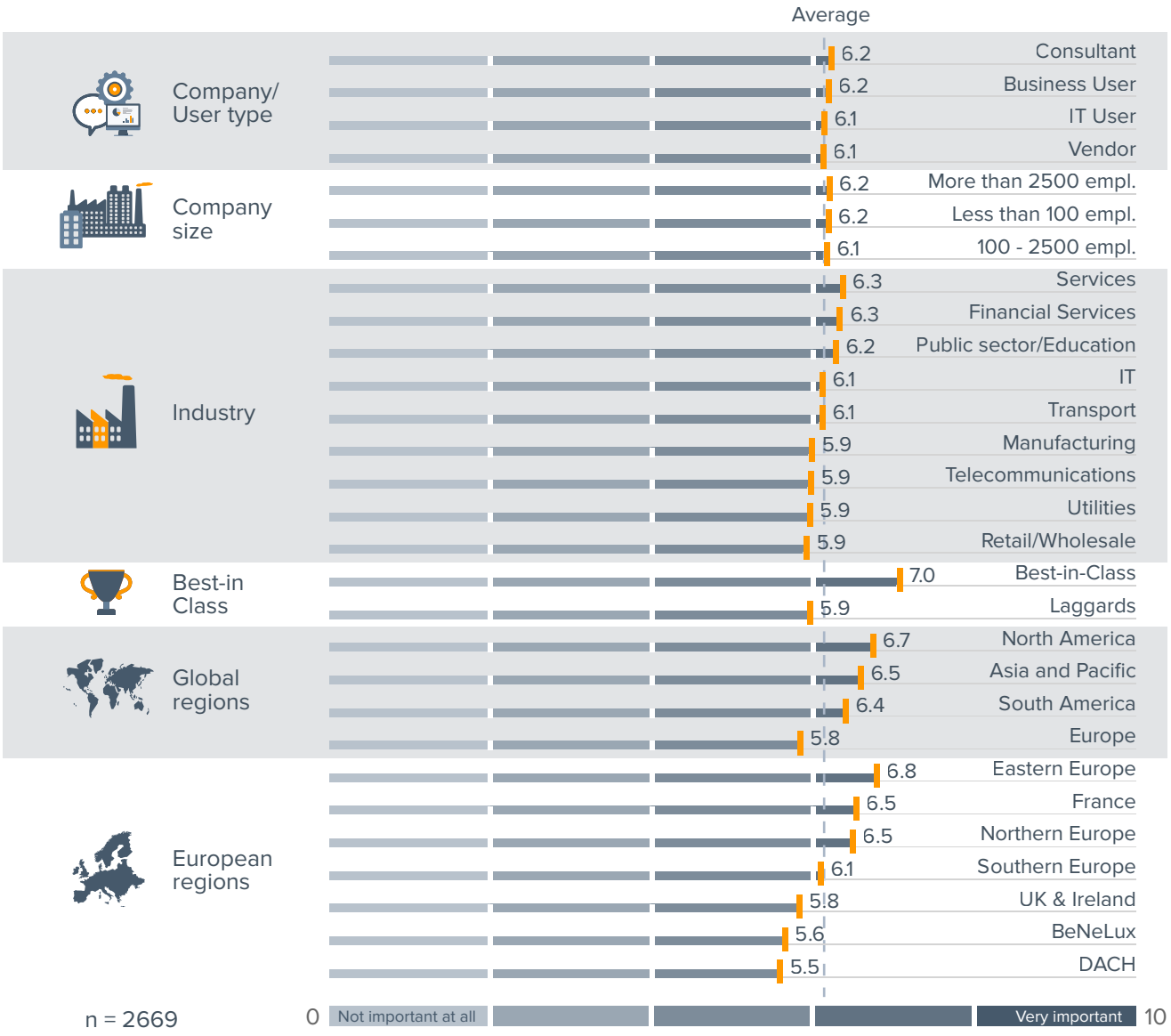
Data Preparation for Business Users



Best-in-class, North America and Eastern Europe place the most value on data preparation for business users. The DACH region is a long way behind.

Importance of data preparation for business users from “not important at all” (0) to “very important” (10)



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In today’s economy, achieving efficient and agile data preparation is of utmost importance. Many companies today view data preparation as the key to increasing their ability to efficiently use data in a distributed manner to optimize business processes, or to enabling new, innovative business models in the first place. Data preparation is the iterative process of cleaning, structuring and enriching raw data or diverse data sources for use in explorative analytics. The goal of self-service data preparation is to support business users to access and refine data for their analytical requirements without having to resort to IT.

Traditional IT tasks in data management like data preparation are increasingly being taken over by business departments, as the growing importance of this trend proves. To ensure high efficiency and quality without sacrificing the newly gained agility, it is important to find the right method of collaboration between development resources in IT and business users. Good usability and intuitive tools with user guidance and immediate results are vital to democratize data preparation. Clear guard rails have to be defined to allow the reuse of data preparation efforts of other users and their analytical data sets.

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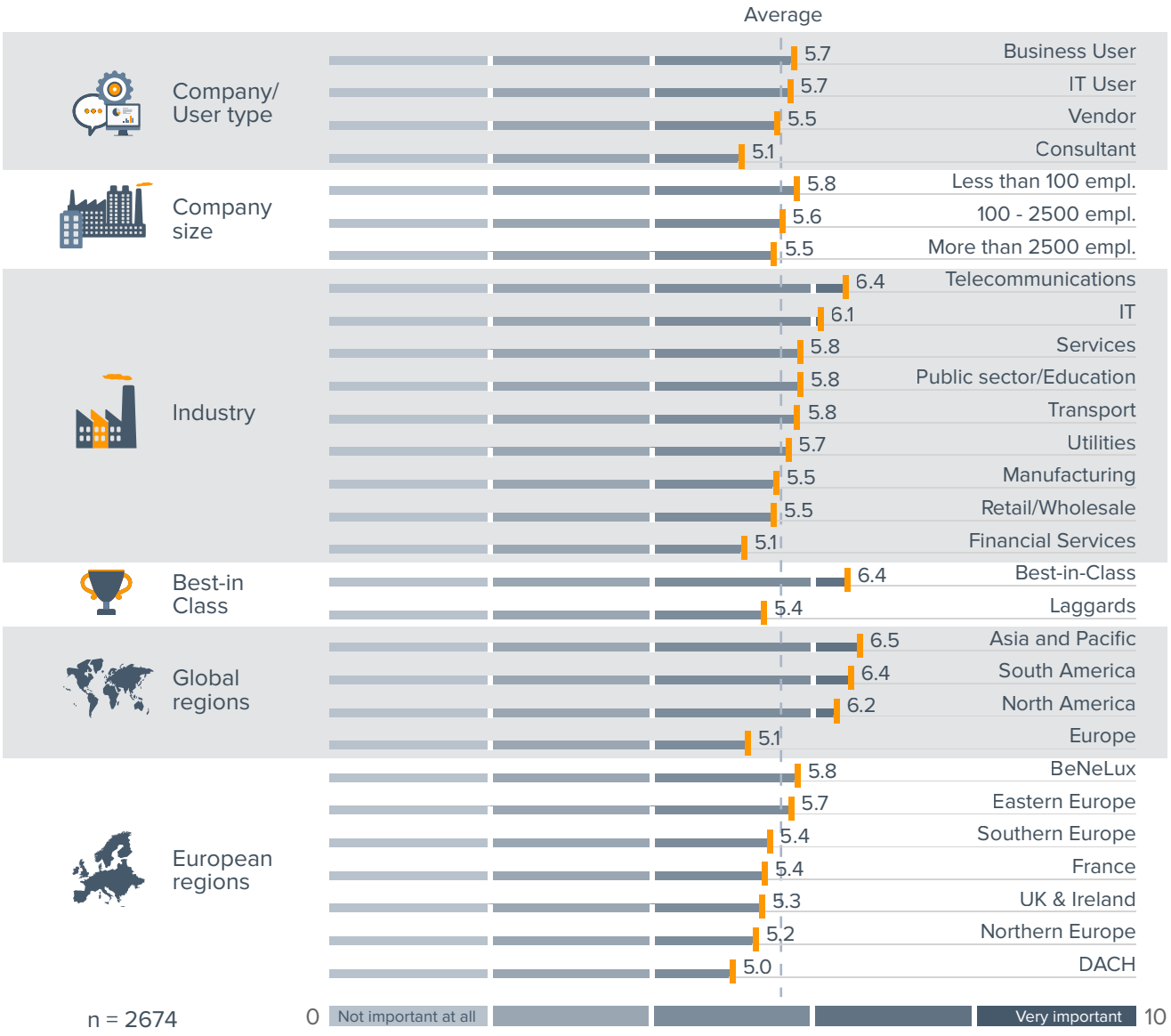
Real-Time Analytics

Real-time analytics is very popular in telcos and Asia & Pacific companies. Its relevance is much lower in Europe, especially the DACH region.

Importance of real-time analytics from “not important at all” (0) to “very important” (10)



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Faster reporting and analysis of data, not only in terms of query performance (which is still one of the biggest problems users experience with their BI tools), is a challenge in many companies. There is an increasing need to make data from transactional systems available immediately to support faster and fact-based operational decision-making.

BI with real-time data refers to the near-immediate processing and provision of information about business operations in transactional systems (i.e. streaming). Real-time analytics is about catching events or other new data immediately after their occurrence and processing them for display (e.g. in an operational dashboard) or analysis. Constantly increasing amounts of data, high-performance computing time and pattern recognition of events (complex event processing) are just some of the challenges companies now face when focusing on BI with real-time data.

Like visual BI or predictive analytics, BI with real-time data can complement an organization’s existing BI strategy to gain new insights into data with additional, valuable findings. An organization’s decision-making culture, available skills and the identification and promotion of appropriate use cases are key aspects to consider when exploring a real-time analytics project. Real time analytics receives above average importance scores with small and medium sized companies. The telecommunications sector assigns the highest importance to the topic.

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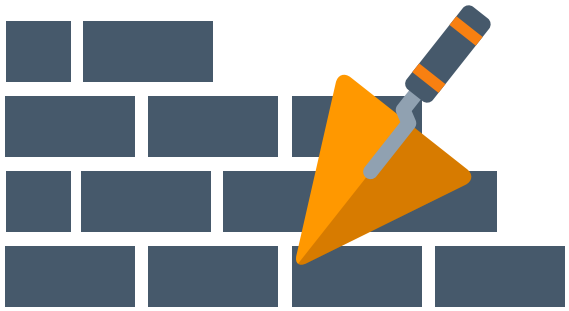
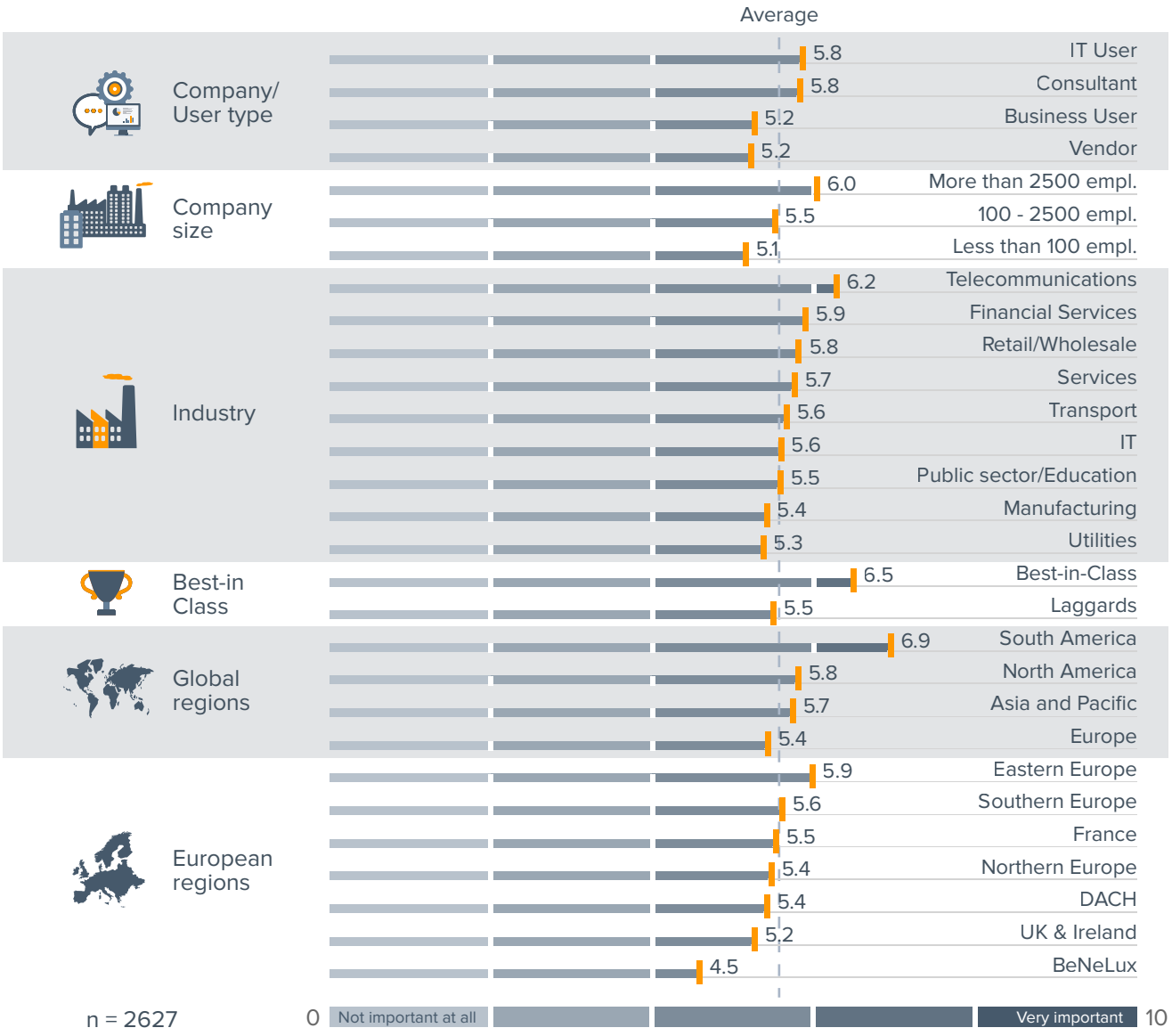
Data Warehouse Modernization



Important in South American and best-in-class companies, but not so much in the BeNeLux region.

Importance of data warehouse modernization from "not important at all" (0) to "very important" (10)



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New analytical challenges, increasing data variety, rising data volumes, faster decision processes, process automation and decreasing hardware costs are all having major effects on how companies store their data. Firstly, older data warehouse landscapes have become too complex to support agile development, or too expensive to have their functionality extended to accommodate modern analytics requirements. Furthermore, the type of implementation for which many data warehouse landscapes were originally designed and optimized does not cover the way analytics is currently moving forward in the direction of exploration and operational processing alongside classical BI requirements.

Now organizations are beginning to understand the new challenges and the potential of alternative methodologies, architectural approaches or utilizing more hardware/technology options like in-memory or popular (and cheap) off-the-shelf storage systems like Hadoop. IT departments have to prepare for faster, changing analytical requirements, and they must also compete against new and cheaper implementation options from external service providers or have to find collaborative approaches to cover the increasing expectations of the business to monetize data. It is now time to assess historically grown data warehouses against present requirements and evaluate how updated hardware and technology could make life easier.

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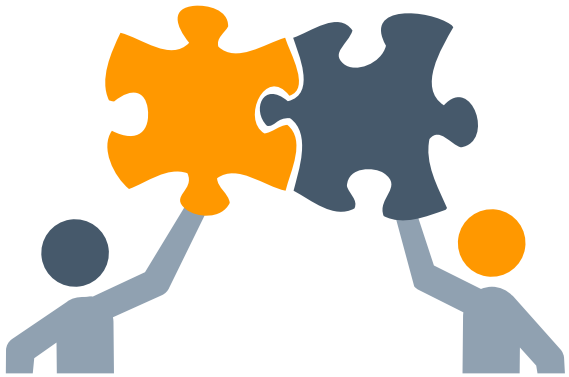
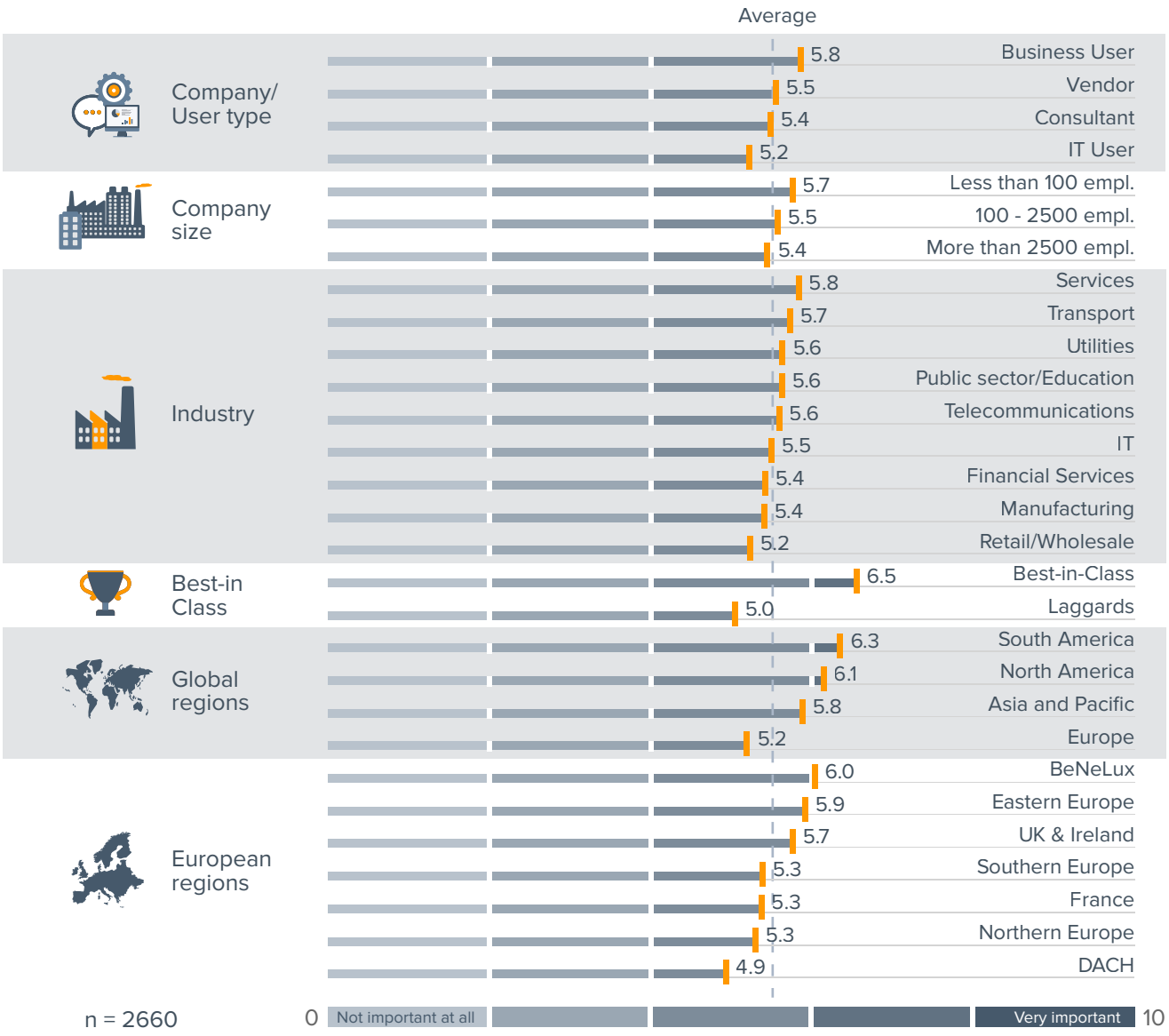
Collaboration



Very important in best-in-class companies. Less important in the DACH region & the retail sector.

Importance of collaboration from “not important at all” (0) to “very important” (10)



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Collaboration is an important, but not a new trend in business intelligence. Different collaboration features are available for a variety of BI use cases. First of all, almost everyone sees functionality such as commenting, chats and threads as classic collaboration characteristics. In the area of planning and budgeting, workflows are an important collaboration component and are especially needed in large and distributed planning scenarios. Workflows are also sometimes required by customers for standardized reporting to make sure enterprise reports get approval prior to their distribution. In the last two years, data storytelling has also emerged as a new, more collaborative publication format for BI content, instead of using PowerPoint for instance. The more customers develop BI in agile mode, the more important collaboration features to support BI development will become (e.g. between IT and line of business). Despite its importance, we do not see many customers using collaborative BI intensively. This may be partly due to shortcomings in the BI products in use today. Ideally, collaboration tools should enable a closed-loop collaborative approach which ensures that all collaboration items have a direct impact on new content and improve working tasks, rather than creating additional items to consider.

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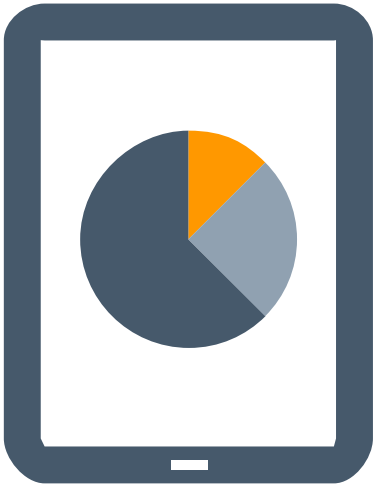
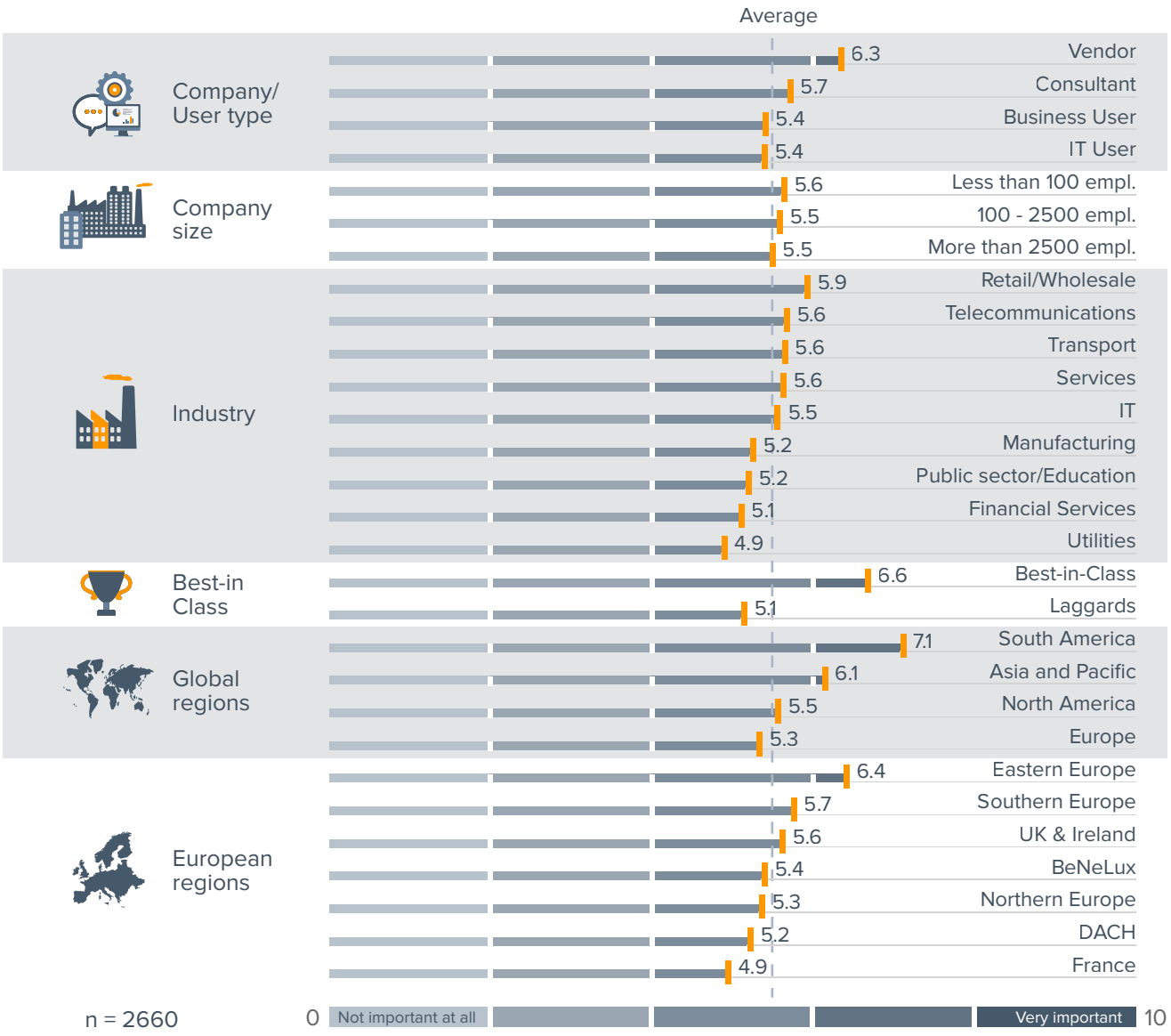
Mobile BI



Vendors see mobile BI as much more important than users do. France and utilities companies are less sold on the idea.

Importance of mobile BI from "not important at all" (0) to "very important" (10)



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Mobile BI – driven by the success of mobile devices – was considered by many as a big wave in BI and analytics a few years ago. Today there is a level of disillusion in the market and users attach much less importance to mobile BI. Our survey data shows that market penetration is growing relatively slowly: in 2017, 28 percent of BI users say that mobile BI is in use in their organization (up from 23 percent in 2016, 21 percent in 2015, 18 percent in 2014, and 16 percent in 2013 and 2012).

In our experience, the most successful mobile deployments are those in which a mobile strategy has already been devised and the needs of mobile workers are carefully addressed with the BI tool. So, for example, simply copying an existing (web) dashboard to a mobile environment is not always a successful approach. There is great potential for mobile BI to support operational processes while simultaneously increasing the penetration of BI within organizations. However, there are not many mobile BI apps out there that are truly mobile-friendly and easy to use for business users. Therefore, user acceptance of mobile solutions is often rather low.

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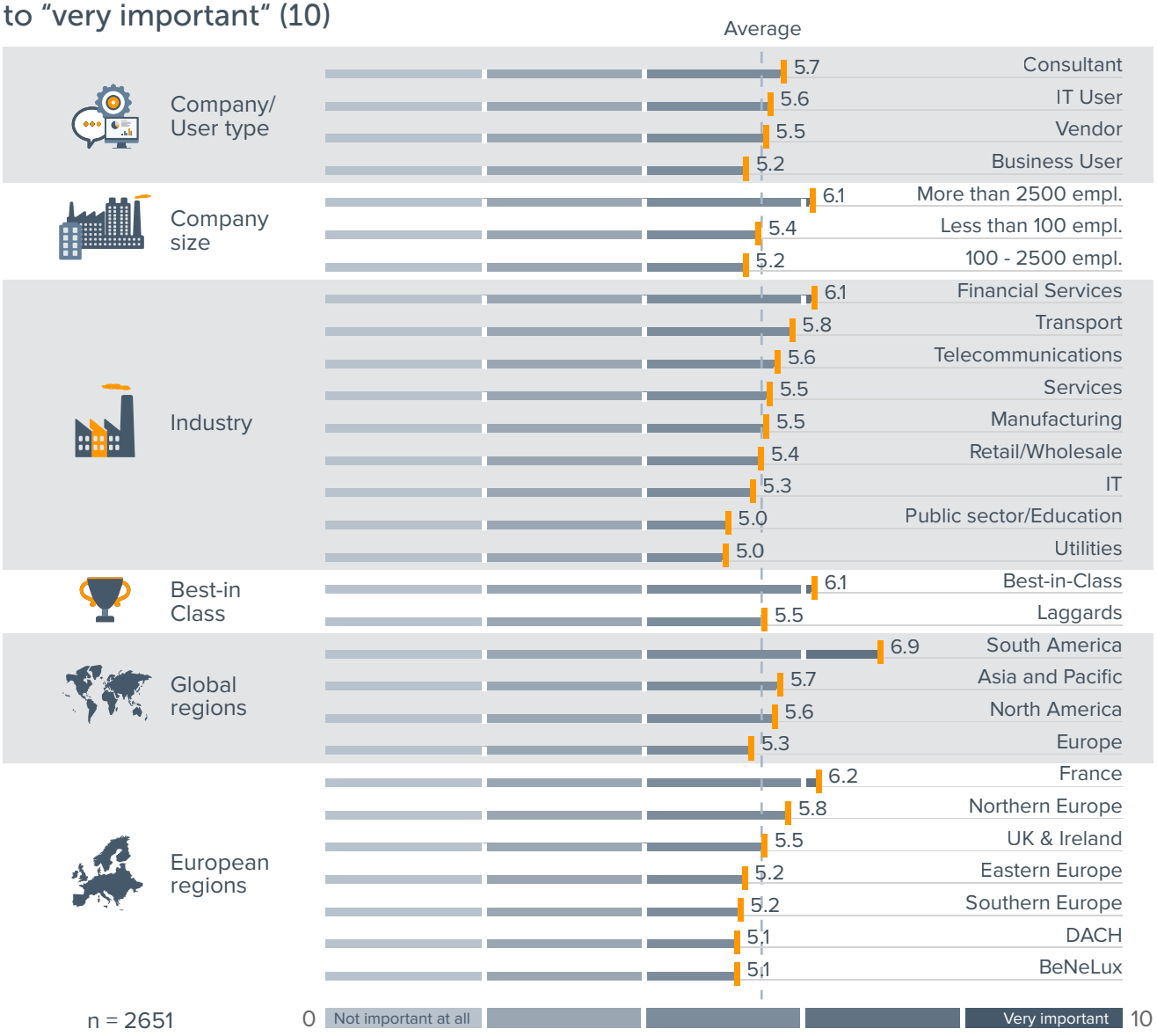
Agile BI Development

Importance of agile BI development from "not important at all" (0) to "very important" (10)



BARC Viewpoint

The term "agile" has increasingly been adopted in the context of business intelligence in recent years. Originally referring to a software development methodology, the "agile" moniker is now often used as a requirement for the development of new data models, reports, dashboards or visualizations. Arguably, most users requesting "agile BI" have very little understanding of the agile development methodology and use the term as a synonym for "flexible", indicating a pressing need for faster development cycles.

Agile BI requires organizations to adopt an iterative development approach. Instead of the traditional waterfall method, by which requirements are gathered before the development process starts, close collaboration between business and IT, using rapid prototyping, enables organizations to increase development speed while better responding to business needs. Many companies are not set up organizationally for this approach, however, and some changes in organizational structures may be required. Ideally, the agile BI development approach is also supported by agile project management, by which planning, requirements collection, development, but also functional, regression and usability testing are managed in an iterative manner. An important aspect, and one that is often considered a bottleneck, is the availability of business users to collaborate in the development process.

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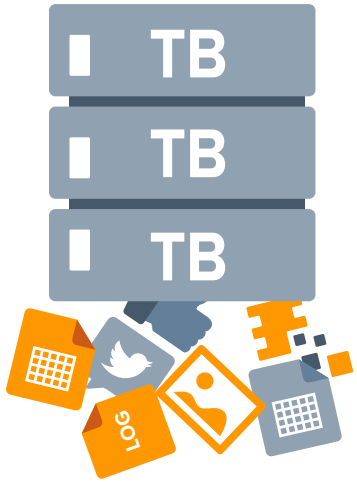
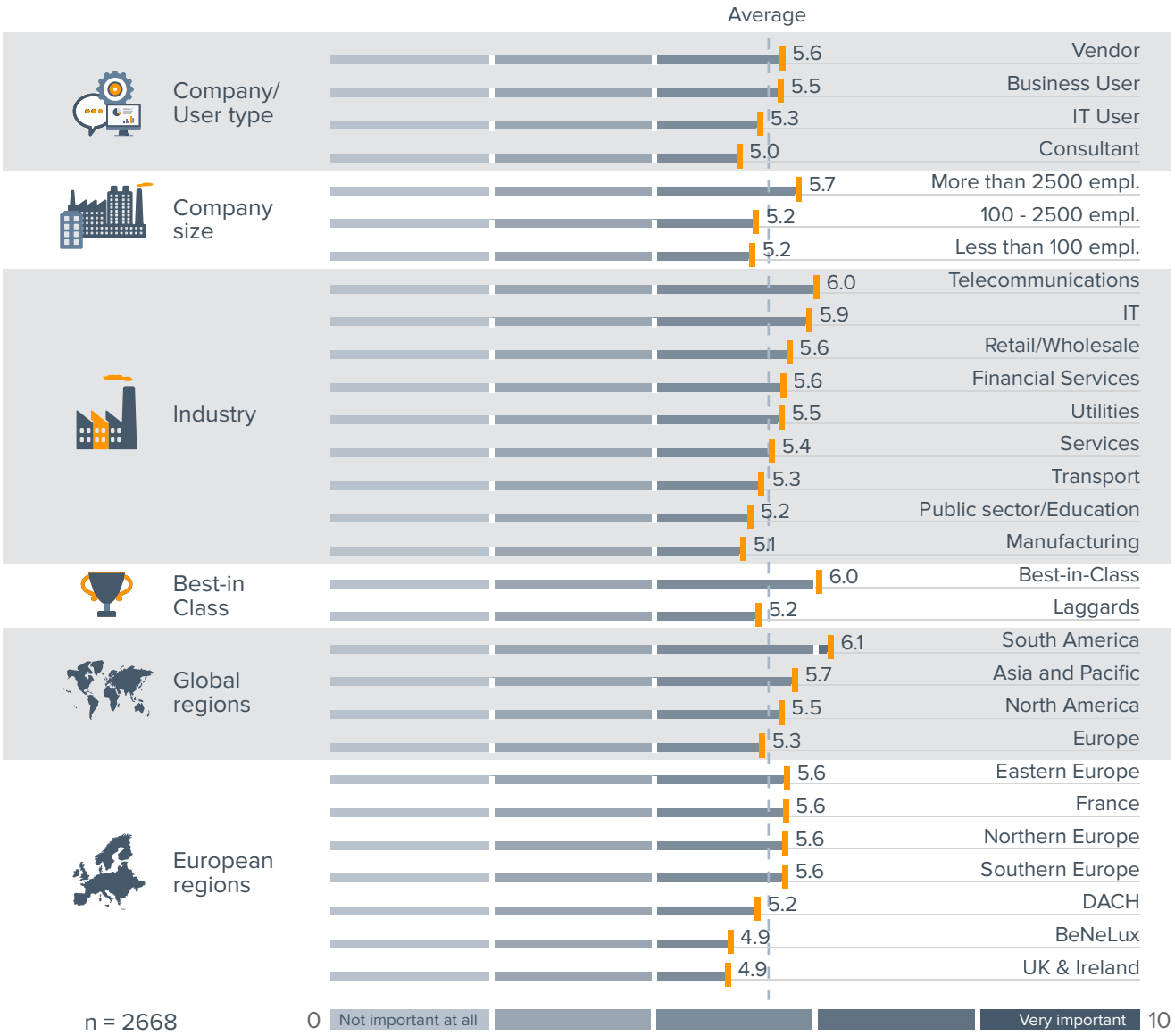
Big Data Analytics



Big data is prominent in best-in-class companies but less important to organizations in the UK, Ireland and BeNeLux

Importance of big data analytics from "not important at all" (0) to "very important" (10)



BARC Viewpoint

Big data analytics is a strategic initiative and seeks to use various internal, and increasingly external, data sources and data types for competitive advantage. There is widespread interest in capturing and drawing insights from data streaming from the Internet of Things, as well as social media, mobile devices and enterprise applications.

Deriving actionable insights from an expanding data universe supports not only operational decisions but also strategic management decisions. There are plenty of good examples of organizations that could derive significant value from data by combining existing business intelligence and analytics environments with sensor, geolocation, behavior or social media data.

Using big data is a core competency for companies wishing to develop into data-driven organizations. Data is viewed as an asset in data-driven organizations, and is even considered the most important asset for an increasing number of companies. Business processes and business models will become increasingly data-driven, meaning that data will drive decisions and increase the efficiency and effectiveness of processes.

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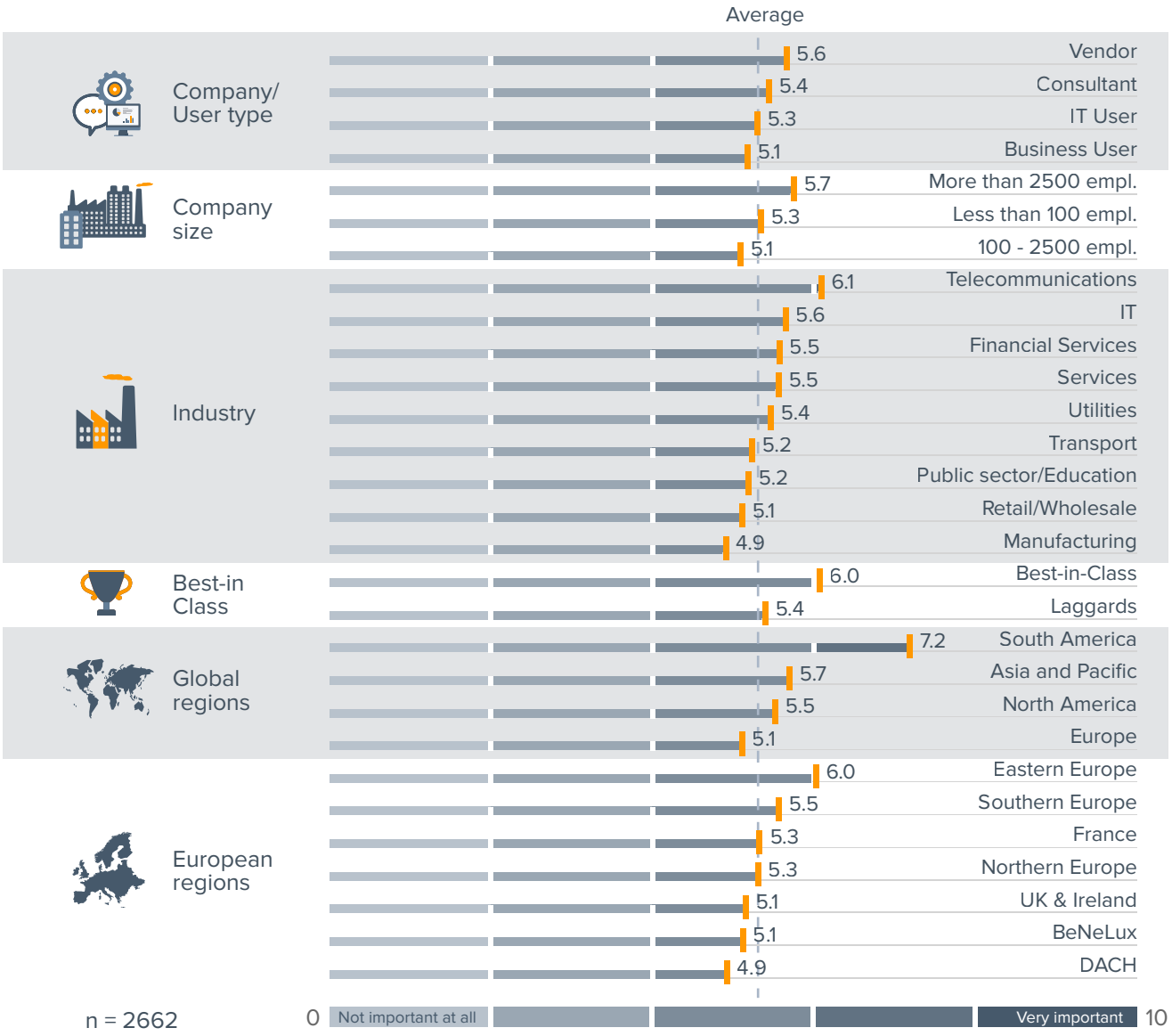
Predictive Analytics/ Machine Learning

Importance of predictive analytics/machine learning from "not important at all" (0) to "very important" (10)



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Predictive analytics and data mining are important trends among BI decision-makers for 2018. Advanced analytics goes beyond mathematical calculations such as sums and averages. It uses mathematical and statistical formulas and algorithms in order to generate new information, identify patterns and dependencies, and calculate forecasts.

The number of possible use cases in this area is immense, and ranges from conducting forecasts on income, prices, sales, requirements or customer value to preventing contract cancellations, forecasting machine downtime, monitoring and evaluating social media, and predictive policing.

The expansion of predictive analytics and machine learning also means changes for IT decision-makers and managers. They need to assess which use cases to tackle with advanced analytics, the level of priority advanced analytics should have in the company as a whole, which roles are required (and with which capabilities), and which technology fits best taking account of the IT landscape and intended users.

With the increasing use and maturity of advanced analytics, many companies have now moved past the experimentation phase into more practical, day-to-day use cases. Especially larger companies are investing in resources to conduct predictive analytics and machine learning. The deployment of analytics solutions and operationalization of new findings and insights by creating new products and services brings fresh challenges that need to be addressed in both organizational and technological terms. The operationalization of use cases is one of the major challenges in this context. Vendors that assign the highest importance to the topic are profiting from the increasing knowledge of business users and growing investment in this field.

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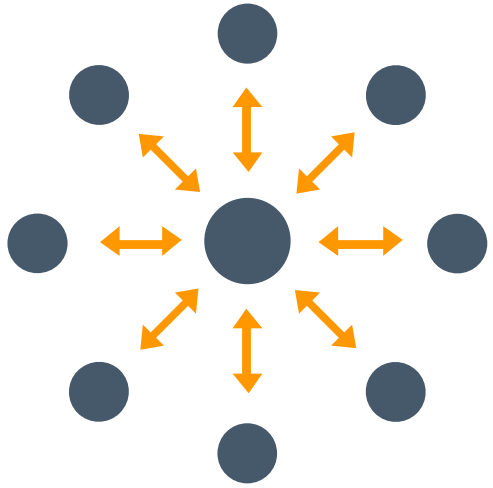
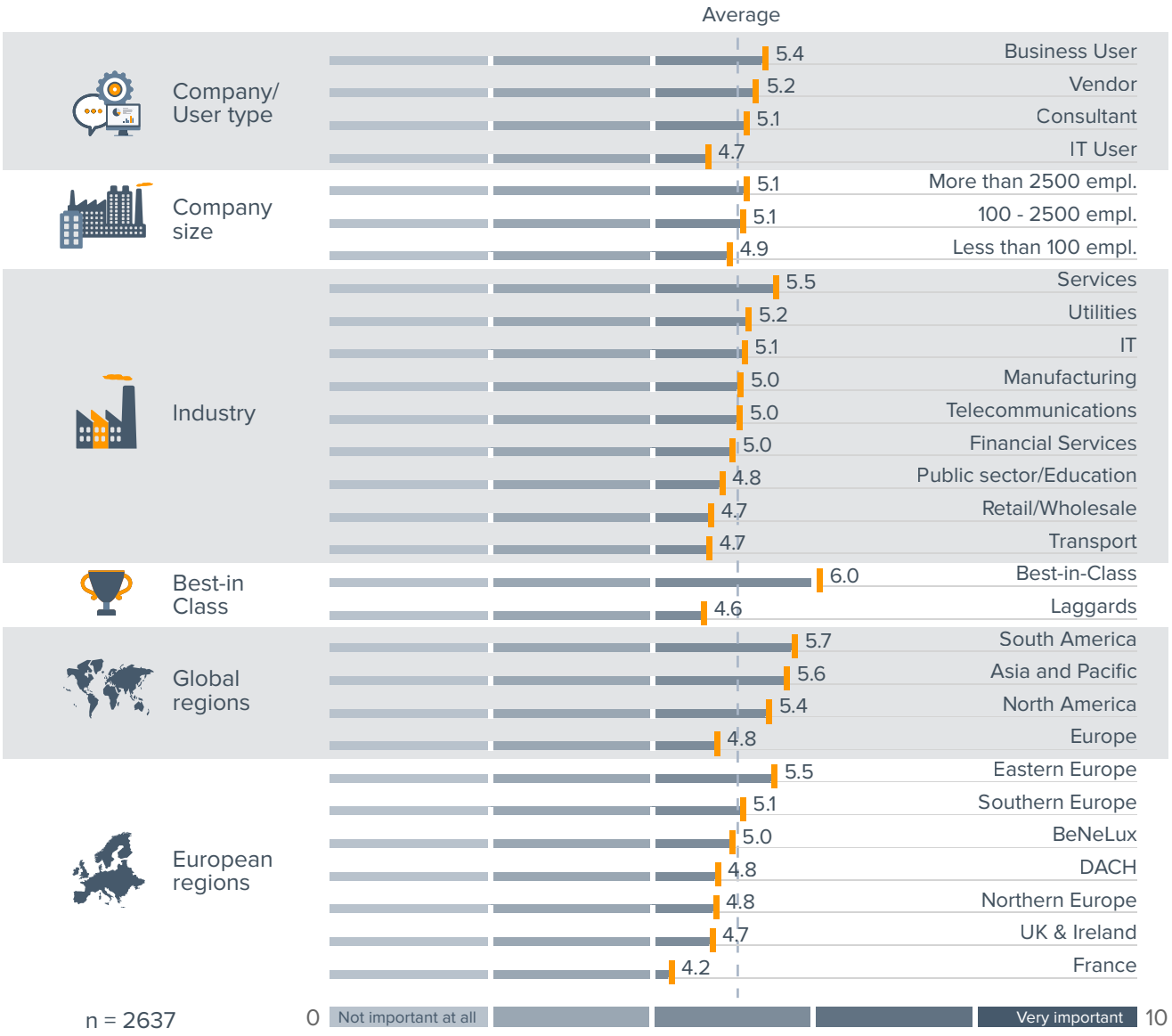
Integrated Platforms for BI and Performance Management (PM)



Best-in-class companies attach much more importance to an integrated platform for BI and PM than other companies.

Importance of integrated platforms for BI and PM from "not important at all" (0) to "very important" (10)



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Integrated functionality for BI and performance management (particularly planning) in one common platform has been one of the most stable and relevant trends in the market for years. Many companies and users know that there can be no planning without supporting functionality for reporting (e.g. results reports), analysis (e.g. analyses of planned and actual values) and dashboarding (monitoring). The seamless integration of planning and BI functionality is essential to support planning processes optimally.

Integrated platforms for BI and performance management are equally relevant for all user types, company sizes and industries. Best-in-class companies in particular have invested heavily in integrating BI and performance management processes and the benefits from this effort have been empirically proven. Supporting BI and performance management on an integrated data platform with an integrated tool is a goal worth investing in.

A decisive factor for sustained success when integrating BI and planning is the support of specialist software solutions. To avoid time-consuming and error-prone data transfer processes between software systems, an integrated database for actuals and plan data represented in a consistent data model forms the solid basis for integrated software solutions. The centrally harmonized master data provides a single, common data basis for BI and planning as well as other additional performance management processes.

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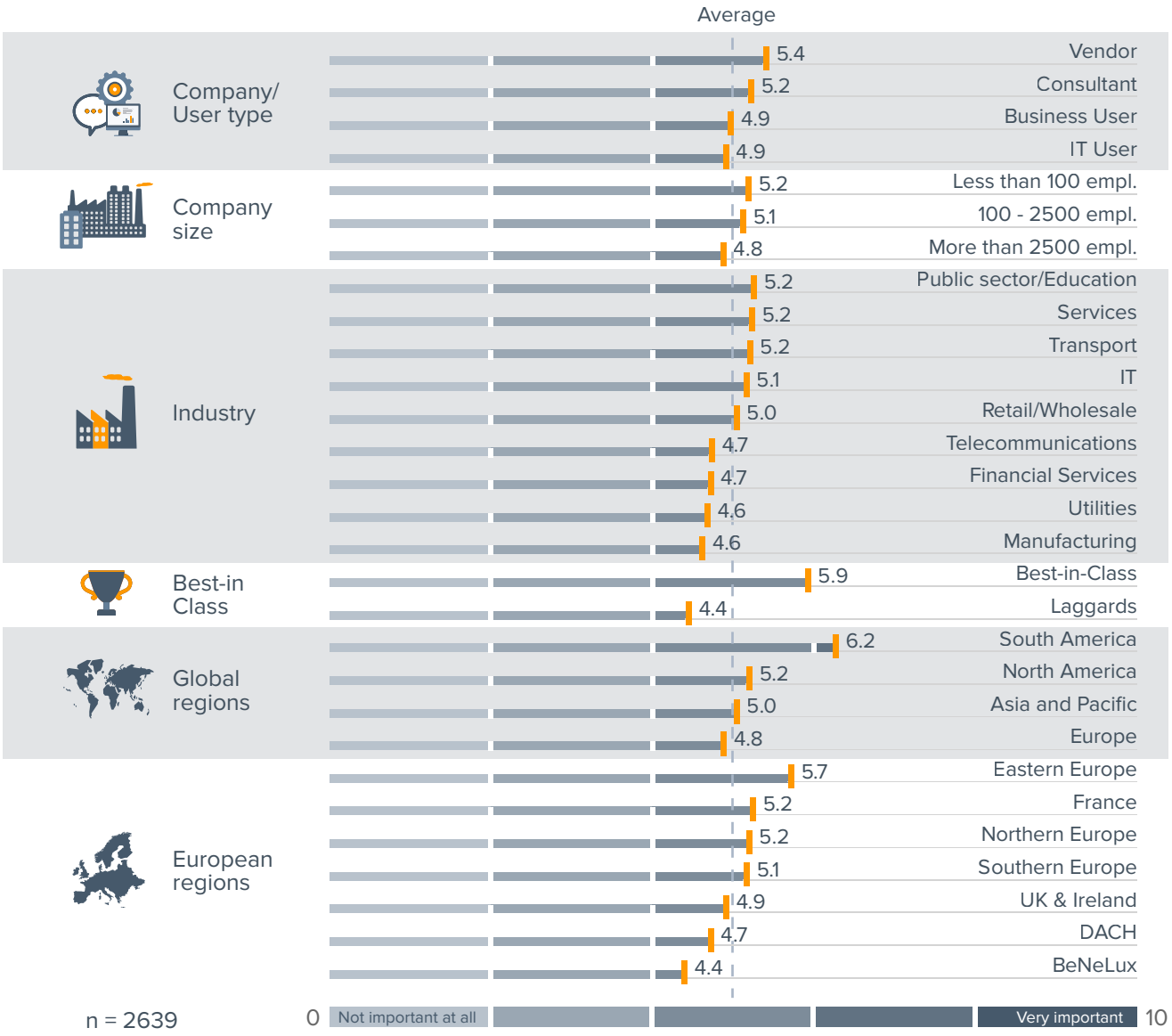
Using External/Open Data

Importance of using external/open data from "not important at all" (0) to "very important" (10)



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It is no secret that data is growing in importance to companies. Expectations around data and analysis are also growing and, with that, awareness of the value of data is heightened. Whether it is used for optimizing existing processes or as a basis for innovative, new business ideas, data is available in a variety of formats from internal and external sources that go far beyond the purchase of address data.

Data has established itself as a product and extends analyses with targeted insights from social media, customer, market, weather, geographical and demographical data, and even analytical findings. Companies can purchase these and many other types of data for their own analysis from BI generalists, specialist service providers or data trade platforms. A new development is emerging for consumers as well: targeted sales of their own data.

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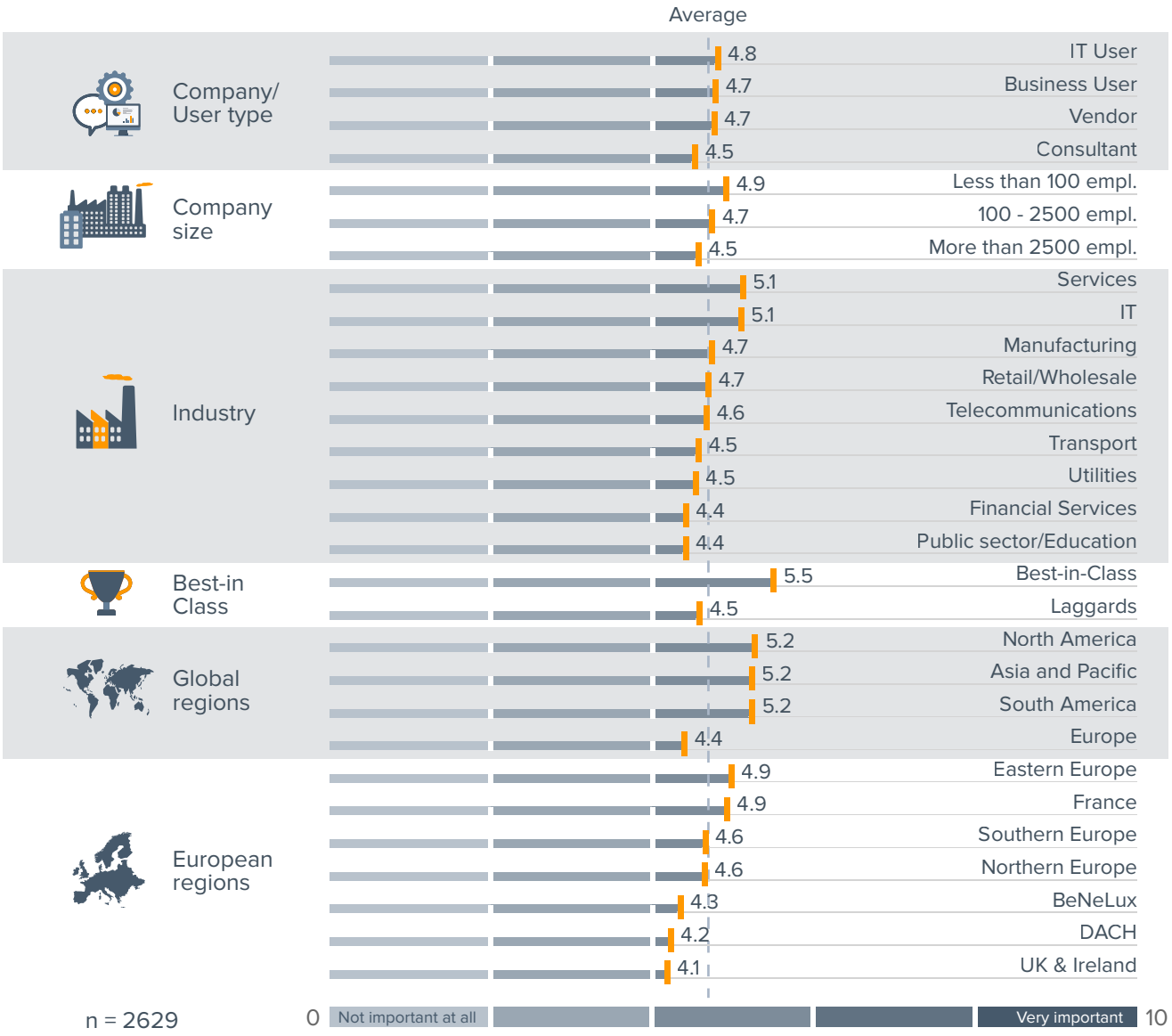
Embedded BI

Important for best-in-class and North American companies, but not so much in the UK, Ireland and the DACH region.

Importance of embedded BI data from "not important at all" (0) to "very important" (10)



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Embedding intelligence in operational applications is growing steadily in popularity. From dashboards 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. Embedding BI into operational applications moves BI to the process execution and reduces the need to exclusively use a BI tool to get access to data and reporting and analysis capabilities. In effect, many more people gain access to information and BI capabilities, making BI more pervasive or "democratic". However, this operationalization of BI and analytics presents various challenges. For example, separating the responsibilities of the BI and the application teams, delimiting operational BI from classic BI and data warehouses, or deciding whether to "make or buy" embedded functions. Also, the broad approach of automating decisions through embedded models and rules brings about completely new possibilities and challenges. For example, the change in role of the human being from decision-maker to creator and supervisor of decision-making models.

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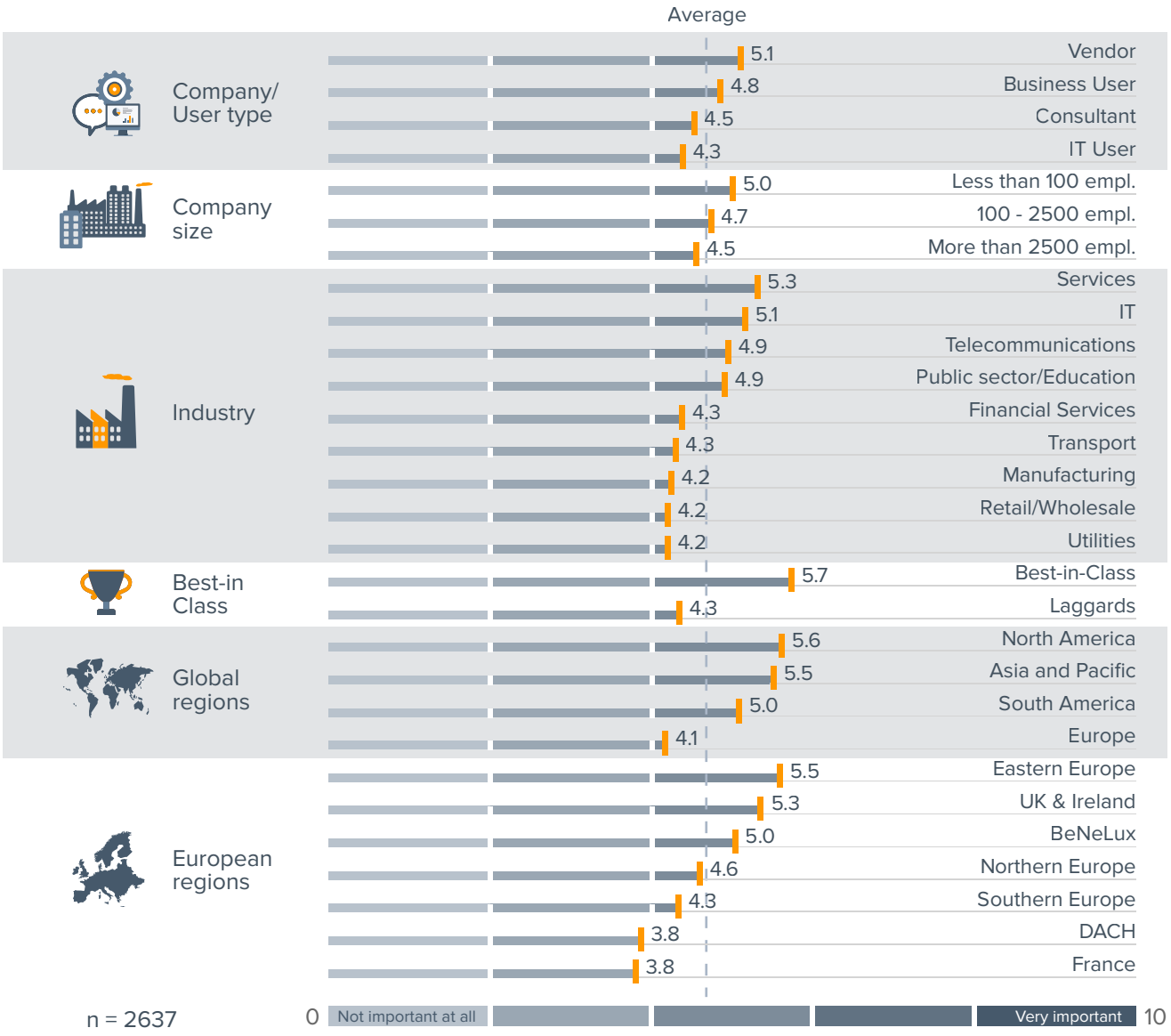
Data Storytelling

Data storytelling is especially popular in North America and Eastern Europe, but less popular in France and for IT users.

Importance of data storytelling from "not important at all" (0) to "very important" (10)



Viewpoint

Data relies on you to give it a voice. Data storytelling has emerged as a sophisticated method to explain the meaning of data and insights gained from analytics to foster action in the right direction. Data stories supplement and usually build on components of standardized reports and dashboards (e.g. graphs and tables). They are modified, annotated and compiled in a narrative to form the supporting evidence for a call to action. Neuroscience shows that stories have a much greater impact on us than bare numbers. The communication of insights and messages can no longer solely rely on reports. It takes engaging and inspiring stories to drive action.

Today BI and analytics tools are the dominant source of information in corporations. Meaning is applied to data through BI tools and presenting information in a tightly integrated manner allows for high efficiency and helps to ensure data quality and a high level of trust. Preparing and presenting stories within an integrated tool enables interaction with data. This interactive analytical storytelling enhances the credibility of stories and allows executives to gain further insights that might have been more difficult to glean from static, predefined analyses.

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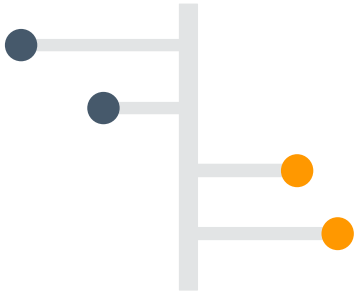
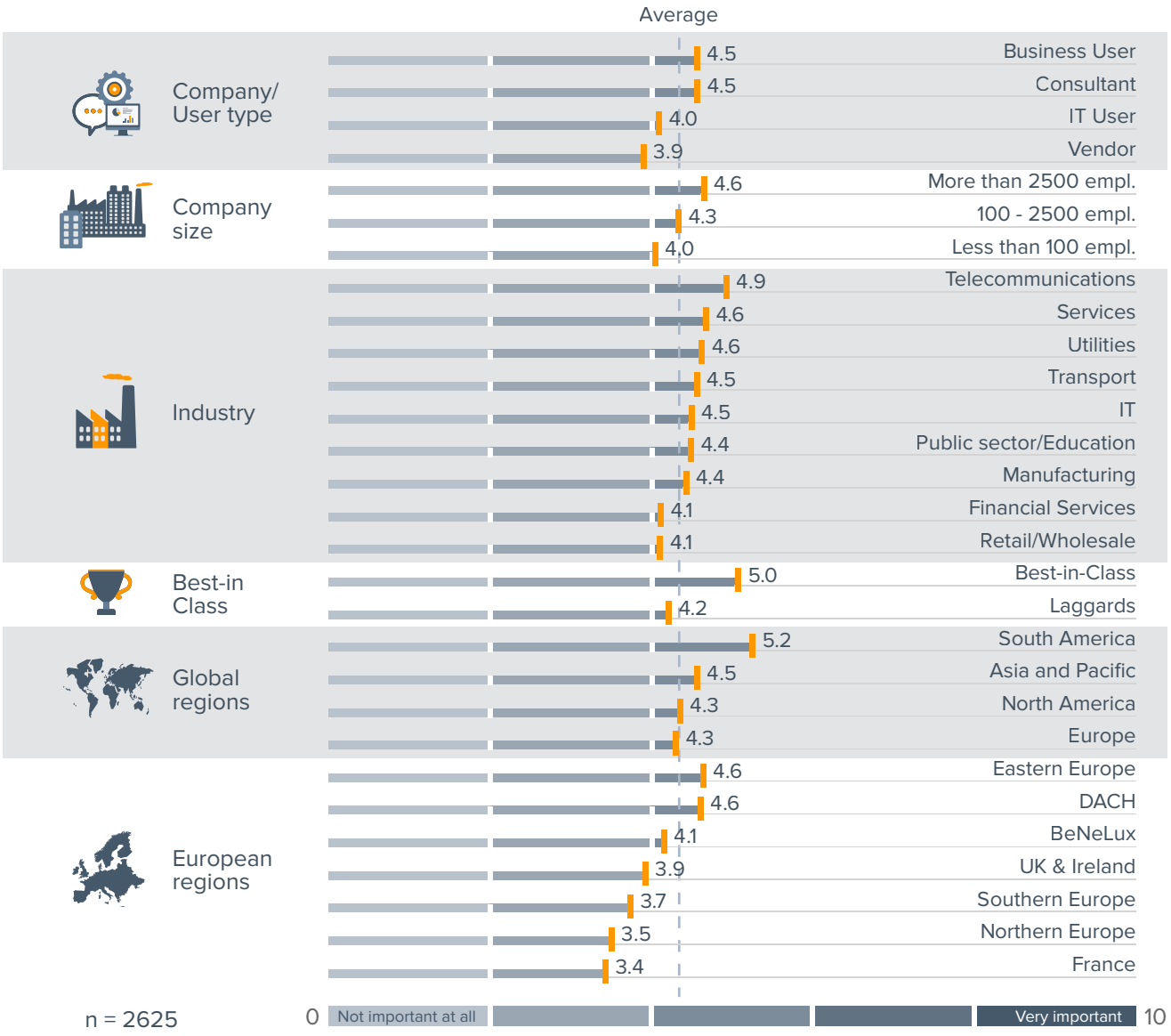
Visual Design Standards



ISO

Importance of visual design standards from "not important at all" (0) to "very important" (10)



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"Visual design standards" describes the practice of presenting relevant information in a way that it can be understood in an effective and efficient manner. This involves the deployment of a common 'visual language' (usually called notation guideline) for reports, dashboards and presentations throughout a department or organization with established formatting rules and design standards.

Authorities such as Stephen Few and Edward Tufte in North America, and Prof. Dr. Rolf Hichert in Germany, are among the most influential thought leaders in this area and the rules they have defined often form the basis of corporate visual design standards and vendor development strategies alike.

Due to the growing need to analyze huge amounts of data in order to stay competitive and to provide the results in the most direct fashion, the trend for visual design standards has come to establish itself in the last three years and is gaining in importance, especially in the German-speaking region. In our experience, support for visual design standards is increasingly seen as a KO criterion for BI vendors in software selection processes.

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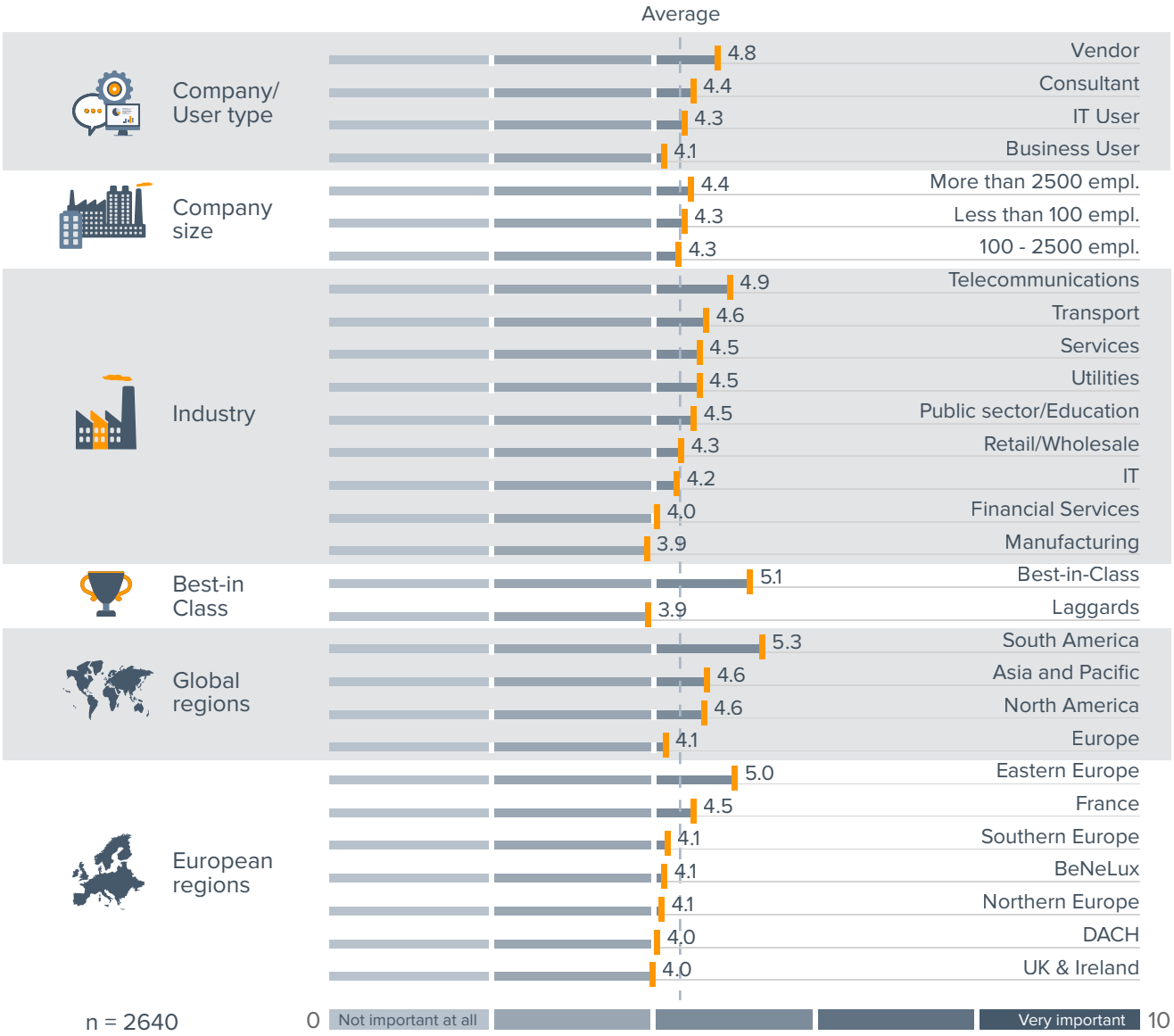
Spatial/Location Intelligence

Spatial/Location intelligence is especially relevant in South America, Eastern Europe and across best-in-class companies.

Importance of spatial/location intelligence from "not important at all" (0) to "very important" (10)



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Spatial/location intelligence has been around for a long time, albeit as something of a niche area, often performed using specialist tools that have little or no integration with reporting, dashboarding and analysis solutions. Given that almost every data set includes some kind of geographical information (e.g. city, zip code, longitude, latitude), this approach seems rather shortsighted. However, with the recent trend for visualization and data discovery, there is a renewed demand for geo-visualization and analysis, whereby solutions that represent data in a visual manner are able to plot data on maps or other objects to provide additional insights.

Software providers have taken various approaches to providing location intelligence, ranging from simple pins of longitude and latitude points on a map to specialized geo data warehouses and calculation of shapes, distances and so on. The latter is often provided via specialized solutions whereas most BI vendors offer the former. However, more and more BI vendors are introducing at least basic support for different map layers, which brings additional capabilities for displaying more information on maps. Others choose to partner with, or even acquire, geo specialists to provide better support for spatial analysis.

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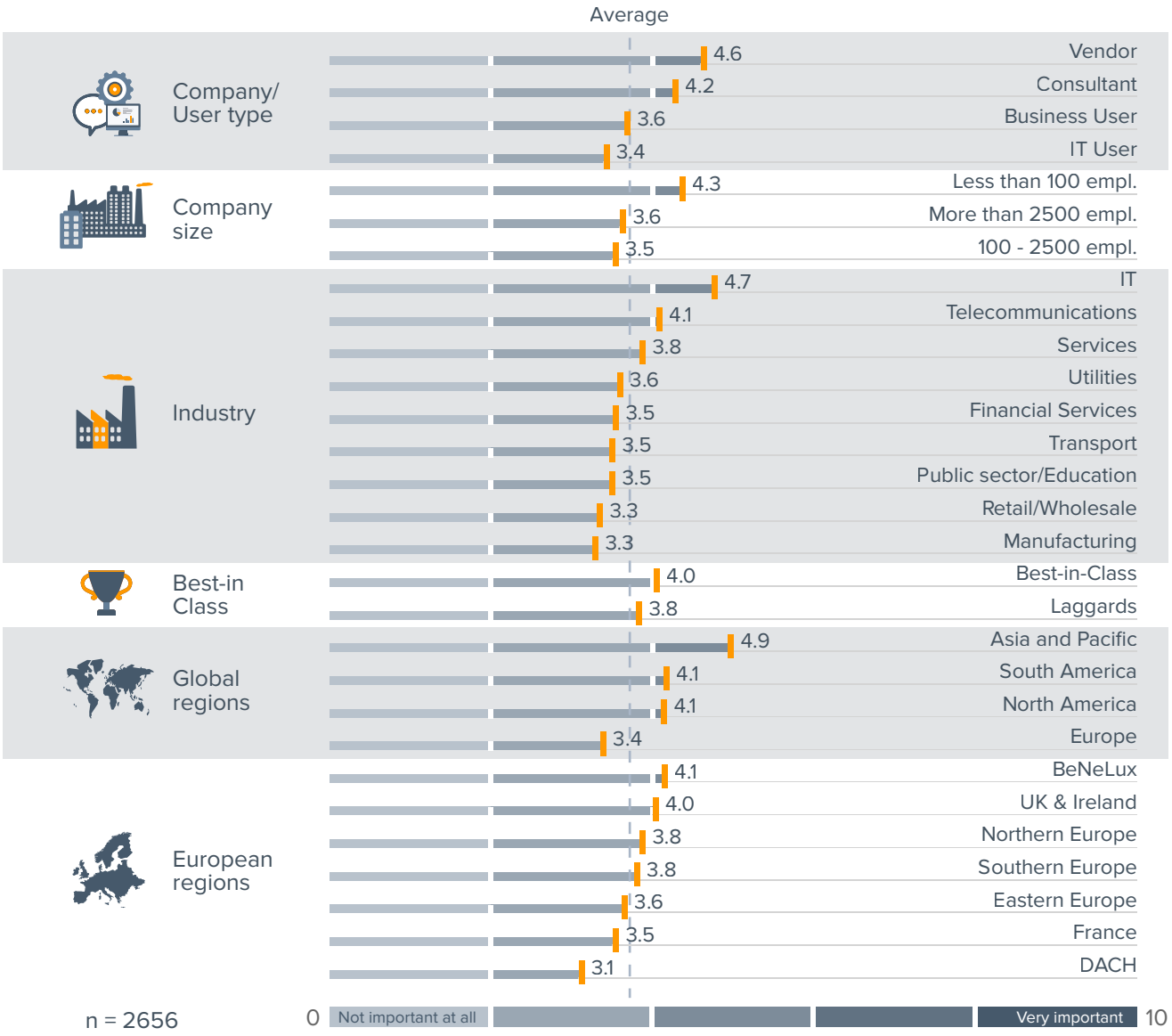
Cloud BI

Big gap between vendor and user perception of cloud BI as a trend. German-speaking region & manufacturing remain the most skeptical.

Importance of cloud BI from “not important at all” (0) to “very important” (10)



Viewpoint

The global trend of running applications in a cloud environment started to branch out into the business intelligence and analytics domain about ten years ago. Start-ups were founded to disrupt the established BI vendors with the software-as-a-service business model, by which organizations source their reports and dashboards from a hosted infrastructure. The incumbent vendors – who typically generated their revenues from on-premise implementations – eventually followed suit and now virtually every BI vendor offers a cloud-based BI solution.

Although cloud BI has very similar functional capabilities to corresponding on-premise products, it is often competitively priced and reduces the burden on local IT departments. The adoption rate for cloud BI deployments is rising, albeit very slowly. It is not the attractiveness of the platform that deters organizations from moving their BI landscapes into the cloud, but legal, security and privacy concerns, a lack of trust in the vendors or their viability, and the desire to keep company data under their own control. However, the overarching issue is that BI leaders prefer to bring the analytics to the data, and not the other way around. As such, organizations with much of their data already in the cloud show a much higher cloud BI affinity than those with all their data on premise.

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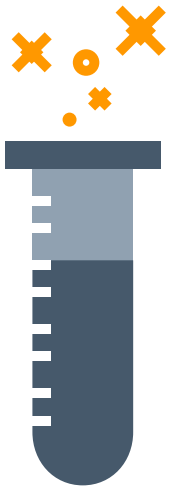
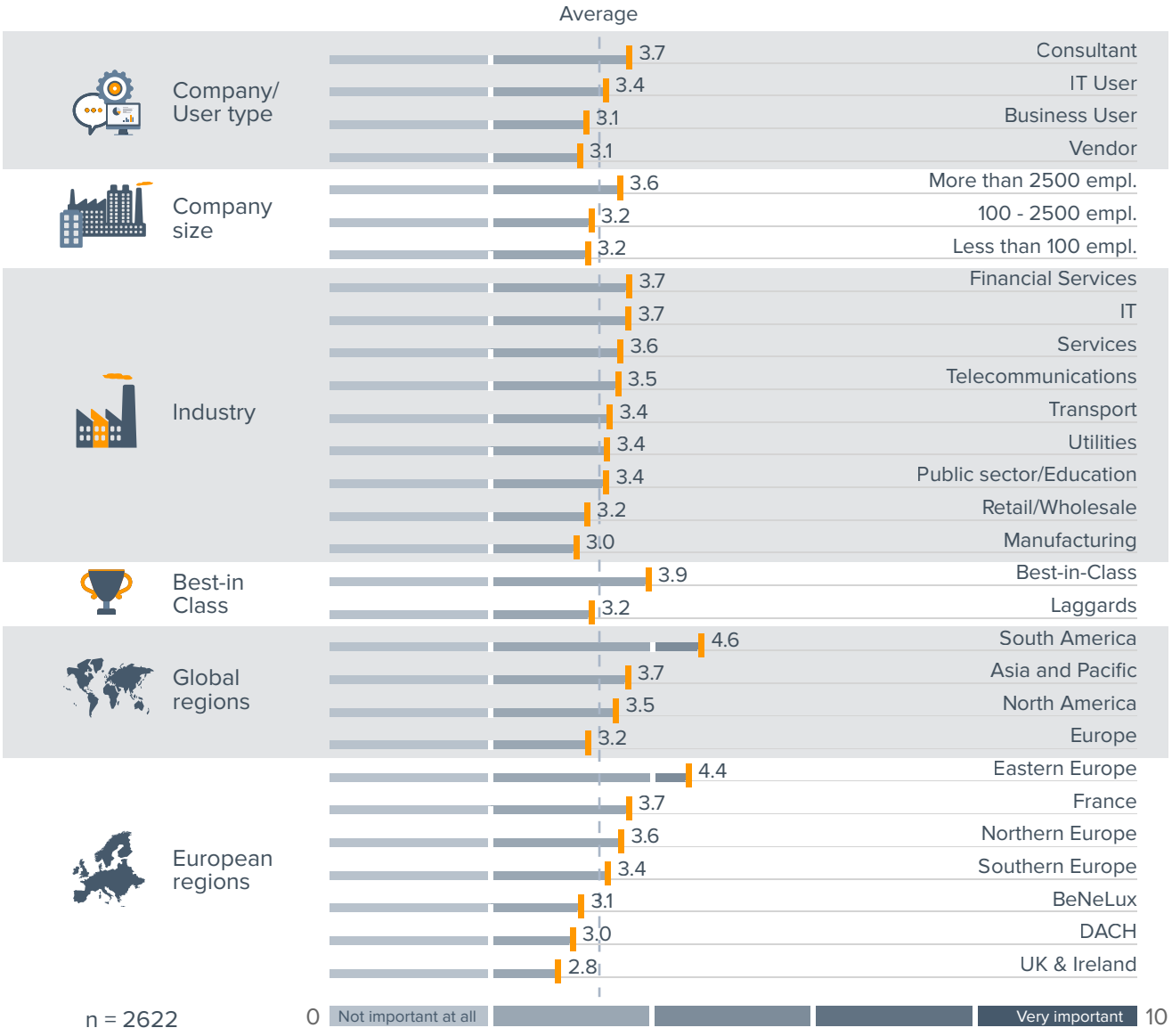
Data Labs/Science



Important in South America and Eastern Europe, but not so much in manufacturing as well as in the UK and Ireland.

Importance of data labs/science from "not important at all" (0) to "very important" (10)



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Data science is the generic term for processes that generate knowledge out of data using methods from statistics, machine learning and operations research. Data labs are separate business units, specifically targeted to start data science in an organization. They offer a space for design thinking and experimentation, aside from established processes in an organization. Data labs require investments in personnel as well as new technologies to store, process and analyze data.

Against that backdrop, it is not surprising that data science and data labs are of increasing importance for larger companies. The IT and the financial industries are the most likely sectors to adopt data science and data labs. The financial industry, in particular, has a long track record of using data analytics methods. But generally the importance assigned to data labs is much lower compared to the importance assigned to predictive analytics and machine learning. Labs require considerable investment in terms of staff and infrastructure and not many companies choose to set up data labs to start doing data science. As analytics gains in maturity, the deployment and productivity of such solutions become more important – tasks that are not typically related to data labs. This poses new challenges for software solutions providers and requires revised organizational approaches to link data labs, IT departments and business units.

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Top 5 Trends per Category

European regions

#	Eastern Europe	DACH	France	Southern Europe	UK & Ireland
1	Data discovery/visualization	Master Data/DQ management	Data discovery/visualization	Master Data/DQ management	Data discovery/visualization
2	Data preparation for bus. users	Self-service BI	Master Data/DQ management	Data discovery/visualization	Data governance
3	Master Data/DQ management	Data discovery/visualization	Data preparation for bus. users	Data preparation for bus. users	Master Data/DQ management
4	Self-service BI	Data preparation for bus. users	Data governance	Data governance	Self-service BI
5	Mobile BI	Data governance	Self-service BI	Self-service BI	Data preparation for bus. users

European regions

BeNeLux	Northern Europe
Master Data/DQ management	Data discovery/visualization
Data discovery/visualization	Master Data/DQ management
Self-service BI	Data governance
Data governance	Data preparation for bus. users
Collaboration	Agile BI development

Company size

#	Less than 100 employees	100 - 2500 employees	More than 2500 employees
1	Data discovery/visualization	Master Data/DQ management	Master Data/DQ management
2	Self-service BI	Data discovery/visualization	Data discovery/visualization
3	Data preparation for bus. users	Self-service BI	Self-service BI
4	Master Data/DQ management	Data preparation for bus. users	Data governance
5	Real-time analytics	Data governance	Data preparation for bus. users

Global regions

#	Europe	North America	South America	Asia Pacific
1	Master Data/DQ management	Data discovery/visualization	Data discovery/visualization	Data discovery/visualization
2	Data discovery/visualization	Data preparation for bus. users	Self-service BI	Data governance
3	Self-service BI	Master Data/DQ management	Data governance	Master Data/DQ management
4	Data governance	Self-service BI	Predictive analy./Mach. learn.	Data preparation for bus. users
5	Data preparation for bus. users	Data governance	Mobile BI	Real-time analytics

Company/User type

#	Business User	IT User	Vendor	Consultant
1	Master Data/DQ management	Master Data/DQ management	Data discovery/visualization	Data discovery/visualization
2	Data discovery/visualization	Data discovery/visualization	Self-service BI	Master Data/DQ management
3	Self-service BI	Self-service BI	Mobile BI	Self-service BI
4	Data preparation for bus. users	Data governance	Master Data/DQ management	Data governance
5	Collaboration	Data preparation for bus. users	Data preparation for bus. users	Data preparation for bus. users

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The top trends are similar in different industries

Industries

#	Financial services	Manufacturing	Public sector/Education	Retail/Wholesale	Services
1	Master Data/DQ management	Master Data/DQ management	Data discovery/visualization	Master Data/DQ management	Data discovery/visualization
2	Self-service BI	Data discovery/visualization	Data governance	Self-service BI	Master Data/DQ management
3	Data governance	Self-service BI	Master Data/DQ management	Data discovery/visualization	Self-service BI
4	Data discovery/visualization	Data preparation for bus. users	Self-service BI	Mobile BI	Data preparation for bus. users
5	Data preparation for bus. users	Data governance	Data preparation for bus. users	Data preparation for bus. users	Data governance

Industries

#	Telecommunications	Transport	Utilities	IT
1	Data discovery/visualization	Master Data/DQ management	Data discovery/visualization	Data discovery/visualization
2	Master Data/DQ management	Data discovery/visualization	Self-service BI	Master Data/DQ management
3	Data governance	Data governance	Master Data/DQ management	Self-service BI
4	Self-service BI	Self-service BI	Data preparation for bus. users	Data governance
5	Real-time analytics	Data preparation for bus. users	Real-time analytics	Data preparation for bus. users

Best-in-Class

#	Best-in-Class	Laggards
1	Data discovery/visualization	Data discovery/visualization
2	Self-service BI	Master Data/DQ management
3	Master Data/DQ management	Data governance
4	Data preparation for bus. users	Self-service BI
5	Mobile BI	Data preparation for bus. users

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Recommendations

BI and data management have been among the most important IT-related topics in the business world for a long time. The high importance rating of many of the trends covered in this report also supports this observation. And with digitalization as a primary strategic initiative for many companies, analyzing and managing data has become even more vital. After all, data and analytics are at the core of the digitalization of processes and business models. Based on our survey findings, we have six recommendations on how best to embrace the trends described in this study:

#1 | Venture into trending topics

The best-in-class companies in this study show that there are substantial benefits to be attained from adopting BI trends. Start with pilot projects that can show the value of new approaches to BI and data. If possible, try piloting use cases that incorporate different departments and processes. Also, addressing several trends at the same time in combined initiatives can be useful, for example, making data discovery and self-service BI and data integration capabilities available while putting high importance on data quality and master data management in an accompanying data governance effort.

#2 | Train your staff

Start training your existing staff while scouring the labor market for technical and analytical expertise. New technologies and applications require specific resources and know-how and the success of digitalization also depends on an openness and culture to embrace new use cases for data and analytics. However, people with the necessary skills and mindsets are hard to find in many organizations. Given all the exciting developments in the various fields of IT, organizations need to invest in the skills required to leverage all the interesting new products and services.

#3 | Pay attention to data quality

Organizations seem to be aware that the best looking dashboard is worth nothing if the data shown is flawed. Business intelligence does not make a lot of sense without comprehensive data integration and data quality initiatives, but these have to be backed up with the right level of attention, resources and funding. Organizational backing of data quality by implementing data ownership and stewardship processes is also vital.

#4 | Be aware of the challenges of SSBI

Enabling your business user community through 'self-service BI' and possibilities for reporting, analysis, data discovery and visualization is a good idea, as long as there is an agreed data and tool governance framework. Ideally, IT departments or BI units should align very closely with key and power users across the organization to support the creation of a governed BI system.

#5 | Review your information architecture

IT organizations should review their existing information architecture to ensure it can support the level of agility required, handle large volumes of poly-structured data (also in real time) and support rapidly growing demand for big data and advanced analytics. It can also be a good idea to create a data lab adjacent to the BI factory to better support explorative approaches to BI with data discovery or predictive analytics.

#6 | Understand data analysis requirements

BI leaders need to understand the different data analysis requirements in their organizations and the possibilities and approaches modern tools encompass. Set-based, visual, real-time and predictive analytics are not separate, but rather complementary capabilities that are becoming increasingly important. The decision-making culture of your organization, the available skills, and the identification and promotion of use cases for more data analysis are all key aspects to consider.

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Sample & Methodology

2,770 participants in total
Wide coverage of different industries, company sizes and regions

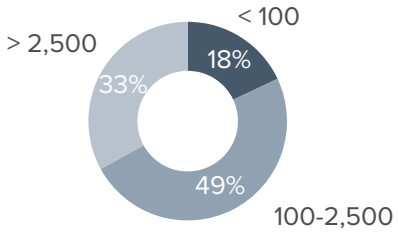
Information on the survey

The data used in the BI Trend Monitor 2018 was sourced from an online user survey conducted worldwide in the summer of 2017. BARC promoted this survey on websites, at events and in email newsletters. After data cleansing, a total of 2,770 survey responses remained. Respondents came from a wide range of industries, countries, professional backgrounds, company types and sizes.

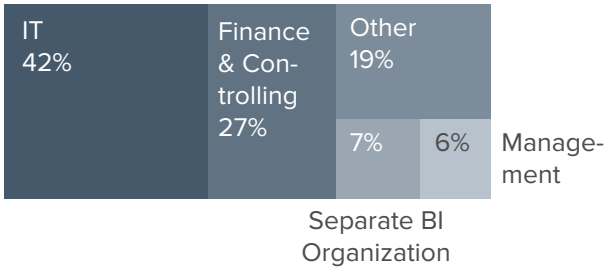
Participants were asked to rate each trend on a scale from "very important" (10) to "not important at all" (0). We use a weighted scoring system (from 10 to 0), to derive a composite score for each of the trends based on their level of importance. It is a dimensionless number with an arbitrary value, 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 industries or regions, to name just two.

Best-in-class companies comprise the top 10 percent in terms of achievement of specific BI-related business benefits (e.g. "Faster reporting, analysis or planning" and "Increased competitive advantage") in this survey. Laggards represent the lowest 10 percent.

Number of employees

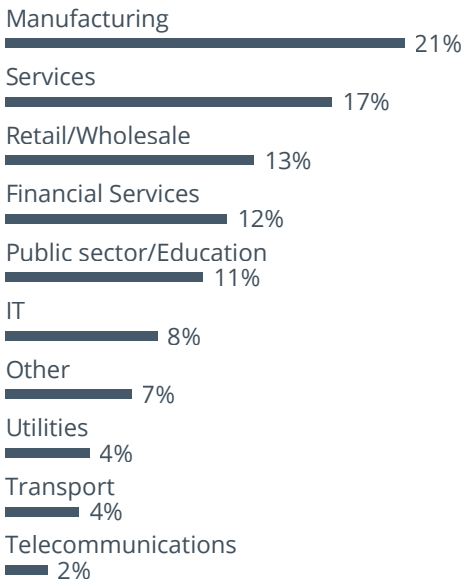


Department

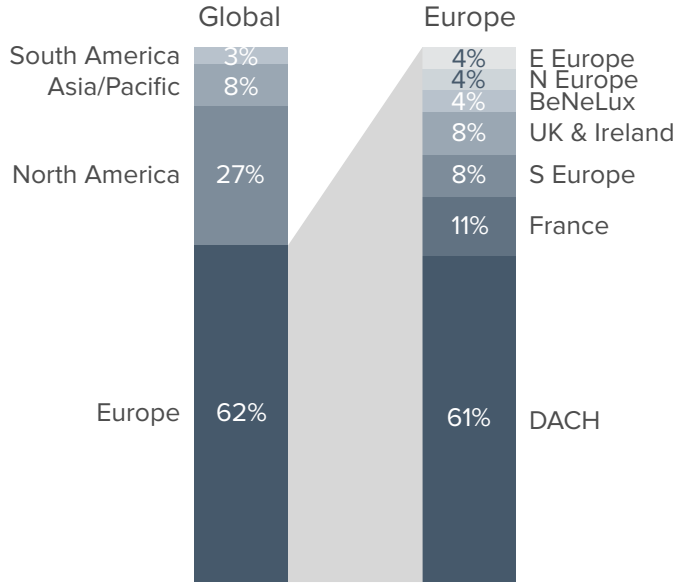


Company type

Industry



Region



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BARC Company Profile

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BARC is a leading enterprise software industry analyst and consulting firm delivering information to more than 1,000 customers each year. Major companies, government agencies and financial institutions rely on BARC's expertise in software selection, consulting and IT strategy projects.

For over twenty years, BARC has specialized in core research areas including Data Management (DM), Business Intelligence (BI), Customer Relationship Management (CRM) and Enterprise Content Management (ECM).

BARC's expertise is underpinned by a continuous program of market research, analysis and a series of product comparison studies to maintain a detailed and up-to-date understanding of the most important software vendors and products, as well as the latest market trends and developments.

BARC research focuses on helping companies find the right software solutions to align with their business goals. It includes evaluations of the leading vendors and products using methodologies that enable our clients to easily draw comparisons and reach a software selection decision with confidence. BARC also publishes insights into market trends and developments, and dispenses proven best practice advice.

BARC consulting can help you find the most reliable and cost effective products to meet your specific requirements, guaranteeing a fast return on your investment. Neutrality and competency are the two cornerstones of BARC's approach to consulting. BARC also offers technical architecture reviews and coaching and advice on developing a software strategy for your organization, as well as helping software vendors with their product and market strategy.

BARC organizes regular conferences and seminars on Business Intelligence, Enterprise Content Management and Customer Relationship Management software. Vendors and IT decision-makers meet to discuss the latest product updates and market trends, and take advantage of valuable networking opportunities.

Along with CXP and Pierre Audoin Consultants (PAC), BARC forms part of the CXP Group – the leading European IT research and consulting firm with 140 staff in eight countries including the UK, US, France, Germany, Austria and Switzerland. CXP and PAC complement BARC's expertise in software markets with their extensive knowledge of technology for IT Service Management, HR and ERP.

For further information see: www.cxpgroup.com

Other Surveys

The BI Survey 17 is the world's largest annual survey of BI users. Based on a sample of over 3,000 survey responses, The BI Survey 17 offers an unsurpassed level of user feedback on 42 leading BI solutions. To see the results go to **https://bi-survey.com**

'BI and Data Management in the Cloud': A BARC and Eckerson Group study on current attitudes, issues and trends relating to the use of BI and DM technologies in the cloud. **Download here**.

The Planning Survey 17 is BARC's major annual survey of planning software users. With feedback from over 1,600 respondents, eighteen market-leading planning products are evaluated and compared in detail. Find out more at **https://bi-survey.com**

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Tableau

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Tableau (NYSE: DATA) helps people transform data into actionable insights that make an impact. Easily connect to data stored anywhere, in any format. Quickly perform ad hoc analyses that reveal hidden opportunities. Drag and drop to create interactive dashboards with advanced visual analytics. Then share across your organization and empower teammates to explore their perspective on data. From global enterprises to early-stage startups and small businesses, people everywhere use Tableau's analytics platform to see and understand their data.

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