Strategies for Driving Adoption and Usage with BI and Analytics

A Global Study

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About the Authors

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About Eckerson Group

Eckerson Group is a global research, consulting, and advisory firm that helps organizations get more value from data. Our experts think critically, write clearly, and present persuasively about data analytics. They specialize in data strategy, data architecture, self-service analytics, master data management, data governance, and data science. Organizations rely on us to demystify data and analytics and develop business-driven strategies that harness the power of data. **Learn what Eckerson Group can do for you!**

About BARC

BARC is one of Europe's leading analyst firms for business software, focusing on the areas of data, business intelligence (BI) and analytics, enterprise content management (ECM) and customer relationship management (CRM). The company was founded in 1999 as a spin-off of the Chair of Business Administration and Information Systems at the Julius-Maximilians-University in Würzburg. Today, BARC combines empirical and theoretical research, technical expertise and practical experience, including a constant exchange with all market participants.

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About this Report and Survey

Definitions

This report focuses specifically on the adoption, usage, and value of business intelligence (BI) and analytics tools, and generally on the effectiveness of data & analytics programs. In common parlance, *business intelligence* refers to prebuilt data output in the form of reports and dashboards, while analytics refers to the process of querying, analyzing, visualizing, and modeling data. We combine BI and *analytics* (*BI/analytics*) to describe the range of tools that organizations use to do these things.

Data & analytics is shorthand for the organizational practice of turning data into insights and action to drive business objectives. In the 1990s and 2000s, we called this practice BI, BI/DW (BI and data warehousing), or occasionally *performance management*. Today, most practitioners and industry experts have replaced these umbrella terms with the term data & analytics.

Adoption refers to active users of BI/analytics tools, while *usage* refers to the consumption of BI/analytics output by licensed or unlicensed BI/analytics users. For example, usage includes workers who consume the output of BI/analytics tools embedded within operational applications and portals, as well as external users (e.g., customers and suppliers) who consume reports and dashboards generated by BI/analytics tools. These types of users are often not licensed users of BI/analytics tools.

Survey

Report. This report is based on a global survey of 214 data & analytics leaders conducted by BARC and Eckerson Group. In the final section of the report, the authors use the survey as a springboard to generalize about the drivers and challenges of successful data & analytics programs using their combined 60+ years of experience in the field.

Demographics. The survey was conducted in November and December of 2021 and drew respondents from organizations around the globe of all sizes and in many different industries. More than a third (36%) have more than 5,000 employees, 29% have between 500 and 4,999 employees, and 36% have less than 500 employees. More than two-thirds of respondents (70%) are from Europe, while 19% are from North America and the rest from South America, Asia and Pacific, and Africa.

More than half of respondents (51%) are executives, VP/directors, or managers. The following is a list of the percentage of respondents by role in descending order: manager of BI, Analytics, ML/AI, or Data Management (30%); VP/Director of BI, analytics, ML/AI, or data management (13%); architect of BI, analytics, ML/AI, or data management (13%); consultant or vendor on behalf of a current client (13%); analyst of BI, analytics, or ML/AI (12%); executive (CXO) (8%); engineer of data, analytics, ML/AI (8%); and other (5%).

Executive Summary

Although adoption rates for BI/analytics tools remain stuck in the 20% range, usage is increasing. Usage growth is primarily fueled by "off-license" usage from front-line workers using BI/analytics output embedded in operational applications as well as external users (e.g., customers and suppliers) using external-facing reports and dashboards. These new usage trends are most prevalent among leading adopters of data & analytics (e.g., best-in-class companies) as well as North American companies, which are traditionally more aggressive in adopting new technologies and approaches than their European counterparts.

In addition, new self-service tools, such as GUI-based authoring and data preparation tools, are making it easier for businesspeople to service their own data needs without IT assistance. Also, data catalogs make it easier for these business users to discover useful data, and new ad hoc query capabilities, namely BI search and augmented analytics, are starting to propel higher levels of BI/analytics adoption and usage.

At the same time, organizations are applying 30 years of hard-won knowledge about how to overcome barriers to adoption and usage. Specifically, organizations are implementing data governance programs and data quality workflows to improve data accuracy, completeness, and consistency. They are launching data literacy programs with coaching and support networks to improve knowledge and skills required to use BI/analytics tools effectively. Most importantly, executives are becoming more data-driven, providing leadership, funding, and personal examples to foster a robust culture of data and analytics usage.

Key Takeaways:

> **Adoption.** The percentage of employees actively using BI/analytics tools is currently 25% on average, reflecting minimal growth in the past seven years we've been tracking this metric.

> **Usage.** At the same time, 50% of data & analytics leaders say BI/analytics usage has "increased a lot."

> **Technical drivers.** The primary technical drivers of increased usage are "self-service authoring tools" (73%), data preparation tools (48%), and "embedded BI/analytics" (38%).

> **Business drivers.** The primary business drivers of increased usage are "change in data culture" (51%), "new data-driven executives" (50%), "digital transformation or other strategic initiatives" (50%).

> **Regional and other variations.** These drivers are more prominent among North American companies and leading adopters of data & analytics (best-in-class companies) by a significant margin.

> **Barriers.** The primary barriers to adoption and usage are "lack of proper training" (50%), "lack of quality data" (41%), "budget issues" (36%), and "ease of use" (33%).

> **Adoption Killers.** There are certain things that almost instantaneously kill BI/analytics adoption and usage: 1) the data needed is not available or accessible, 2) the data isn't trustworthy, 3) the tools aren't flexible or easy to use, 4) query performance is slow, and 5) there aren't enough people to coach or support business users.

> **Adoption Drivers.** On the other hand, BI/analytics usage is bolstered by: 1) data-driven executives, 2) comprehensive training and support programs, 3) tailored self-service tooling, 4) embedded analytics, 5) comprehensive data governance, 6) analytics centers of excellence, and 7) agile delivery of high-value solutions.

Ten Recommendations

Consider these 10 recommendations for improving adoption, usage, and value of BI/analytics tools and creating a successful data & analytics program:

1. **Tailor self-service.** Know your users and deliver what they need, even if you have to build it centrally. For 60% of business users, tailored parameterized dashboards are the epitome of self-service.

2. **Govern self-service.** Self-service BI/analytics implemented without governance or knowledge of user requirements will strangle a data & analytics program.

3. **Power users first.** Focus on meeting the needs of power users first to develop useful data models and structures that other users can leverage. But don't let power users dictate choice of tools, reports, or dashboards provided to regular business users.

4. **Tear down the data silos.** Data that is available but not accessible or a general lack of data are major reasons for lack of tool use. Understand the need for data and consider how it can be captured or how to overcome the organizational barriers of closed data silos.

5. **Data quality at all costs.** Move mountains to deliver data that users trust. Certify reports, implement data governance, build data quality rules and workflows, report on data quality, and partner closely with source system owners to improve data entry and systems notifications.

6. **Embed analytics.** Turn operational workers into just-in-time analysts by embedding charts, tables, and dashboards into ERP/CRM applications, portals and other run-the-business applications.

7. **Look externally.** Service users in your organization's ecosystem. For example, you can improve customer loyalty by providing them with data and insights about their activity with your company. These data products for customers, suppliers, and others can help improve the bottom line, too.

8. **Create an analytics center of excellence.** Whether you centralize or embed data analysts, teach these individuals enterprise standards using data and how to communicate with business managers. Align analysts with business units and rotate them periodically.

9. **Go beyond training.** Training is critical, but coaching and support create a culture of analytics. Build peer communities for both power and casual users to spread knowledge and excitement about how to use data to achieve business goals. Improving data and analytics competence should not be the sole purview of power users, but lift the data literacy of everyone in the organization.

10. **Work top down and bottom up.** Find or cultivate data-driven executives who lead by word and example. At the same time, organize departmental managers who feel the pain of poor quality data and insights into an Analytics Council that sets standards and pushes for change.

Adoption Trends

Really? We're puzzled by the persistently low adoption rates of BI/analytics tools. On one hand, today's organizations are hungry for data to fuel digital transformations, modernize supply chains, and create 360-degree views of customers. And the cloud has made BI and analytics tools easier to use, install, and maintain. Yet, the average adoption rate of tools designed to help business users query, visualize, and analyze data and share insights has been stuck around 20% for many years. The median value for all companies surveyed (up to 3,000 per year in the BI & Analytics Survey) only grew from 12.5 percent to 14.3 percent in the last 8 years. The median is the mark where half of the companies are below and half above this figure, which makes this value less susceptible to outliers in the upper range. (See figure 1.)

Figure 1. Percentage of BI/Analytics Users
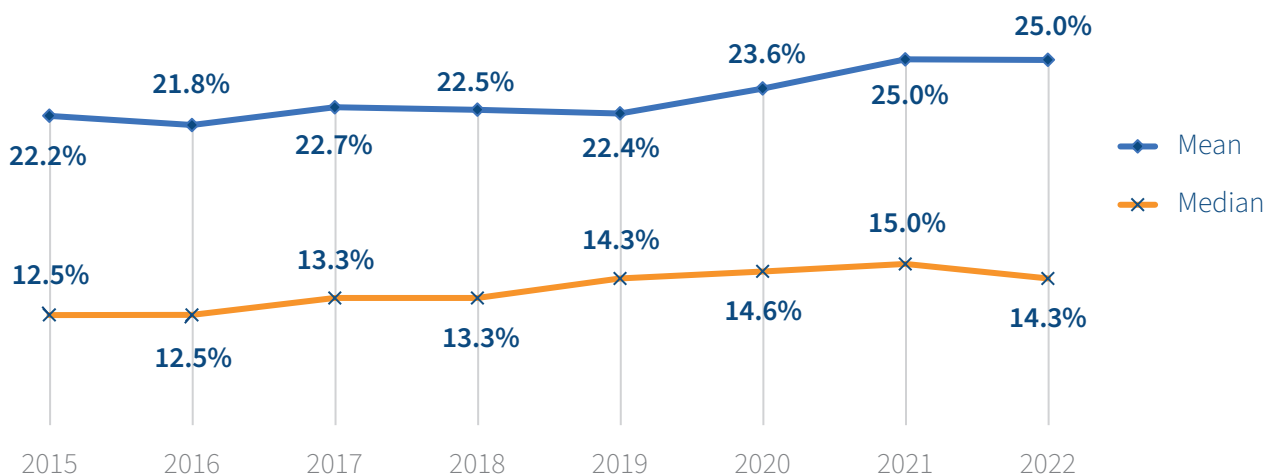
Source: BARC/Eckerson Group joint survey, 2021; BARC BI & Analytics Survey (2015-2021). N=varies by survey.

Good news. Despite this weary intransigence, there is plenty of good news. If you look below the surface, usage of BI/analytics output is growing, fueled by several trends that are helping leading-adopter organizations capitalize on the value of their data assets. Among these are:

> **Embedded analytics.** Best-in-class organizations increasingly insert charts, tables, and dashboards into operational applications (ERP/CRM) and portals, bringing data and actionable insights to the masses of operational workers.

> **Self-service.** Best-in-class organizations empower data-savvy business users with GUI-based visualization, data preparation, and AutoML tools to service their own data and analytical needs without having to wait for the IT department to help them.

> **Data governance.** Best-in-class organizations are implementing controls to ensure the quality, consistency, and accessibility of data and reports while making data more understandable, accessible, and discoverable through business glossaries and data catalogs.

> **External users.** Best-in-class organizations are opening their data insights to customers and suppliers to boost efficiency, foster goodwill, and increase loyalty.

> **Enlightened users.** More executives are data-driven and willing to invest in data & analytics, while younger workers are more data savvy and have high expectations for data consumption at work.

Usage Trends

The picture gets rosier when we ask data & analytics professionals to describe trends in BI/analytics usage rather than count number employees and licensed users, which is how we count adoption rates. Almost all (92%) of respondents said usage of their BI/analytics tools has increased in the past five years, with a whopping 50% saying it has "increased a lot." Clearly more users are using BI/analytics output, such as charts, tables, and dashboards, if not BI/analytics tools themselves. (See figure 2.)

Figure 2. "Has the usage of BI/Analytics increased or decreased in the past 5 years?"
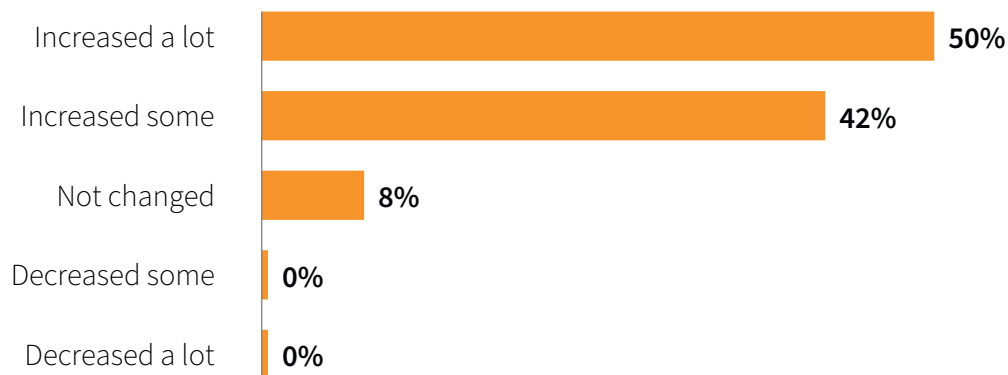
Source: Companion survey from "Strategies for Driving Adoption and Value with BI and Analytics", BARC and Eckerson Group, 2022. N=211.

Regional variation. When we dig deeper into the data, we see much of the "increased a lot" percentage is driven by North American respondents. Almost three-quarters (73%) of North American respondents said usage of BI/analytics tools "has increased a lot" in the past five years compared to 44% of European respondents. Much of that increase has come in the use of embedded BI/analytics and support for external users. (See below.)

Technical Drivers

When we asked respondents to explain the growth in usage, a few clear winners rose to the surface. Self-service capabilities took the two top spots. Almost three-quarters (73%) of respondents cited "self-service authoring tools for reports and dashboards", while almost a majority (48%) mentioned "data preparation features." This was closely followed by "embedded BI/analytics capabilities" selected by 38% of respondents. Other choices included "semantic layers" (21%), "data catalogs and business glossaries" (21%), natural language queries (14%), and augmented BI features (13%). (See figure 3.)

Figure 3. "Which technical features have contributed to an increase in usage of BI/analytics tools?"

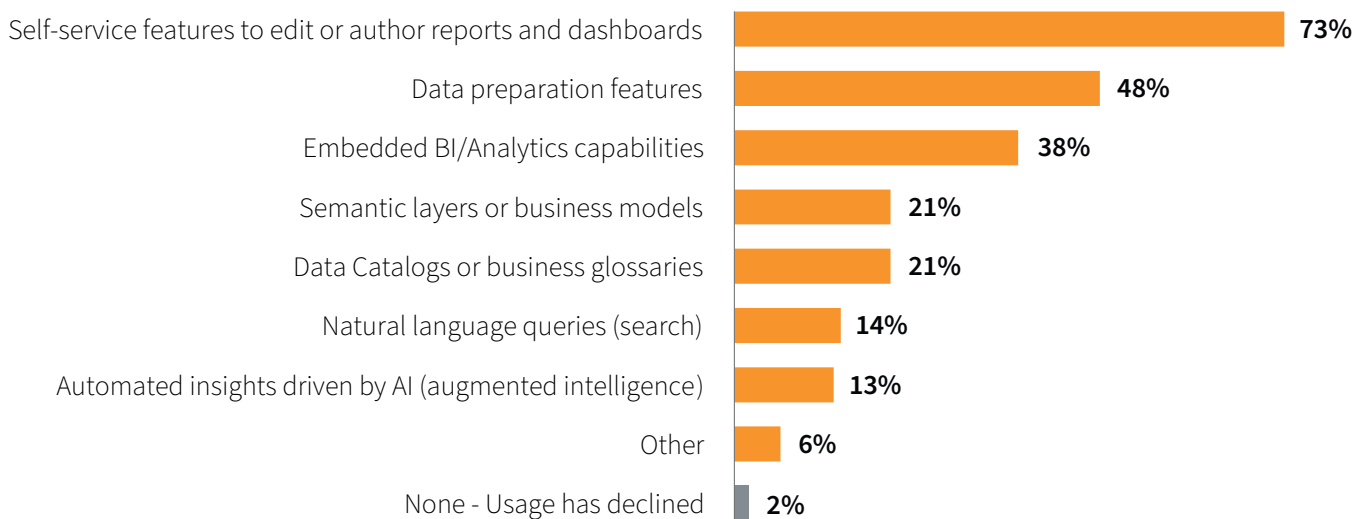|	
Self-service features to edit or author reports and dashboards	73%
Data preparation features	48%
Embedded BI/Analytics capabilities	38%
Semantic layers or business models	21%
Data Catalogs or business glossaries	21%
Natural language queries (search)	14%
Automated insights driven by AI (augmented intelligence)	13%
Other	6%
None - Usage has declined	2%

Source: Companion survey from "Strategies for Driving Adoption and Value with BI and Analytics", BARC and Eckerson Group, 2022. N=213.

Regional variation. North American and European respondents registered similar scores for all technical features except one: embedded BI/analytics. Here, 51% of North American respondents said embedded BI/analytics has increased usage compared to just 32% of Europeans. North Americans are much more likely to have a majority of their employees (i.e., between 51% and 75% of all employees) viewing embedded charts and tables than Europeans by a ratio of 23% to 15%. Many more European respondents said zero employees at their organizations used embedded BI/analytics output than North Americans (12% to 3%).

We see other notable differences when we compare the usage of technical features of North American to European companies. For data catalogs, the usage ratio between North American and European companies is 29% to 17%; for natural language queries, 20% to 13%; and for augmented intelligence, 20% to 10%. These results reinforce the notion that North American companies adopt new technologies faster than their European counterparts.
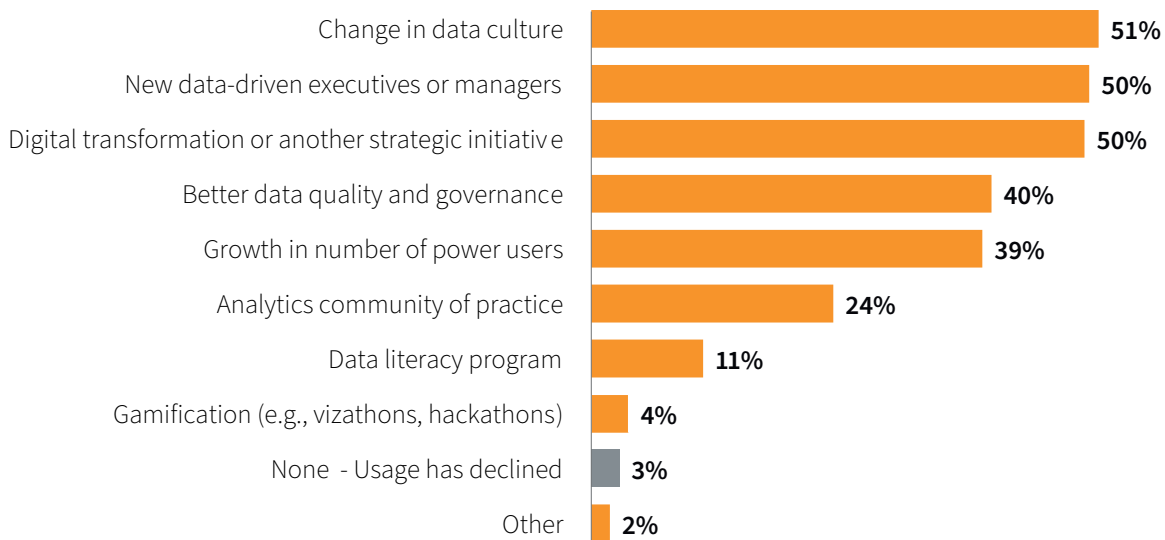
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North American companies adopt new technologies faster than their European counterparts.

External users. Although not a technical feature, support for external users also shows significant regional variation. North American organizations support a median of 75.5 external users versus just 5.5 for Europeans. Similarly, North American organizations outpace European ones in supporting between 50 and 5,000 external users (52% to 19%).

Business Drivers

We also asked respondents about business and cultural drivers of usage. Again, a triad of answers bubbled to the top, each capturing roughly 50% of the vote. These were "change in data culture" (51%), "new data-driven executives or managers" (50%), and "digital transformation or other strategic initiative" (50%). Not far behind was "better data quality and governance" (40%) and "growth in the number of power users" (39%). (See figure 4.)

Figure 4. Which business drivers have contributed to an increase in usage and adoption of BI/Analytics tools?

Driver	Percentage
Change in data culture	51%
New data-driven executives or managers	50%
Digital transformation or another strategic initiative	50%
Better data quality and governance	40%
Growth in number of power users	39%
Analytics community of practice	24%
Data literacy program	11%
Gamification (e.g., vizathons, hackathons)	4%
None - Usage has declined	3%
Other	2%

Source: Companion survey from "Strategies for Driving Adoption and Value with BI and Analytics", BARC and Eckerson Group, 2022. N=214.

Data culture. If "culture eats strategy for breakfast," which management guru Peter Drucker allegedly said, then culture also consumes a hefty dose of data. Executives set the culture and their words and actions make or break a data strategy. This notion is reinforced by numerous comments by survey respondents when asked to write their keys to driving adoption and value with BI/analytics tools.
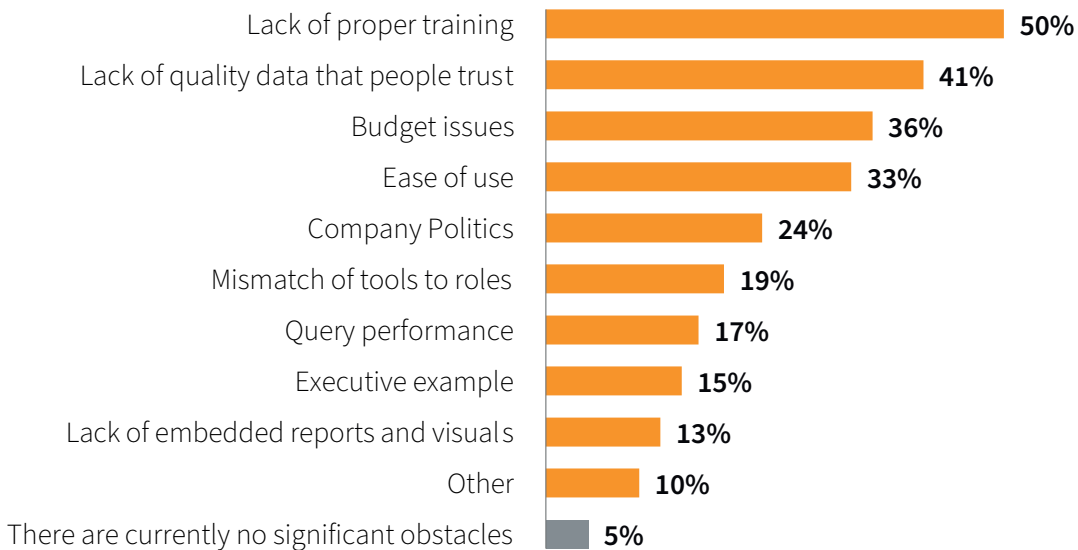
One respondent wrote, *"[The key is] C-suite engagement, support, and vision." Another said "Data-driven culture embodied by executives and management." Another said, "Seeing senior leaders use the information and the tools."*

Regional variations. Regional variations appeared within business drivers as well. North American companies are much more likely than Europeans to select three items as drivers of BI/analytics usage: "change in data culture" (71% to 43%), "analytics community of practice" (46% to 16%), and "data literacy program" (17% to 7%). If cultural trends hold true, we suspect many more European companies will soon begin emphasizing the importance of data culture, communities of practice, and data literacy.

Barriers to Adoption

Finally, we asked respondents about the obstacles they face to getting broader adoption and usage of BI/analytics tools. Half (50%) said "lack of proper training" and 41% said "lack of quality data that people trust." A little more than a third (36%) said "budget issues" and exactly a third (33%) said "ease of use." (See figure 5.)

Figure 5. Barriers to Adoption of BI/Analytics

Barrier	%
Lack of proper training	50%
Lack of quality data that people trust	41%
Budget issues	36%
Ease of use	33%
Company Politics	24%
Mismatch of tools to roles	19%
Query performance	17%
Executive example	15%
Lack of embedded reports and visuals	13%
Other	10%
There are currently no significant obstacles	5%

Source: Companion survey from "Strategies for Driving Adoption and Value with BI and Analytics", BARC and Eckerson Group, 2022. N=214.

Tool mismatch. In our experience, the mismatch between users and tool functionality is a primary reason many BI/analytics licenses remain unused. One respondent commented: *"The tool must be easy to use and capable of covering the needs of a wide range of users. This goes from the standard report that is provided regularly to users who want to compile reports pivot-like, but also analysts who want to create their own data models and reports."*

Regional variations. When it comes to adoption barriers, North American and European companies registered similar scores except in three areas: North Americans were much more likely than Europeans to cite "query performance" (38% to 20%), "lack of quality data" (31% to 13%), and "company politics" (43% to 33%) as obstacles. It appears that Europeans do better than North Americans at taking care of BI/analytics basics, such as query performance and data quality, while North American companies perhaps get distracted chasing the latest technologies and techniques.

Best-in-Class Companies

The themes above are amplified when we compare adoption rates of best-in-class companies versus laggards. To define "best-in-class" and "laggard", we used the question in figure 6. Those who selected "Much better" are classified as "best in class" while those who selected "slightly worse" or "much worse" are deemed laggards.

Figure 6. How Do You Rate Your Company's Data & Analytics Capabilities Compared to Your Main Competitors?
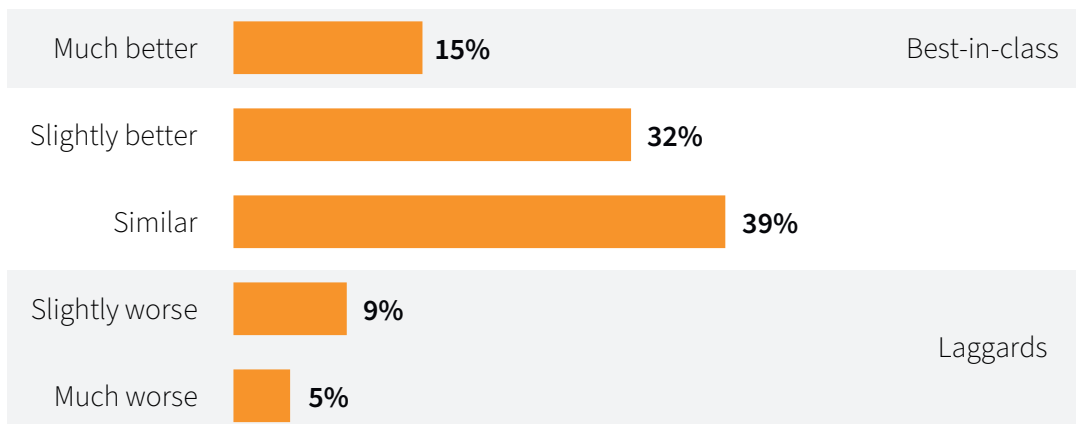
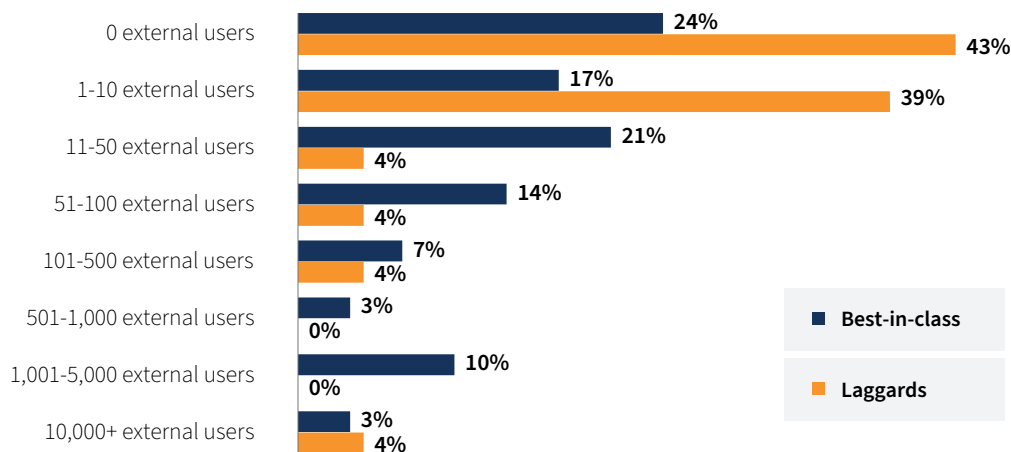|		
Much better	15%	Best-in-class
Slightly better	32%	
Similar	39%	
Slightly worse	9%	
Much worse	5%	Laggards

Source: Companion survey from "Strategies for Driving Adoption and Value with BI and Analytics", BARC and Eckerson Group, 2022. N=198.

External users

Best-in-class companies significantly outpace laggards in supporting external users. A higher percentage of best-in-class companies support between 10 and 5,000 external users than laggards. Overall, best-in-class companies support a median of 30.5 external users versus 5.5 external users for laggards. (See figure 7.)

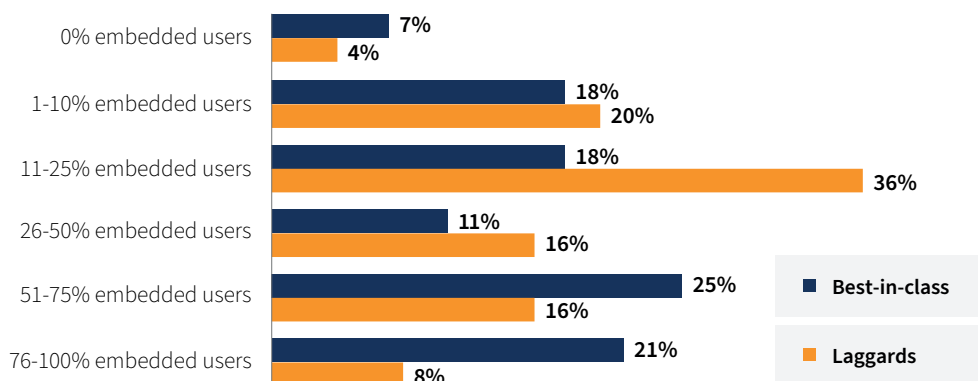### Figure 7. Comparison of External Users: Best-in-Class Versus Laggards

External users	Best-in-class	Laggards
0 external users	24%	43%
1-10 external users	17%	39%
11-50 external users	21%	4%
51-100 external users	14%	4%
101-500 external users	7%	4%
501-1,000 external users	3%	0%
1,001-5,000 external users	10%	0%
10,000+ external users	3%	4%

Source: Companion survey from "Strategies for Driving Adoption and Value with BI and Analytics", BARC and Eckerson Group, 2022. N=52.

Embedded Users

Best-in-class companies also outpace laggards in getting 50% or more of all employees to use embedded analytics. Overall, best-in-class companies have 50.5% of employees using embedded analytics while laggards only have 18%. (See figure 8.)

Figure 8. Comparison of Embedded Users: Best-in-Class Versus Laggards

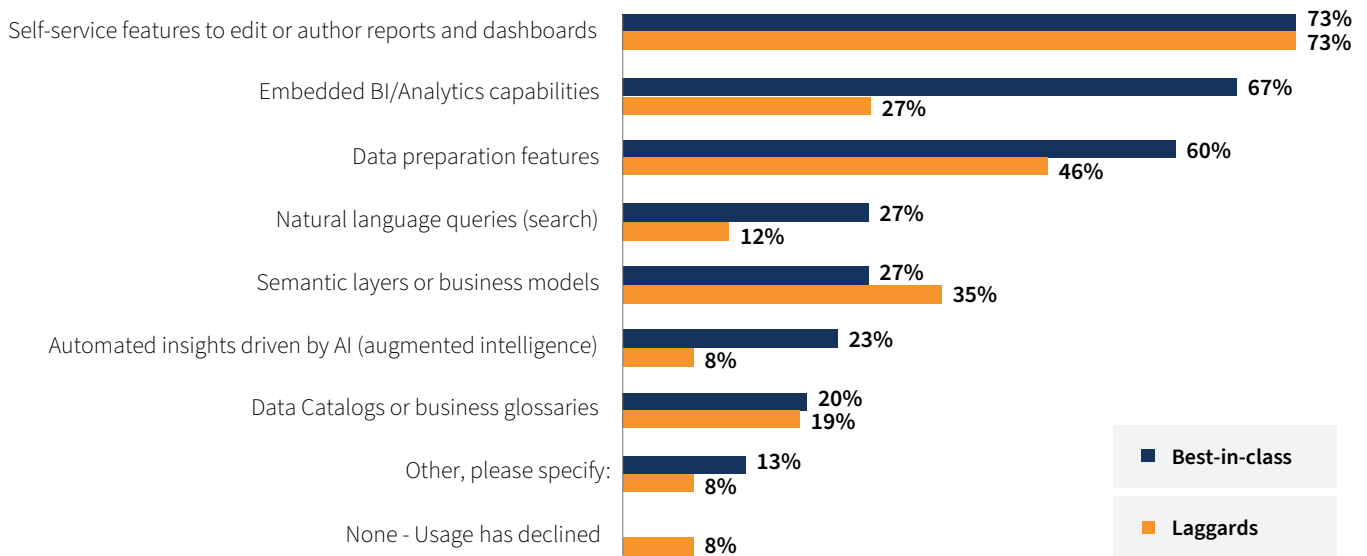| Embedded users	Best-in-class	Laggards
0% embedded users	7%	4%
1-10% embedded users	18%	20%
11-25% embedded users	18%	36%
26-50% embedded users	11%	16%
51-75% embedded users	25%	16%
76-100% embedded users	21%	8%

Source: Companion survey from "Strategies for Driving Adoption and Value with BI and Analytics", BARC and Eckerson Group, 2022. N=53.

Technical Drivers

When looking at technical drivers of adoption, best-in-class companies again cite "embedded BI/analytics" to a much higher degree than laggards. They also are much more likely than laggards to cite the self-service features "data preparation" and "natural language queries." (See figure 9.)

Figure 9. Comparison of Technical Drivers: Best-in-Class Versus Laggards

Self-service features to edit or author reports and dashboards — Best-in-class: 73%, Laggards: 73%
Embedded BI/Analytics capabilities — Best-in-class: 67%, Laggards: 27%
Data preparation features — Best-in-class: 60%, Laggards: 46%
Natural language queries (search) — Best-in-class: 27%, Laggards: 12%
Semantic layers or business models — Best-in-class: 27%, Laggards: 35%
Automated insights driven by AI (augmented intelligence) — Best-in-class: 23%, Laggards: 8%
Data Catalogs or business glossaries — Best-in-class: 20%, Laggards: 19%
Other, please specify: — Best-in-class: 13%, Laggards: 8%
None - Usage has declined — Laggards: 8%
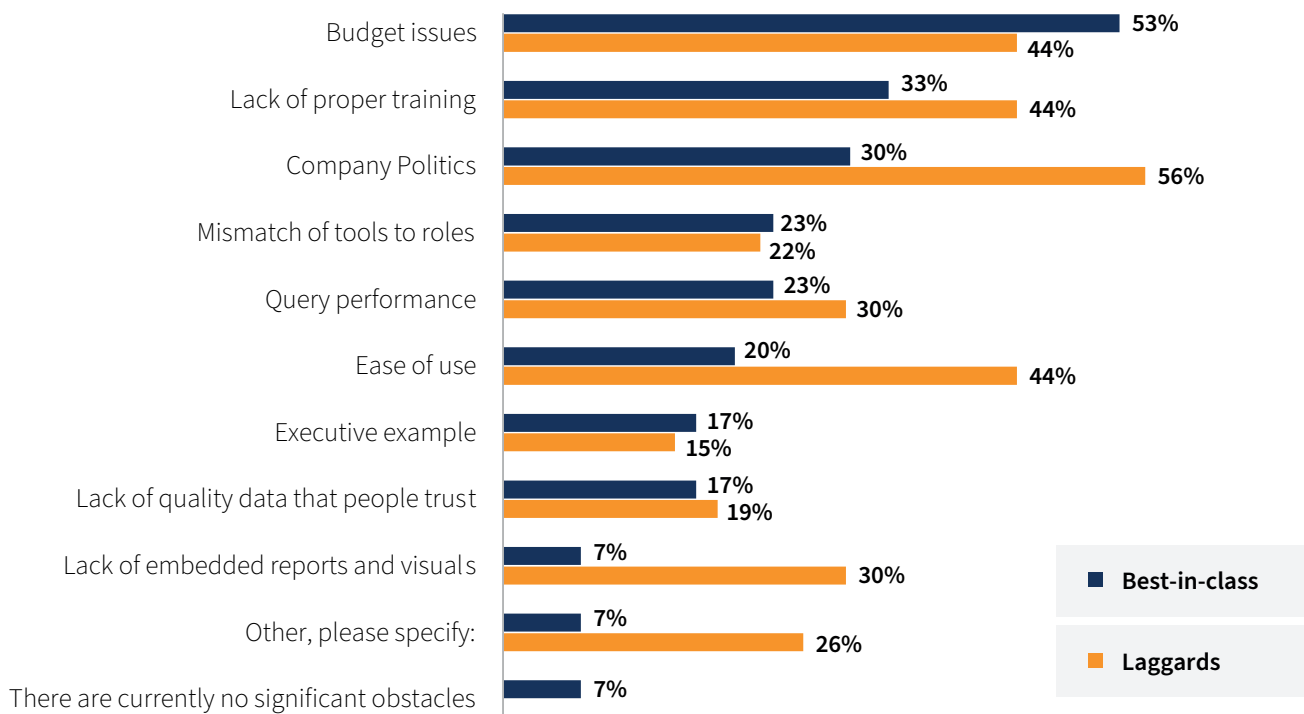
Legend: Best-in-class, Laggards

Source: Companion survey from "Strategies for Driving Adoption and Value with BI and Analytics", BARC and Eckerson Group, 2022. N=56.

Barriers to Adoption

When it comes to barriers to adoption, laggards significantly outpace best-in-class in citing five capabilities: "lack of embedded reports and visuals" (30% to 7%), "ease of use" (44% to 20%), "company politics" (56% to 30%), and "lack of proper training (44% to 33%). (See figure 10.)

Figure 10. Comparison of Technical Drivers: Best-in-Class Versus Laggards

Source: Companion survey from "Strategies for Driving Adoption and Value with BI and Analytics", BARC and Eckerson Group, 2022. N=57.

Best-in-class companies have figured out how to overcome barriers and reinforce drivers to deliver successful data & analytics programs compared to laggards. We dive deeper into this dynamic in the next section.

Adoption Map

We've studied BI/analytics long enough to know that there are certain things that kill adoption and others that grow it. Our survey and the comments from respondents reinforce many of our long-standing assumptions. We've summarized these in the table below, which can serve as a checklist for data and analytics leaders who want to overcome obstacles and accelerate progress. (See figure 11.)

Figure 11. Summary of BI/Analytics Drivers and Obstacles

Drivers of Adoption ("Availability of")				
Business	**Training**	**Applications**	**Tools**	**Process**
Executive Vision	Robust Training	Embedded BI	Self-Service	Data Governance
Executive Example	Peer Coaching	Analytics Apps	Tailored GUIs	Center of Excellence
Marketing/Change	Community	Mobile BI	Data Preparation	Agile Solutions

Barriers to Adoption ("Absence of")				
Data	**Ease of Use**	**Culture**	**Infrastructure**	**Resources**
Data Quality	Easy-to-Use Tools	Leadership	Query Speed	Budget
Master Data	Flexible Analysis	Example	Scalability	People
Metadata	Accessible Data	Change Mgmt	Modeled Data	Training

Adoption Barriers

Data killers. There are several things whose absence instantly kills BI/analytics adoption and usage. Without these things, businesspeople simply won't use BI/analytics tools or their output. If they need data, they'll get it themselves using Excel, which leads to data fragmentation, data silos, and inconsistent data, making it almost impossible to run a company.

The two top "data killers" are lack of data quality and ease of use. For years, we've listened to business users complain about poor quality data and hard-to-use tools, and data leaders bemoan their inability to address these issues. Each data killer has many contributing factors that are worth exploring.

Data quality. If businesspeople don't trust the accuracy or completeness of data, they simply won't use BI/analytics tools or their output, tarnishing the program's reputation and jeopardizing the data leader's career. Unfortunately, data quality is notoriously hard to corral. The causes of poor data quality are multi-faceted and can include:

> **Data entry errors** and lack of standard processes to fix those errors at the source.

> **System changes** and a lack of process for coordinating changes with downstream users.

> **Data silos** where businesspeople create data sets and reports without central coordination.

> Lack of **data governance policies** to create standard data definitions and processes.

> Lack of a **report certification** process to ensure report data and metrics conform to standards.

> Lack of **data quality rules**, metrics, and a process for remediating errors.

> Lack of standard **master and reference data** and processes for defining and managing it.

> Lack of a central **metric store** that business users can easily access and query.

Ease of use. Like poor data quality, lack of easy-to-use BI/analytics tools is a data killer with many contributing factors. If businesspeople find BI/analytics tools too hard to use, too slow, or too inflexible, they simply stop using them. They revert to old tools or simply do without them, making decisions entirely by intuition. Here are some of the things that make it hard for businesspeople to use BI/analytics tools:

> **Static reports.** Static reports or dashboards without parameters.

> **Untailored dashboards.** Too many dashboard parameters or the wrong parameters.

> **Untailored tools.** Data consumers who are forced to use tools geared to data analysts.

> **Too much functionality.** Self-service tools with too much functionality.

> **Poor performance.** Slow queries or dashboards that take minutes to populate.

> **Inflexible tools.** Tools that don't let analysts create custom groups or calculations.

> **Poor models.** Poorly designed data warehouses without proper models and oversight.

> **Lack of training.** Lack of sufficient training, support, and coaching.

> **Lack of a semantic layer.** Users see the available reporting and analysis objects and metrics in terms they can understand.

Culture. Unless data is a priority for business executives, data & analytics programs rarely gain traction. Executives need to communicate the value of data as a business asset and, most importantly, they need to use the BI/analytics tools to have a lasting impact. Without data-driven leaders who set the right tone and example, change is nearly impossible, and it's hard to grow usage and adoption.

Infrastructure. If the tools are slow, businesspeople won't use them. That means the company needs to hire enough astute technical people to create and maintain a data infrastructure that offers fast performance as the number of users grows. In addition, despite new self-service tools and cloud data platforms, most business users still need and want modeled data created by an enterprise data architect.

Resources. It's possible for organizations to starve data & analytics programs before they gain traction. Executives need to allocate enough money and people to generate positive results and convince middle managers and workers to adopt new ways of working. Without some positive results, users won't apply the training they've been given and learn to use tools efficiently and effectively.

Adoption Drivers

The flip side of data killers are data drivers. These either kickstart a data analytics program, avert data-killing issues, or accelerate momentum by driving business value.

Business. As mentioned above, business leaders can make or break a data and analytics program by their words and actions. They must articulate the value of data through multiple channels, both internal and external. Internally, they must mandate data governance and data quality programs to preserve the integrity of data assets. But more than words, they must use the tools and their output and require subordinates to do the same. They must run the company with KPIs and hold people accountable for the results. They must invest significant sums in people, technology, and services to reap the full value from the organization's data assets.

Training. Training is critical to ease of use. Users who don't understand how to use the tools or interpret and act on data won't see much value in either. Training is more than just classroom work, occasional webinars, or embedded videos within BI/analytics tools. It's critical to offer peer-based, just-in-time coaching and support. Coaches can work with staff via office hours, lunch-and-learns, meetups, and hackathons. They not only educate users about how to use tools and data, they set an example and foster a culture of analytics.

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Tooling. Technology plays a key role in helping users drive insights from data. Self-service gives users the right tools for their role and tasks. Too many companies give business users one-size-fits-all self-service tools for creating reports and dashboards when they should provide parameterized reports tailored to their roles. It's also important to back the tools with a business-friendly data model that makes it easier to query data on an ad hoc basis. For data analysts, the tooling must be flexible enough for them to create custom groups, import data, and perform a litany of analytical functions.

Applications. As mentioned above, the best way to turbocharge adoption is to embed charts, tables, and dashboards into operational applications where many business users spend most of their work time. Packaged and custom analytic applications do a great job of embedding analytics content into operational applications. Finally, mobile BI is a great way to improve adoption and usage because it extends analytics to the devices mobile professionals rely on to do their jobs.

Tools. Self-service tools are critical to improve usage and adoption. But it's important to tailor the tool to business users. Data consumers don't want or need a tool or GUI designed for data analysts or data scientists. They need no-code tools and content tailored to their department or functional area. Data analysts need more sophisticated authoring tools, including data preparation tools for acquiring, integrating, and modeling data from diverse sources.

Process. There are dozens of processes that undergird every data & analytics program. A data leader that defines and manages these processes well will generate successful outcomes. Here is a sampling of processes:

> **Project requests.** Refine project intake, triage, and prioritization.

> **Business alignment.** Use an analytics center of excellence to match experts with business users.

> **Requirements.** Gather user stories using agile techniques to deliver valuable solutions.

> **Agile development.** Self-organizing teams deliver working code quickly.

> **Report certification.** Ensure standard reports adhere to data governance specifications.

> **Data literacy.** Supplement role-based training with peer-based coaching and support.

> **Product Management.** Deliver data products instead of projects. This approach has many advantages, including end-to-end responsibility, lifecycle management, and modular development.

> **People management.** Recruit, hire, and manage data and analytics experts

> **Career paths.** Develop career and mentoring programs for technical professionals.

We've learned a lot in the last 30 years of data and analytics. Best-in-class organizations are heeding these lessons and applying people, processes, technologies, and organizational structures to address data killers and accelerate data drivers.

Usage and Adoption in the 21st Century

Despite the slow growth in the adoption of BI/analytics tools, usage is growing. Embedded analytics is exploding the number of operational workers who use charts, tables, and dashboards generated by BI/analytics tools and services. We're also seeing growth in the number of external BI/analytics users. Neither type of user is normally registered in traditional counts of BI/analytics licensed users. This usage growth is most prevalent in North American companies and organizations with best-in-class data & analytics.

Meanwhile, our industry is making headway addressing the two major data killers: data quality and ease of use. Data teams are implementing data governance to standardize semantics and data quality rules and workflows to improve data accuracy, completeness, and timeliness. Analytics teams are tailoring BI/analytics tools to user requirements and implementing data literacy and peer-based coaching and support programs to ensure business users have the knowledge and skills to reap maximum value from their data.

At the same time, macro trends promise to continue highlighting the importance of data to 21st century organizations. The pandemic has accelerated the trend toward digital transformation, which requires a robust data foundation. They are also modernizing their supply chains to avert or minimize disruptions. And they are eager to maintain customer loyalty while establishing new markets for their products and services. As such, all companies are going digital using data, which means executives and employees are becoming more data-driven. With these tailwinds, the future looks bright for BI/analytics.

About Eckerson Group

Wayne Eckerson, a globally-known author, speaker, and consultant, formed **Eckerson Group** to help organizations get more value from data and analytics. His goal is to provide organizations with expert guidance during every step of their data and analytics journey.

Eckerson Group helps organizations in three ways:

> **Our thought leaders** publish practical, compelling content that keeps data analytics leaders abreast of the latest trends, techniques, and tools in the field.

> **Our consultants** listen carefully, think deeply, and craft tailored solutions that translate business requirements into compelling strategies and solutions.

> **Our advisors** provide competitive intelligence and market positioning guidance to software vendors to improve their go-to-market strategies.

Eckerson Group is a global research, consulting, and advisory firm that focuses solely on data and analytics. Our experts specialize in data governance, self-service analytics, data architecture, data science, data management, and business intelligence.

Our clients say we are hard-working, insightful, and humble. It all stems from our love of data and our desire to help organizations turn insights into action. We are a family of continuous learners, interpreting the world of data and analytics for you.

Get more value from your data. Put an expert on your side. **Learn what Eckerson Group can do for you!**

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About BARC

BARC (Business Application Research Center) is one of Europe's leading analyst firms for business software, focusing on the areas of data, business intelligence (BI) and analytics, enterprise content management (ECM), customer relationship management (CRM) and enterprise resource planning (ERP). Our passion is to help organizations become digital companies of tomorrow. We do this by using technology to rethink the world, trusting databased decisions and optimizing and digitalizing processes. It's about finding the right tools and using them in a way that gives your company the best possible advantage. This unique blend of knowledge, exchange of information and independence distinguishes our services in the areas of research, events and consulting.

Research

Our BARC studies are based on internal market research, software tests and analyst comments, giving you the security to make the right decisions. Our independent research brings market developments into clear focus, puts software and vendors through their paces and gives users a place to express their opinions.

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Decision-makers and IT industry leaders come together at BARC events. BARC seminars in small groups, online webinars and conferences with more than 1,000 participants annually all offer inspiration and interactivity. Through exchange with peers and an overview of current trends and market developments, you will receive new impetus to drive your business forward.

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In confidential expert workshops, coaching and in-house consultations, we transform the needs of your company into future-proof decisions. We provide you with successful, holistic concepts that enable you to use the right information correctly. Our project support covers all stages of the successful use of software.

About the Sponsor: insightsoftware

insightsoftware is a leading provider of financial reporting and enterprise performance management software. We enable the Office of the CFO to connect to and make sense of their data in real time so they can proactively drive greater financial intelligence across their organization. Over 30,000 organizations worldwide rely on insightsoftware's portfolio of best-in-class reporting, analytics, budgeting, forecasting, consolidation, and tax solutions to provide them with increased productivity, visibility, accuracy, and compliance.

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Learn more at **logianalytics.com**.

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About the Sponsor: Toucan Toco

Toucan Toco was founded in March 2015 by Kilian Bazin, Charles Miglietti, Baptiste Jourdan, and David Nowinsky. They noticed that only experts could have easy access to performance data in companies. Their goal was then to give easy access to data for non-specialists and add value to their decision-making.

From four partners to 115 employees within 5 years, Toucan Toco is trusted by 140 big account clients for 300 projects, among which are Renault Nissan, Engie, BNP Paribas, Crédit Agricole, Engie, l'Oréal, Marques Avenue, Elior, and Sodexo.

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