May 31, 2023

Dresner Advisory Services, LLC

Wisdom of Crowds® Business Intelligence Market Study

2023 Edition

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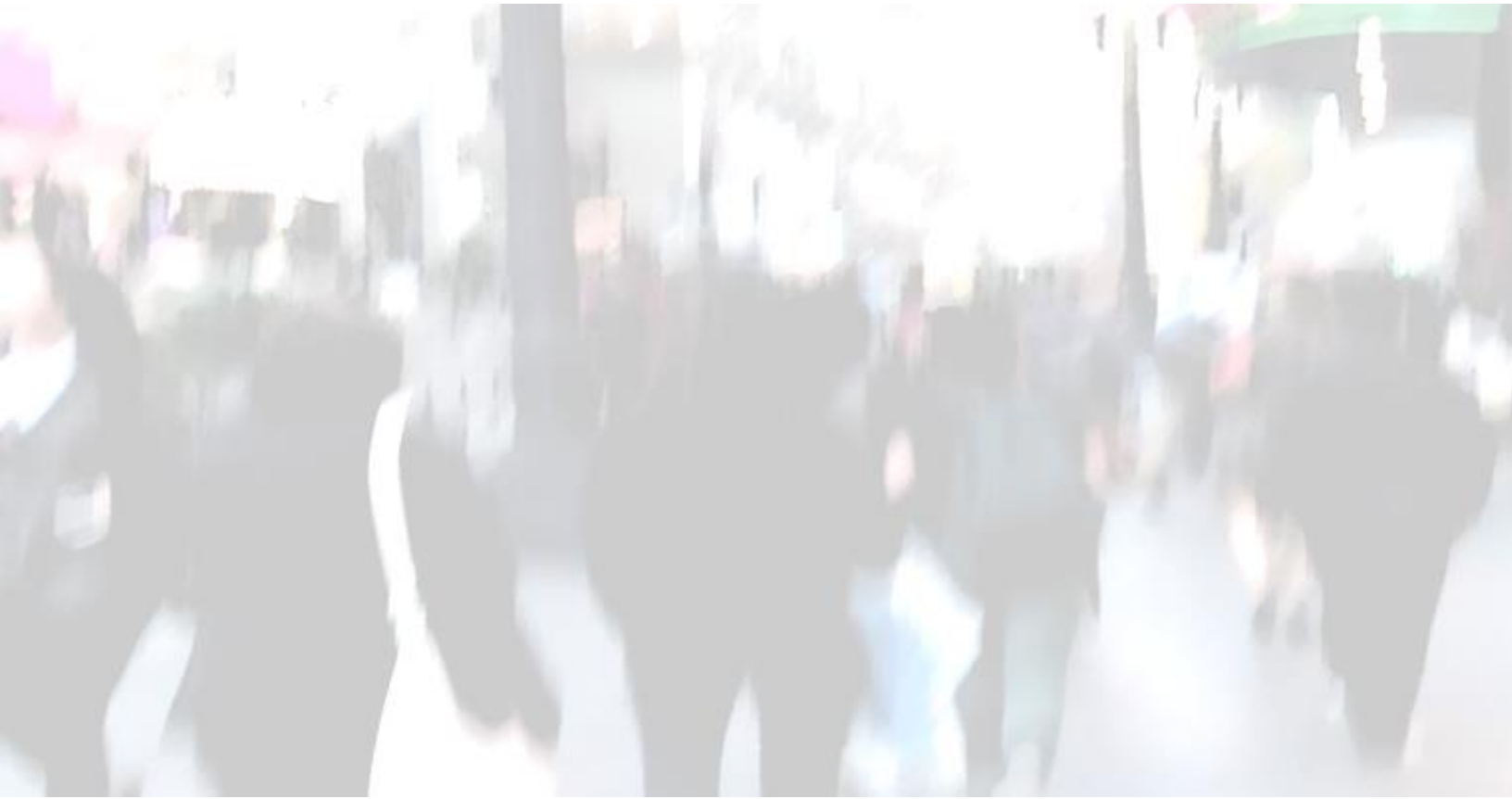


Disclaimer

This report should be used for informational purposes only. Vendor and product selections should be made based on multiple information sources, face-to-face meetings, customer reference checking, product demonstrations, and proof-of-concept applications.

The information contained in all Wisdom of Crowds® Market Study Reports reflects the opinions expressed in the online responses of individuals who chose to respond to our online questionnaire and does not represent a scientific sampling of any kind. Dresner Advisory Services, LLC shall not be liable for the content of reports, study results, or for any damages incurred or alleged to be incurred by any of the companies included in the reports as a result of the content.

Business Intelligence: A Definition

Business intelligence (BI) is “knowledge gained through the access and analysis of business information.

Business intelligence tools and technologies include query and reporting, OLAP (online analytical processing), data mining and advanced analytics, end-user tools for ad hoc query and analysis, and dashboards for performance monitoring.”

Howard Dresner, *The Performance Management Revolution: Business Results Through Insight and Action* (John Wiley & Sons, 2007).

Introduction

On behalf of Dresner Advisory Services, I am delighted to introduce the highly anticipated 14th edition of our Wisdom of Crowds BI Flagship Market Study. As we celebrate our 16th anniversary, we express our heartfelt gratitude for the support and encouragement from our clients and related communities who have contributed to our growth and success.

The 14th edition of the Wisdom of Crowds BI Flagship Market Study stands as our most complete and comprehensive report to date. It encompasses detailed sections addressing important aspects such as user success with BI, drivers and targets for automation, budgets and allocations, penetration, data leadership, objectives and achievements, and much more. Furthermore, we have included an industry section that evaluates and assesses 25 suppliers of BI solutions and technology, providing valuable insights for organizations seeking to navigate the dynamic market landscape.

Since our inception, we have continually challenged ourselves to set high standards, innovate, and lead the market, all while striving to offer ever-greater value with each passing year. The 14th edition of our flagship market study exemplifies this commitment, illustrating our dedication to providing you with the most comprehensive and relevant research available.

We are confident that this landmark research report will provide you with valuable insights, help you make informed decisions and drive your organization towards success. We sincerely hope you enjoy exploring this report and find it beneficial for your strategic initiatives.

Thank you once again for your continued support. We remain committed to serving you with excellence and look forward to your feedback on the Wisdom of Crowds BI Flagship Market Study.

With gratitude,

Howard Dresner
Founder and Chief Research Officer
Dresner Advisory Services
www.dresneradvisory.com

Contents

Benefits of the Study

The Wisdom of Crowds® Business Intelligence Market Study provides a wealth of information and analysis—offering value to both consumers and producers of business intelligence technology and services.

Consumer Guide

As an objective source of industry research, consumers use the Wisdom of Crowds® Business Intelligence Market Study to understand how their peers leverage and invest in business intelligence and related technologies.

Using our trademark 33-criteria vendor performance measurement system, users glean key insights into BI software supplier performance, enabling:

- Comparisons of current vendor performance to industry norms
- Identification and selection of new vendors

Supplier Tool

Vendor Licensees use the Wisdom of Crowds® Business Intelligence Market Study in several important ways such as:

External Awareness

- Build awareness for the business intelligence market and supplier brand, citing Wisdom of Crowds® Business Intelligence Market Study trends and vendor performance
- Create lead and demand generation for supplier offerings through association with Wisdom of Crowds® Business Intelligence Market Study brand, findings, webinars, etc.

Internal Planning

- Refine internal product plans and align with market priorities and realities as identified in Wisdom of Crowds® Business Intelligence Market Study
- Better understand customer priorities, concerns, and issues
- Identify competitive pressures and opportunities

About Howard Dresner and Dresner Advisory Services

The Wisdom of Crowds® Business Intelligence Market Study was conceived, designed, and executed by Dresner Advisory Services, LLC—an independent advisory firm—and Howard Dresner, its President, Founder, and Chief Research Officer.

Howard Dresner is one of the foremost thought leaders in business intelligence and performance management, having coined the term "Business Intelligence" in 1989. He published two books on the subject, *The Performance Management Revolution – Business Results through Insight and Action* (John Wiley & Sons, Nov. 2007) and *Profiles in Performance – Business Intelligence Journeys and the Roadmap for Change* (John Wiley & Sons, Nov. 2009). He lectures at forums around the world and is often cited by the business and trade press.

Prior to Dresner Advisory Services, Howard served as chief strategy officer at Hyperion Solutions and was a research fellow at Gartner, where he led its business intelligence research practice for 13 years.

Howard conducted and directed numerous in-depth primary research studies over the past three decades and is an expert in analyzing these markets.

Through the Wisdom of Crowds® Business Intelligence Market Study reports, we engage with a global community to redefine how research is created and shared.

Other research reports include:

- Analytical Platforms
- Cloud Computing and BI
- Data Catalog
- Data Engineering
- Embedded BI
- Guided Analytics
- ModelOps
- Self-Service BI

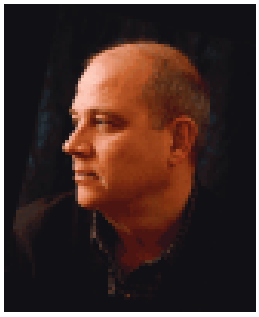
You can find more information about Dresner Advisory Services at www.dresneradvisory.com.

About Jim Ericson

Jim Ericson is a Research Director with Dresner Advisory Services.

Jim has served as a consultant and journalist who studies end-user management practices and industry trending in the data and information management fields.

From 2004 to 2013, he was the editorial director at *Information Management* magazine (formerly *DM Review*), where he created architectures for user and industry coverage for hundreds of contributors across the breadth of the data and information management industry.



As lead writer he interviewed and profiled more than 100 CIOs, CTOs, and program directors in an annual program called “25 Top Information Managers.” His related feature articles earned ASBPE national bronze and multiple Mid-Atlantic region gold and silver awards for Technical Article and for Case History feature writing.

A panelist, interviewer, blogger, community liaison, conference co-chair, and speaker in the data-management community, he also sponsored and co-hosted a weekly podcast in continuous production for more than five years.

Jim’s earlier background as senior morning news producer at NBC/Mutual Radio Networks and as managing editor of MSNBC’s first Washington, D.C. online news bureau cemented his understanding of fact-finding, topical reporting, and serving broad audiences.

The Dresner Team

About Elizabeth Espinoza

Elizabeth is Research Director at Dresner Advisory and is responsible for the data preparation, analysis, and creation of charts for Dresner Advisory reports.

About Kathleen Goolsby

Kathleen is Senior Editor at Dresner Advisory ensuring the quality and consistency of all research publications.

About Danielle Guinebertiere

Danielle is the Director of Client Services at Dresner Advisory. She supports the ongoing research process through her work with executives at companies included in Dresner market reports.

About Michelle Whitson-Lorenzi

Michelle is Client Services Manager and is responsible for managing software company survey activity and our internal market research data.

Survey Method and Data Collection

As with all our Wisdom of Crowds® market studies, we constructed a survey instrument to collect data and used social media and crowdsourcing techniques to recruit participants.

Data Quality

We carefully scrutinized and verified all respondent entries to ensure that only qualified participants were included in the study.

Executive Summary

Executive Summary

- *Operations*, *executive management* and *finance* most often drive business intelligence practices in organizations (p. 22-27).
- *Executives*, followed by *managers* and *individual contributors*, remain most targeted for BI; *partner/affiliate* audiences are recently more targeted; *customer* and other targeting audiences are growing in younger BI practices; *successful* BI organizations target broad audiences (p. 28-35).
- *Better decision making* is the top *objective* for BI; *efficiency/cost* and *revenue* goals are the next most important. Younger organizations pursue the widest breadth of objectives (p. 36-43).
- Top BI *achievements* mirror top BI goals. *Competitive advantage* and *compliance / risk management* are harder to attain (p. 44-51).
- *Penetration* of BI within organizations improves over time; expansion plans continue to be bullish. BI success is linked to higher penetration (p. 52-58).
- A minority identify *data leadership* in place, mostly in larger organizations. The CDO/CAO role is most common; younger organizations are most flexible with data leader titles; leadership correlates to *BI success*. CDOs / CAOs most often report to CEO and CIO and, increasingly, to CFO (p. 59-73).
- The average *number* of BI tools in use is increasing. Company age and size relate to BI tool use (p. 74-79).
- *Data security, data quality*, and r*eporting* are the most important BI initiatives. *Sales planning* and *collaboration for group analysis* are gaining (p. 80-85).
- *Success with BI* is sustained over time and most often measured via *user feedback*. *Data leadership* improves BI success. Contributors include *management support* and BI *culture*. *Lack of expert resources, culture*, and *alignment* are top obstacles. BI success *correlates* to *higher average BI penetration* (p. 86-98).
- A majority of organizations are *increasing* BI budgets. Higher budgets correlate to BI *penetration, success*, and *leadership.* Most BI budget increases are *new spend. Internal headcount* is the top budget allocation (p. 99-109).
- Most BI tools are in place *five years or less*, and longevity is *increasing*. Longevity increases with BI success and the number of tools in use; most new BI tools are not tool replacements. *Cost*, *ease of use;* and *standardization* most often drive BI tool replacement (p. 110-114).
- User measures of vendor performance in *sales/acquisition experience; value for price paid, quality and usefulness; technical support; BI vendor consulting; integrity; vendor recommendations; overall industry performance improvement;* and *perceived total cost of ownership* are on p. 117-125.
- Vendor ratings are on p. 126-155.

Study Demographics

Our 2023 survey base provides a cross-section of data across geographies, functions, organization sizes, and vertical industries. We believe that, unlike other industry research, this supports a more representative sample and better indicator of true market dynamics. We constructed cross-tab analyses using these demographics to identify and illustrate important industry trends.

Geography

Fifty-five percent of respondents work at North America-based organizations (including the United States, Canada, and Puerto Rico). EMEA accounts for about 28 percent of respondents; the remainder are distributed across Asia Pacific and Latin America (fig. 1).

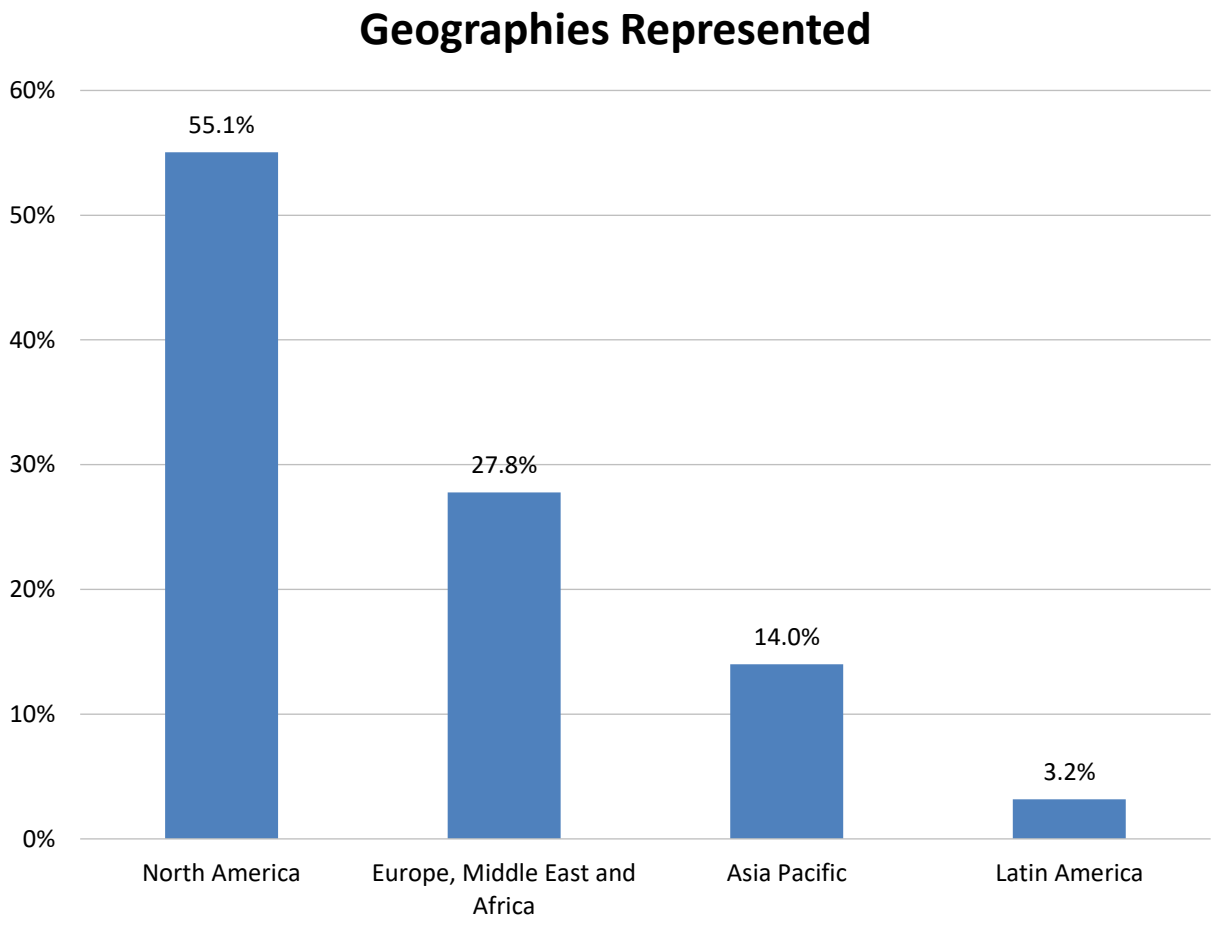


Figure 1 – Geographies represented

Functions

Our 2023 sample base includes a mix of functions (fig. 2). *Finance* (27 percent) accounts for the largest group, followed by *information technology* (26 percent), *executive management* (17 percent), and the *BICC* (7 percent).

Tabulating results across functions helps us develop analyses that reflect the differences and influence of different departments within organizations.

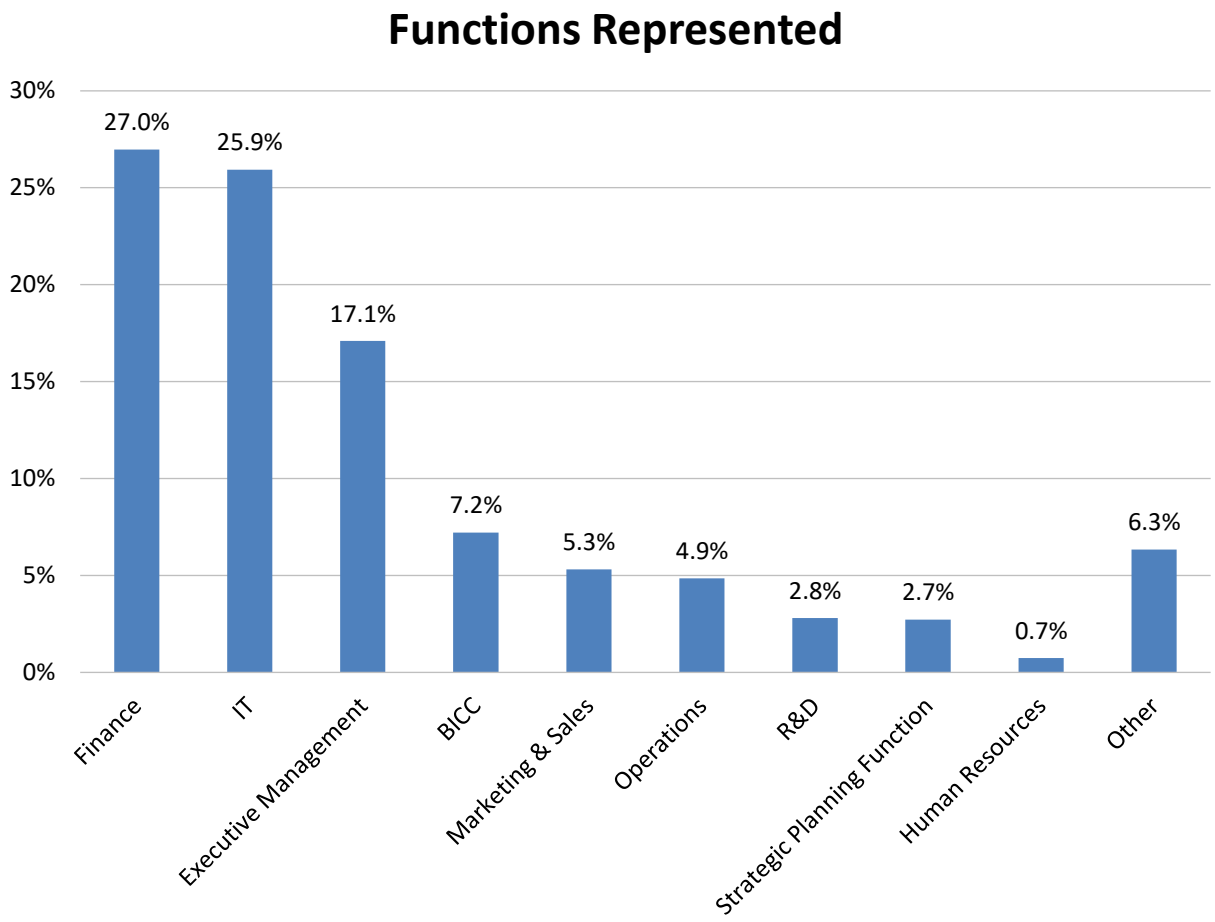


Figure 2 – Functions represented

Vertical Industries

Business services organizations lead our 2023 vertical industry distribution (29 percent). *Technology* (15 percent), *manufacturing* (14 percent), *financial services* (12 percent), *consumer products and services* (11 percent), and *healthcare* (9 percent) are the next most represented (fig. 3).

Tabulating results across industries helps us develop analyses that reflect the maturity and direction of different business sectors.

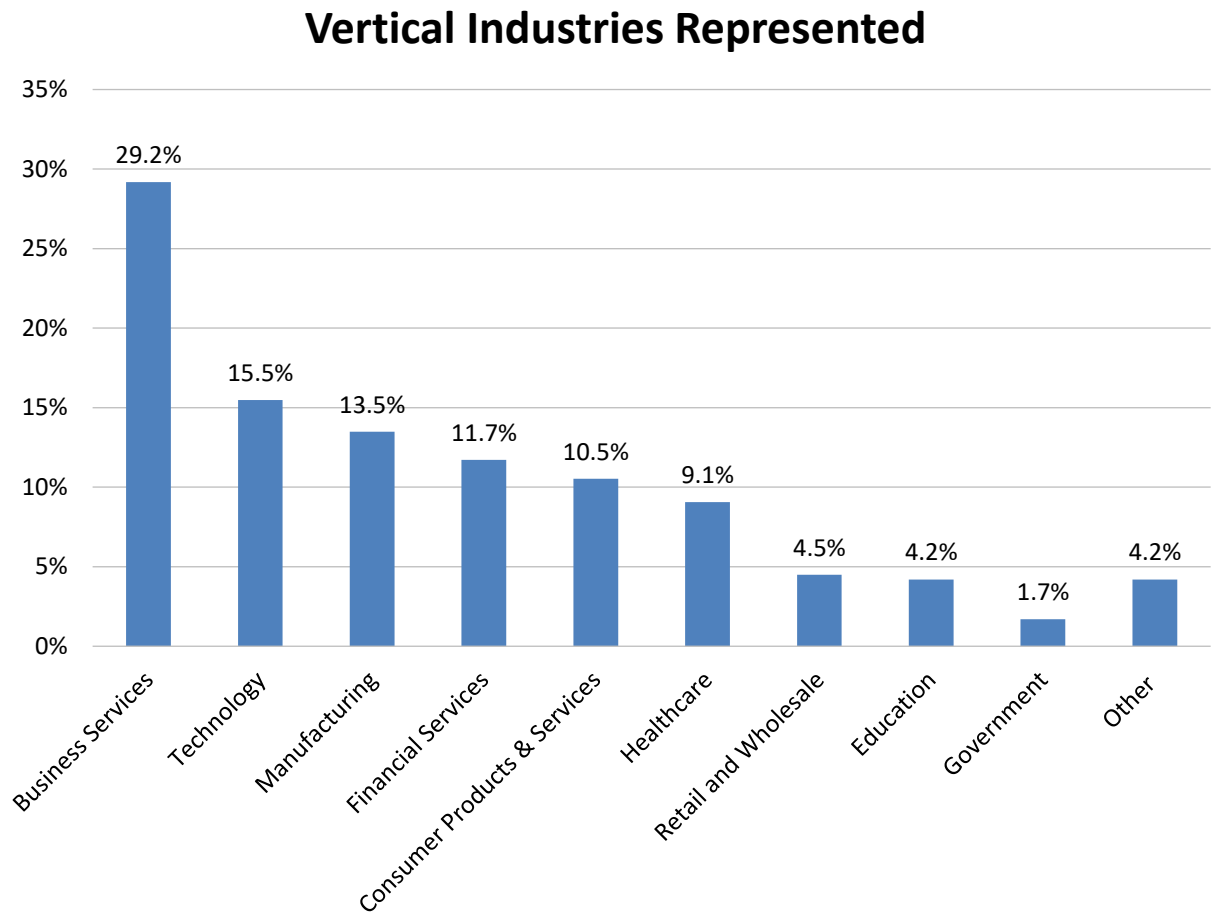


Figure 3 – Vertical industries represented

Organization Size

Our sample base includes a mix of organizations of different sizes in 2023 (based on global headcount). Small organizations (1-100 employees) represent about 23 percent of respondents, midsize organizations (101-1,000 employees) represent about 24 percent, and large organizations (>1,000 employees) account for the remaining 53 percent (fig. 4).

Tabulating results by organization size reveals important differences in practices, planning, and maturity.

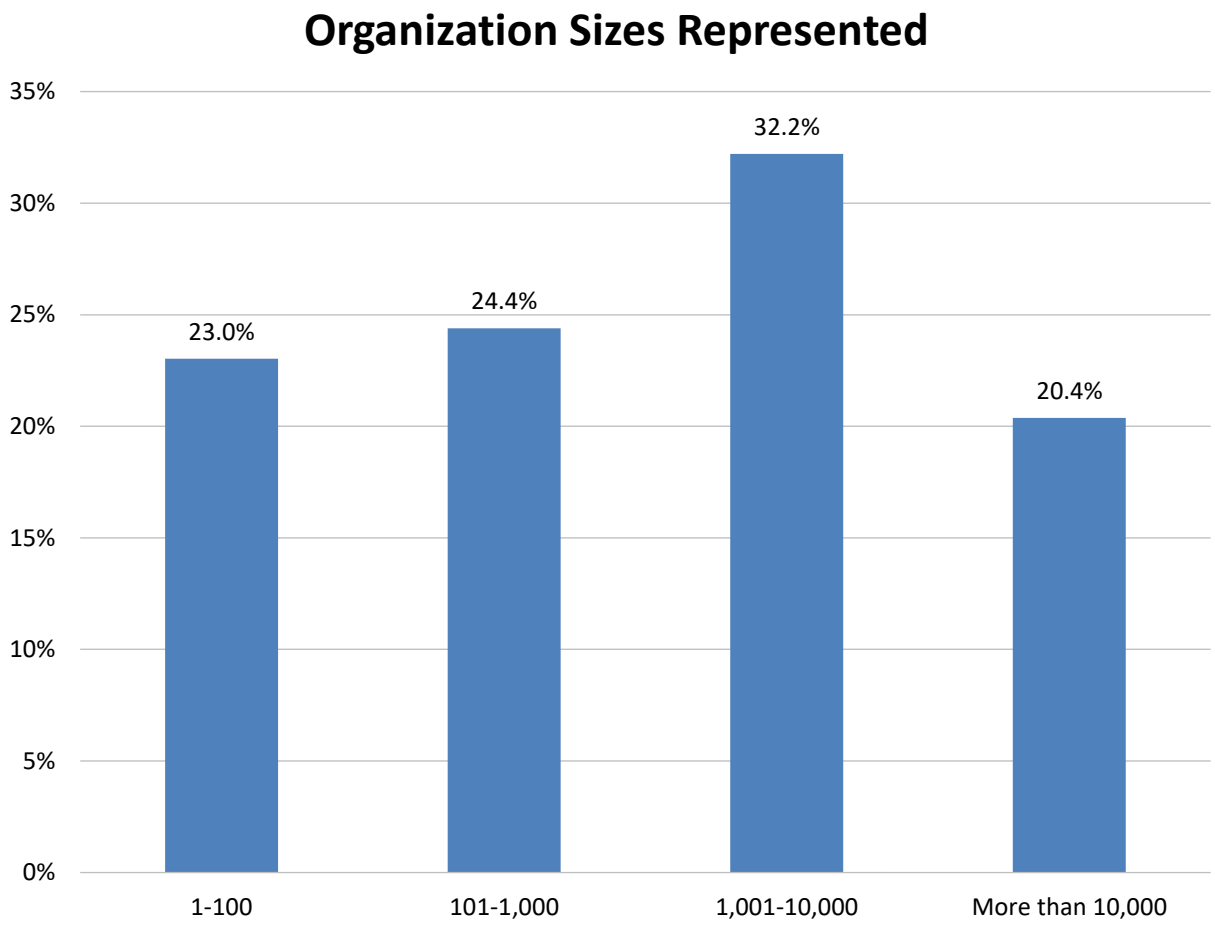


Figure 4 – Organization sizes represented

Analysis and Trends

Analysis and Trends

Departments/Functions Driving Business Intelligence

We asked respondents which functional roles drive business intelligence "always," "often," "sometimes," "rarely," or "never" (fig. 5). The results show a diverse functional breadth of influence. In 2023, survey respondents say *operations, executive management*, and *finance* are the most influential roles. Each of these is between 66-70 percent likely to, at minimum, *often* drive BI, and 86-91 percent are likely to at least *sometimes* drive BI. *IT* and *sales* account for a second tier of influence and are 56-60 percent likely to *always* or *often* drive BI. While functional influence often rolls up to a centralized practice, program, or strategy, we also observe that BI deployments and influence are often widely distributed in organizations.

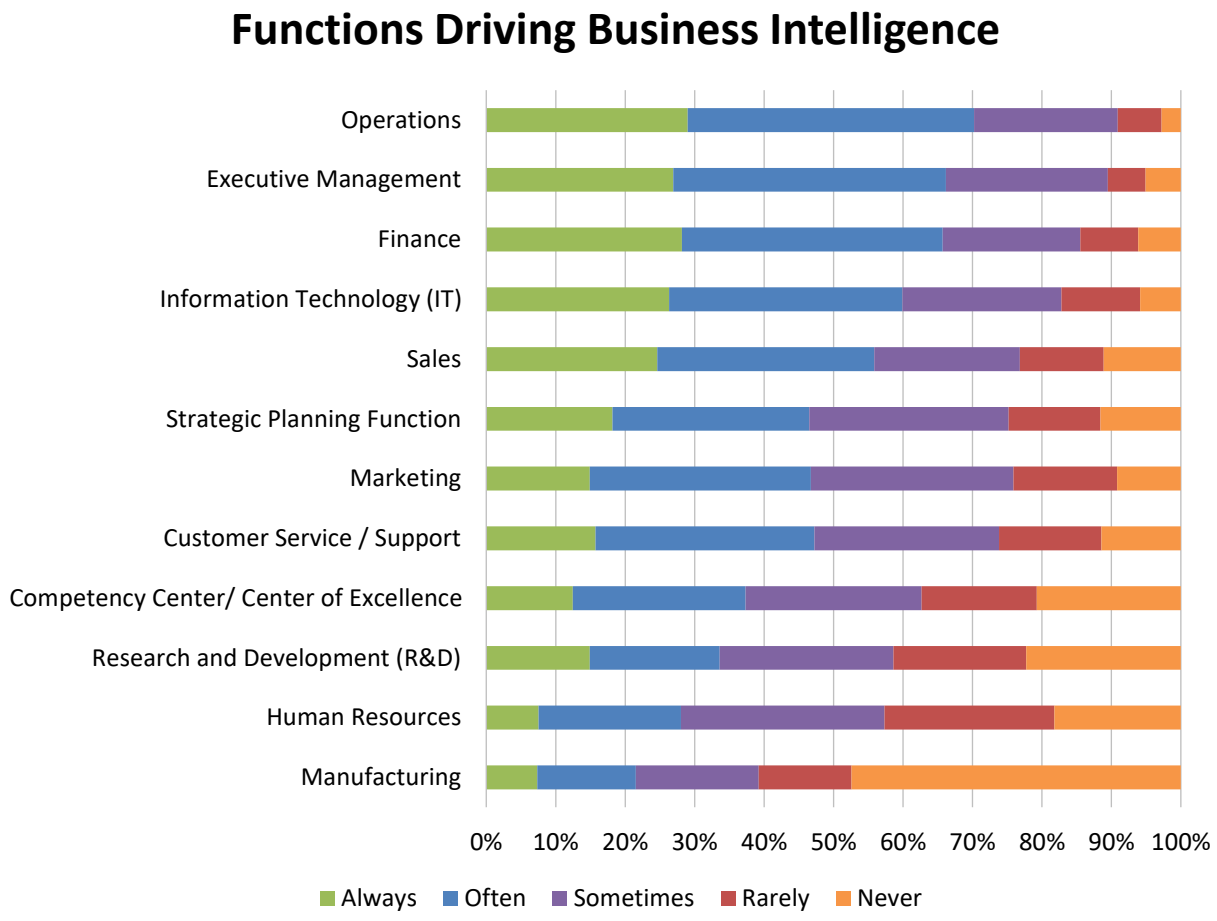


Figure 5 – Functions driving business intelligence

Functions Driving Business Intelligence 2017-2023

Viewed across the most recent six years of data, we observe that most functional drivers of BI exert all-time or near all-time-high levels of influence (fig. 6). The results reveal an ongoing diversity of input and undertakings that range from *operations* to *finance* to *strategic planning, competency center*, and more. The most consistent and clustered influence over time comes from respondents in *operations* and *executive management*. Notably, we observe increasing influence over time coming from multiple functions including *finance, IT, strategic planning*, *marketing*, and even *HR*.

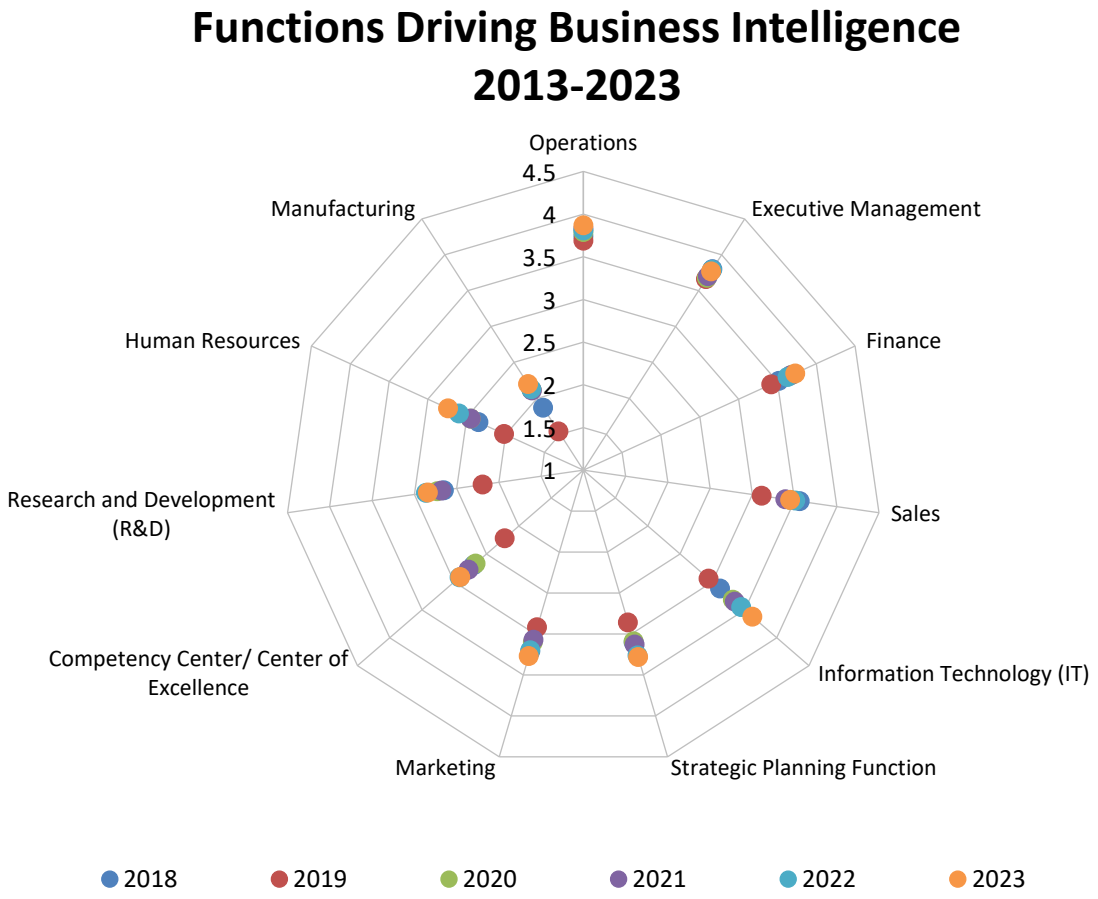


Figure 6 – Functions driving business intelligence 2017-2023

Change in Functions Driving BI 2022-2023

Fig. 7 shows change in functional driver influence year over year from 2022-2023. This year's study shows that lower ranked or secondary drivers, particularly *HR* but also *manufacturing* and *marketing*, are among the roles with the most positive relative momentum as drivers of BI. We also observe that category leader *operations* gathers slightly more influence as the top driver in overall importance by a considerable margin. Also interesting, *sales* is among the few functions that lost some influence year over year, albeit by a small percentage. In sum, the findings show that BI relevance and authority continues spreading to multiple functional areas of influence.

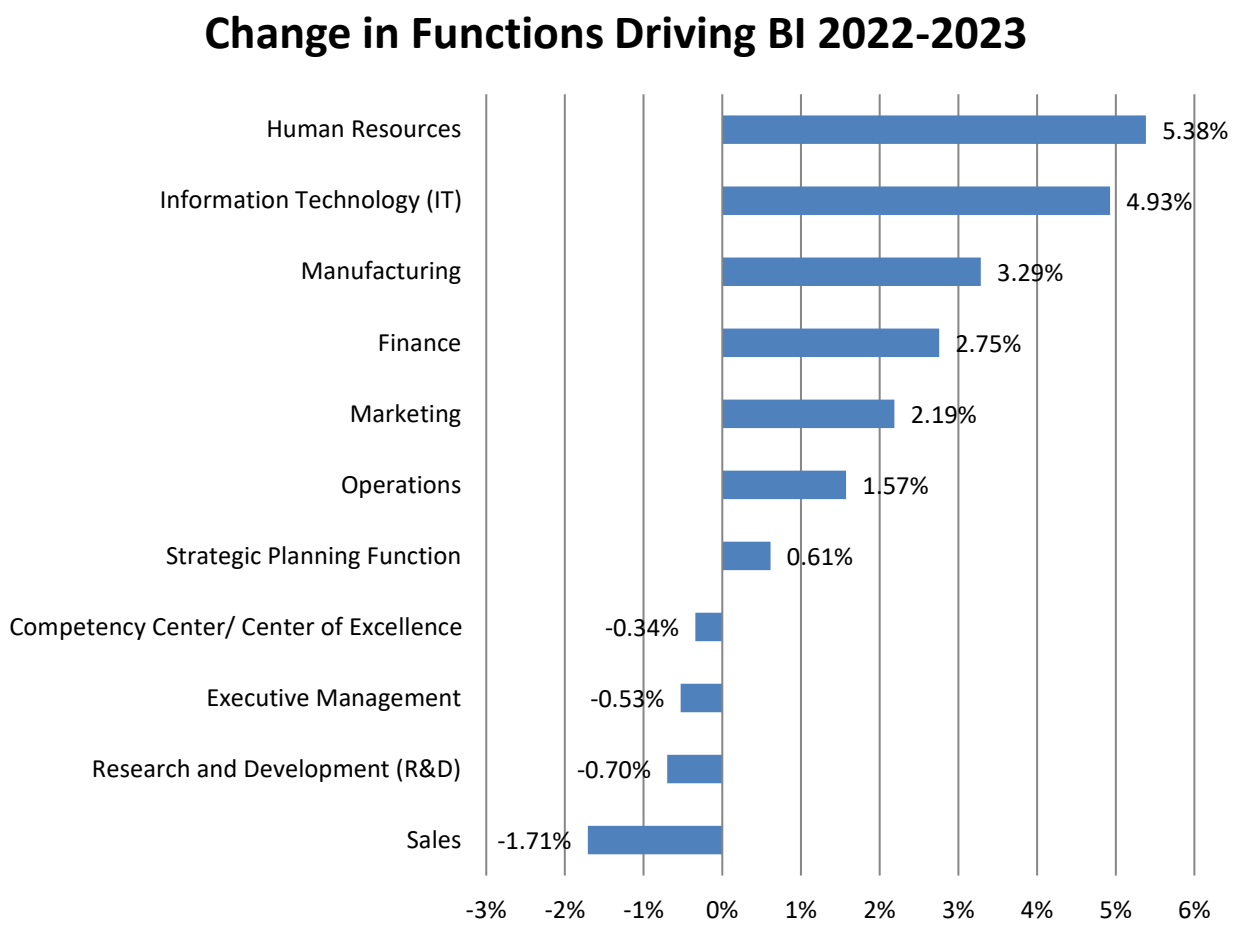


Figure 7 – Change in functions driving BI 2022-2023

Functions Driving Business Intelligence by Major Geography

Functional influencers of business intelligence vary by geography, with collective regional rankings that mostly follow the same order as the overall sample (fig. 8). In 2023, respondents in Asia Pacific post the slightly highest weighted-mean score for the full sample (3.5, midway between *important* and *very important*), followed by Latin America (3.4), EMEA (3.3) and North America (3.2). Regional findings show some standout areas of greater interest. For example, respondents in Latin America report higher interest in *customer service/support*; and *sales*. Respondents in Asia Pacific post higher-than-global-average scores for *R&D* and *manufacturing*.

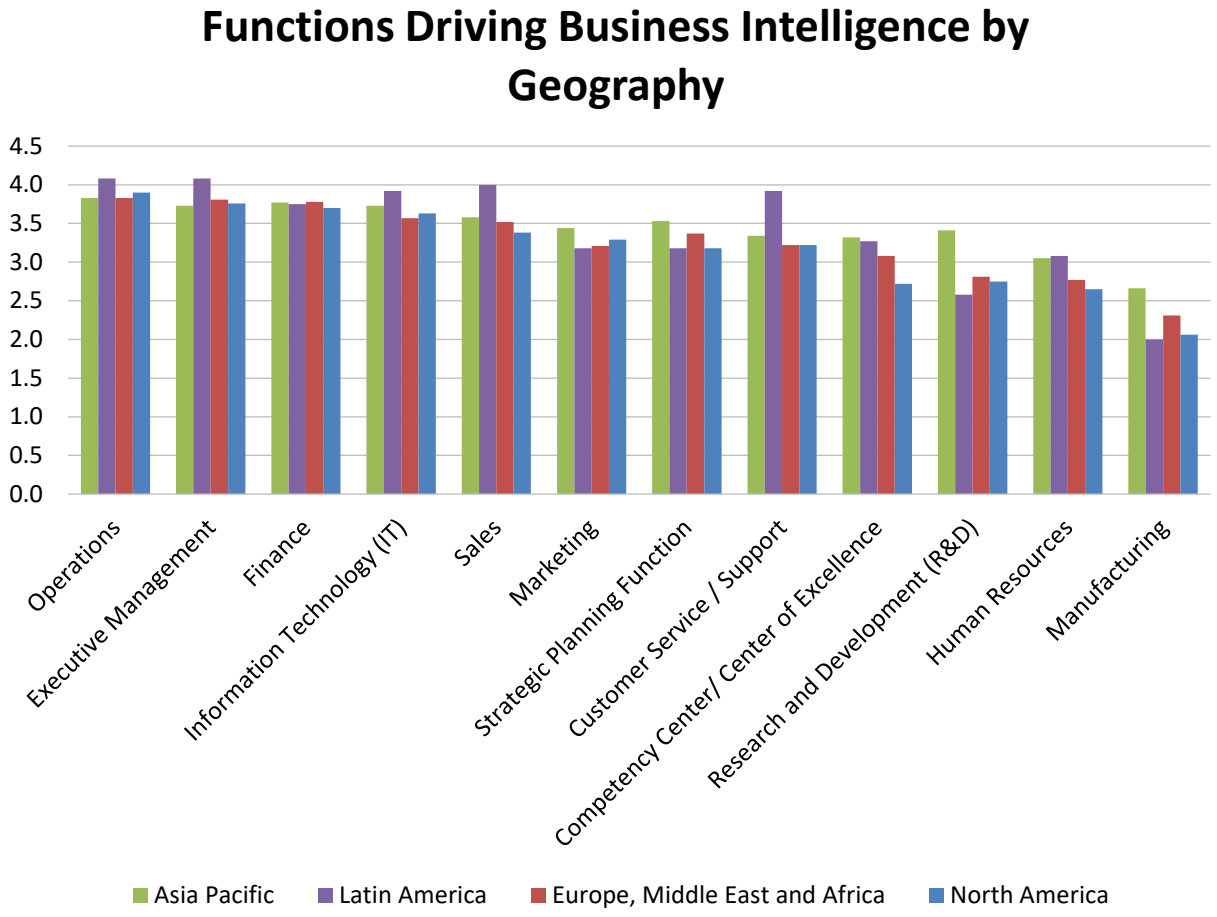


Figure 8 – Functions driving business intelligence by geography

Functions Driving Business Intelligence by Industry

Viewed by industry, the functional drivers of BI in organizations are most clustered and similarly important within *operations*, *executive management*, and *IT*, but influence varies markedly in other details (fig. 9). For example, *healthcare* organizations post very high influence scores from *operations, executive management*, and *HR*; but they are less functionally driven by *IT*, *sales*, and *marketing*. Among many other examples, *retail and wholesale* organizations are strongly BI-driven by *finance, IT, sales*, and *marketing*, and much less driven by the *competency center / center of excellence*, *R&D*, or *HR*.

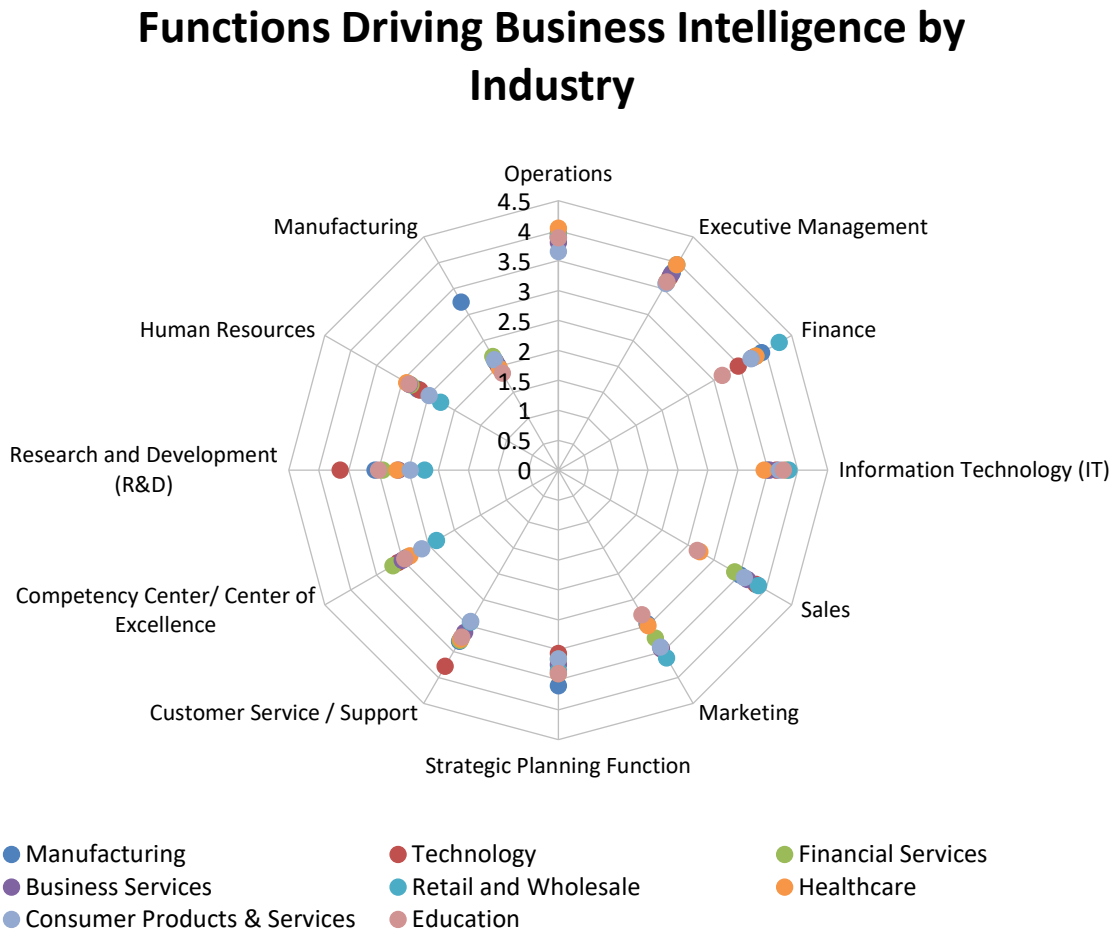


Figure 9 – Functions driving business intelligence by industry

Functions Driving Business Intelligence by Organization Size

Multiple functions often but not always gain influence as BI drivers as organization size increases (fig. 10). Part of this phenomenon is predictable, since growing headcount creates more titles with departmental ties. Examples of scale creating influence in organizations with more than 1,000 employees include roles in *operations*, *finance*, *IT*, *strategic planning*, *customer service/support*, *competency center*, *R&D*, *HR*, and *manufacturing*. In contrast, small organizations of 1-100 employees are more equally represented by *executive management*, *sales*, *marketing*, *customer service/support*, and *R&D*. We note that eight of 12 functional categories have at least *important* influence (weighted mean 3.0 or greater) in all organizations regardless of size.

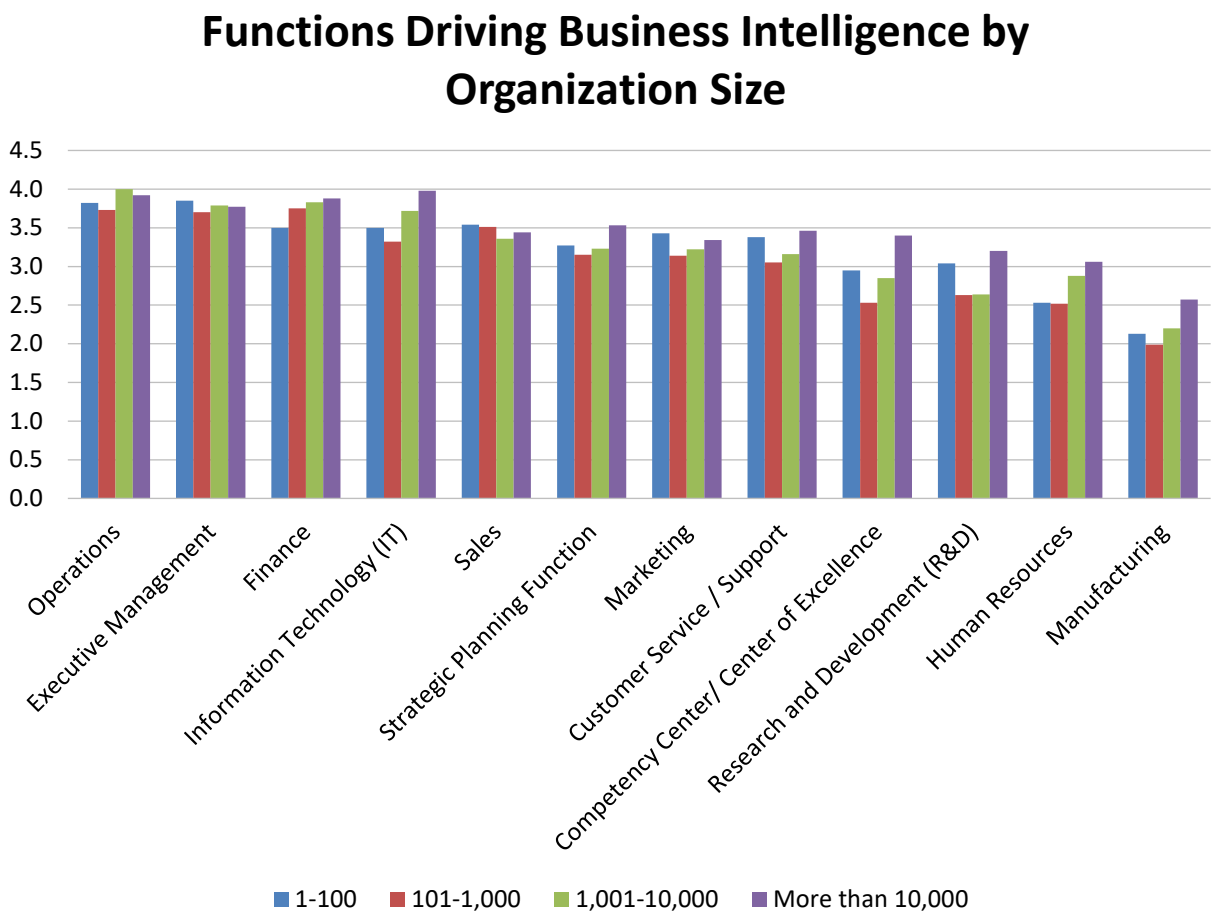


Figure 10 – Functions driving business intelligence by organization size

User Roles Targeted for Business Intelligence

By a significant margin, *executives* remain the most likely *primary* (67 percent) and *primary/secondary* (94 percent) targeted users of business intelligence in 2023 (fig. 11). Support for *executives* is traditionally the top BI target area, and even gained a small amount of momentum year over year. After *executives*, a second tier of *middle managers, individual contributors*, and *line managers* all are between 80-85 percent likely to be *primary* or *secondary* targeted users. BI *primary/secondary* targeting thereafter falls to 59 percent for *customers,* 46 percent for *partners/affiliates*, and just 27 percent for *suppliers* (also see following chart fig. 12, p. 29).

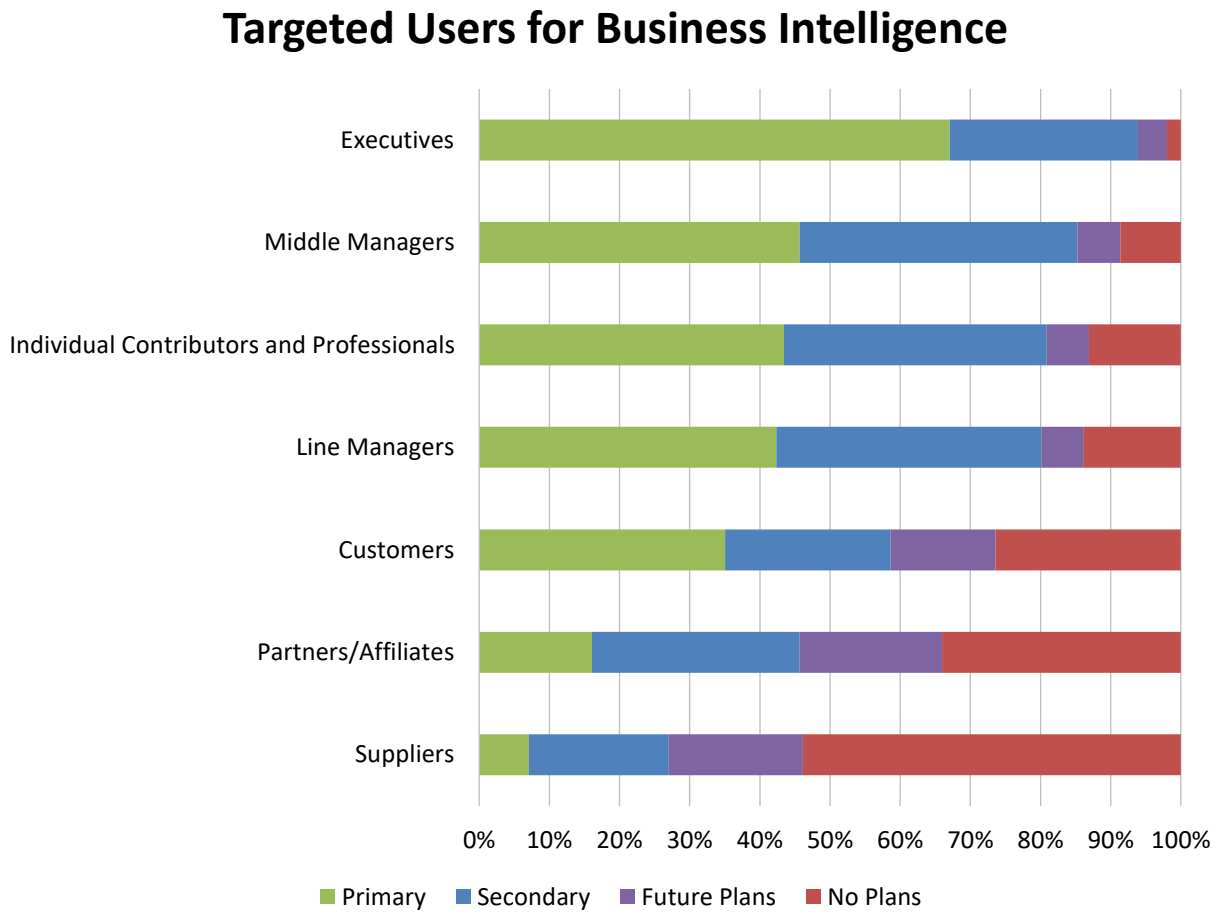


Figure 11 – Targeted users for business intelligence

Targeted Users for Business Intelligence through 2019-2022

Fig. 12 shows the five most recent years of data measuring targeting of users for business intelligence. In different degrees, all targeted user groups are on an overall upward trend during this period, with five-year net gains most visible among *middle managers*, *individual contributors and* professionals,*;* and *partners/affiliates*. *Executive, middle manager*, *line manager*, and *partner affiliates* are all at five-year high percentages (also see following chart, fig. 13, p. 30 for detailed year-over-year changes). *Individual contributors and professionals* targeting is below but near a five-year high seen in 2022.

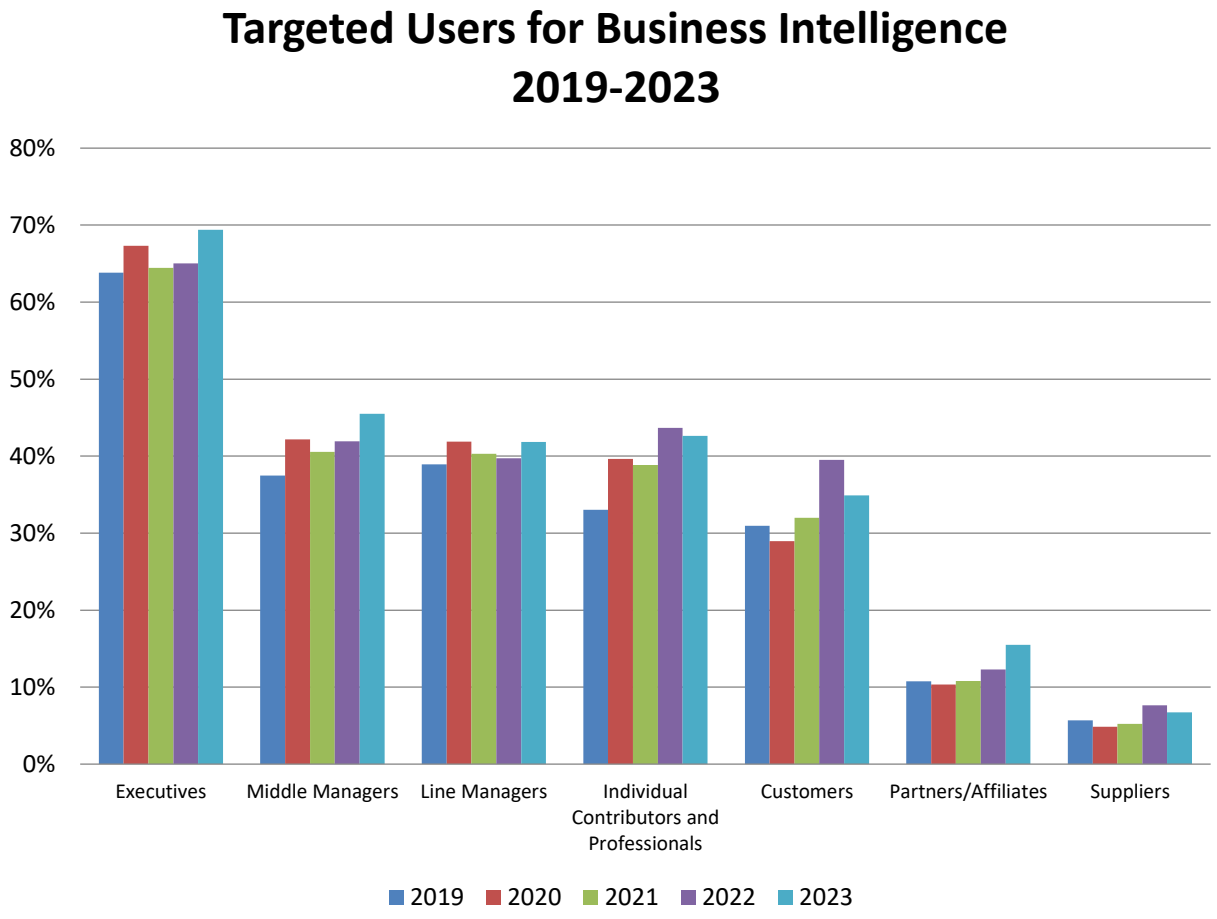


Figure 12 – Targeted users for business intelligence 2019-2023

Change in Targeted Users for BI 2022-2023

Fig. 13 shows the year-over-year relative percentage change in BI targeting for each function we sampled. Here we observe that *partners/affiliates* experienced the greatest year-over-year lift (26 percent), albeit at a much lower level of attention than the top three categories of *executives, middle managers*, and *line managers*. These latter three top titles all experienced significant gains in 2023 (7, 9 and 5 percent respectively), pushing them to all-time-high levels of historic attention (see previous chart, fig. 12, p. 29). After a big gain in 2022, *customer* targeting declined by 12 percent in 2023. Lower-ranked *supplier* targeting also declined by 12 percent but remains above a longer-term historic mean.

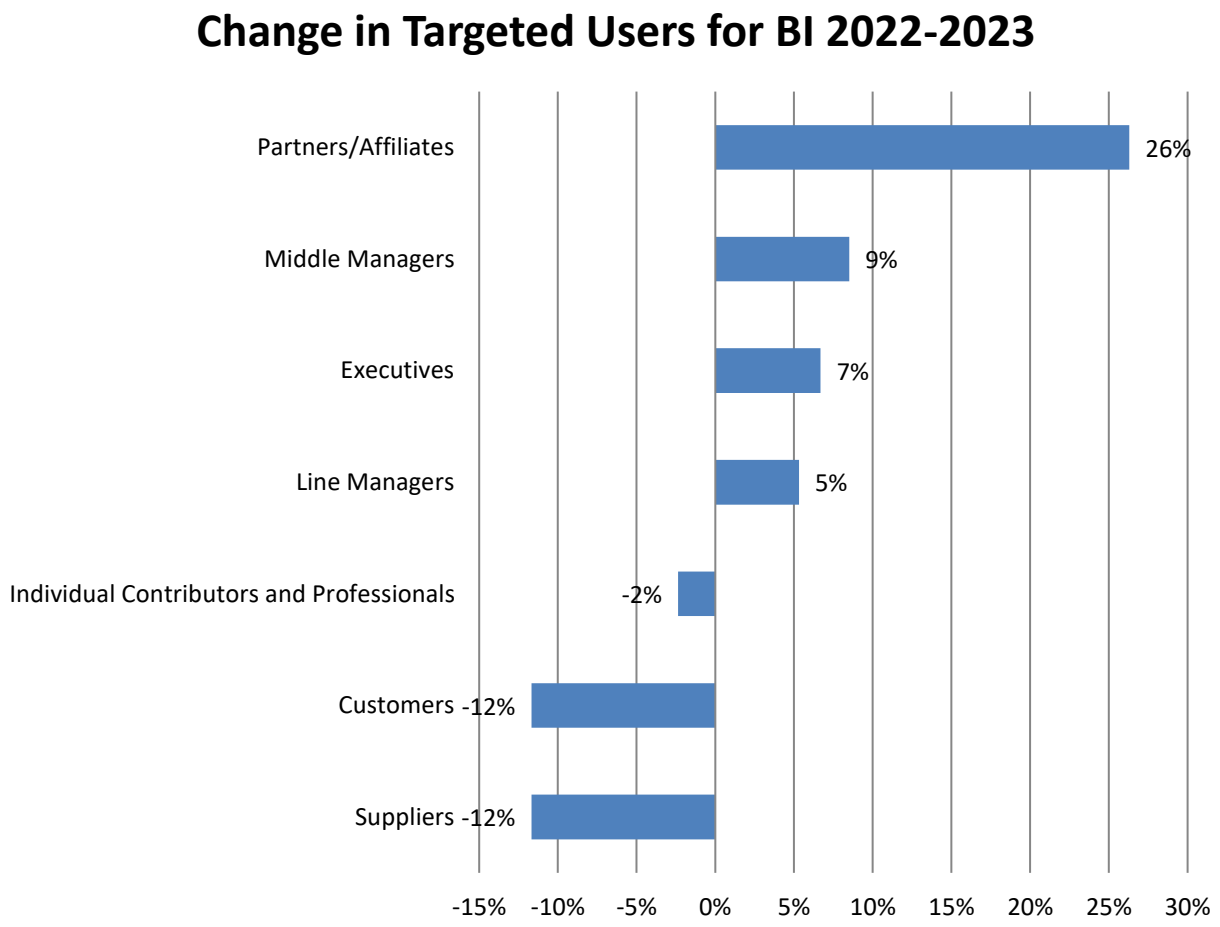


Figure 13 – Targeted users for BI 2022-2023

Targeted Users for Business Intelligence by Geography

Executives are the most likely targets for business intelligence across all geographies, most often in Latin America (75 percent) (fig. 14). At the same time, Latin American respondents are significantly less likely than other regions to target *individual contributors and professionals*, *partners/affiliates*, and *suppliers*. Excluding Latin America, notable geographic propensities include strong EMEA attention to *line managers*; high North America interest in targeting *individual contributors and professionals;* and relatively strong Asia Pacific attention to *customers*, *partners/affiliates*, *suppliers*, as well as *individual contributors and professionals*.

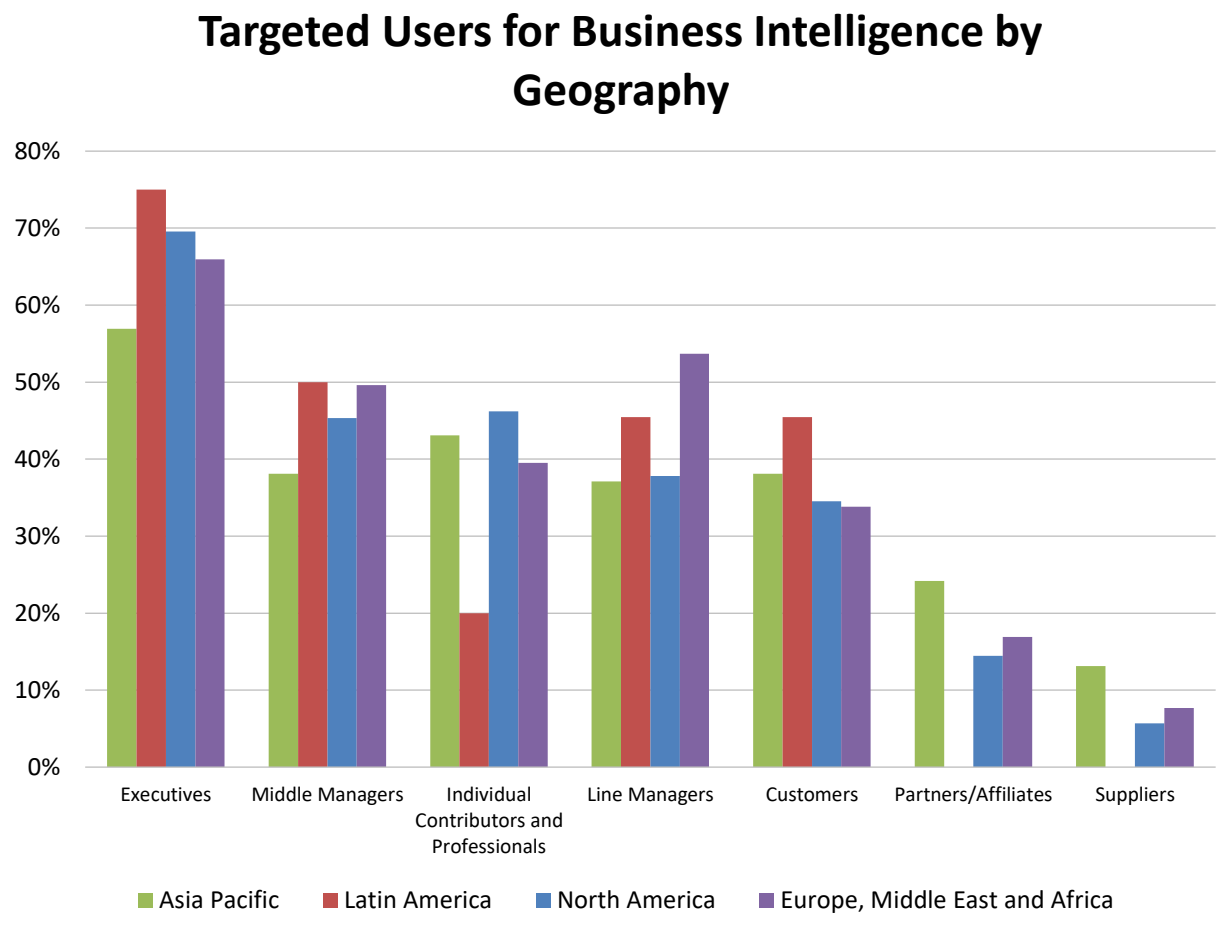


Figure 14 - Targeted users for business intelligence by geography

User Targets for Business Intelligence by Vertical Industries

In our 2023 sample, all vertical industries (led by *retail and wholesale*, *manufacturing*, and *healthcare*) report that they most often target *executives* for business intelligence enablement (fig. 15). Respondents in *retail and wholesale* also lead in targeting *middle managers* and *line managers*. Among other notable findings, respondents in *technology* organizations are most likely to target *customers* but show below-average interest in *middle manager*, *line manager*, and *individual contributors and professionals* titles. In this year's sample, *healthcare* respondents are notably absent in targeting *partners/affiliates* and *suppliers*.

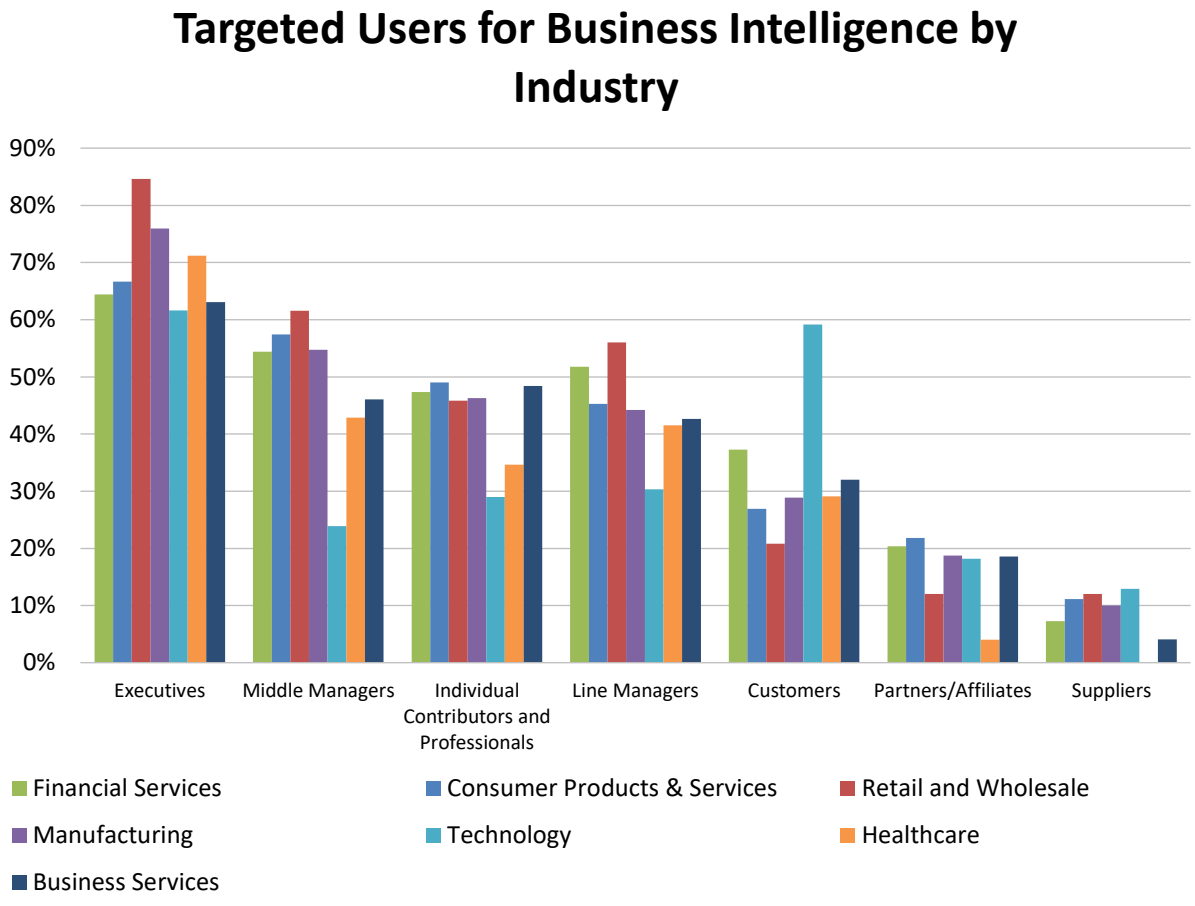


Figure 15 – Targeted users for business intelligence by industry

Targeted Users for Business Intelligence by Organization Size

Targeting of specific user titles for business intelligence enablement sometimes but not always correlates to organization size in 2023 (fig. 16). Without exception, organizations of any size are most likely to target *executives* as BI users in 2023, a finding that this year skews most strongly to midsize organizations (101-1,000 employees). The clearest (and expected) areas where increasing headcount increased targeting include *middle managers*, *individual contributors and professionals*, and *line managers*. As we have traditionally found, small organizations (1-100 employees) are most likely to target *customers* (50 percent), with very large organizations next most likely (47 percent). As we would expect, targeting of *partners/affiliates* and *suppliers* is strongest in the largest organizations, though not in direct ascending order by size.

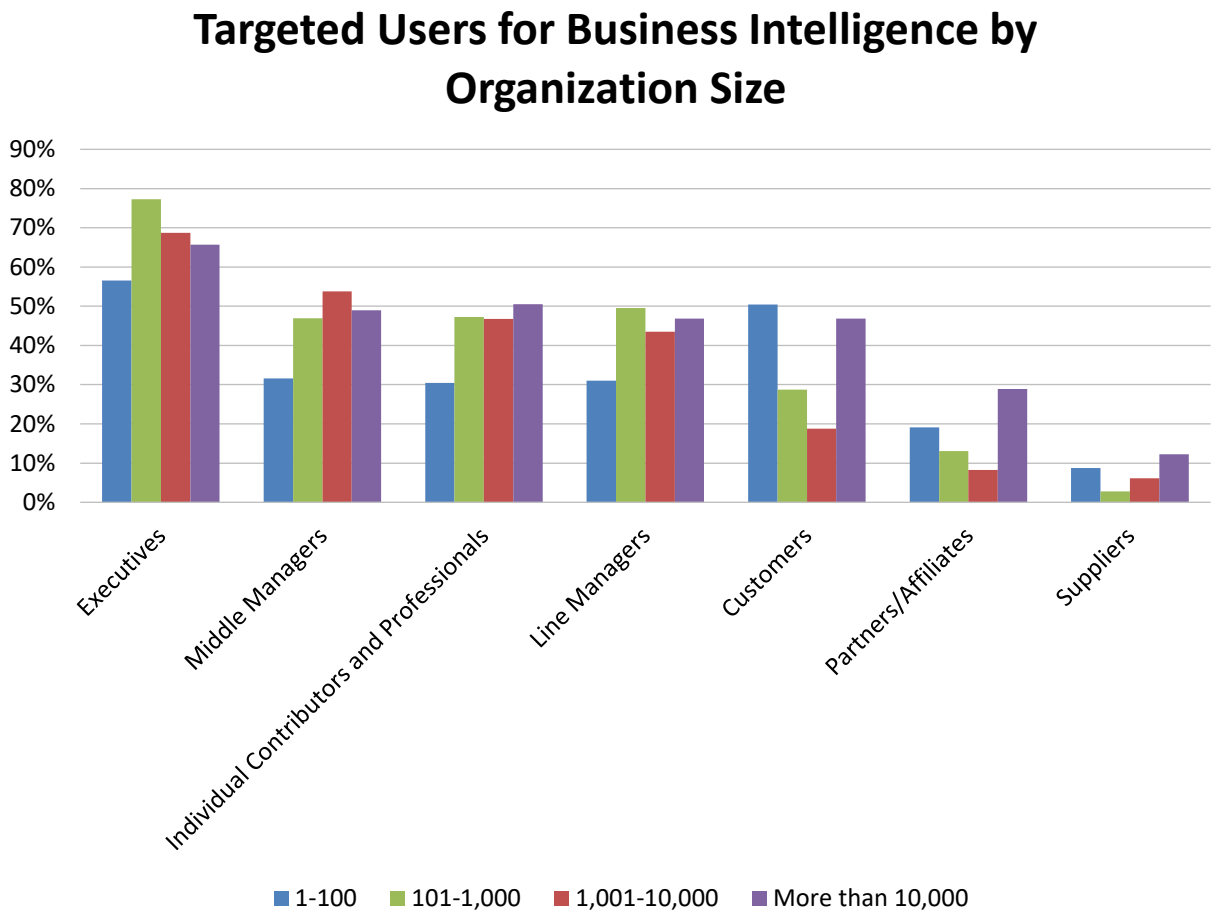


Figure 16 – Targeted users for business intelligence by organization size

Targeted Users for Business Intelligence by Success with Business Intelligence

Organizations that are *completely successful* or *somewhat successful* with BI are almost always more likely than average to enable all potential target audiences (fig. 17). All organizations are most likely to target *executives* regardless of BI success. *Completely successful* BI organizations most often target *executives (*67 percent), *individual contributors and professionals* (51 percent), and *customers* (47 percent). Organizations that are s*omewhat unsuccessful* and *unsuccessful* with BI are noticeably least likely to target *individual contributors and professionals*.

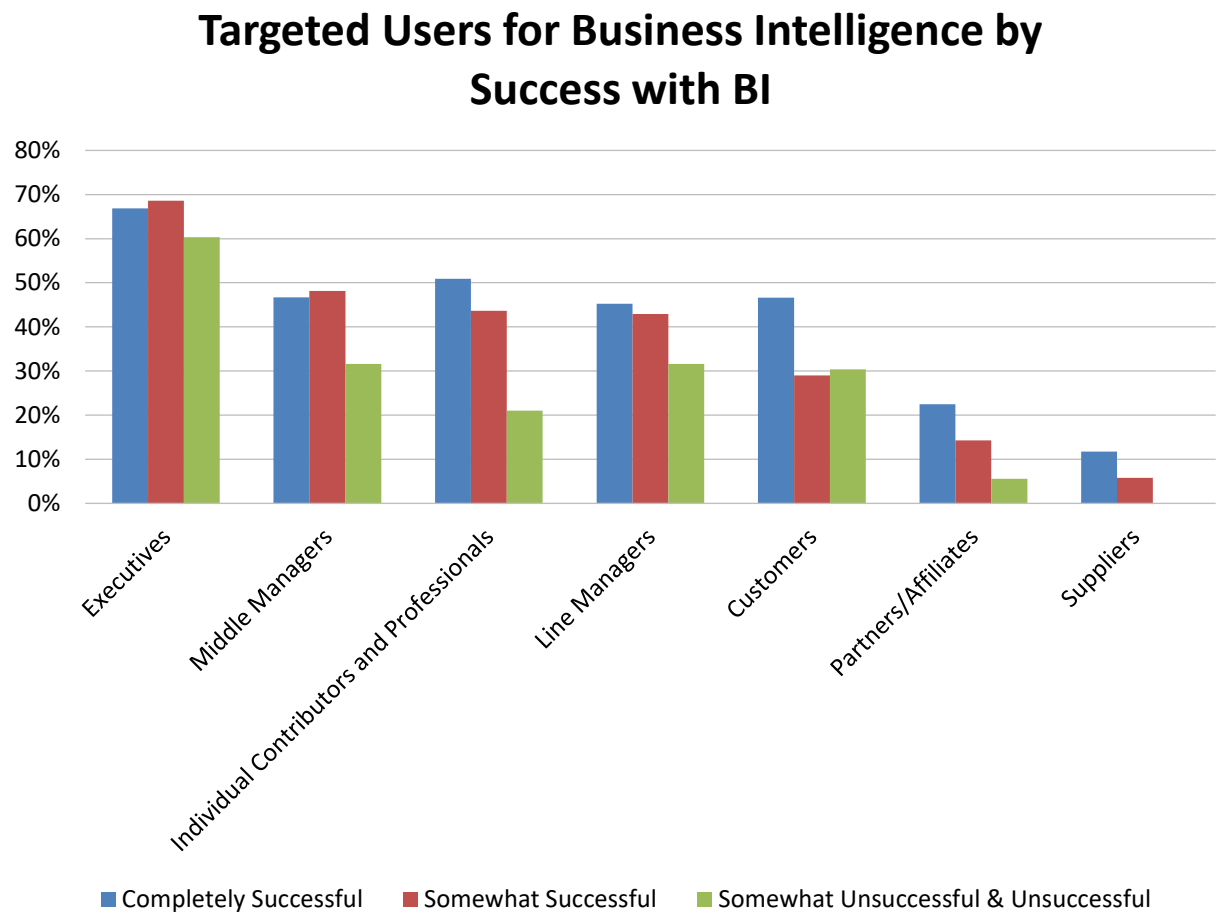


Figure 17 – Targeted users for business intelligence by success with BI

Targeted Users for Business Intelligence by Company Age

When we view BI targeting of functions by company age, some interesting patterns emerge (fig. 18). For example, targeting of *executives* is less likely in "younger" compared to more mature organizations. Also, we quickly notice that younger organizations (*less than five years*, and *five-10 years*), are much more likely to target *customers* compared to "older" organizations, and less likely to target *middle managers* and *line managers*. The youngest organizations of five-10 years are also most likely to target *partners/affiliates* and *suppliers*. One conclusion might be that BI enablement, which historically was extended first to *executives* and *managers* and more slowly or reluctantly to lesser or outside parties, gave way in younger organizations which sense opportunities in channels that might be more external and collaborative. We would expect that newer architectures, and the expansion of cloud and third-party services facilitated a sense of opportunity and flexibility in younger organizations.

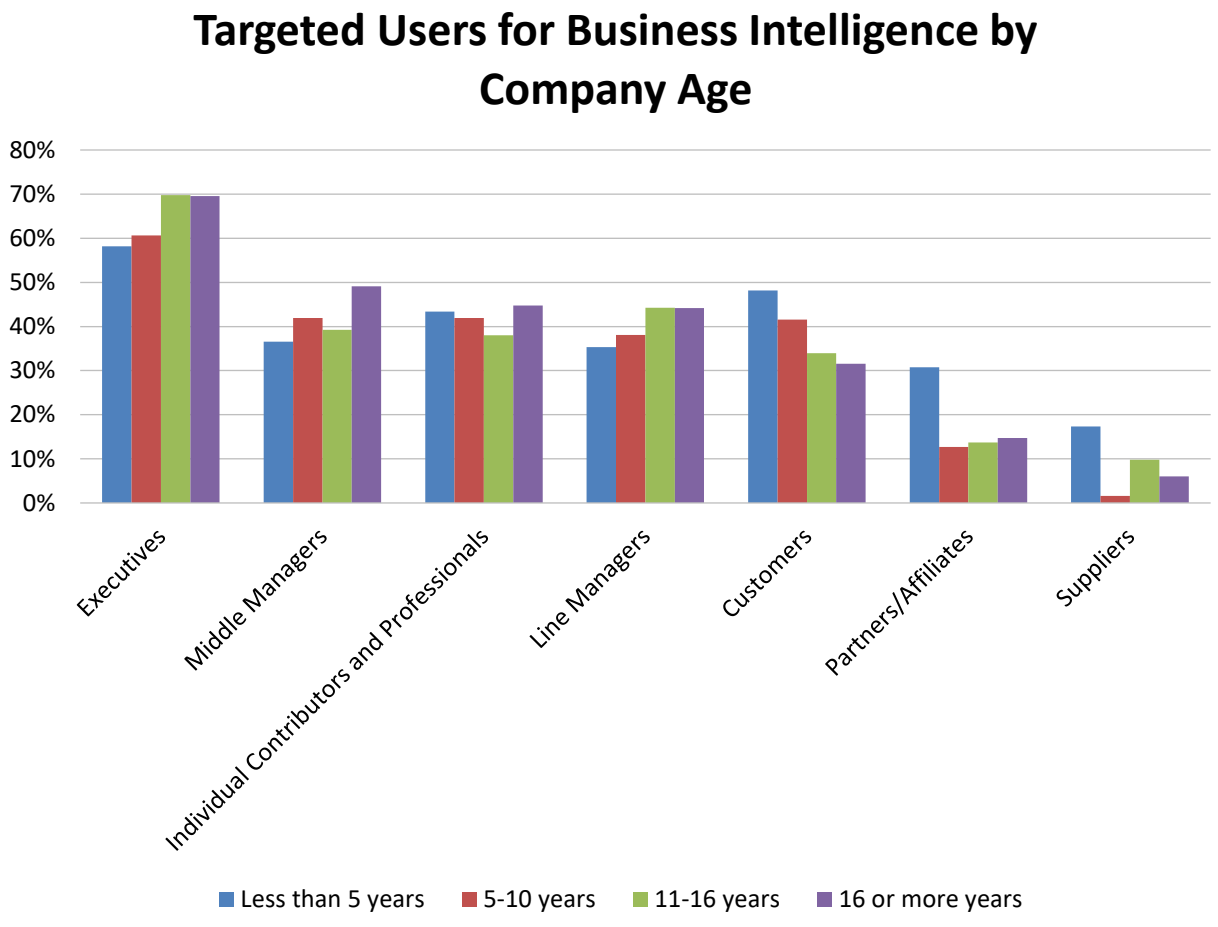


Figure 18 – Targeted users for business intelligence by company age

Objectives for Business Intelligence

In 2023 (and throughout the 13 years of our study), the non-specific goal of *better decision making* still sits well atop respondents' business intelligence objectives (fig. 19). We can observe at a glance that *better decision making* (which we associate with organizations seeking improvements wherever they may be found) is far more likely to be *critical* (48 percent), compared to any other objective. The next-most important objective is *improved operational efficiency / cost savings* (critical to 29 percent) and *growth in revenues* (34 percent). Both these latter findings are at least *very important* to more than 70 percent of respondents. The remaining three objectives, *increased competitive advantage*, *enhanced customer service*, *and compliance / risk management,* are *critical to 20-26 percent, and at least very important to 54-64 percent of respondents*. In sum, every objective is at least *important* to more than 80 percent of respondents. Depending on the organization and scenario, any or all six objectives might be central to BI strategy and tactics.

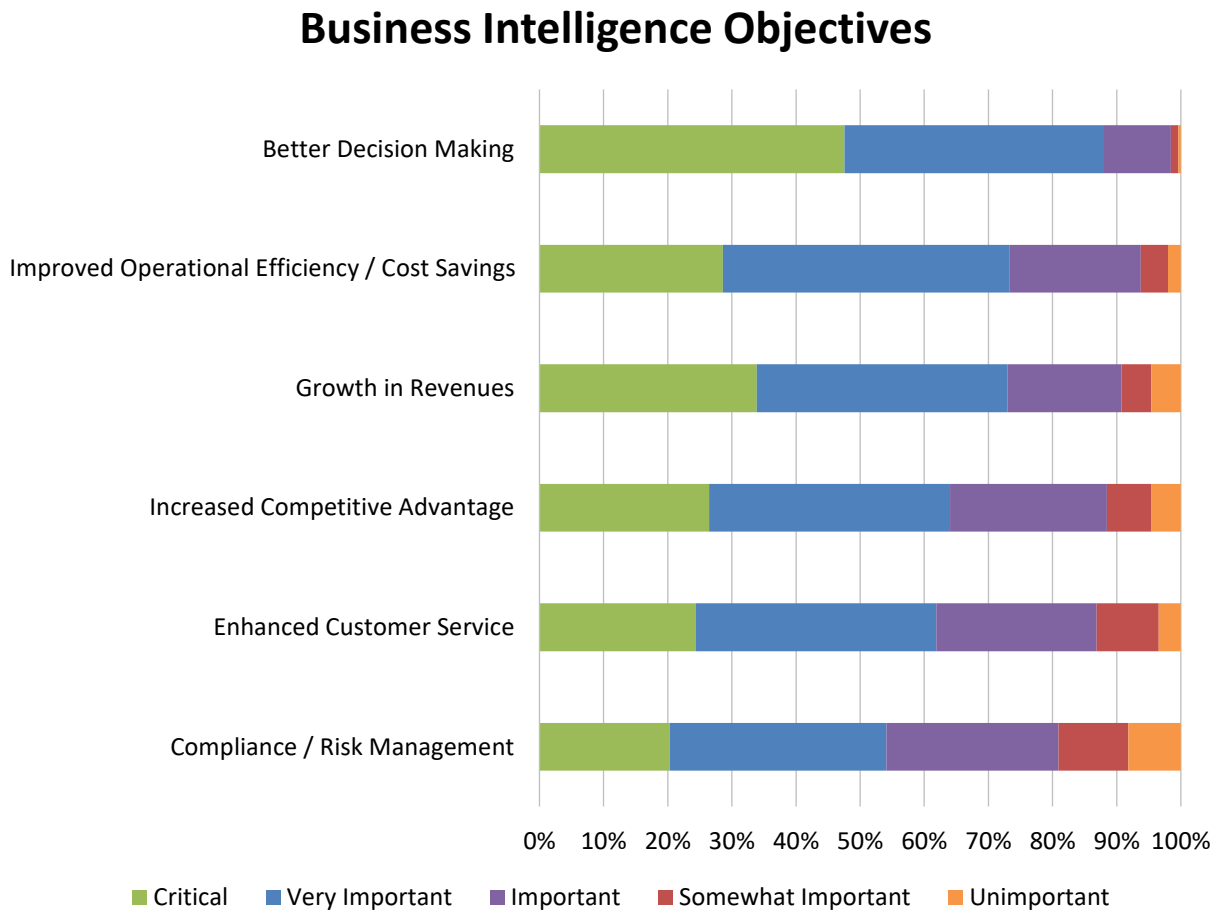


Figure 19 – Business intelligence objectives

Business Intelligence Objectives 2017-2023

Across the last seven years of our study, objectives for business intelligence are remarkably steady by rank (fig. 20). Indeed, while sentiment ebbed and flowed slightly, rankings by objective are extremely similar for at least the last four years (2020-2023). In 2023, we observe very slight year-over-year sentiment declines for all objectives except *growth in revenues*, which followed a slow upward trend in sentiment for the last four years. (See the following chart for year-over-year details), All values remain near all-time highs. Among these, *better decision making* is the only objective that consistently holds weighted-mean value > 4.0 (> *very important*). Among all other objectives, only *compliance/risk management* shows sustained scores at 3.5 or lower, which is nonetheless the midway point between *important* and *very important*.

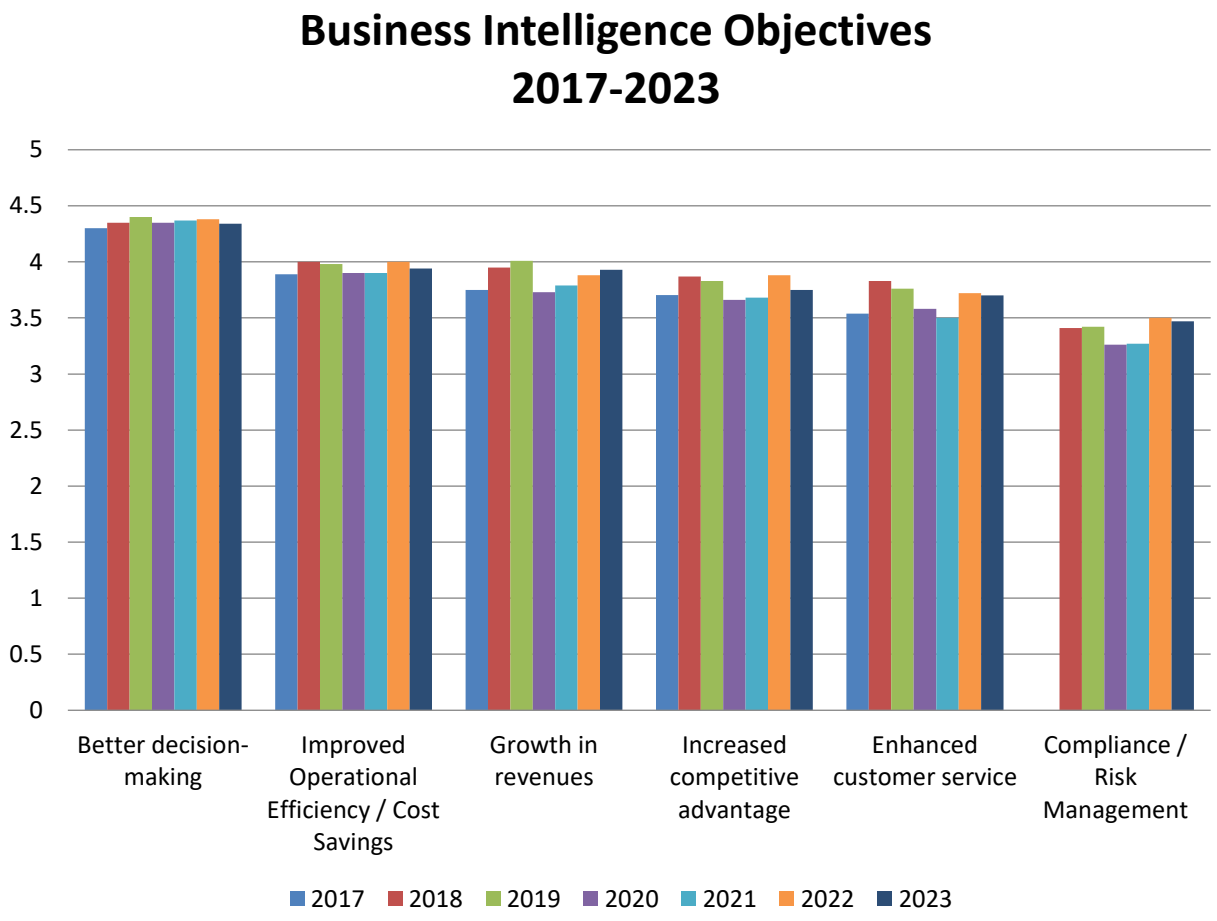


Figure 20 – Business intelligence objectives 2017-2023

Percent Change in BI Objectives 2022-2023

Fig. 21 provides a detailed year-over-year view of changes in attitudes toward BI objectives. Most notable is the fact that no objective saw sentiment change in any dramatic fashion, which is another example of the steady course in sentiment over time as mentioned in the previous chart (fig. 20). This year, the only objective that sees any uptick is *growth in revenues*, which sustains a longer and slow upward trajectory as mentioned earlier. *Increased competitive advantage,* the objective area that declined most in sentiment (3 percent), is nonetheless in the range of typical year-over-year deviations from mean.

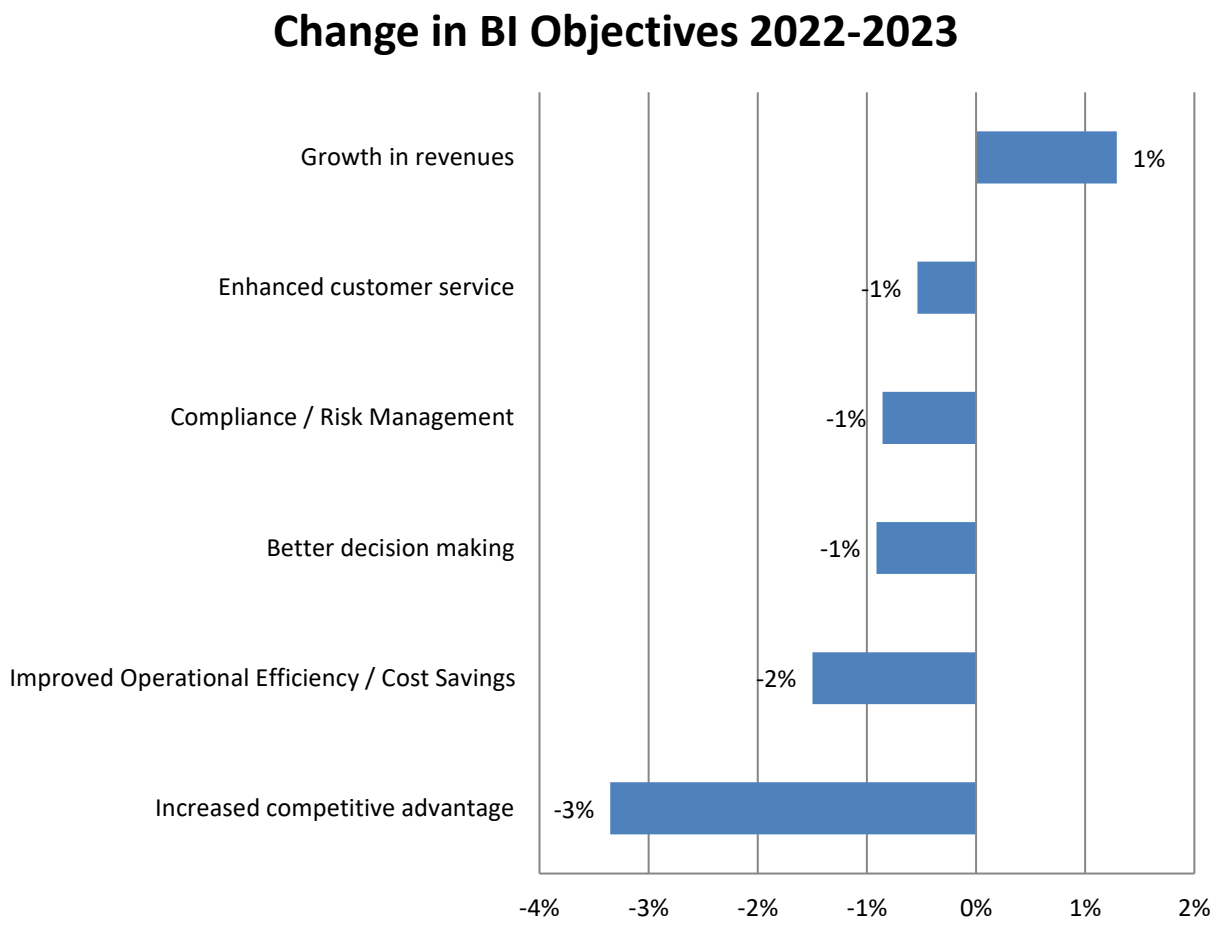


Figure 21 – Change in BI objectives 2022-2023

Business Intelligence Objectives by Geography

Business intelligence objectives are similarly important across geographies with some small regional exceptions to mean (fig. 22). *Better decision making* is the most important BI objective (>4.0 or *very important*) across all geographical regions in 2023, particularly in Latin America (4.6) and North America (4.4). Among remaining objectives, we observe North America sentiment scores are a bit higher than average for *improved operational efficiency* and *growth in revenues*. Respondents in Asia Pacific report global high scores in areas including *growth in revenues*, *increased competitive advantage, compliance / risk management*, and particularly in *enhanced customer service*, with a 4.1 score greater than *very important*.

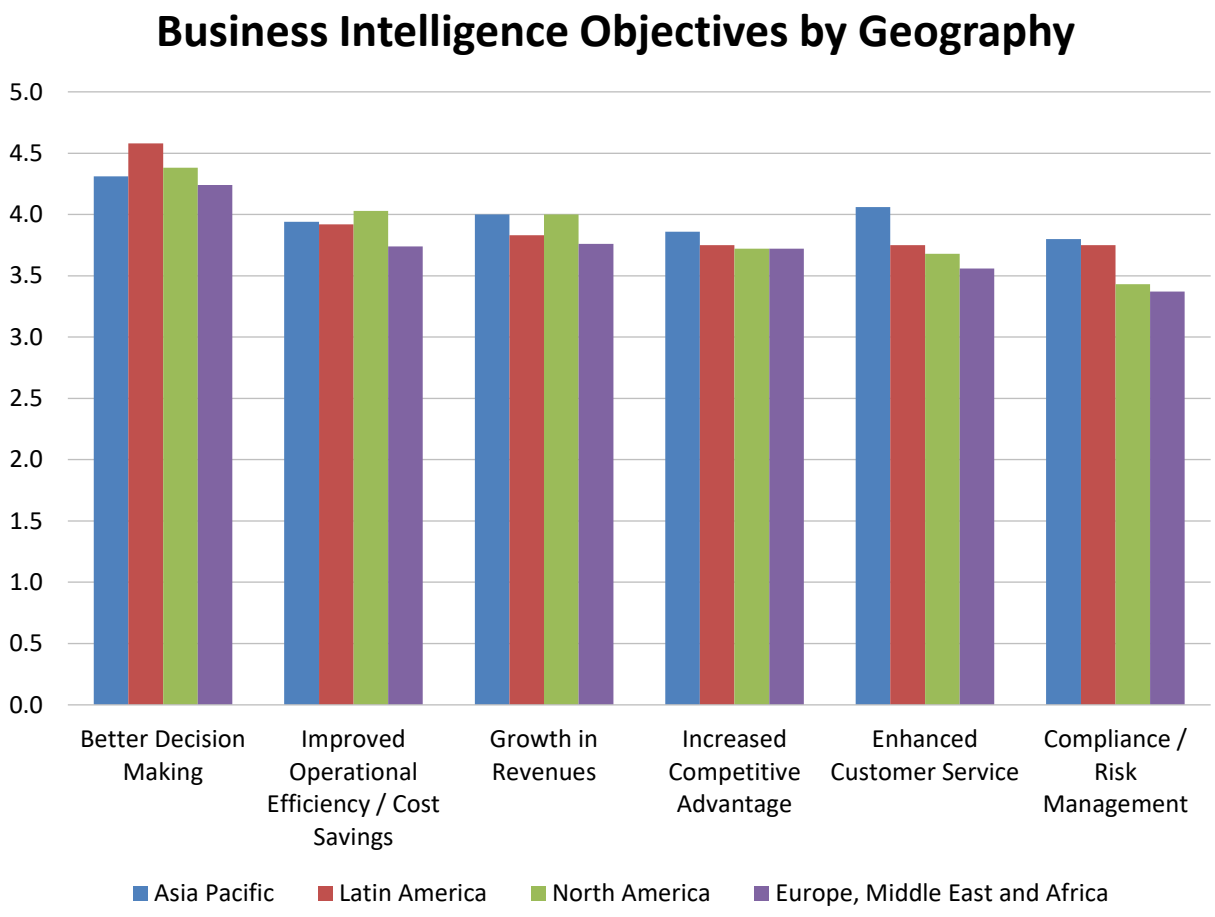


Figure 22 – Business intelligence objectives by geography

Business Intelligence Objectives by Function

In 2023, the importance of business intelligence objectives varies somewhat tellingly by function (fig. 23). This year, *executive management* and *finance* post the highest importance scores for both *better decision making* and *improved operational efficiency*. Perhaps more interesting, *operations* respondents also emphasize operational efficiency but put higher emphasis on *growth in revenues*. *Operations* shares top interest in *compliance and risk management* with *IT* and the *BICC*. *Strategic planning* respondents have outsized interest in *increased competitive advantage*; and *BICC* and *executive management* audiences are most concerned with *enhanced customer service*.

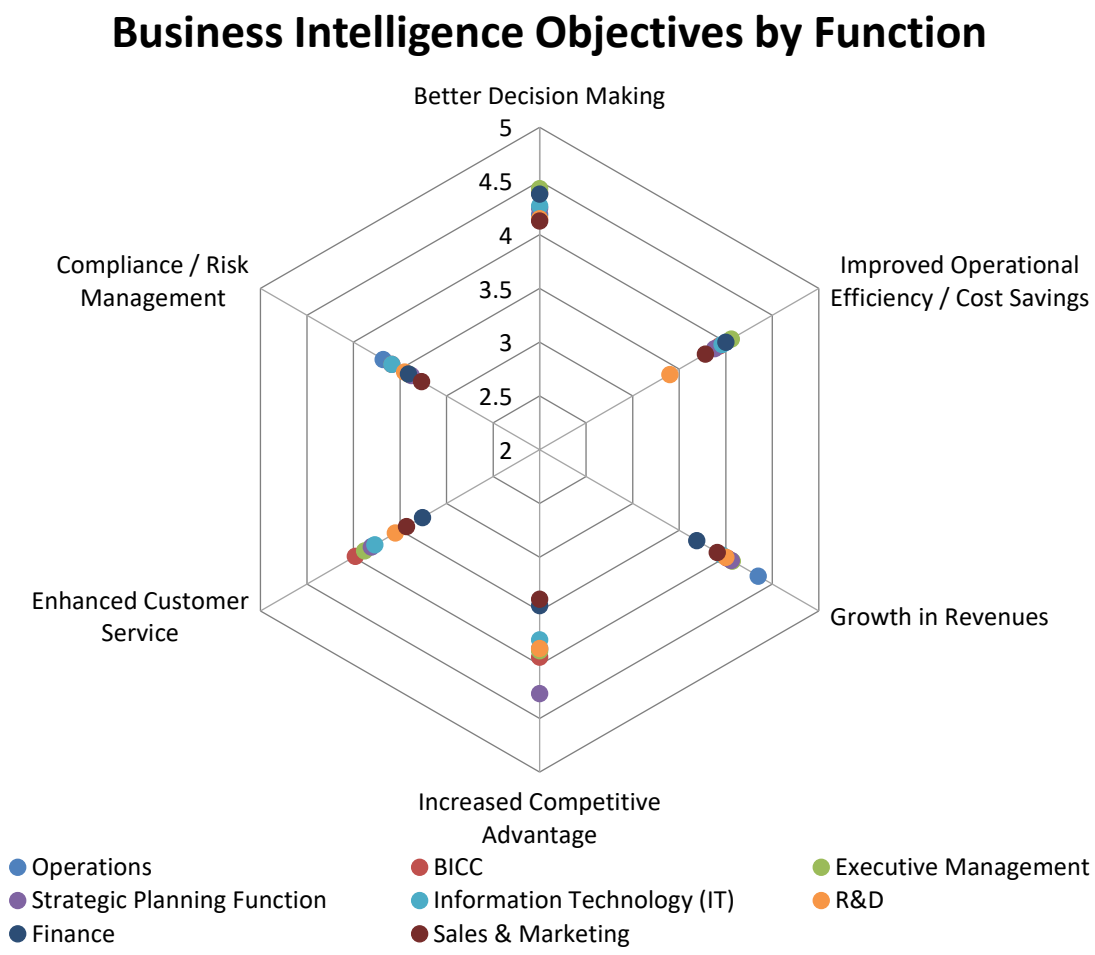


Figure 23 – Business intelligence objectives by function

Business Intelligence Objectives by Vertical Industry

Viewed by industry, *better decision making* is the top pick across all verticals, with universal sentiment above the 4.0 level indicating *very important* (fig. 24). Other objective importance levels are nuanced, though all scores are at or above the 3.0 level signifying *important*. This year we observe *retail and wholesale* respondents give their highest importance scores to *better decision making* and *growth in revenues*. Respondents in *financial services* and *technology* industries post above-average scores for top and lower-ranked objectives including *growth in revenues*, *increased competitive advantage*,*;* and *enhanced customer service. Financial services* and *healthcare* report the highest importance scores for *compliance / risk management.*

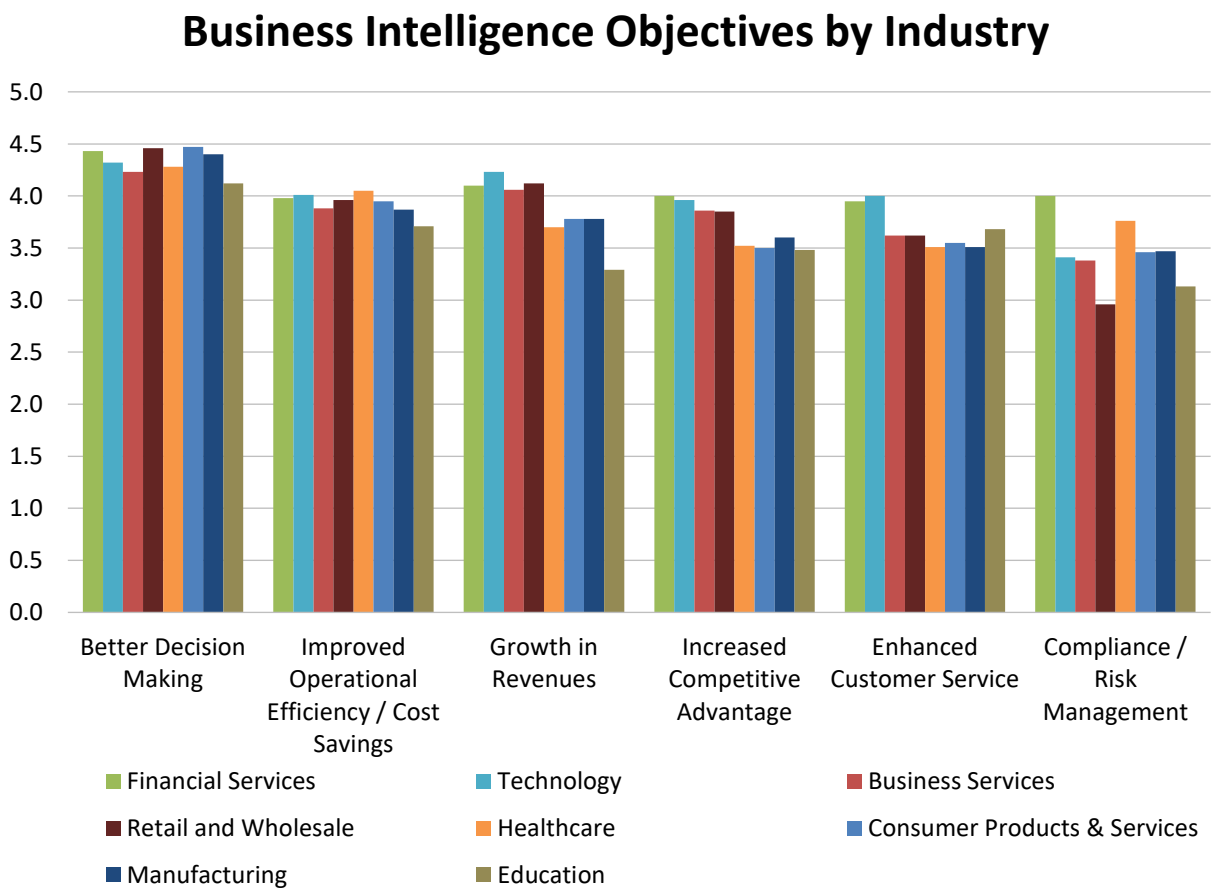


Figure 24 – Business intelligence objectives by industry

Business Intelligence Objectives by Organization Size

Interest in BI objectives does not correlate neatly to organization size in 2023 (fig. 25). This year, for example, small organizations (1-100 employees) account for the lowest scores for three objectives, but the highest scores for the remaining three objectives. We see small organizations, somewhat intuitively, less concerned than larger peers with *operational efficiency* and *compliance / risk management*, but most interested in *growth in revenues*,*; increased competitive advantage*, and *enhanced customer service*. In contrast, the importance of *operational efficiencies* and *compliance / risk management* increases in linear fashion with organization headcount. Again, all scores for all objectives are above the level of *important* to organizations of all sizes.

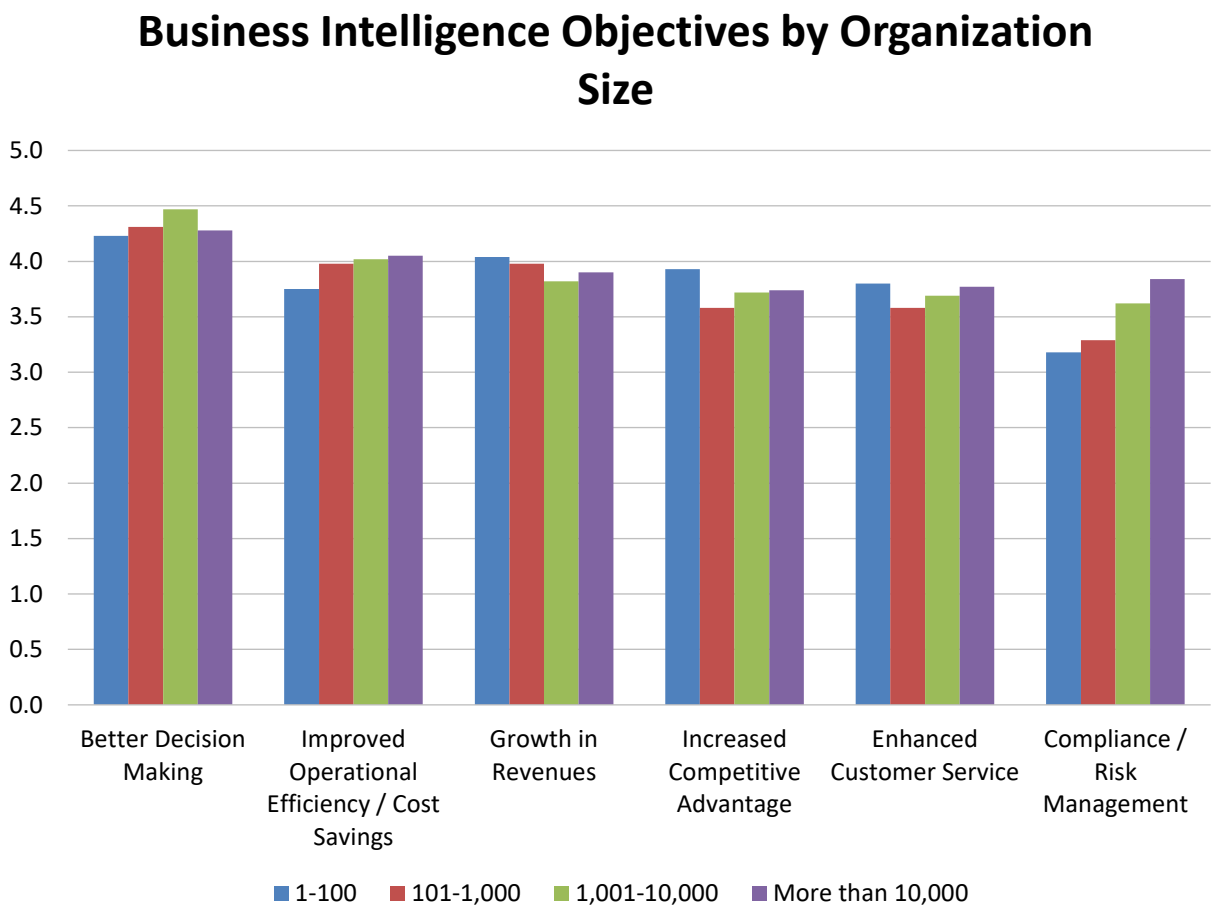


Figure 25 – Business intelligence objectives by organization size

Business Intelligence Objectives by Company Age

Interest in BI objectives does not vary radically by company age, but some findings are noteworthy (fig. 26). *Better decision -making* is again the top consideration for all organizations regardless of age. After this, more interesting patterns emerge. For example, the importance of *operational efficiency* tends to increase in importance with company age. But all remaining objectives, including *growth in revenues*, *increased competitive advantage*, *enhanced customer service*, and *compliance / risk management,* tend to be more important to "younger" organizations. One conclusion we might draw is that younger organizations (which are usually nimbler, with fewer embedded processes and policies), approach BI freshly, with more targeted initiatives and technologies that support growth and competitive differentiation.

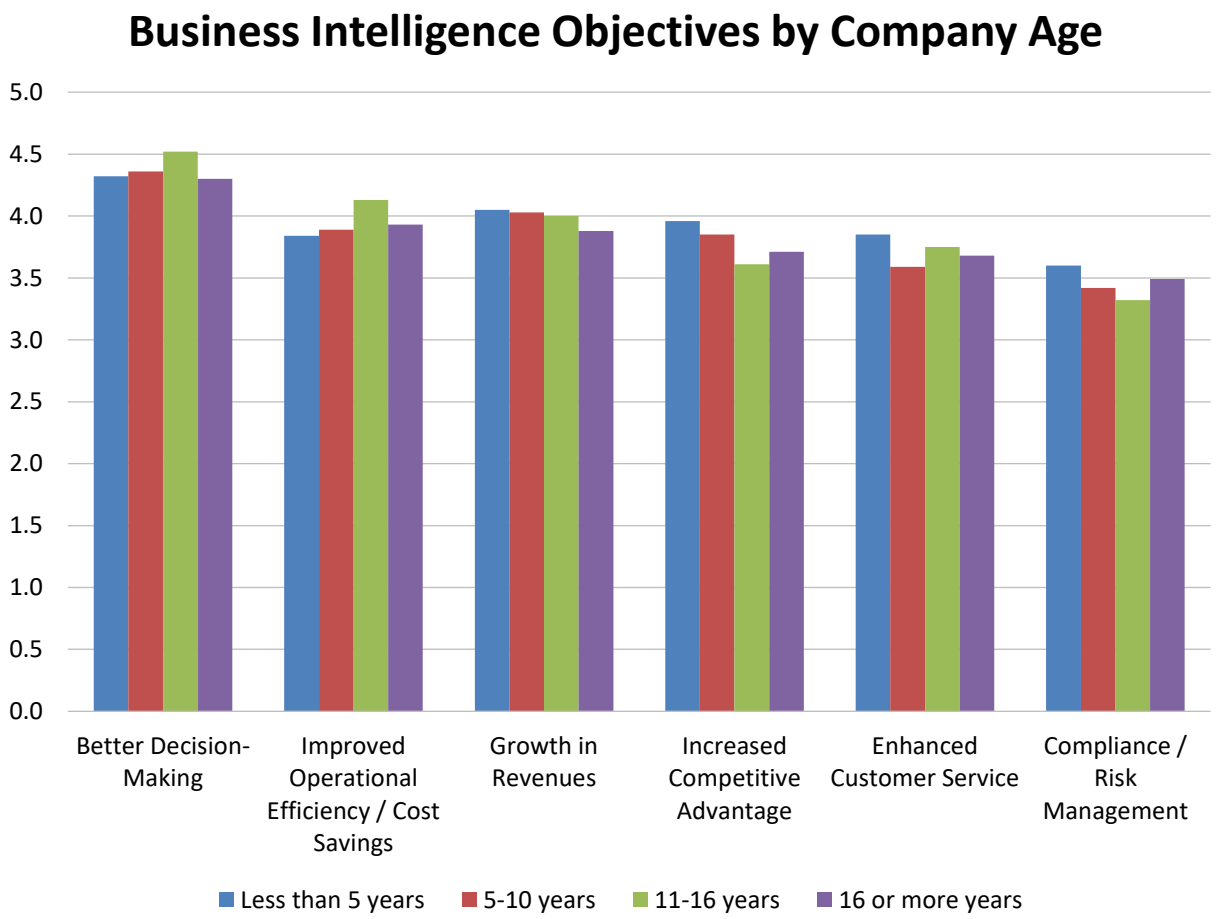


Figure 26 - Business intelligence objectives by company age

Business Intelligence Achievements

Beginning in 2017, we asked respondents to augment their view of *BI objectives* by gauging their level of *BI achievements* by the same standards (fig. 27). By this measure,

we find good alignment of goals and results, with nearly all identically ranked for both achievements and objectives (fig. 19, p. 37). The lone exception among achievements is *increased competitive advantage*, an elusive outcome of technology adoption, which dropped a notch behind closely ranked *enhanced customer service*. A separate and very positive observation is that all BI objectives see at least *high achievement* or *moderate achievement* among solid to very large majorities of respondents across all six objectives. Nonetheless, areas of growing importance may not improve as fast as hoped. (Also see following charts.) One conclusion might be that BI objectives are (and perhaps should be) loftier than realized gains.

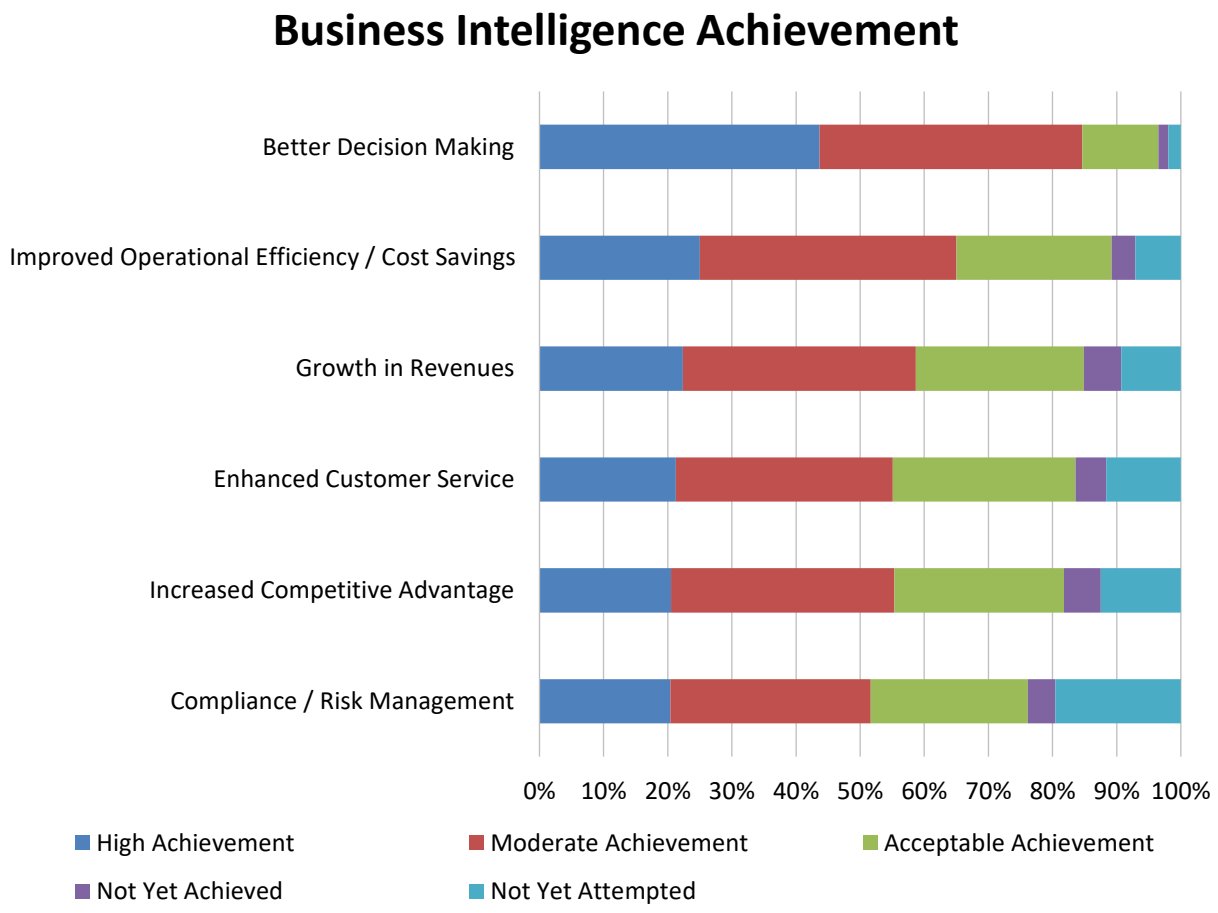


Figure 27 – Business intelligence achievement

Business Intelligence Achievement 2018-2023

Fig. 28 provides an upbeat review of slowly increasing BI achievement over time. By this measure, we observe that the top four objectives (*better decision making; improved operational efficiency*, *growth in revenues*, and *enhanced customer service*) are all at six-year high levels of achievement, and all are on upward trajectories. The last two years especially have seen a lift in achievement, and even the two measures that declined slightly year over year (*increased competitive advantage* and *compliance / risk management*) are nonetheless near all-time-high levels of success. Compared to BI objectives 2017-2023 (fig. 20, p. 38), BI achievement takes a more positive slope.

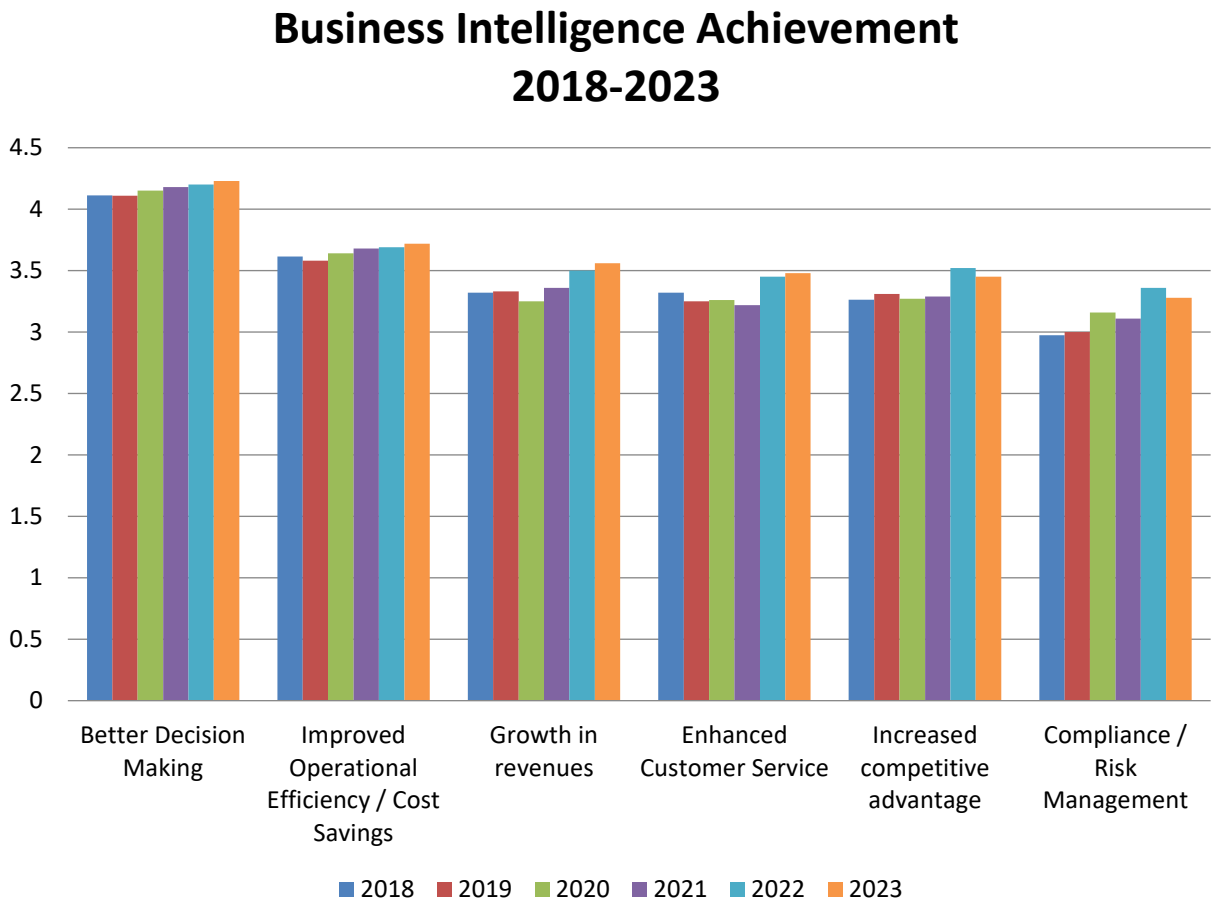


Figure 28 – Business intelligence achievement 2018-2023

Change in BI Achievement 2022-2023

Fig. 29 provides a detailed year-over-year view of changes in estimations of BI achievements. Here, we observe that the top-ranked BI achievements of *better decision making*, *improved operational efficiency*, and *growth in revenues* are slightly improved, as is fourth-ranked *enhanced customer service*. The remaining measures, *compliance / risk management* and *increased competitive advantage*, declined by a slightly larger but still very small percentage. As we observed in our year-over-year view of BI objectives (fig. 21, p. 39), no measures changed dramatically.

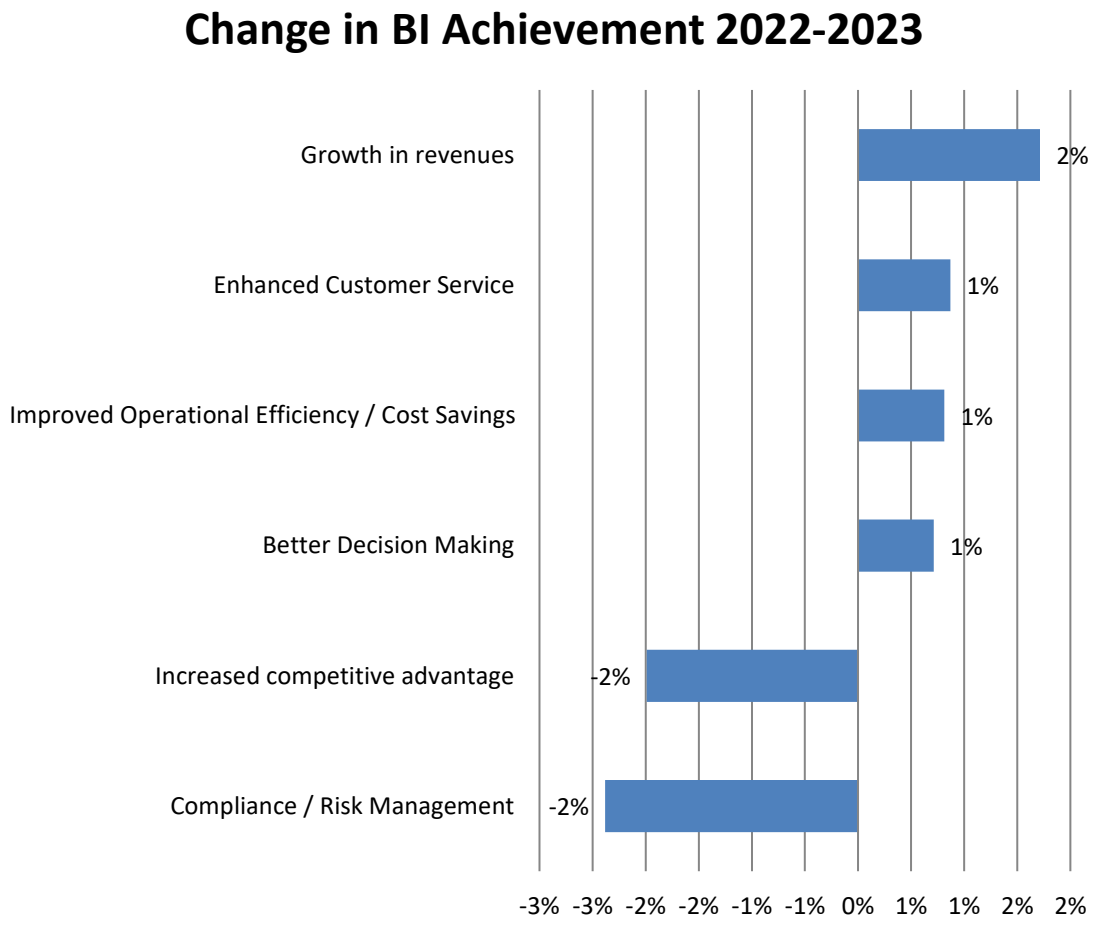


Figure 29 – Change in BI achievement 2022-2023

Business Intelligence Achievements by Function

Viewed by function, all organizational roles claim their greatest achievements in *better decision making* with marks in the range of moderate to high success. The best performance by function is found in the *BICC (often a proxy for other business units), operations*, and *strategic planning* (fig. 30). At a somewhat lower criticality, *BICC* respondents also lead *improved operational efficiency*, *enhanced customer service*, and *increased competitive advantage,* with scores close to or above moderate achievement. *Increased competitive advantage* is also an area of high achievement among respondents in *strategic planning. Sales and marketing* respondents are expectedly tied to achievement in *growth in revenues*. Interestingly, *operations* and *strategic planning* respondents are associated with above-average achievement in *compliance / risk management*.

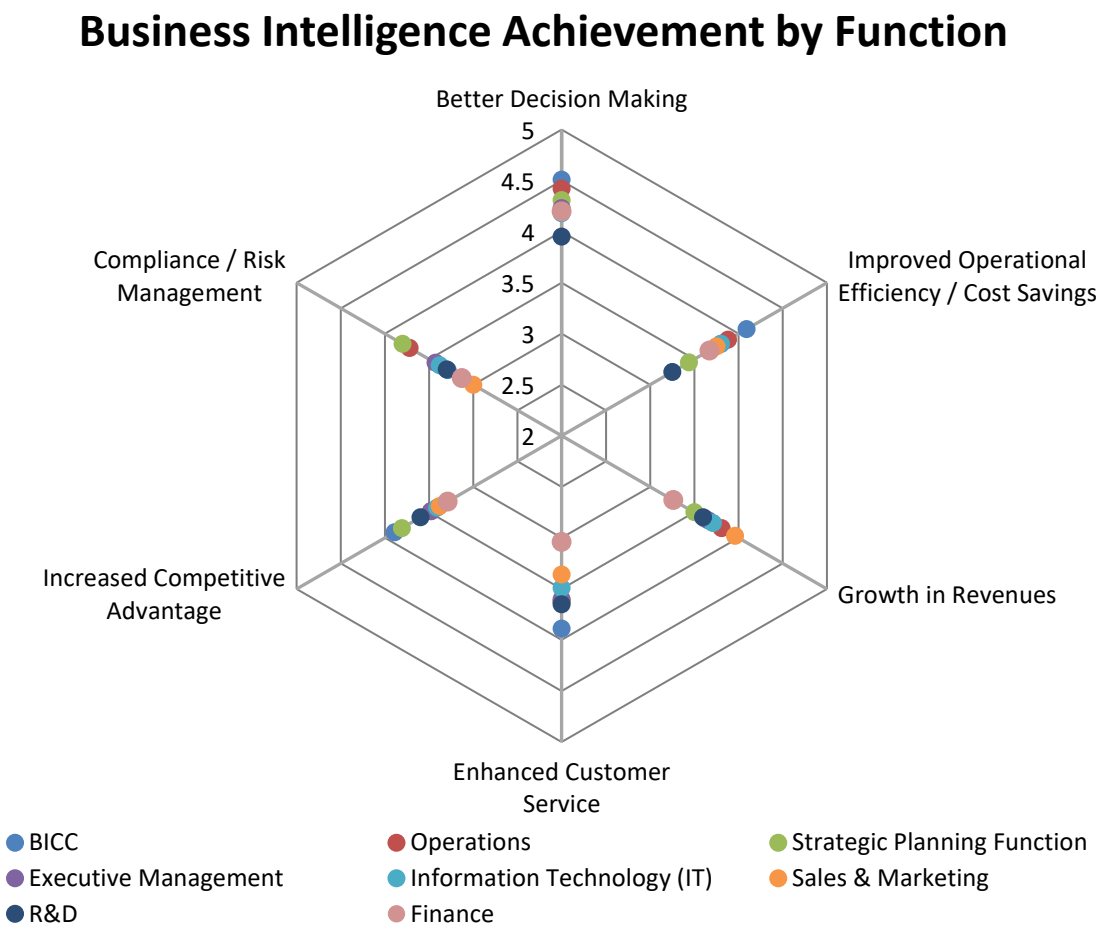


Figure 30 – Business intelligence achievement by function

Business Intelligence Achievements by Industry

Viewed by industry, all respondents claim their highest (greater than *moderate)* level of achievement in *better decision making,* with the highest scores among respondent organizations in *consumer products and services* and *financial services* (fig. 31). (This year, respondents in *consumer products and services* post the top scores for every category of achievement.) Secondary leaders in achievement include *healthcare* in the areas of *improved operational efficiency*, *compliance / risk management*, and *technology* in three areas including *enhanced customer service*, *growth in revenues*, and *increased competitive advantage*. We also observe examples of relative underachievement, such as low *retail and wholesale* industry achievement in *compliance / risk management*, and below-average *education* industry achievement in the area of *growth in revenues*.

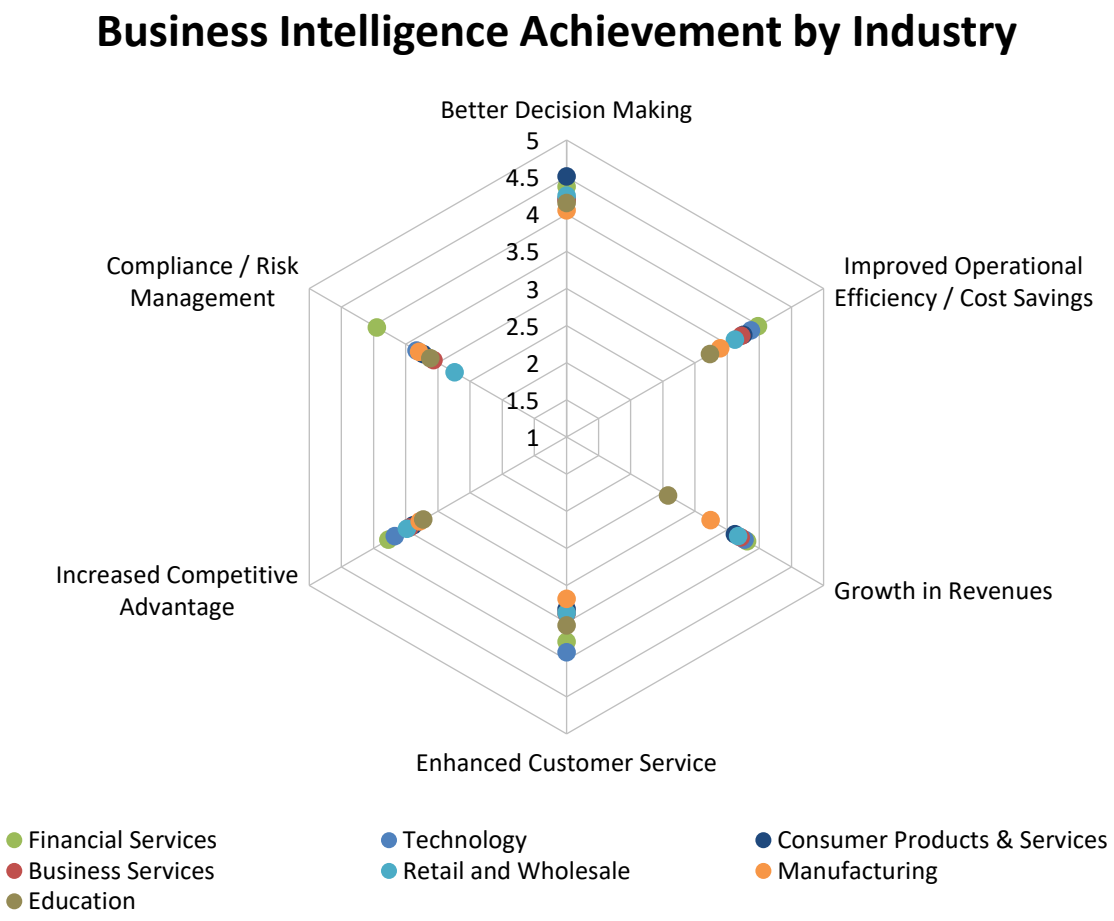


Figure 31 – Business intelligence achievement by industry

Business Intelligence Achievements by Organization Size

Achievement with business intelligence most often increases with organization headcount, though small organizations (1-100 employees) report standout results in certain areas (fig. 32). Respondents at all organizations most evenly score the top achievement, *better decision making*, as their most realized BI achievement. Very large organizations (>10,000 employees) report the highest achievement overall in all five remaining categories. The two areas of relative high achievement among small organizations are *enhanced customer service* and *increased competitive advantage*. The two areas where achievement most correlates with increasing organization size are, predictably, *compliance / risk management*, and *improved operational efficiency*.

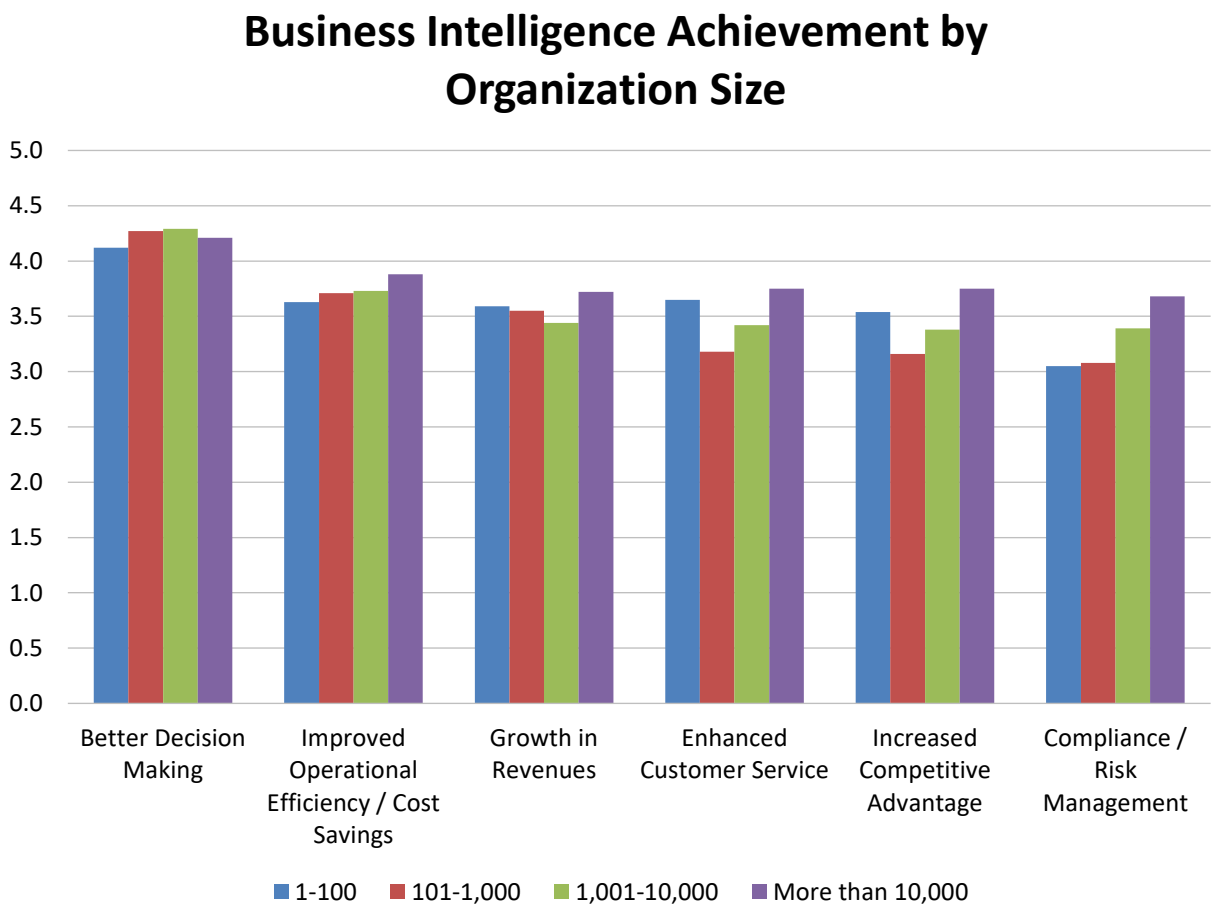


Figure 32 – Business intelligence achievements by organization size

Penetration of Business Intelligence Solutions 2015-2023

Over time, we see an ongoing and positive development in the improving penetration levels of business intelligence usage (measured as percentage of total employees). Fig. 33 compares penetration of BI through the most recent eight years and finds that net overall low-level penetration decreases as higher levels climb. Between 2015 and 2023, the lowest penetration level (< 10%) declined most (from 35 percent to about 20 percent), while 11-20 percent and 21-40 percent are relatively flat over time. Conversely, the three highest levels of penetration grew noticeably. For example, net 41-60 percent penetration increased from 10 percent in 2015 to 18 percent in 2023. By the same measure, 61-80 percent penetration increased from 4 percent to 9 percent; and > 80 percent penetration grew from 13 percent to 16 percent.

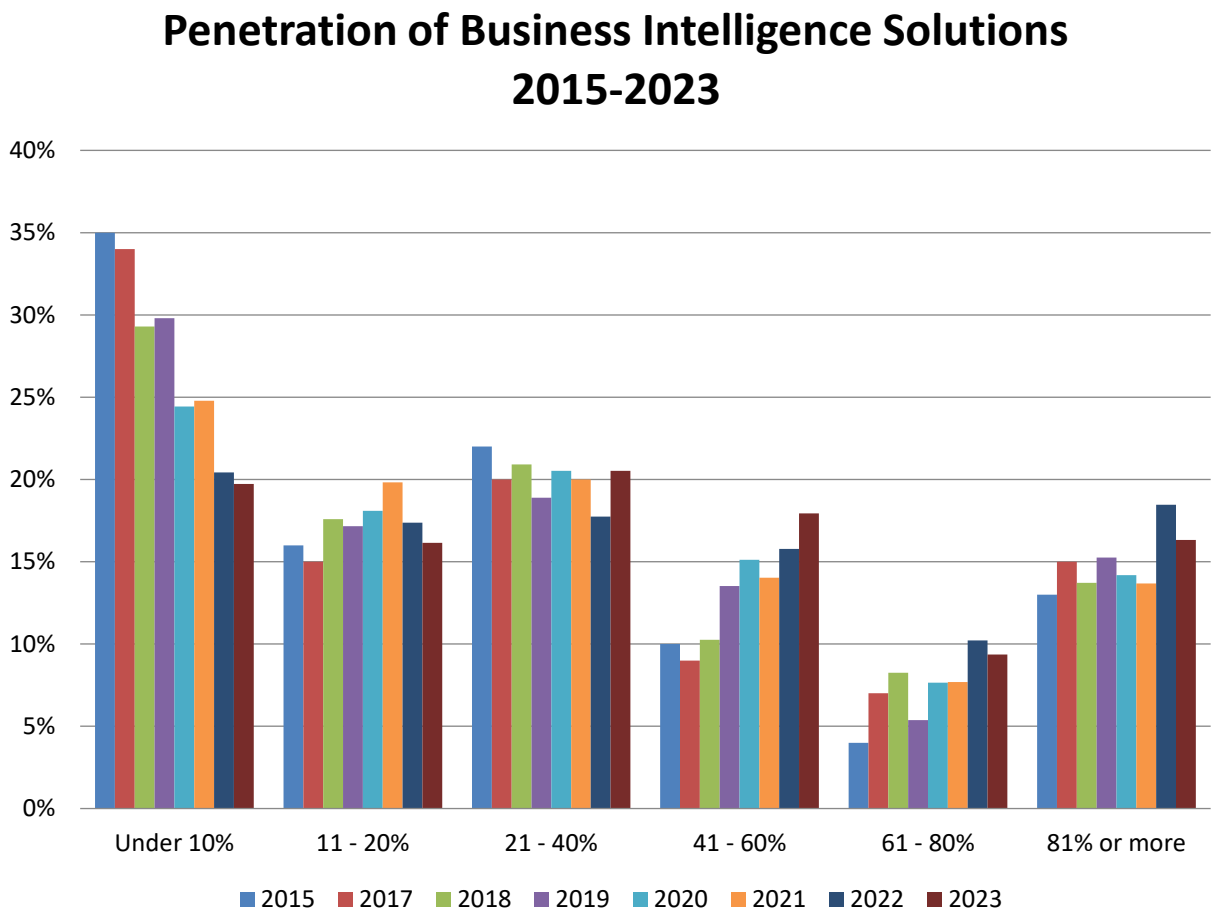


Figure 33 – Business intelligence penetration 2015-2023

Expansion Plans for Business Intelligence Through 2026

Along with annually increasing current deployment (previous chart), respondents continue to describe bullish plans for expanding BI in future time frames (fig. 34). We consider the 12-month period the most likely to be supportable and budgeted. In this 12-month time frame, respondents expect to reduce sub-10 percent penetration by half, from about 20 percent to about 10 percent. Respondents expect mid-level penetration in the 11-20 and 21-40 percent ranges to remain about the same in the most immediate time frame. They expect twelve-month penetration to improve significantly at the two highest levels, from 9 to 15 percent at the 62-80 percent level, and from 16 to 19 percent at the very highest (> 80 percent) level.

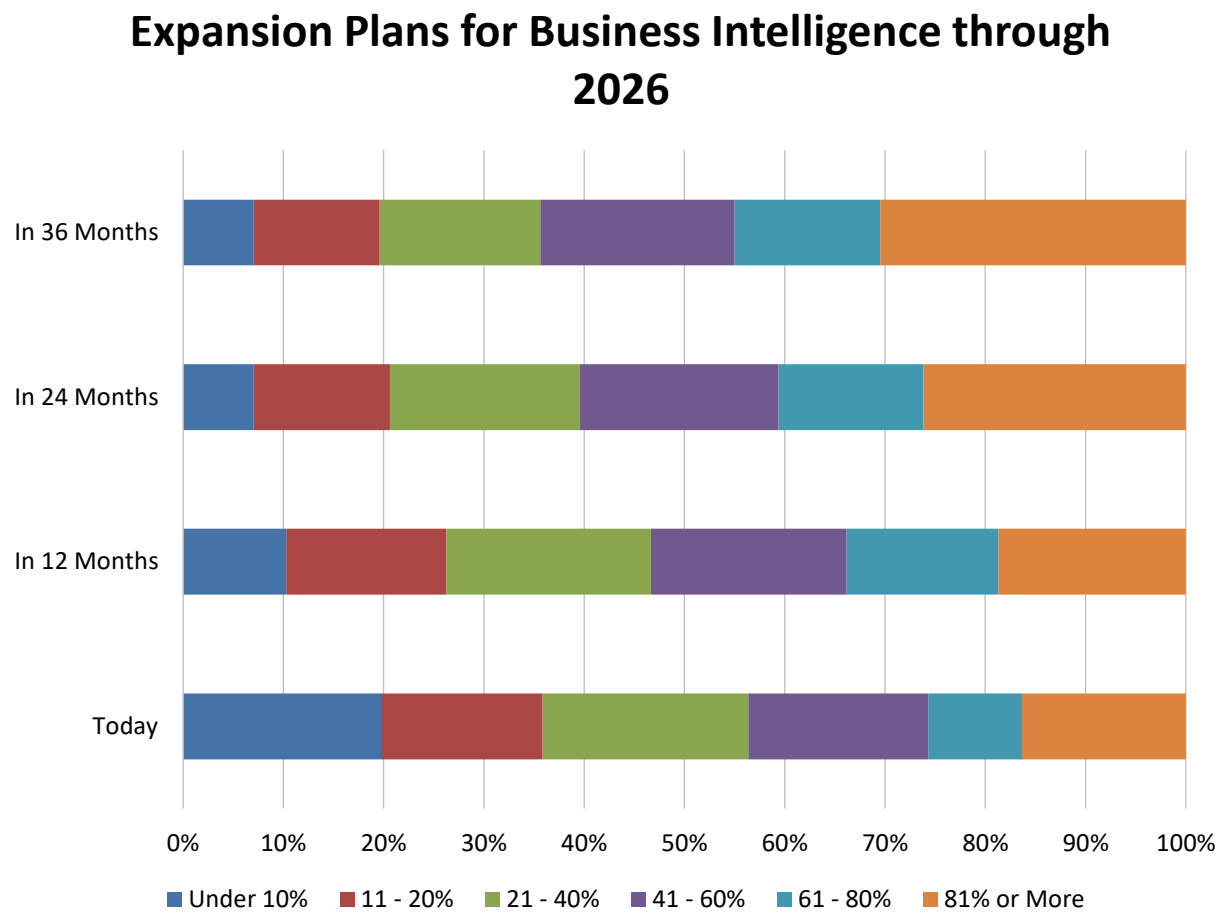


Figure 34 – Expansion plans for business intelligence through 2026

Penetration of Business Intelligence Solutions

Another useful measure of growth in BI use is 2015-2023 net average penetration as shown in in fig. 35. Here we see that average BI penetration during the last eight years follows an easily visible trend line stretching from 29 percent in 2015 to the roughly 40 percent penetration observed this year, just behind 2022's high mark of 41 percent.

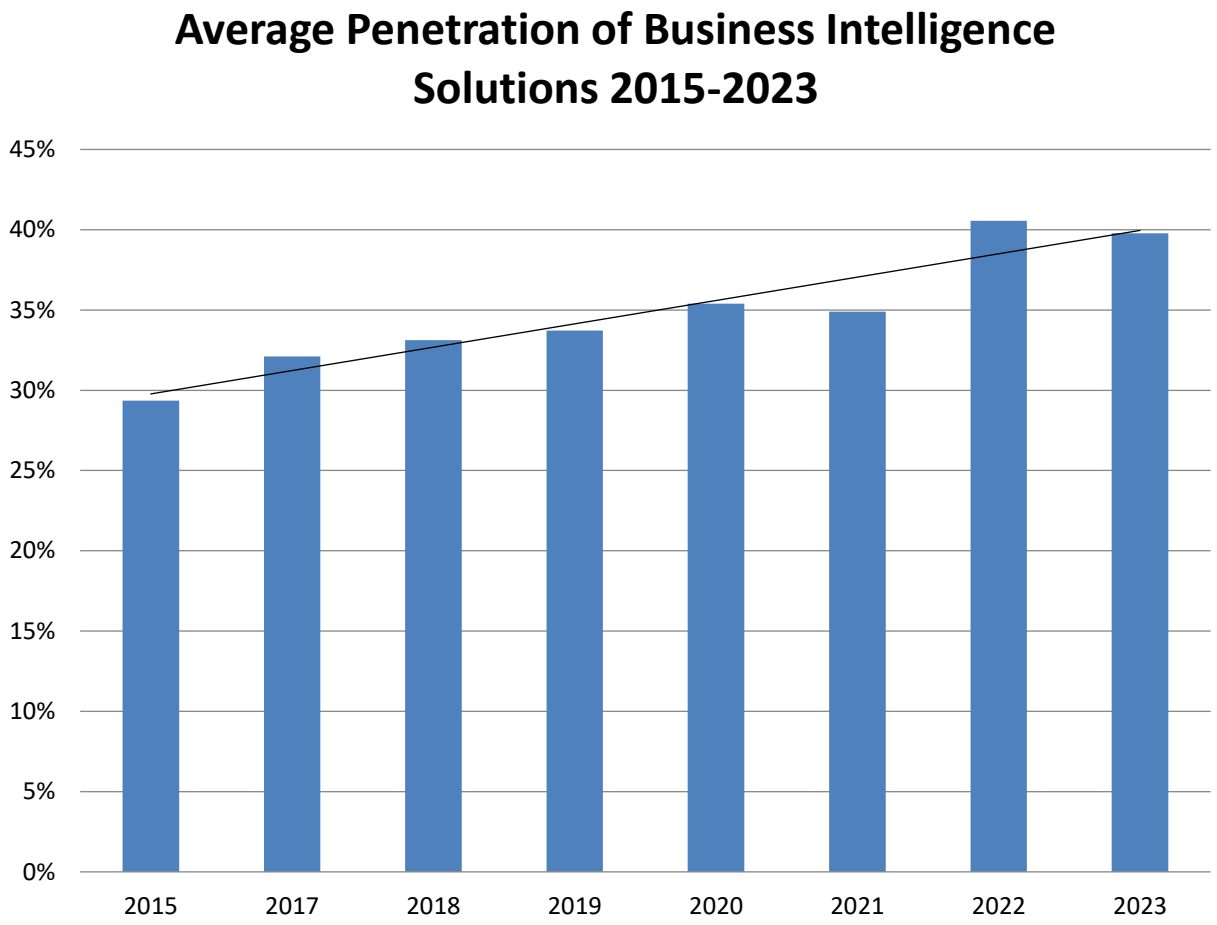


Figure 35 – Average penetration of business intelligence solutions 2015-2023

Business Intelligence Penetration by Geography

Viewed by geographic region, net average BI penetration is currently highest in North America (41 percent) and closely followed by EMEA (40 percent), Asia Pacific (35 percent), and Latin America (21 percent) (fig. 36). Consecutive planned increases in penetration are plainly visible for all regions in coming time frames. Respondents expect twelve-month regional rankings to remain unchanged (led again by North America), after which they expect stronger penetration growth momentum to shift to Asia Pacific. In the longest 36-month projection, they expect average penetration of BI to reach 56 percent in North America and Asia Pacific, followed by 50 percent in EMEA and 45 percent in Latin America.

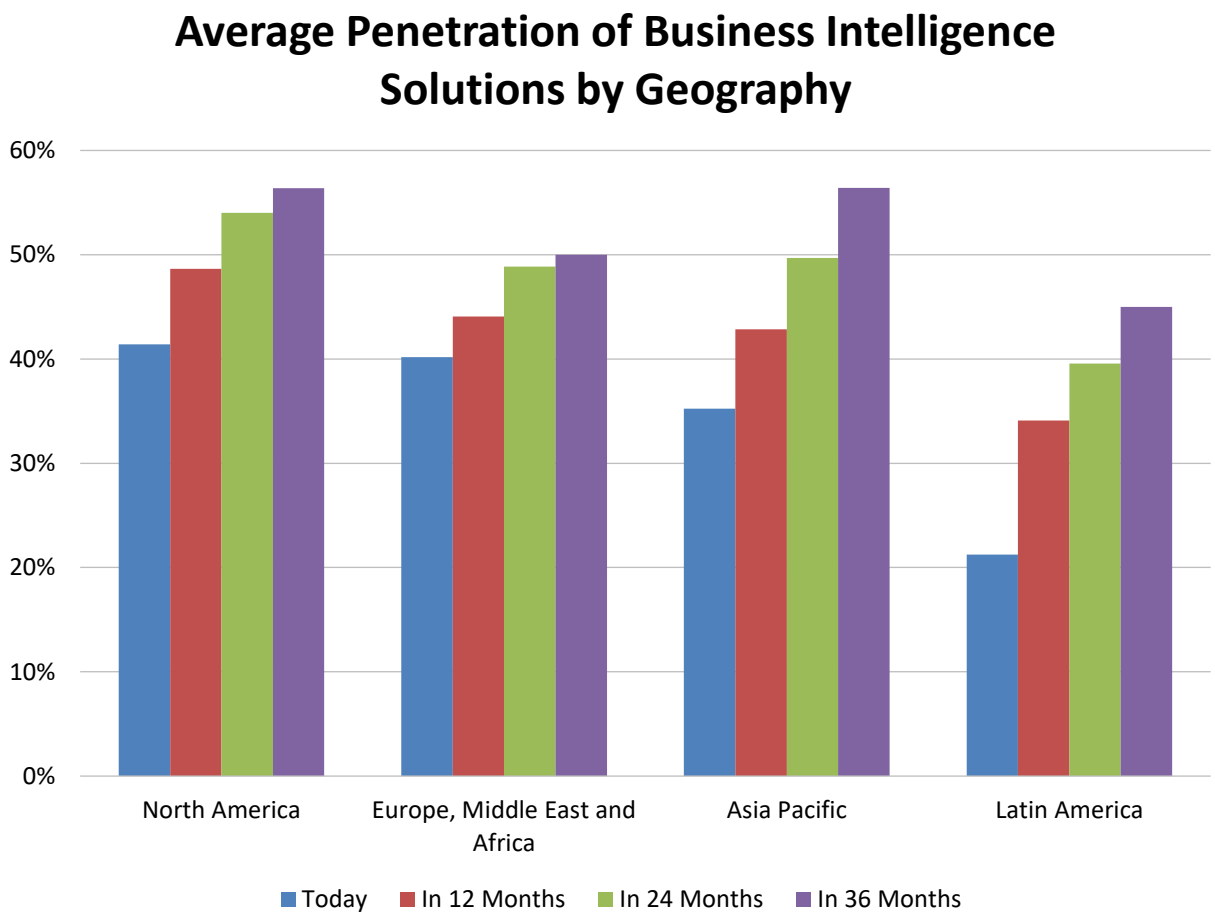


Figure 36 – Average penetration of business intelligence solutions by geography

Business Intelligence Penetration by Function

Current average BI penetration levels are well distributed across multiple functions in 2023, led by enablement of *strategic planning* (57 percent), *sales and marketing* (46 percent), *BICC* (44 percent), and *executive management* (41 percent) audiences (fig. 37). This finding is interesting in part since *executive* audiences are historically first targeted, though average scores might obscure a disproportionate number of highly penetrated executive roles. Even so, respondents expect executive audiences to see one of the steepest penetration increases in future time lines (along with *R&D*, *technology*, *finance*, *operations*, *BICC*, and *operations*). In all, aggressive future plans for BI enablement by function mirrors overall historical momentum as shown in fig. 35, p. 53.

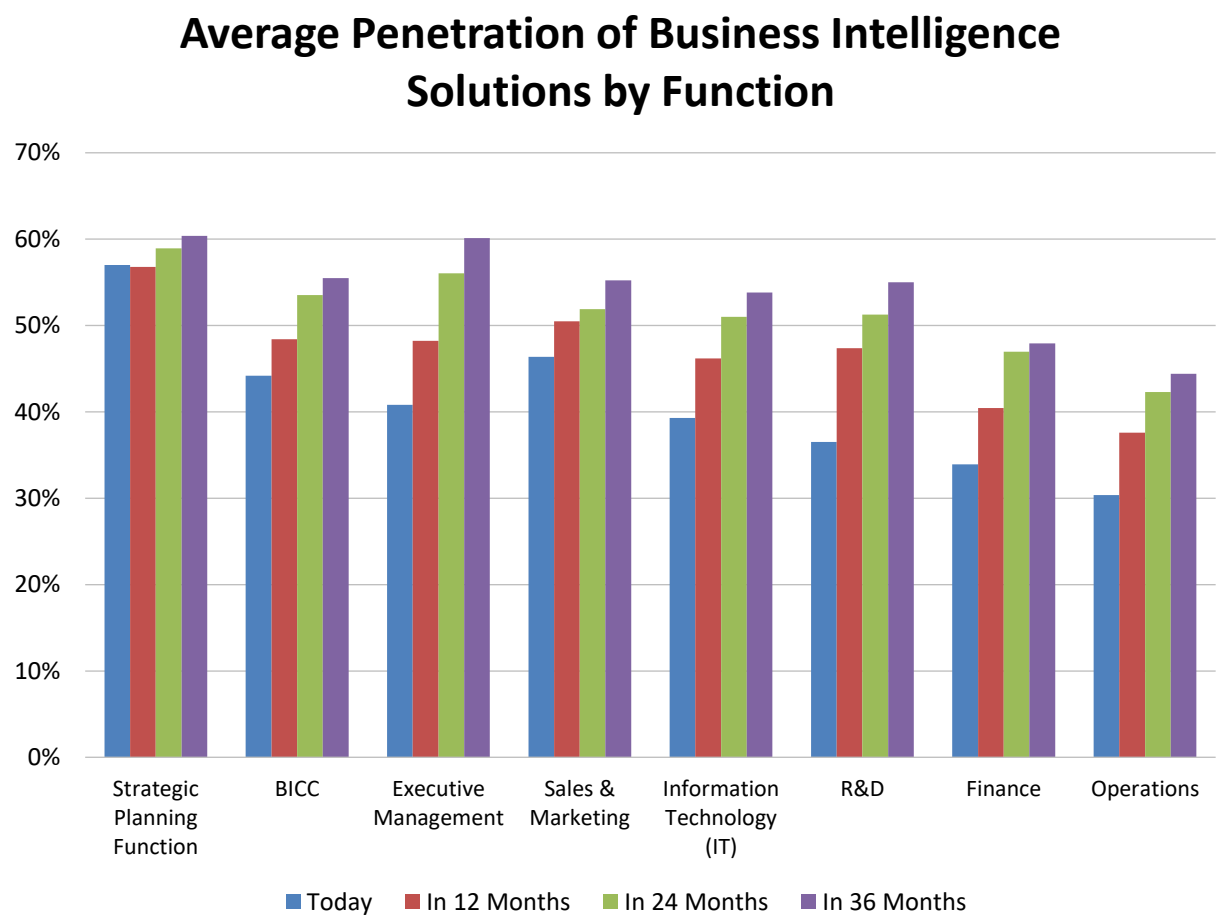


Figure 37 – Average penetration of business intelligence solutions by function

Business Intelligence Penetration by Vertical Industry

Current average levels of *current* BI penetration are well distributed across industries, led by *retail and wholesale* (47 percent), *business services* (45 percent), *technology* (43 percent), and *financial services* (40 percent) (fig. 38). Consecutive planned increases in penetration are plainly visible for all industries in coming time frames. Respondents expect twelve-month rankings to shift slightly with greater momentum in *business services* and *technology* organizations that will surpass *retail and wholesale* and leave other rankings unchanged. In the longest 36-month time frame, respondents expect the same top four verticals today to reach the highest average penetration by industry (close to 60 percent). They project longer-term momentum to be significant but somewhat less aggressive in *healthcare* and *education*.

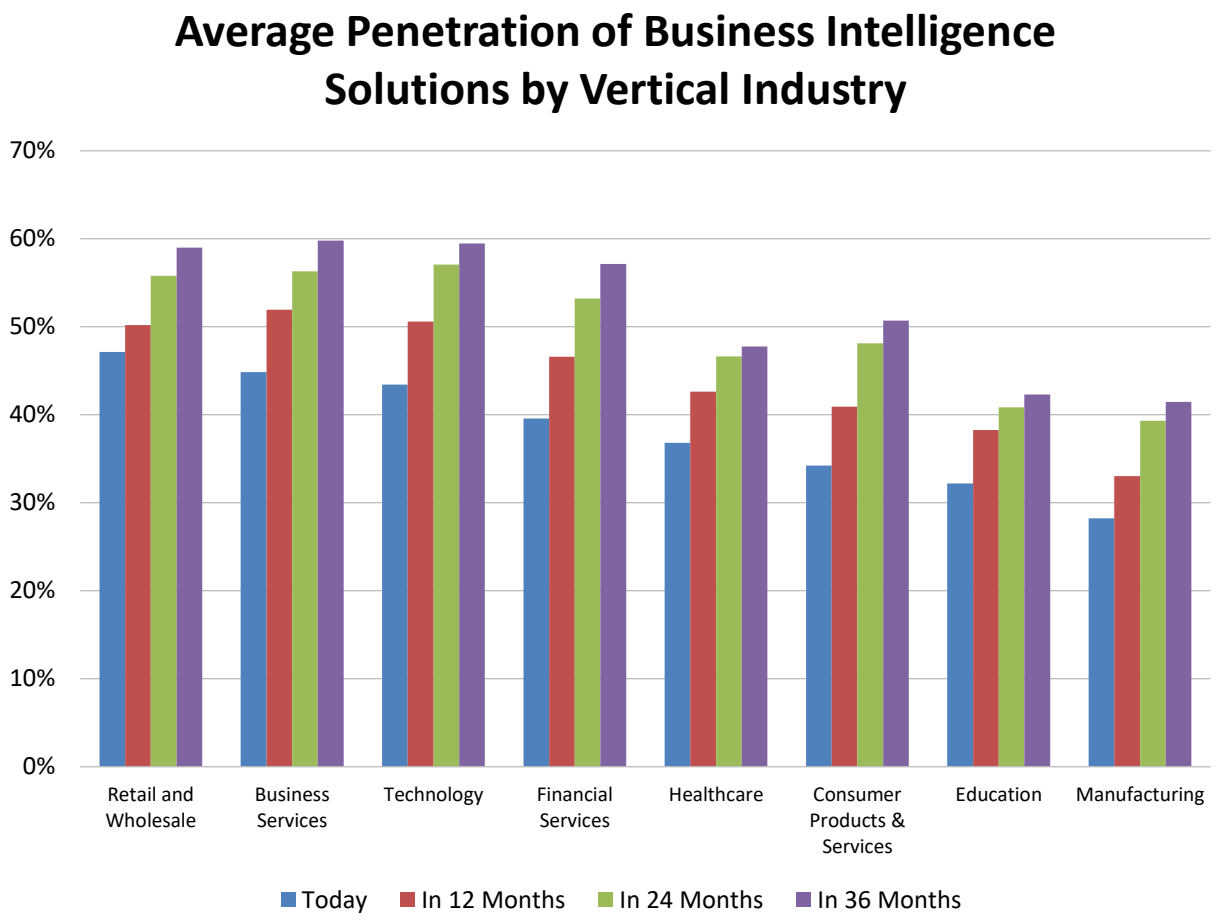


Figure 38 – Average penetration of business intelligence solutions by industry

Business Intelligence Penetration by Organization Size

Average penetration of business intelligence does not highly correlate to organization size in 2023 (fig. 39). This year, average penetration is highest in small organizations (1-100 employees) (46 percent) and somewhat evenly distributed among all larger peers with more than 100 employees (37-39 percent). All organizations expect sizeable increases in penetration in 12, 24, and 36-month time frames. Small organizations expect to reach 59 percent penetration in 36 months, and all larger organizations expect 50-54 percent penetration. While low headcount might favor small organizations' average BI enablement by percentage, it is interesting to observe that the largest organizations (> 10,000 employees) with economies and other benefits of scale expect the lowest net growth by percentage.

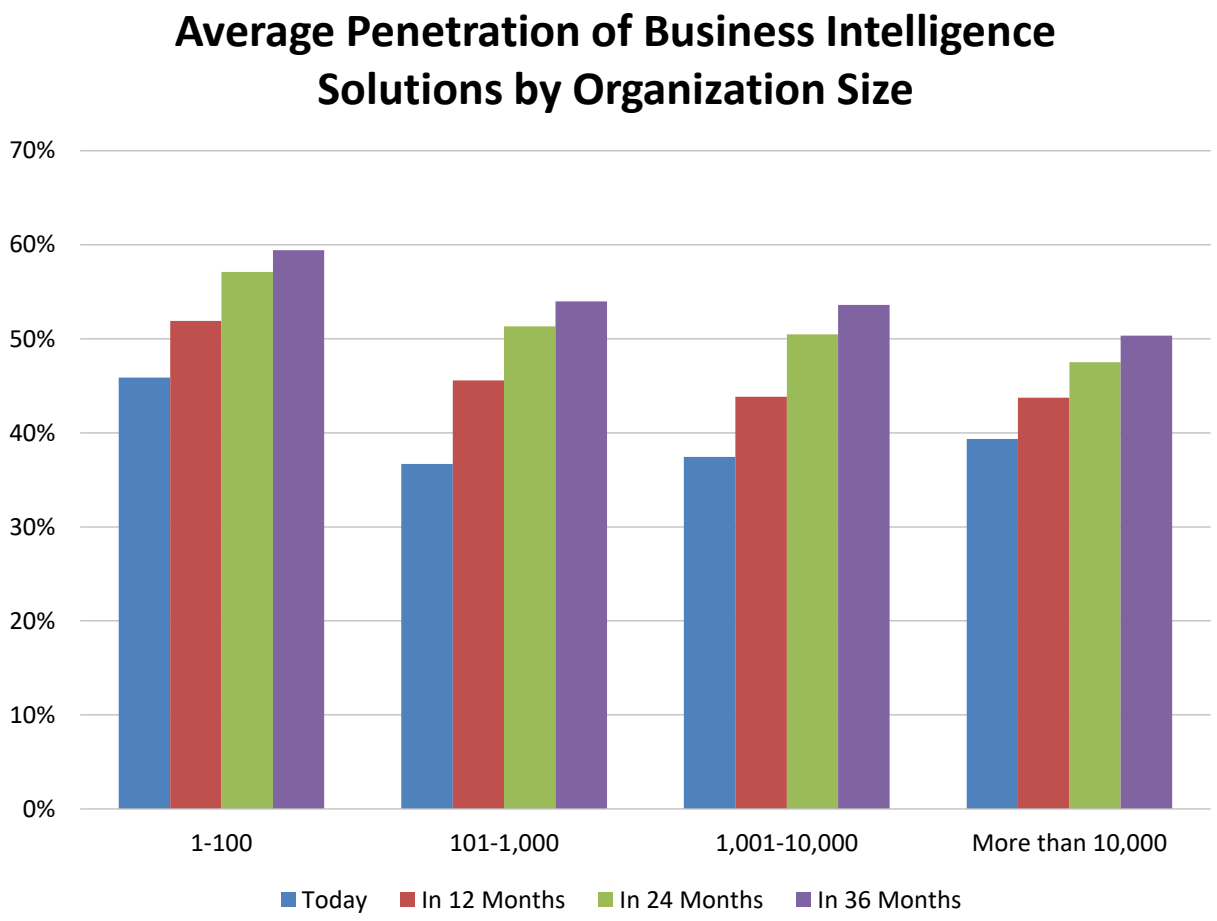


Figure 39 – Average penetration of business intelligence solutions by organization size

Business Intelligence Penetration by Success with Business Intelligence

Compared to less successful organizations, those that are more successful with business intelligence are likely to have greater BI penetration today and expect more penetration in future time frames (fig. 40). This year, BI penetration is highest in *completely successful* organizations (46 percent), compared to 39 percent in *somewhat successful*, and just 24 percent in *somewhat unsuccessful* and *unsuccessful* organizations. The logic of this finding is straightforward, though we also observe that the least successful organizations predict the sharpest growth rates in future time frames. While *completely successful* organizations are 92 percent more penetrated today than the worst performing group, respondents expect that relative gap to decrease to about 30 percent 36 months from today.

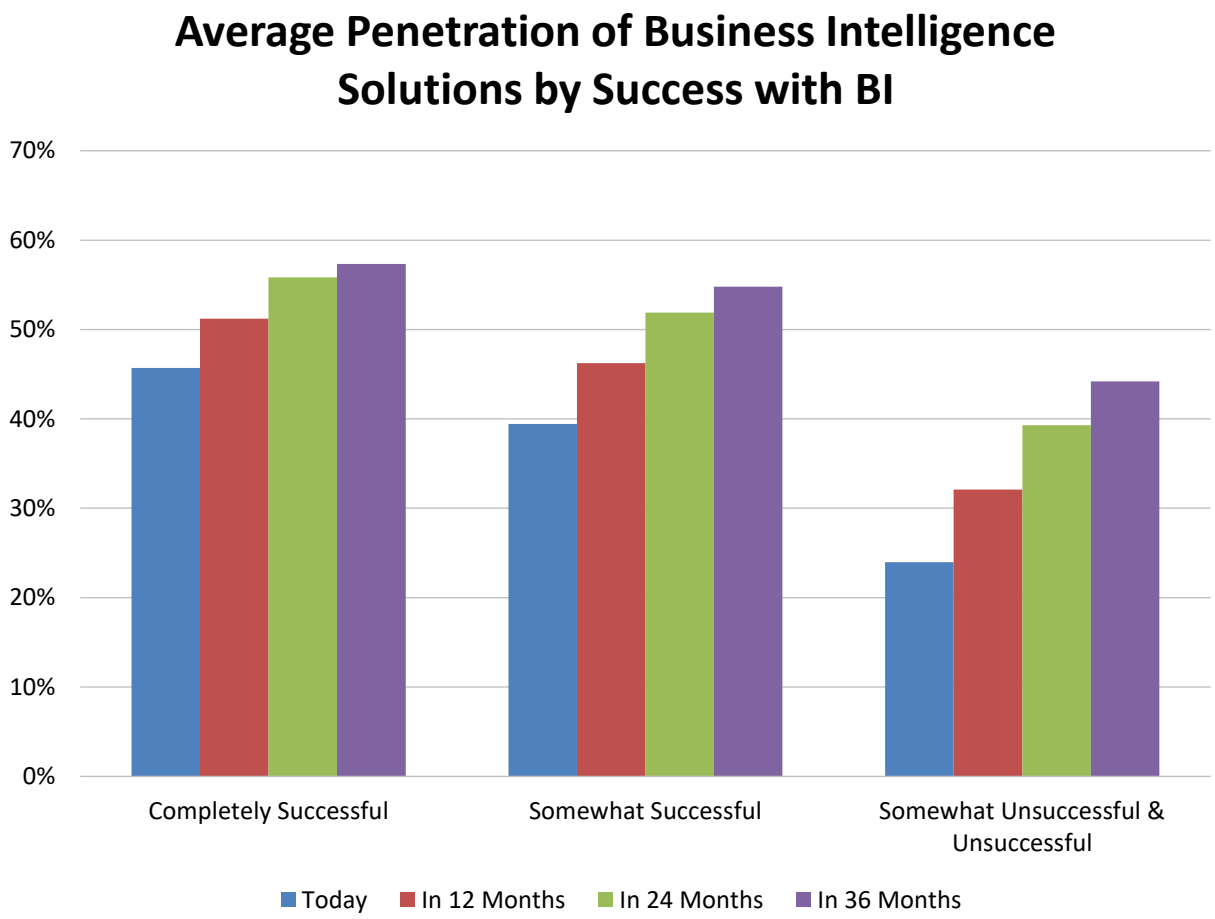


Figure 40 – Average penetration of business intelligence solutions by success with BI

Business Intelligence Penetration by Company Age

Organizations of shorter longevity by company age are somewhat more likely than older peers to achieve higher BI penetration today and in future time frames (fig. 41). Organizations that are less than five years or 5-10 years are 42-47 percent BI-penetrated today, compared to 38-43 percent of organizations in existence 11 years or longer. This finding is intuitive in an age of cloud BI services and technology refreshes, where younger organizations with less entrenched technology "lock-in" might find a shorter on-ramp to BI targeting and deployment. It is interesting to observe that this pattern carries the burden forward in companies of 16 or more years, where net BI penetration is expected to continue to lag behind younger peer organizations.

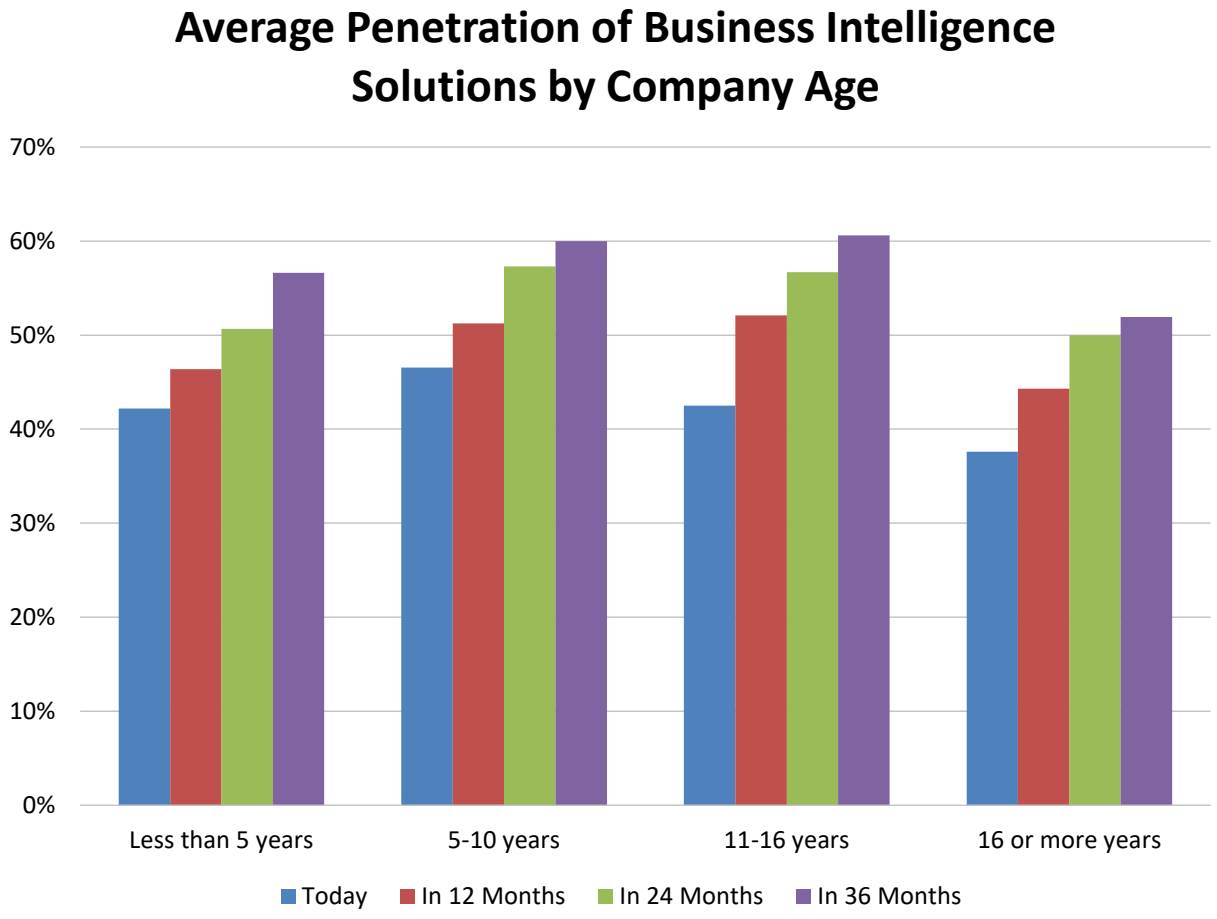


Figure 41 – Average penetration of business intelligence solutions by company age

Data Leadership, Chief Data and Chief Analytics Officers

We asked respondents to identify "data leadership" within their organizations, with the choice of CDO, CAO, or "other title" write-in roles that provide direction and leadership in leveraging the use of data in their organizations. Those identified as data leaders might lead or coordinate programs, projects, or activities around endeavors such as data democratization, data governance, marketing campaigns, or BI rollouts. We identify strongly with the importance of the CDO / CAO / data leader and pursue research to identify and support this role (figs. 52-56 refer specifically to the CDO / CAO role.)

In 2023, about 36 percent of organizations say they can identify a *data leader in place* in their organization (fig. 42). Forty-four percent say they cannot name or identify a data leader in their organization. The remaining 20 percent say they might expect, attempt to hire, or welcome a data-leader role in the future. We can conclude that, as an organizational imperative, data leadership is in short supply today.

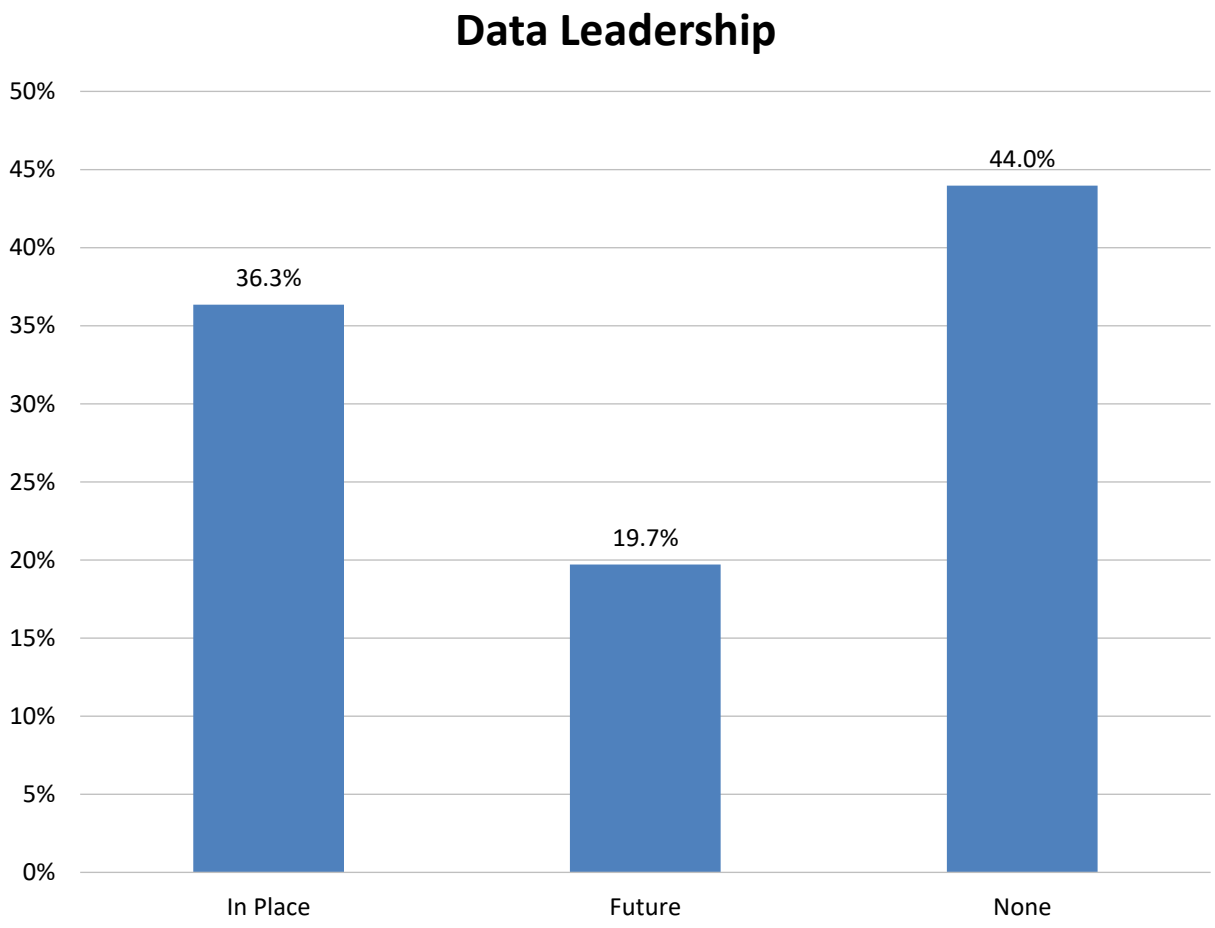


Figure 42 – Data leadership within enterprises

Data Leadership by Geography

By geographic region, the presence of current data leadership is markedly higher in Asia Pacific and North America (38-40 percent), compared to EMEA (27 percent) and Latin America (24 percent) (fig. 43). Combined *current* and *future* plans are highest in Asia Pacific (70 percent). The unfilled leadership gap lessens somewhat when factoring *current and planned* leadership in Latin America (58 percent), North America (55 percent), and EMEA (49 percent). Though we would expect to find default or de facto leadership in most organizations, we consider such large percentages of organizations with *no plans* for formal data leadership a topic of future study and discussion.

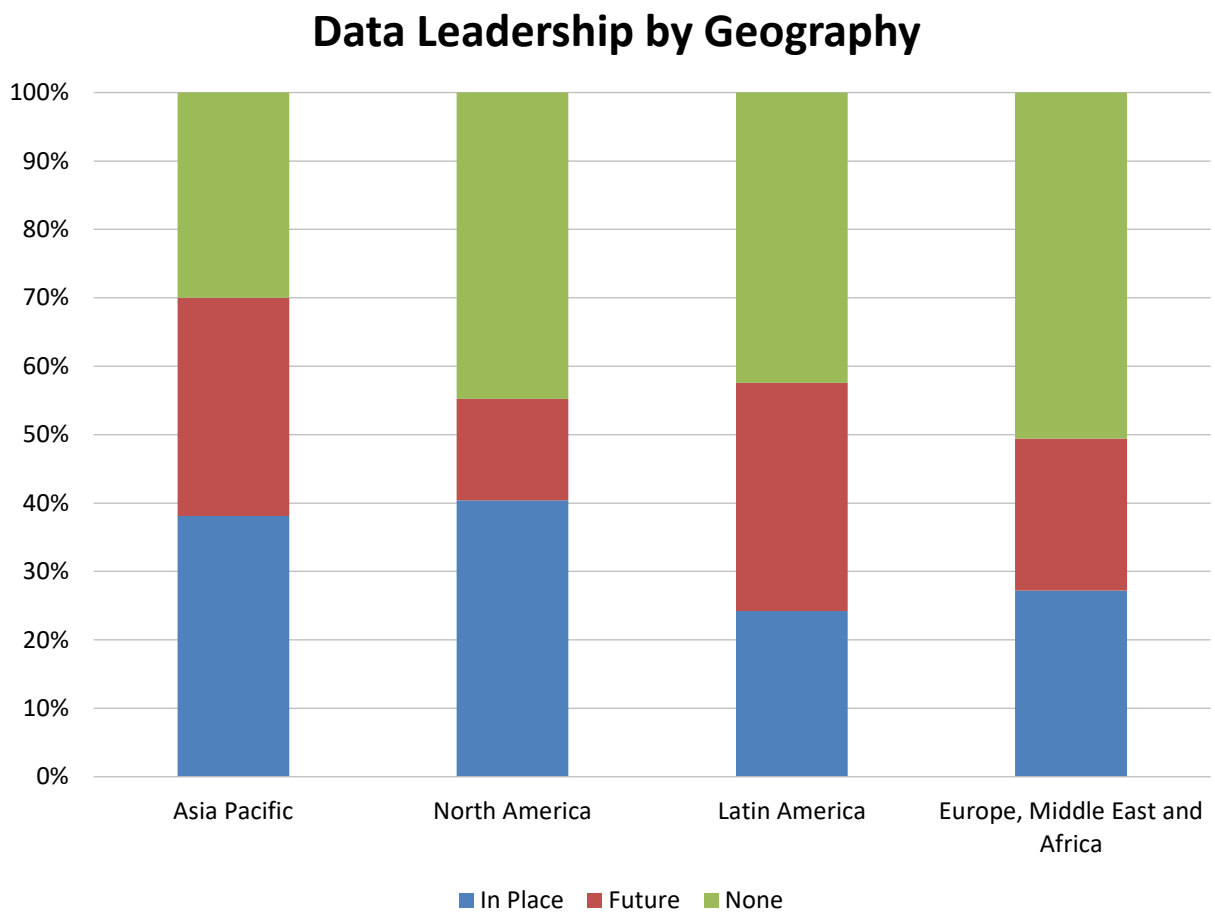


Figure 43 – Data leadership by geography

Data Leadership by Industry

The presence of current data leadership roles varies by industry in 2023, with some examples of current leadership (fig. 44). This year, *financial services* (46 percent) and *healthcare* (43 percent) are most likely to report a data leader *currently* in place. All remaining industries are 27-38 percent likely to have a data leader in place today. *Future plans* for data leadership flatten this curve somewhat; and the lowest reporting industry today, *retail wholesale* (27 percent), also predicts the highest likelihood of future leadership appointments. Once again, we would expect to find default or de facto leadership in most organizations, though the number of organizations with *no plans* (from a low of 35 percent in *financial services* to a high of 54 percent in *manufacturing*), is a likely topic for future exploration.

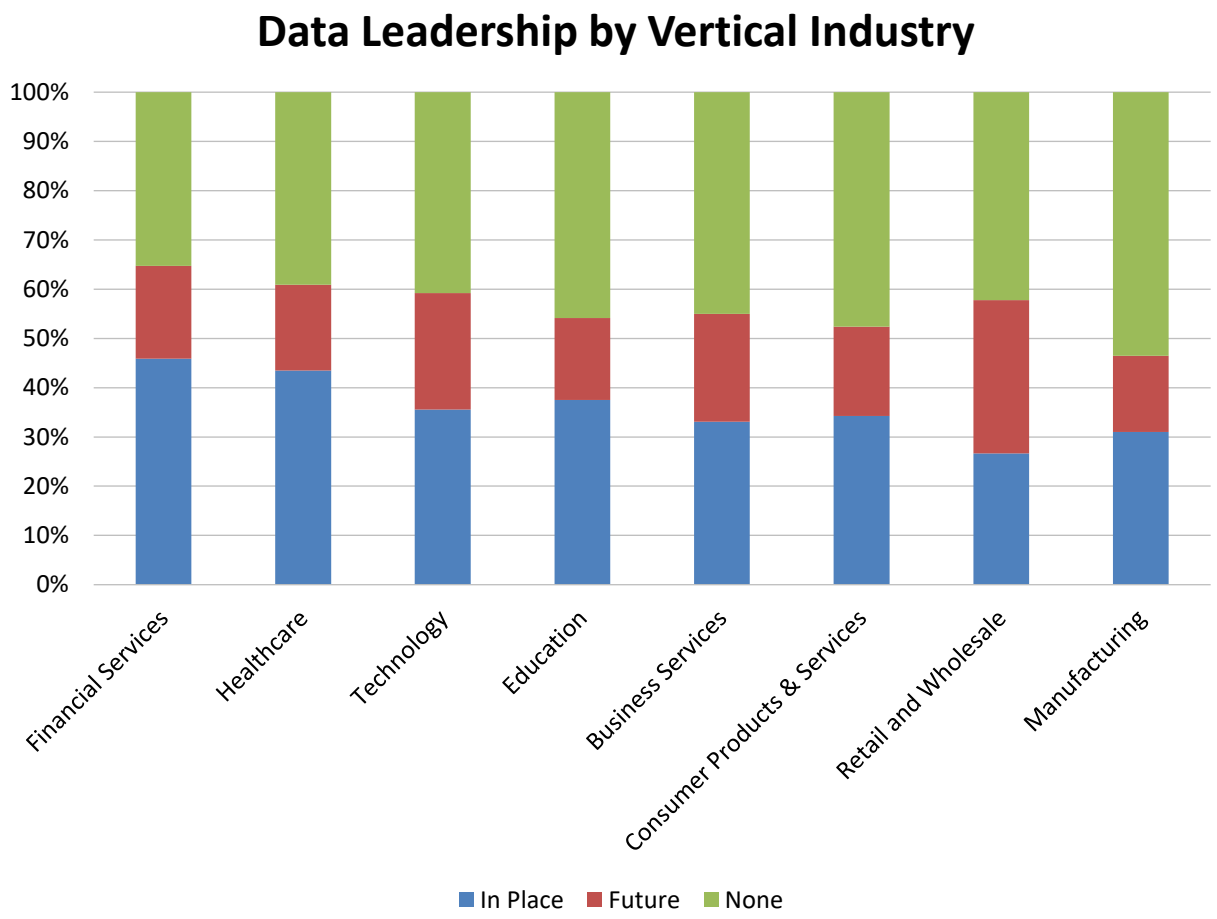


Figure 44 – Data leadership by vertical industry

Data Leadership by Organization Size

The likelihood of *currently* existing data leadership correlates and increases with organization size in 2023, a finding that accounts, in part, for some of the absenteeism of named data leaders shown in previous charts (fig. 45). It is not surprising that scale plays a role in the requirement for formally named data leadership. This year, very large organizations (>10,000 employees) significantly most likely currently have data leadership in place (52 percent), and another 14 percent have future plans. Large organizations (1,001-10,000 employees) are about 35 percent likely to have data leadership in place, and another 19 percent have future plans. About one-third of mid-sized (101-1,000), and 28 percent of small (1-100) organizations have data leadership in place today. Small organizations predict the largest number of future data leader appointments (30 percent).

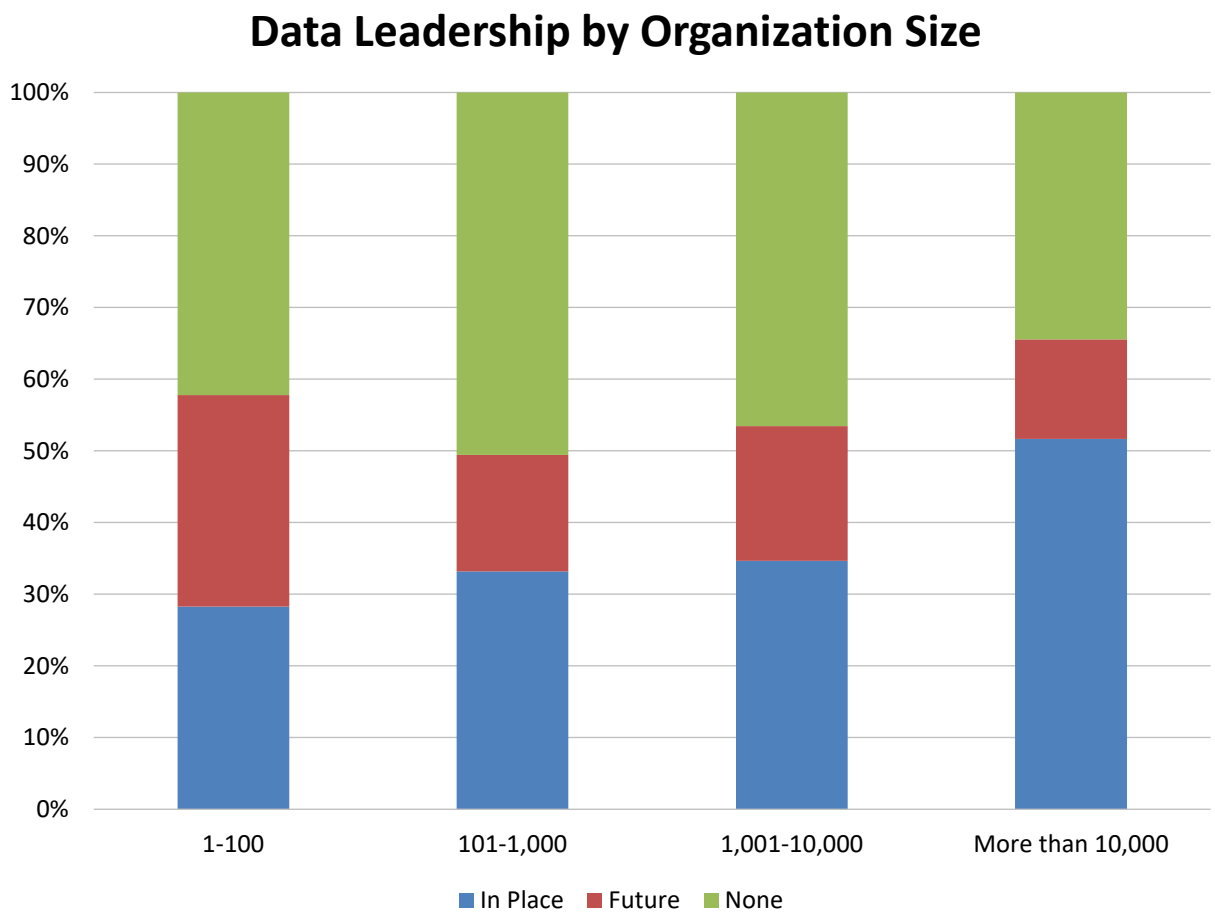


Figure 45 – Data leadership by organization size

Data Leadership by Success with BI

Success with BI positively correlates with the *current* presence of data leadership in the organization (fig. 46). At the extremes, organizations that are *completely successful* with BI are 52 percent likely to have data leadership in place, compared with 33 percent at *somewhat unsuccessful and unsuccessful* organizations. The same *somewhat unsuccessful and unsuccessful* organizations are 55 percent likely to have no plans for data leadership, compared to 30 percent for *completely successful* BI organizations. Even organizations that do not have but plan future data leadership are more likely to be successful BI organizations than those with *no future plans*. This latter finding might reflect the value of organizing, planning, coordinating, and attending to the importance of enterprise data as an asset.

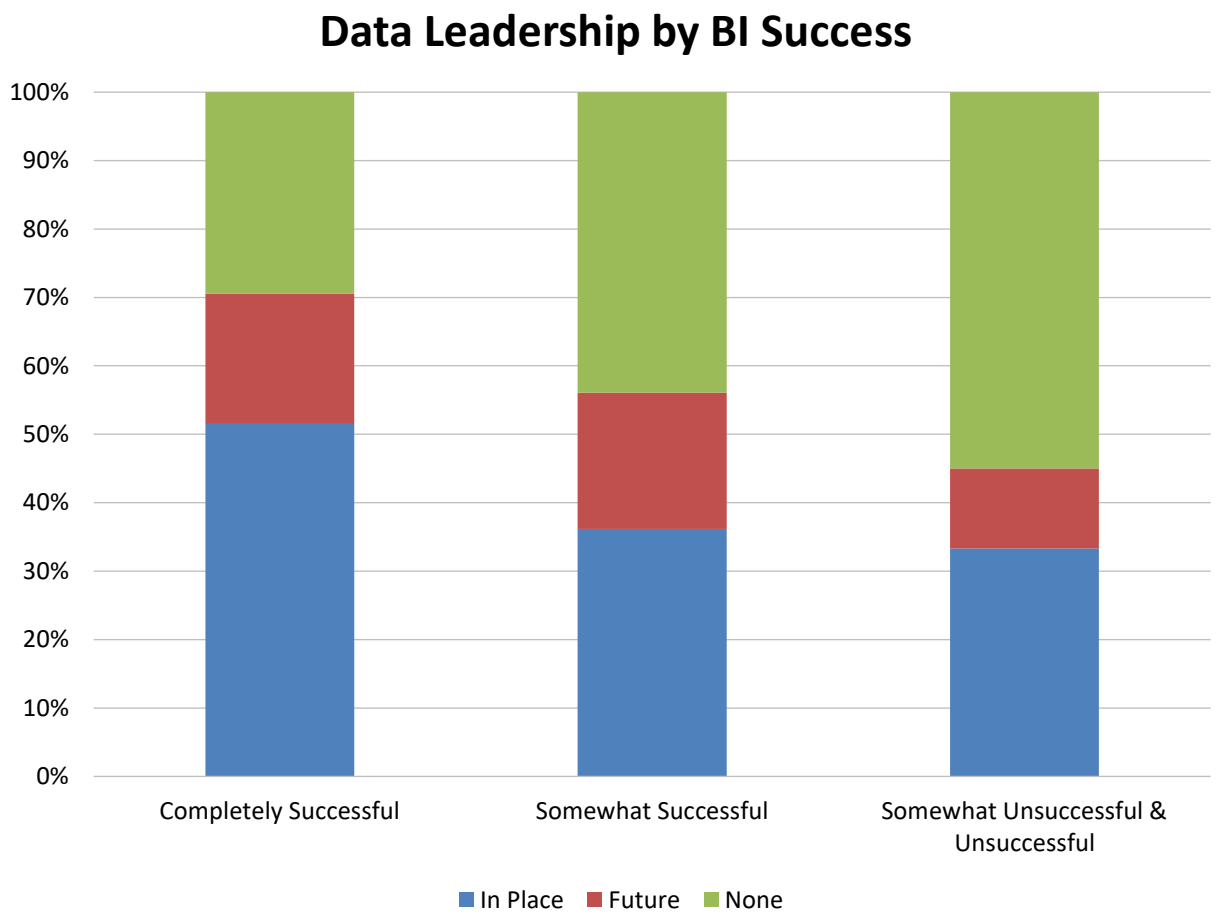


Figure 46 – Data leadership by success with BI

Data Leadership by Company Age

Company age does not correlate neatly with the presence or absence of data leadership in 2023 (fig. 47). On one hand, we observe that as organizations mature they become more likely to have data leadership *in place*, though trend lines peak at about 45 percent at *11-16 years*, stop and reverse as maturity increases *beyond 16 years*. On the other hand, the youngest organizations of *less than five years* report the most aggressive *future* plans for data leadership (36 percent), more than twice the rate of organizations of *11-16 years* (16 percent) or *more than 16 years* (also 16 percent). We might conclude that younger organizations are more aware and sensitive to the need for data leadership, but also that the process and progress of data leader appointments is anecdotal to each organization's strategy and culture.

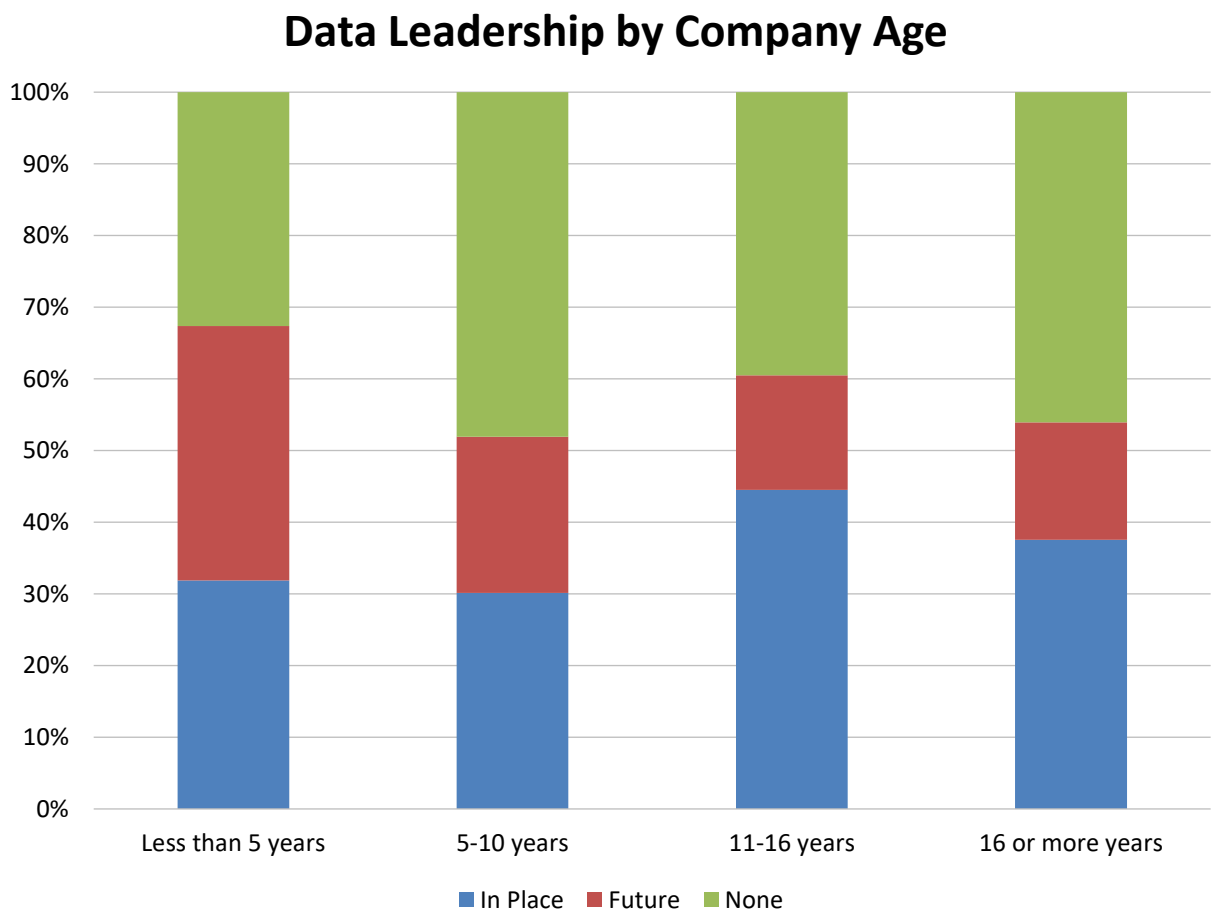


Figure 47 – Data leadership by company age

Data Leadership Titles Found in Enterprises

We asked respondents that have an identified data leader in their organization to describe the role or title of that person (fig. 48). This year, respondents most often identify their top *data leader* as a *CDO or CAO* (41 percent). In smaller numbers, respondents report the presence of data leaders with various write-in titles including *other chief* (officer), *director, VP, manager, head*, or *other.* One takeaway from this finding is that, in 2023, most individuals identified as data leaders in respondent organizations have titles other than CDO or CAO. While titles and hierarchies vary, it is significant to acknowledge the inherent gravitas of an identified "data leader," regardless of title.

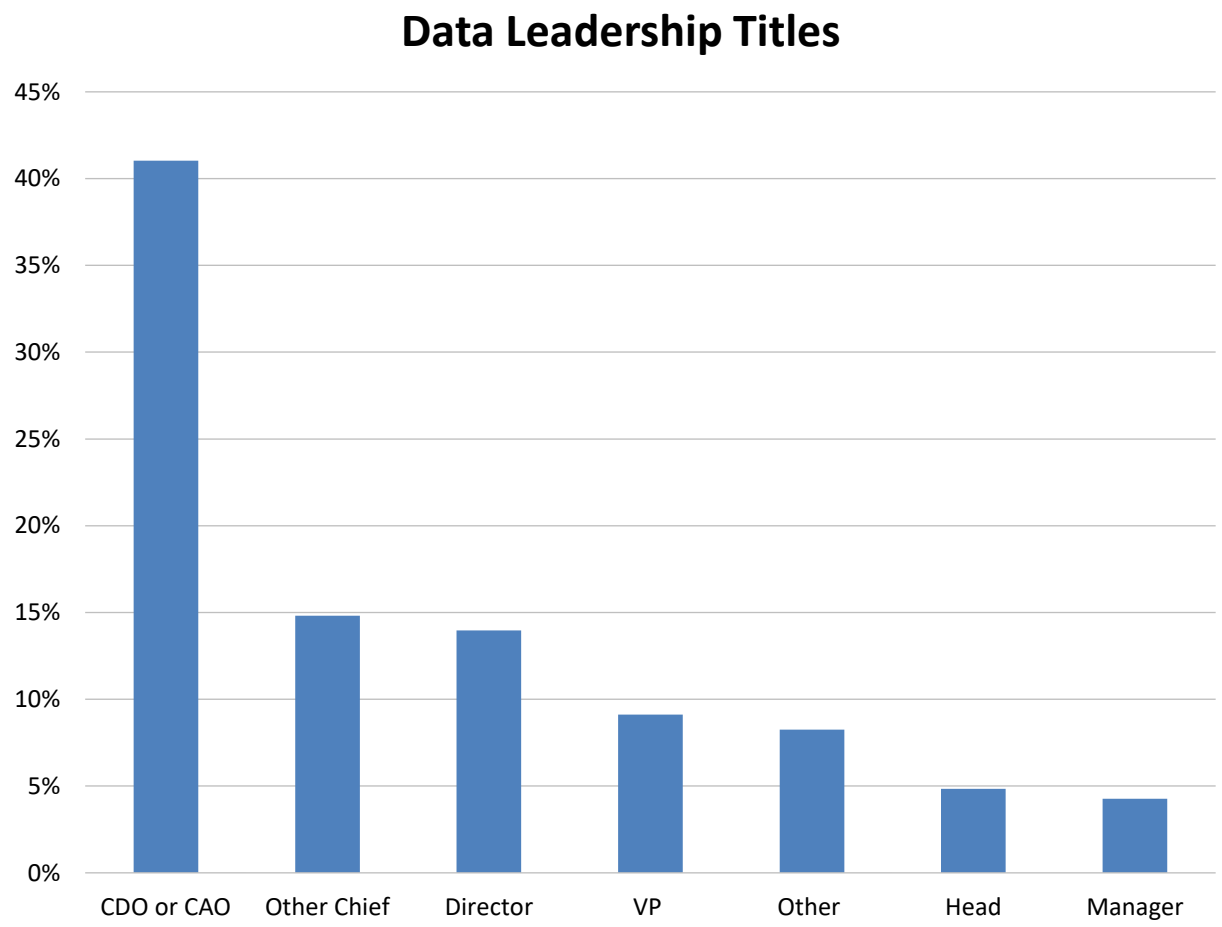


Figure 48 – Data leadership titles

Data Leadership Titles by Organization Size

As global organization headcount rises above 1,000, respondent organizations with named data leaders become far more likely to coalesce around the title of *CDO or CAO* (fig. 49). For example, about 74 percent of small (1-100) organizations with a data leader in place say that person's title is something *other than CDO or CAO*. Only 28 percent of very large organizations (> 10,000 employees) say their data leadership does not fall under a *CDO or CAO*. It is not surprising to find increasing organization size leading to centralized leadership. It is and will be interesting to observe formal data leadership populate in line of business and other hierarchies. For example, large organizations (1,001-10,000 employees) are far more likely than smaller peers to appoint a *CDO or CAO*, but they also might organize under a *VP* or *director* title more often than very large peers.

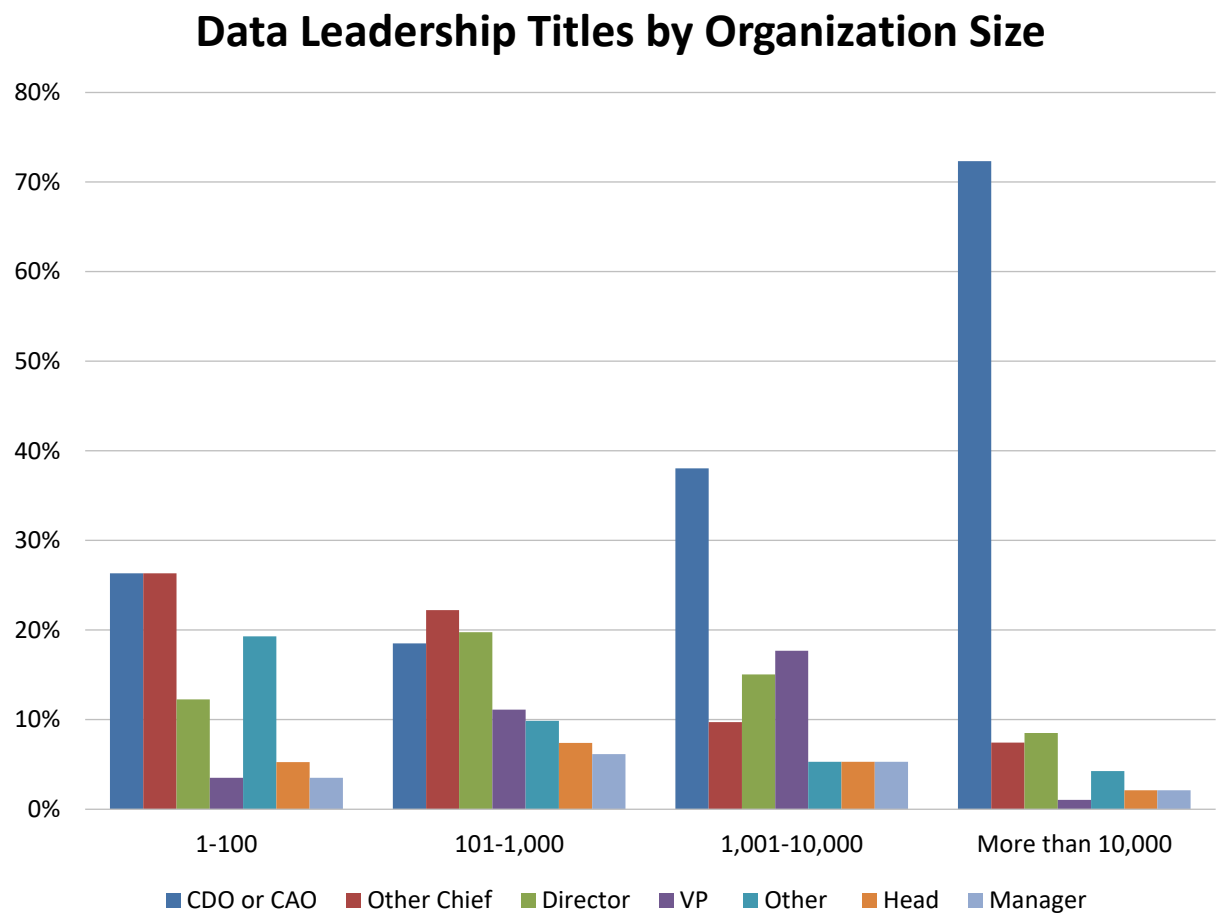


Figure 49 – Data leadership titles by organization size

Data Leadership Titles by Success with BI

The BI success of organizations does not correlate with the presence of a chief data officer or chief analytics officer, a finding that nonetheless deserves reflection (fig. 50). We observe that *completely successful* organizations are only slightly more likely (45 percent), to report data leadership under a *CDO or CAO* compared to *somewhat successful and unsuccessful* organizations. This tells us that CDO / CAO appointments only sometimes relate to high success with BI, and that a large number (41 percent) of *somewhat unsuccessful* or *unsuccessful* organizations have taken the step of appointing a CDO or CAO but have not yet reported higher success. We also observe that *somewhat successful* BI organizations have often appointed a CDO or *CAO,* but that the same *somewhat successful* organizations have more often taken intermediate steps in *VP* or *director* appointments. With data leader appointments still early stage but increasing, this might support the anecdotal view and the uneven journeys of organizations that recognize the need to organize around enterprise data as an asset.

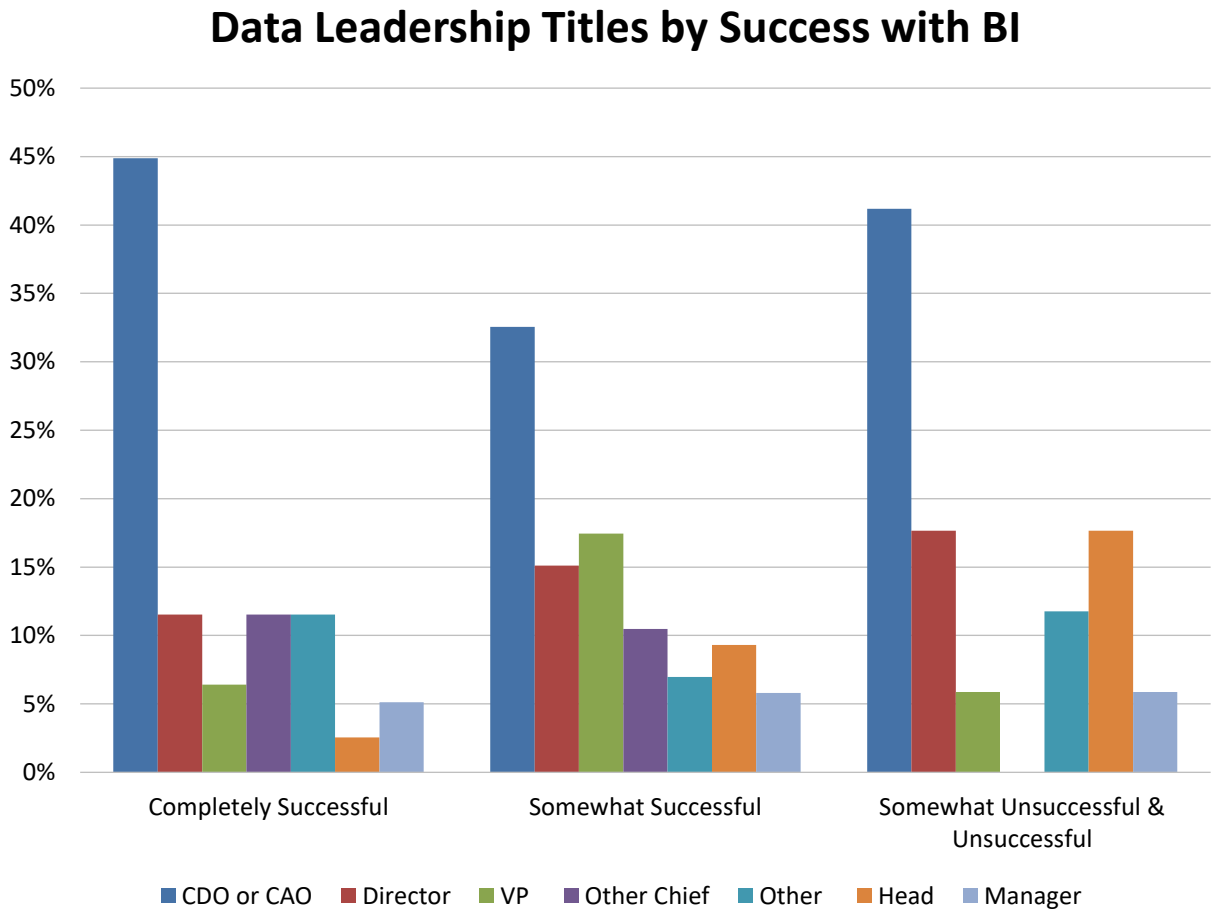


Figure 50 – Data leadership titles by success with BI

Data Leadership by Company Age

The appointment of specific data leadership titles reflects unevenly on company age in 2023 (fig. 51). As we saw in the case of (overall) *data leadership by company age* (fig. 47, p. 64), increasingly maturing organizations are more likely over time to have a *CDO or CAO* in place, at least up until *16 years or more* longevity, when fewer, perhaps more hidebound organizations reluctantly resort to a chief data or analytics officer. Perhaps more interesting, when we exclude the *CDO or CAO* role, we observe that the youngest organizations of *less than 5 years* are most likely of all to have a data leader with a title of "*other"* instead of the traditional *VP, director*, or *head* titles associated with formal portfolios. This suggests organizations might initially see a need to organize data leadership in other than conventional frameworks before arriving at the fitting option.

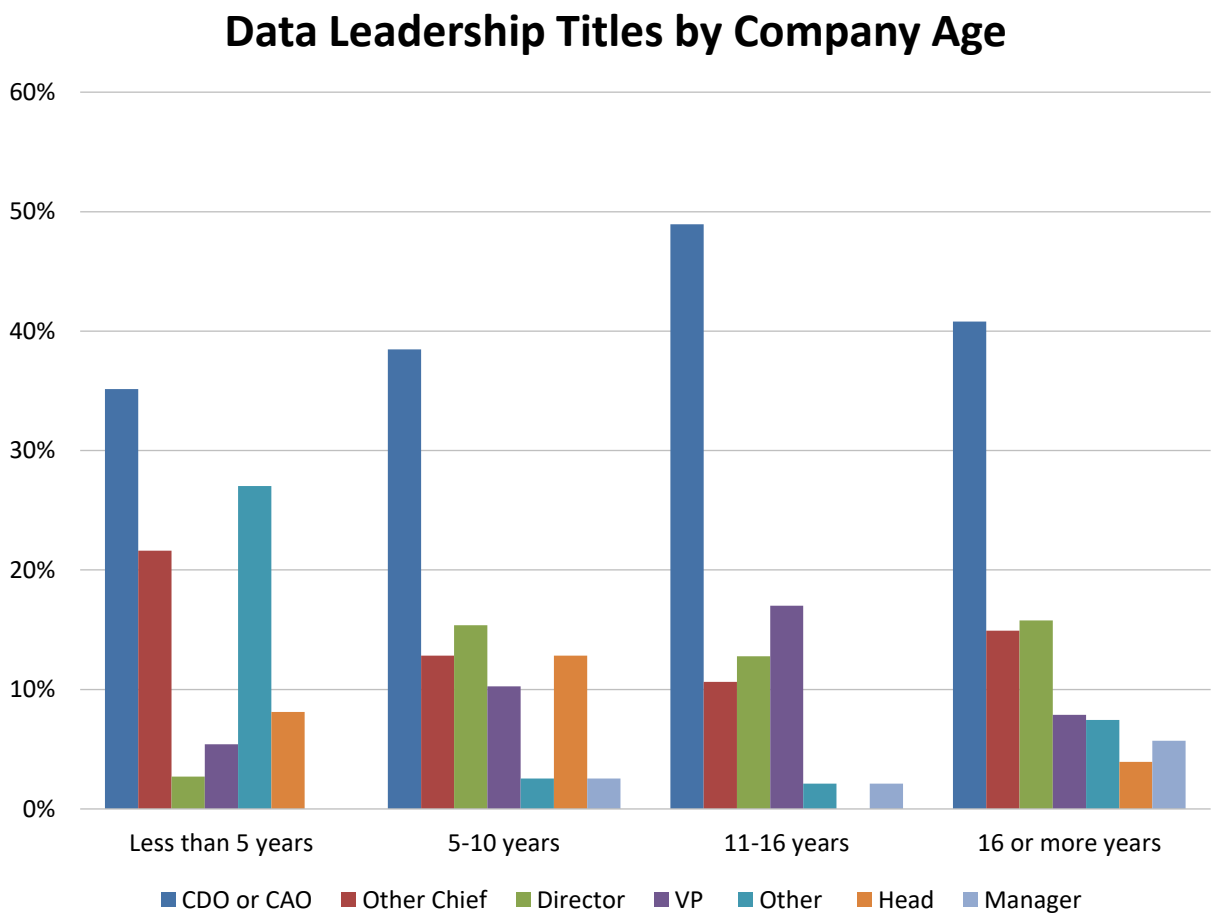


Figure 51 – Data leadership titles by company age

Enterprises with Chief Data or Chief Analytics Officers

Fig. 52 shows the ongoing longevity of chief data and chief analytics officers in year-by-year snapshots from 2016-2023. Where we might expect "sticky" appointments of increasing duration, the course of new and sustained appointments changed unevenly and only marginally throughout this time. For example, CDO or CAO appointments of *more than five years* mostly flattened since 2019, and all year-over-year CDO or CAO appointments in existence for *three years or longer* are nearly unchanged. "New" appointments of *less than one year* are also nearly unchanged year over year, and in 2023, somewhat below historic mean levels.

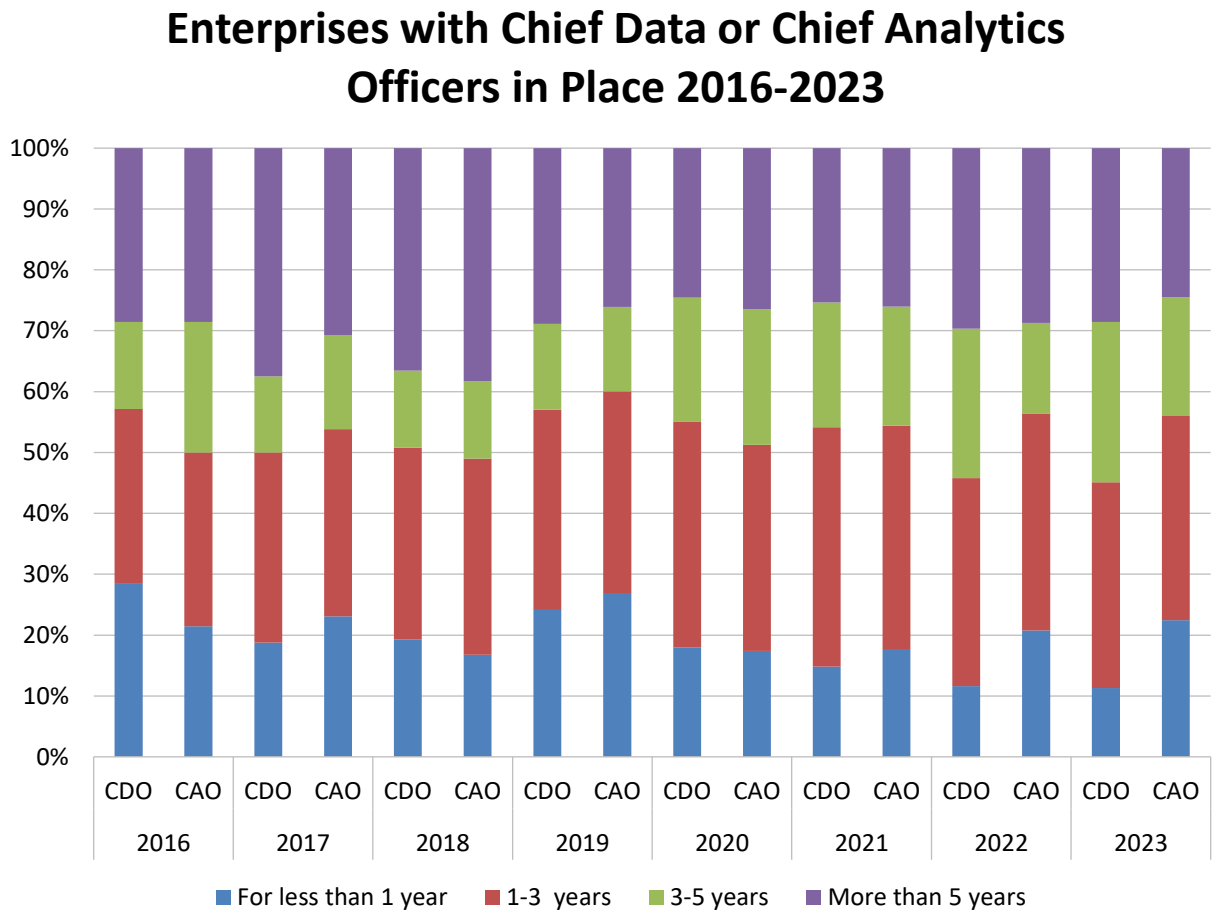


Figure 52 – Enterprises with chief data or chief analytics officers in place 2016-2023

Effectiveness of Chief Data or Chief Analytics Officers

We asked respondents, "How effective has the Chief Data Officer been within your organization?" By this subjective measure, 2023 results for both titles are highly positive (more than 90 percent *extremely effective* or *somewhat effective* for both titles) and narrowly favor the *CAO* as the more effective role (fig. 53). This year, we find that respondents consider *CAO*s *extremely effective* 40 percent of the time, compared to 36 percent for *CDO*s. Ineffective achievement is slightly more likely for the *CDO*: about 7 percent are *somewhat ineffective* and just 2 percent are *completely ineffective.* Among *CAO*s, 3 percent are *somewhat ineffective* and another 3 percent are *completely ineffective*.

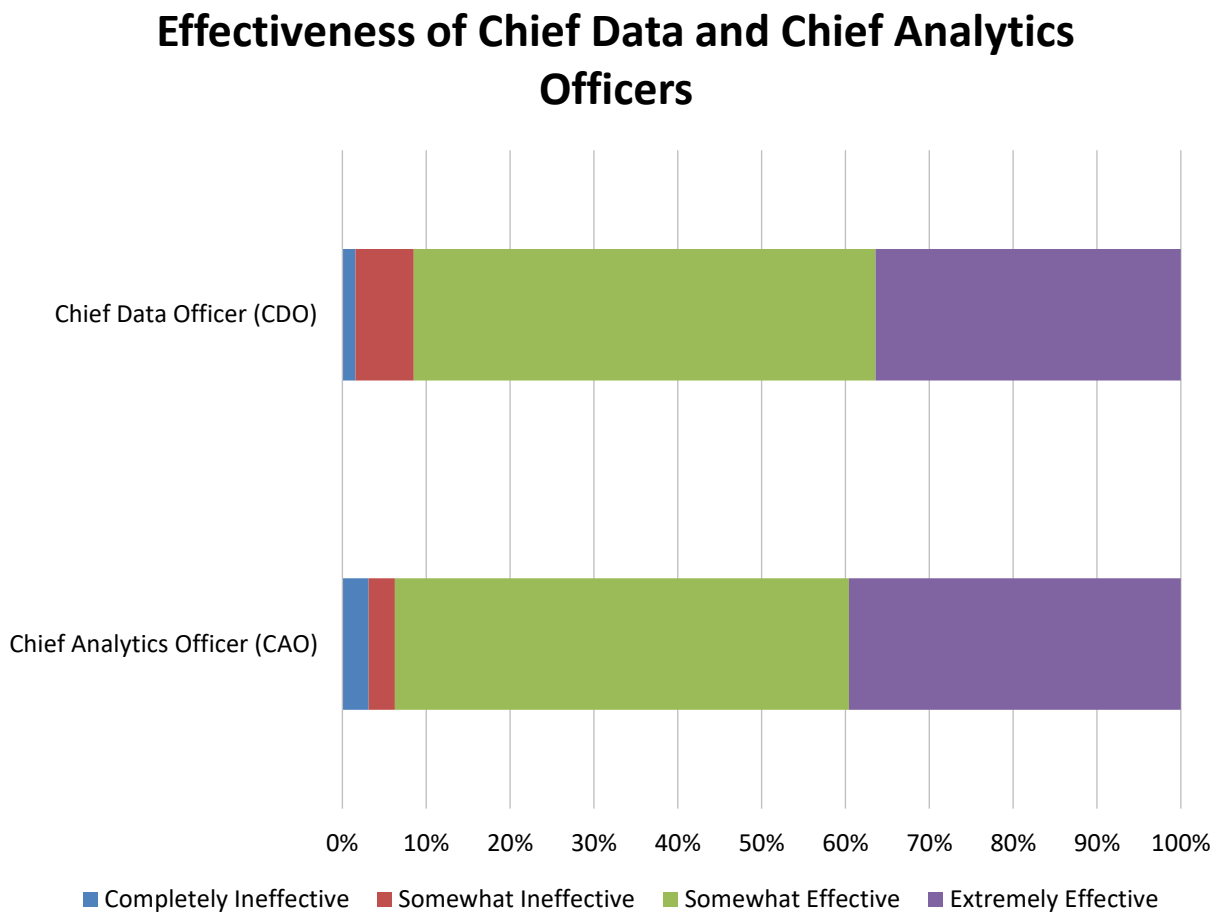


Figure 53 – Effectiveness of Chief Data and Chief Analytics officers

Enterprises with Chief Data or Chief Analytics Officers by Organization Size

The presence of chief data officers and/or chief analytics officers in 2023 is most likely to be longer tenured, large-organization phenomena that sometimes extends downstream to smaller enterprises (fig. 54). Very large organizations (>10,000 employees) account for the greatest number of five-year-plus *CDO* and *CAO* appointments (37 and 30 percent respectively), which is far more than small organizations (1-100 employees) (14 percent of *CDO*s, no *CAO*s). Interestingly, small organizations report a very large 57 percent of total data leaders as "new" appointments of one year or less. Midsize organizations (101-1,000 employees) also report that 80 percent of all CAO appointments are of three years or less. The latter findings suggest strong momentum for CAO over CDO appointments in small and midsize organizations.

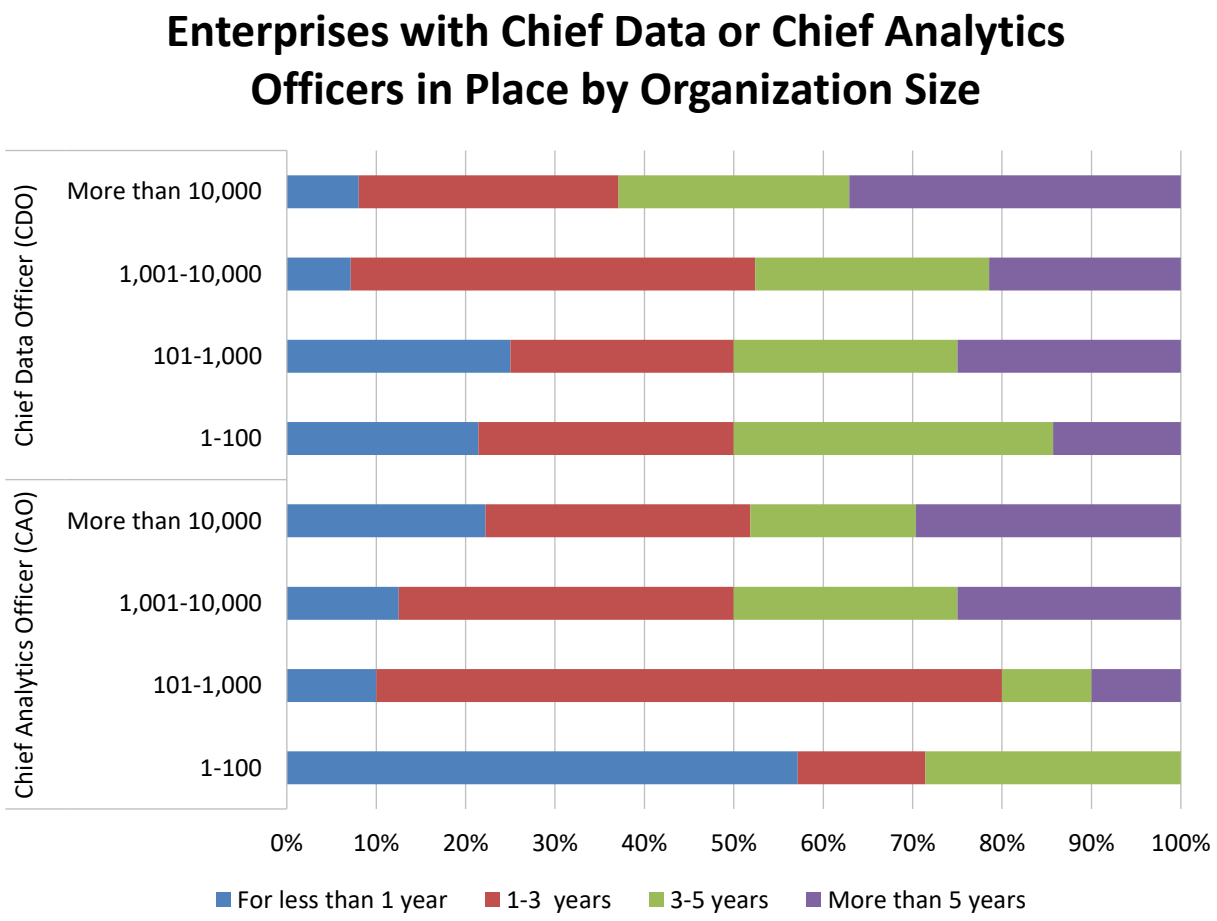


Figure 54 – Enterprises with chief data or chief analytics officers in place by organization size

Enterprises with Chief Data and Chief Analytics Officers Reporting Structure

In 2023 (and also during the years 2020-2022), both CAO and CDO titles are by far most likely to report to the *CEO* (fig. 55). This year (much like our 2022 finding), both roles are about 41-44 percent likely to roll up to the *CEO*. Perhaps most strikingly, in 2023 we also observe a notable year-over-year increase in the percentages of *CDOs* and *CAOs* that report to the *CFO*. *CIO* reporting, which had increased noticeably in 2022, declined for *CDOs* and more noticeably for *CAOs* in 2023, but remains the second-most likely reporting office after the *CEO*.

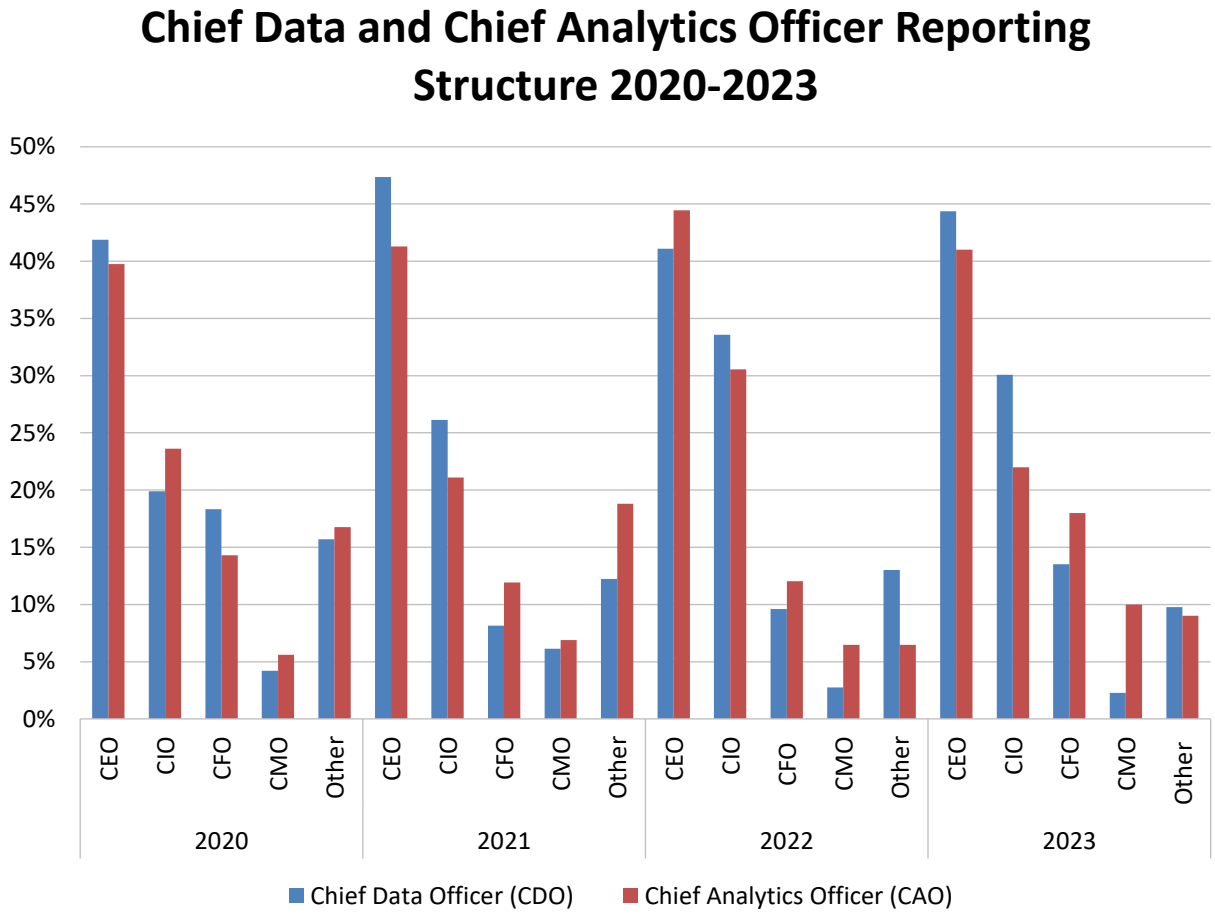


Figure 55 – Chief data and chief analytics officer reporting structure 2020-2023

Chief Data and Chief Analytics Officers Reporting Structure by Organization Size

CEO ownership of *CDO* and *CAO* reporting is inversely related to organization size. In 2023, the percentage of *CDO* and *CAO* appointments that report to the *CEO* greatly decreases as organization size increases (fig. 56). In the same fashion, the number of *CDOs* and *CAOs* reporting to the *CIO* increases somewhat in very large organizations (>10,000 employees), particularly for the *CDO*. This effect might fall to different causes or one-off experiences. Small organizations are less likely than larger peers to have a *CIO* title. From another perspective, we would expect infrastructure and data management complexity to increase as organization headcount increases and greater numbers of users provisioned by *IT* services. We observe a lower instance of *CDOs* who report to the *CFO* (versus *CEO* or *CIO*), though *CAOs* are more likely than *CDOs* to report to the *CFO*.

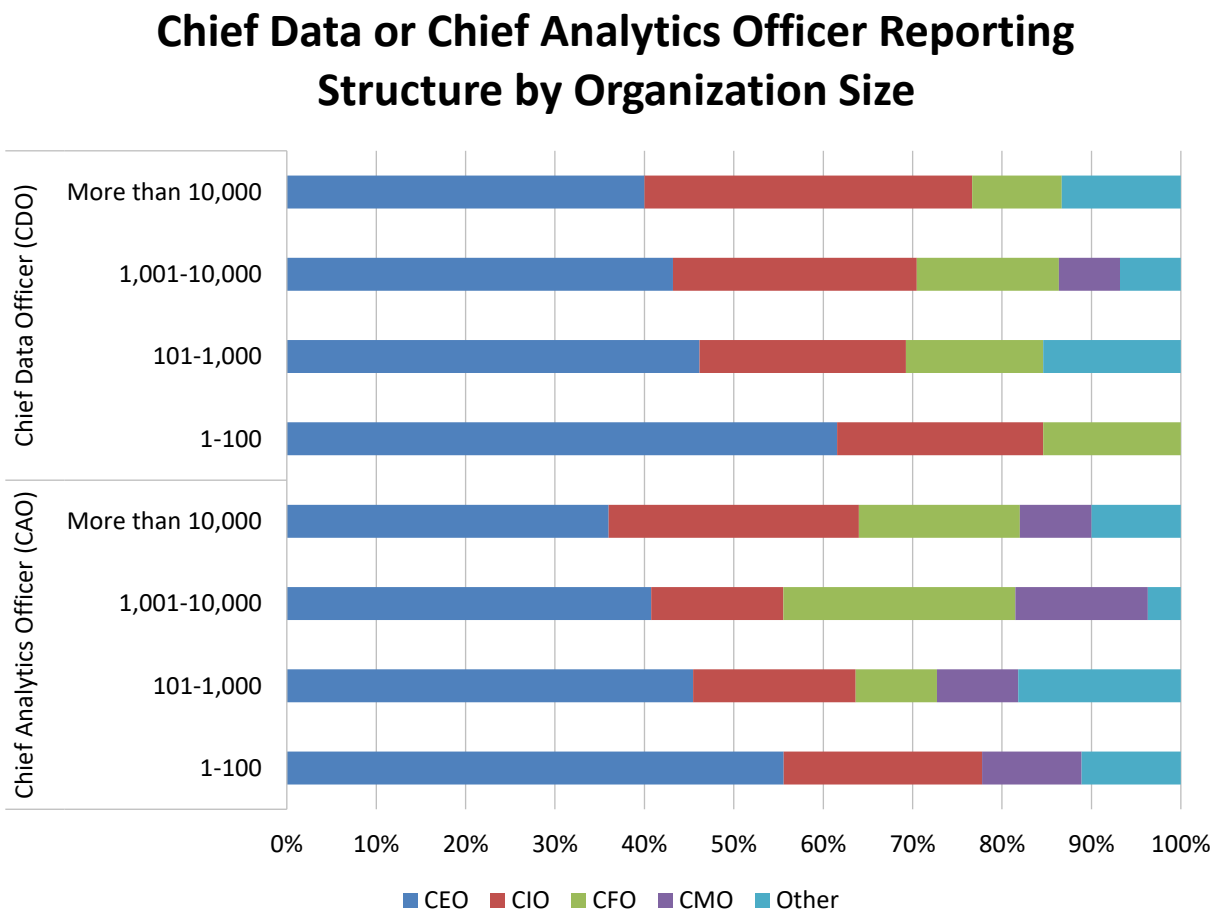


Figure 56 – Chief data or chief analytics officer reporting structure by organization size

Number of Business Intelligence Tools in Use

Number of Business Intelligence Tools in Use 2013 to 2022

Throughout the history of our study, we have asked respondents, "How many business intelligence products are currently used in your organization today?" (fig.57). Across the last 11 years of our study, we observed a somewhat constrained range in the years 2013-2020, during which 64-69 percent used up to three tools. Beginning in 2021, we observe a decreasing number of organizations that use only one, two, or three tools and a rising combined percentage of *more than four tools* or "*don't know.*" For example, the percentage of organizations using just up to three tools decreased from 68 percent in 2020 to 53 percent in 2023. The number using just one BI tool decreased from 23 percent in 2020 to 12 percent in 2023. In sum, we observe a clear, recent expansion in BI tool use that likely includes service-based and/or role-based BI tools.

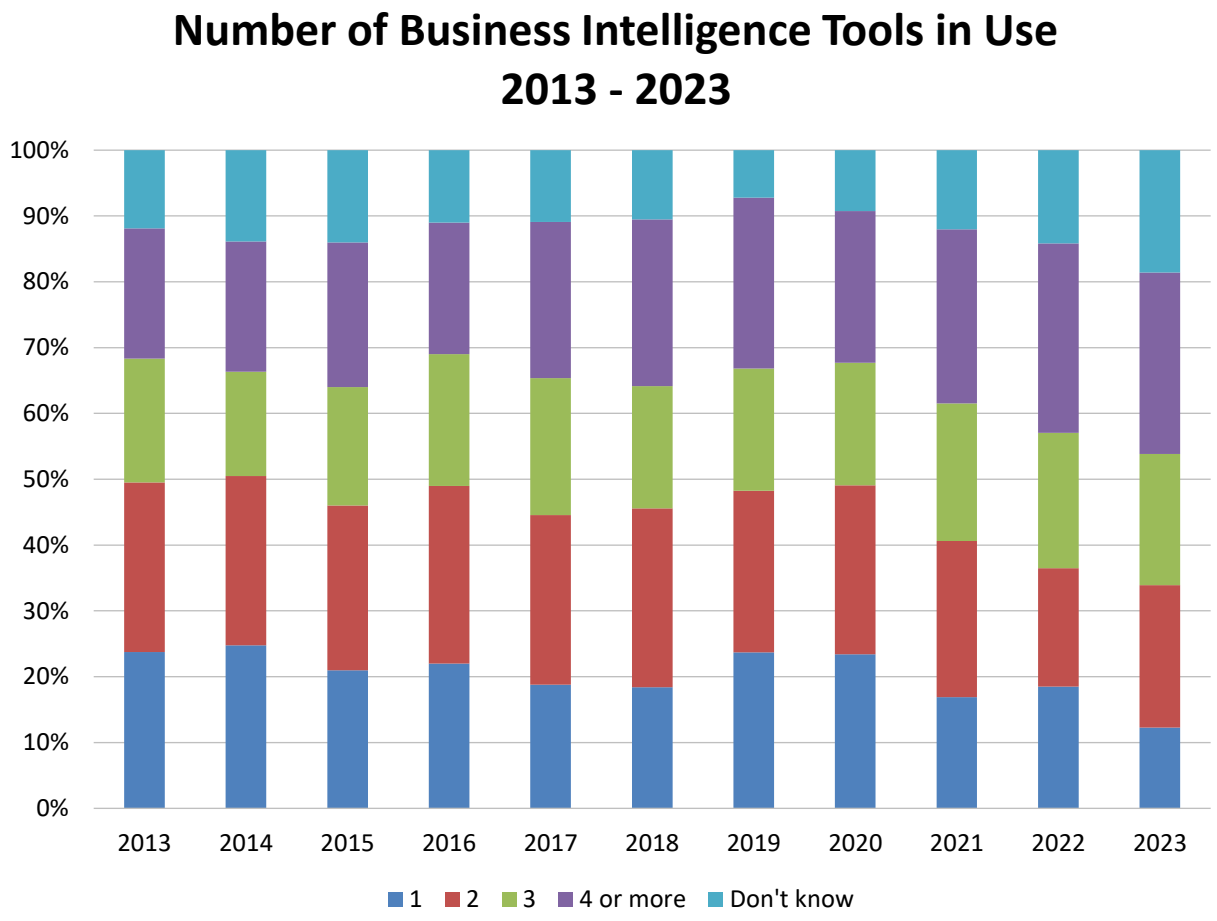


Figure 57 – Number of business intelligence tools in use 2013-2023

Number of Business Intelligence Tools by Geography

Organizations in North America are most likely to currently use the greatest number of BI tools in 2023 (fig. 58). This year, 31 percent of North America and 27 percent of Asia Pacific respondents use four or more BI tools, compared to 24 percent in EMEA and just 8 percent in Latin America. EMEA and North America respondents are least likely (29-30 percent) to currently use only one or two BI tools. Latin America respondents are by far most likely (50 percent) to currently use only one or two BI tools.

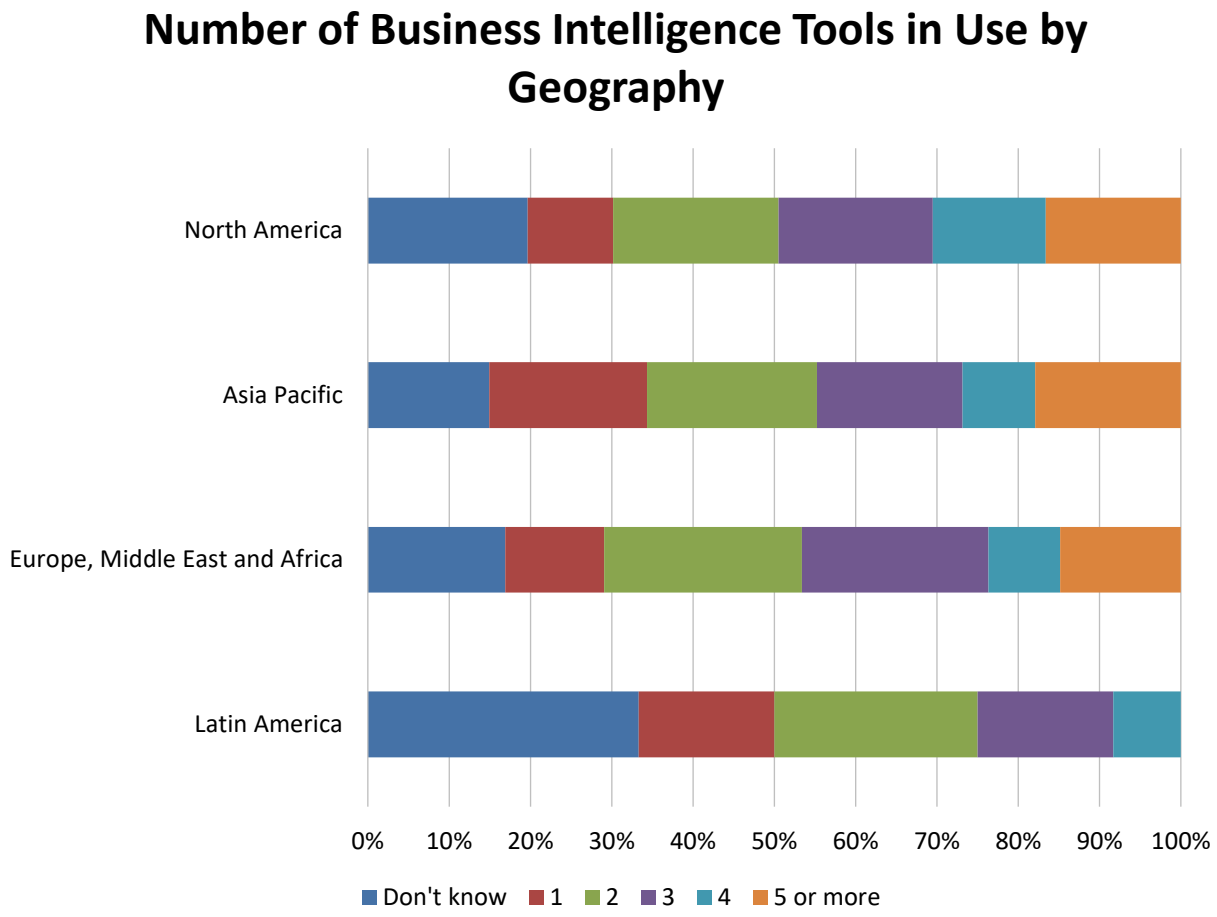


Figure 58 – Number of business intelligence tools in use by geography

Number of Business Intelligence Tools by Function

All functions might use one or multiple BI tools in 2023, though some interesting patterns emerge (fig. 59). This year, respondents in *executive management* and *sales and marketing* are most likely (49 and 45 percent respectively) to currently use only one or two BI tools. In contrast, respondents in *strategic planning* are most likely (38 percent), to use four or more BI tools. The functions that are most likely to use three or more BI tools in 2023 are in *strategic planning* (63 percent), *IT* (58 percent), and the *BICC* (55 percent).

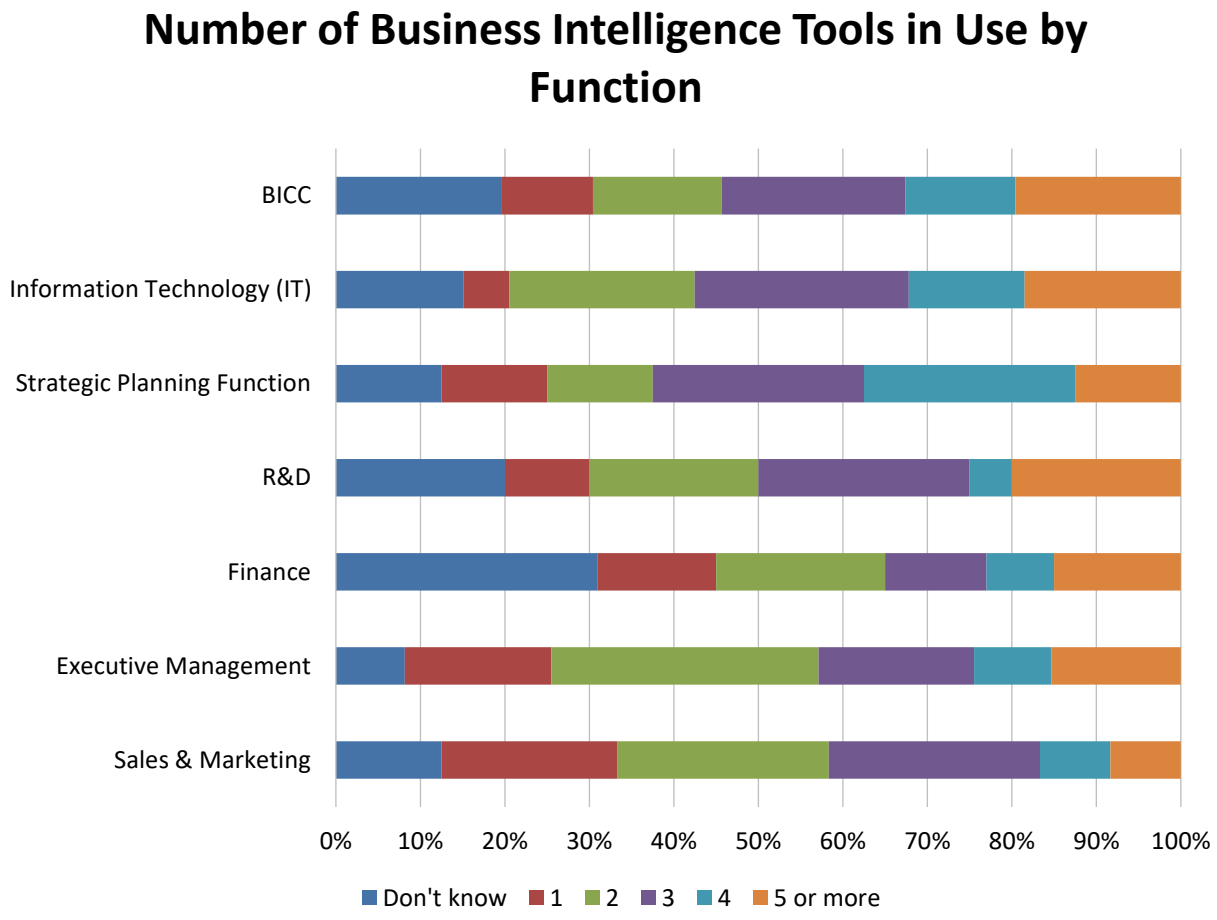


Figure 59 – Number of business intelligence tools in use by function

Number of Business Intelligence Tools by Vertical Industry

The number of BI tools in use varies noticeably by industry in 2023 (fig. 60). This year, organizations that currently use only one or two BI tools are most often found in *retail and wholesale* (52 percent) and *consumer products and services* (41 percent). Respondents that are least likely to use just one or two BI tools are in *education* (16 percent), *financial services* (20 percent), and *healthcare* (31 percent). Organizations that currently use three or more BI tools are most often in *government* (64 percent), *financial services* (57 percent), *education* (56 percent), and *healthcare* (56 percent).

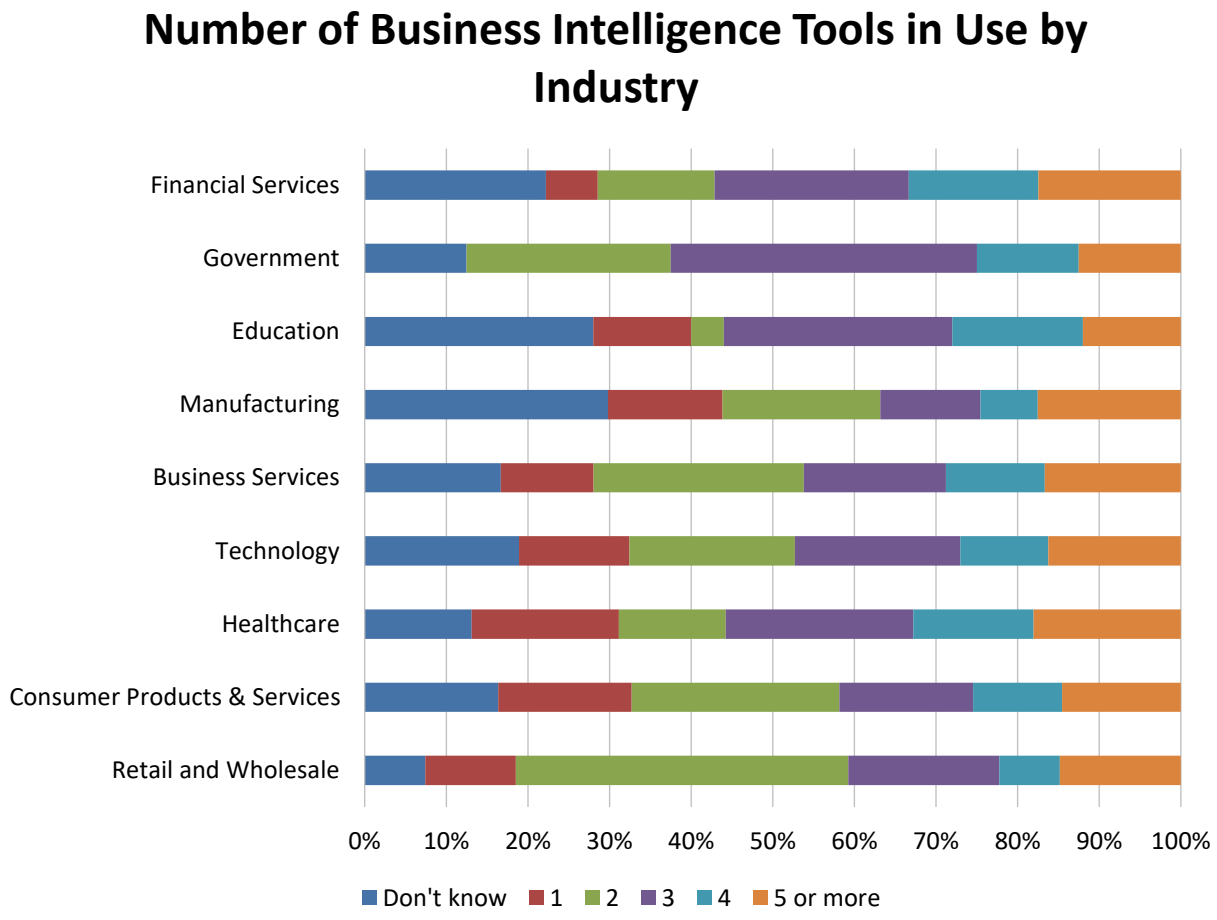


Figure 60 – Numbers of business intelligence tools in use by industry

Number of Business Intelligence Tools by Organization Size

Increasing organizational headcount is an historic predictor of higher numbers of business intelligence tools currently in use, and this is clearly the case in 2023 (fig. 61). Just 2 percent of *very large* organizations (> 10,000 employees) use only *one* BI tool, and only about 13 percent use *one or two* tools. In sharp contrast, 21 percent of respondents at small organizations (1-100 employees) currently use *one* BI tool, and 52 percent use *one or two* BI tools. At the other end of the spectrum, 45 percent of very large respondent organizations use four or more BI tools, compared to 14 percent at small organizations.

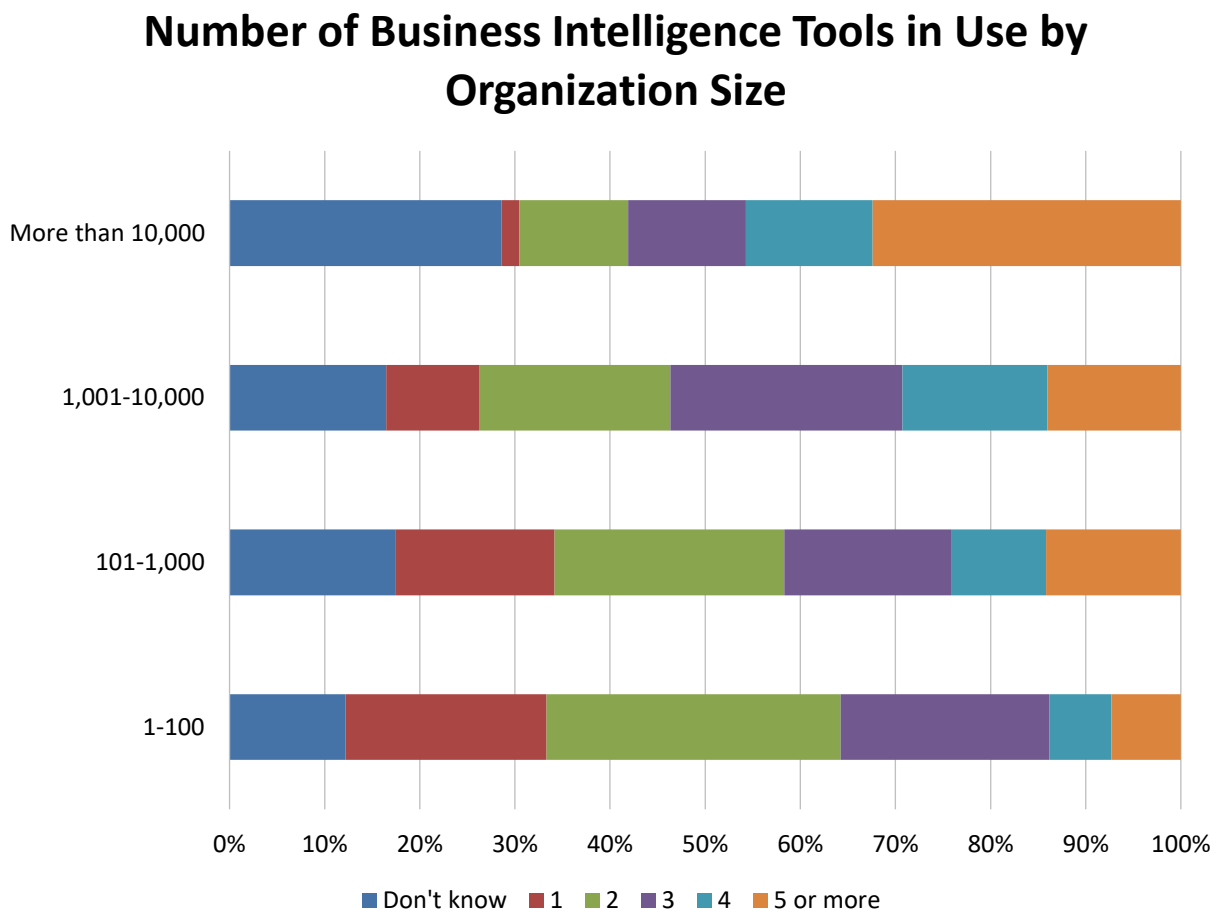


Figure 61 – Number of business intelligence tools in use by organization size

Number of Business Intelligence Tools by Company Age

Company age is at least a partial predictor of the number of BI tools in use (fig. 62). Most visibly, as longevity increases, so does the likelihood of the use of multiple (three, four, or five or more), BI tools. For example, organizations of *less than five years* are about 13 percent likely to use four or more tools, a percentage that swells to 32-34 percent in organizations of *11-16 years* or *16 or more years*. Organizations of *less than five years* are far more likely to use one or two BI tools (50 percent), compared to organizations of 16 or more years (29 percent). We also observe that *don't know* is not well predicted by company age.

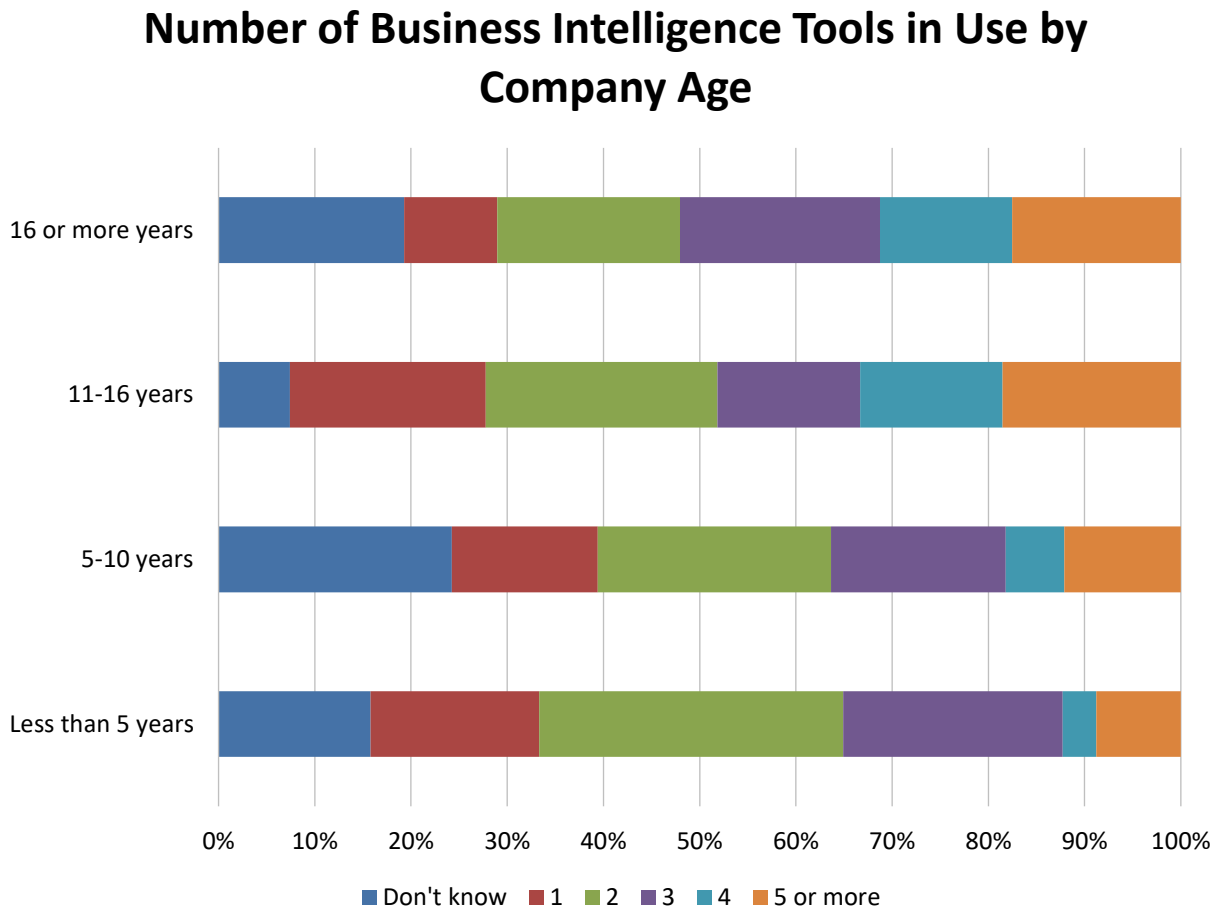


Figure 62 – Number of business intelligence tools in use by company age

Technologies and Initiatives Strategic to Business Intelligence

Familiar BI technologies—*data quality, reporting, dashboards*, and *data visualization*—follow below newly -added *data security* as the top technologies and initiatives strategic to business intelligence (of 59 topics) under our study in 2023 (fig. 63).

Figure 63 – Technologies and initiatives strategic to business intelligence

Change in Technology Priorities 2022-2023

Fig. 64 shows year-over-year technology priority momentum and some interesting trending throughout (changes are respondent perceptions and not based on actual investment). The biggest 2023 relative gains in importance are in *sales planning / performance management, collaborative support for group-based analysis*, and *location intelligence*. The biggest declines by percentage include *open-source software* and *text analytics.*

Figure 64 – Change in technology priorities 2022-2023

Technologies and Initiatives Strategic to Business Intelligence by Geography

By region, North America and to a lesser degree EMEA respondents lead or report close to the highest interest in the very highest priorities including *data security*, *data quality*, and *reporting* (fig. 65). Only the top five priorities are in the range of *very important* across all geographies, but close to half are at least *important* to respondents in all regions. As relative importance declines, relative interest becomes more distributed and reveals some broad patterns. For example, EMEA interest in most all but the top-ranked features (with the exception of GDPR), declines to below-average levels, while the highest level of interest in most lesser priorities is among respondents in Asia Pacific and sometimes Latin America.

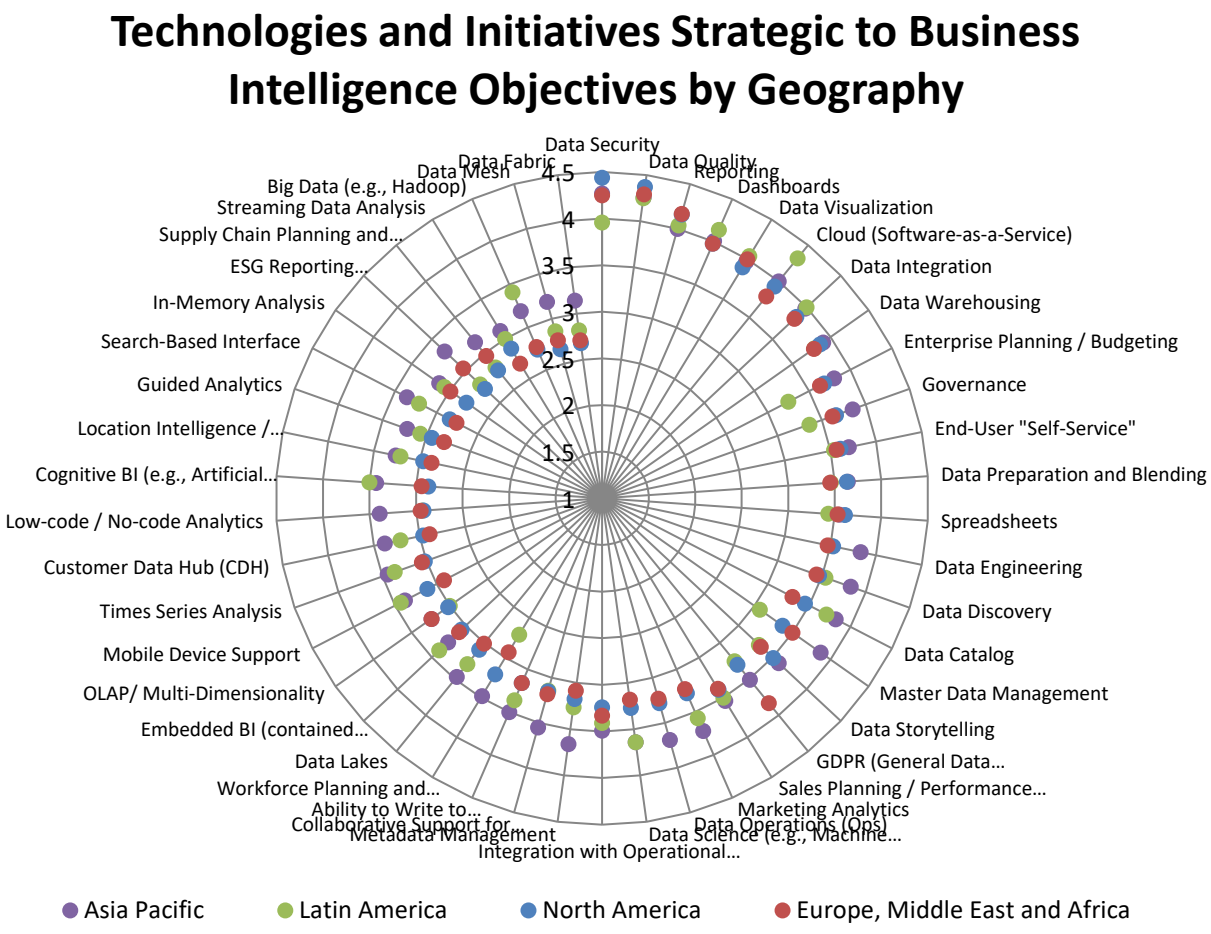


Figure 65 – Technologies and initiatives strategic to business intelligence objectives by geography

Technologies and Initiatives Strategic to Business Intelligence by Function

As we would expect, attitudes toward BI technologies and initiatives can relate to specific daily roles and responsibilities and are distributed in various degrees of importance by function (fig. 66). *Data security* and *data quality* are perhaps the most clustered and important to all functions (including *executive management*). Among some telltale findings, we observe that BICC respondents assign higher or the highest importance to multiple disciplines from common *reporting* to perhaps more complex undertakings including *data engineering*, *data discovery*, and *data catalog.* Other observations are abundant. For example, *sales and marketing* reports high interest in expected areas, such as *sales planning* and *marketing analytics*, but also has high interest in more esoteric initiatives including *master data management* and *streaming data analysis.*

Figure 66 – Technologies and initiatives strategic to business intelligence by function

Technologies and Initiatives Strategic to Business Intelligence by Vertical Industry

Vertical industries report widely distributed interest in different business intelligence initiatives and priorities with many observations at hand (fig. 67). For example, *retail and wholesale* are among industries with the lowest overall urgency toward most strategies and initiatives but nonetheless show high interest in discrete areas including *end-user self-service*, *GDPR*, and *supply chain planning*, among others. Among other observations, respondents in *healthcare* report the highest interest in areas including *data security*, *reporting*, and *data warehousing.* Respondents in *education* also report below-average interest in many areas, but post above-average scores in areas including *spreadsheets* and *governance*.

Figure 67 – Technologies and initiatives strategic to business intelligence by industry

Technologies and Initiatives Strategic to Business Intelligence by Organization Size

Viewed by global headcount, very large organizations (> 10,000 employees) followed by large organizations (1,001-10,000 employees) lead interest in nearly all technologies and initiatives in 2023 (fig. 68). Said another way, very large organizations are most likely to be involved in the most technologies and initiatives strategic to BI. Some priorities nonetheless cluster among organizations of any size, particularly the top five: *data security*, *data quality*, *reporting*, *dashboards*, *and data visualization*. Among many areas in which very large organizations disproportionately engage, *governance*, *data engineering*, *data discovery, data catalog*, *master data management*, and *GDPR* are standouts among the top half of selections.

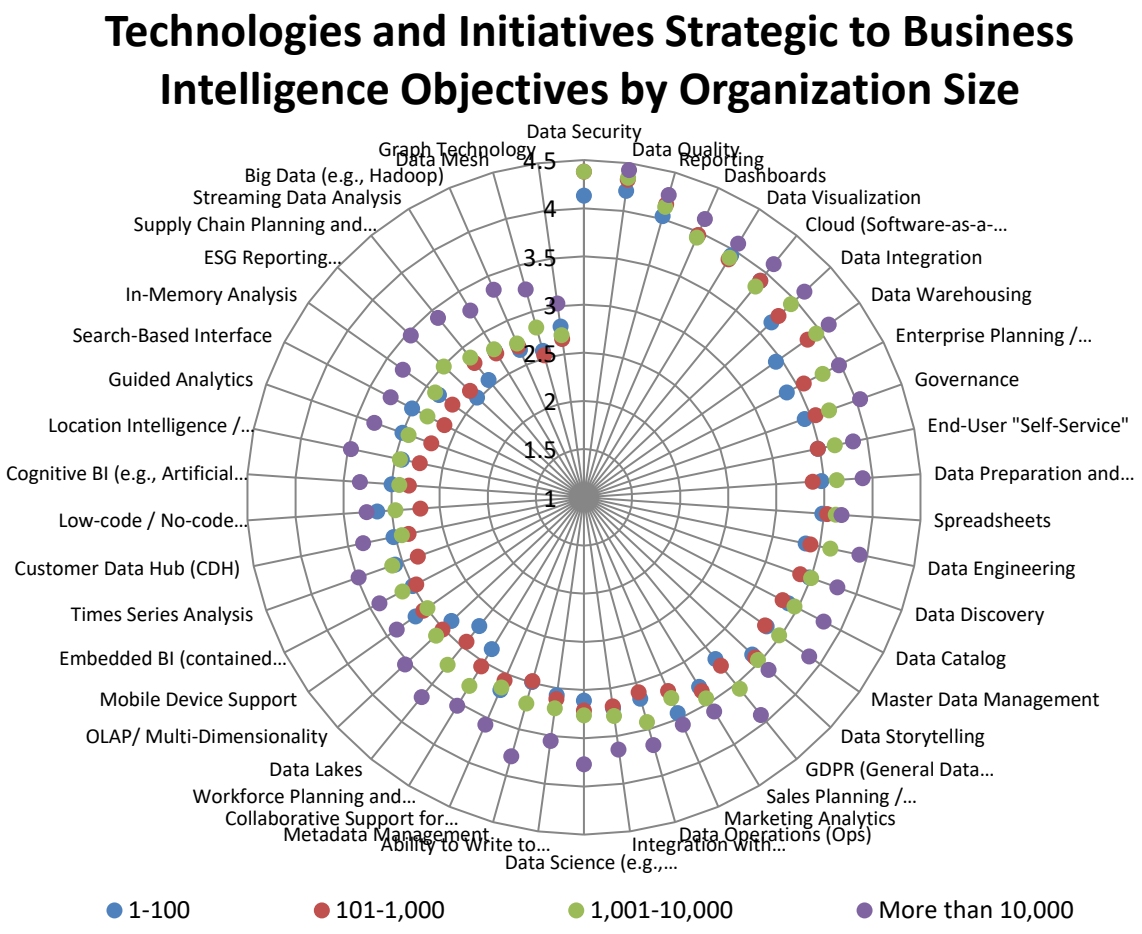


Figure 68 – Technologies and initiatives strategic to business intelligence by organization size

Success with Business Intelligence

Organizations report a high sustained level of success with business intelligence in 2023 (fig. 69). This year, 34 percent of organizations report being *completely successful* with BI, and 89 percent report either *completely successful* or *somewhat successful* results. An all-time low 1 percent reports *unsuccessful* BI engagements, and about 9 percent are *somewhat unsuccessful*. Our core measure of perceived *success with business intelligence* stands at an impressive and steady weighted-mean of 3.2 (on a 4.0 scale) in 2023. This is a fourth consecutive year of rebound from gradual declines seen during the years 2016-2019. Amid many economic and other disruptions and dynamics, this self-assessment of competency and effectiveness is a strong endorsement of the value of BI.

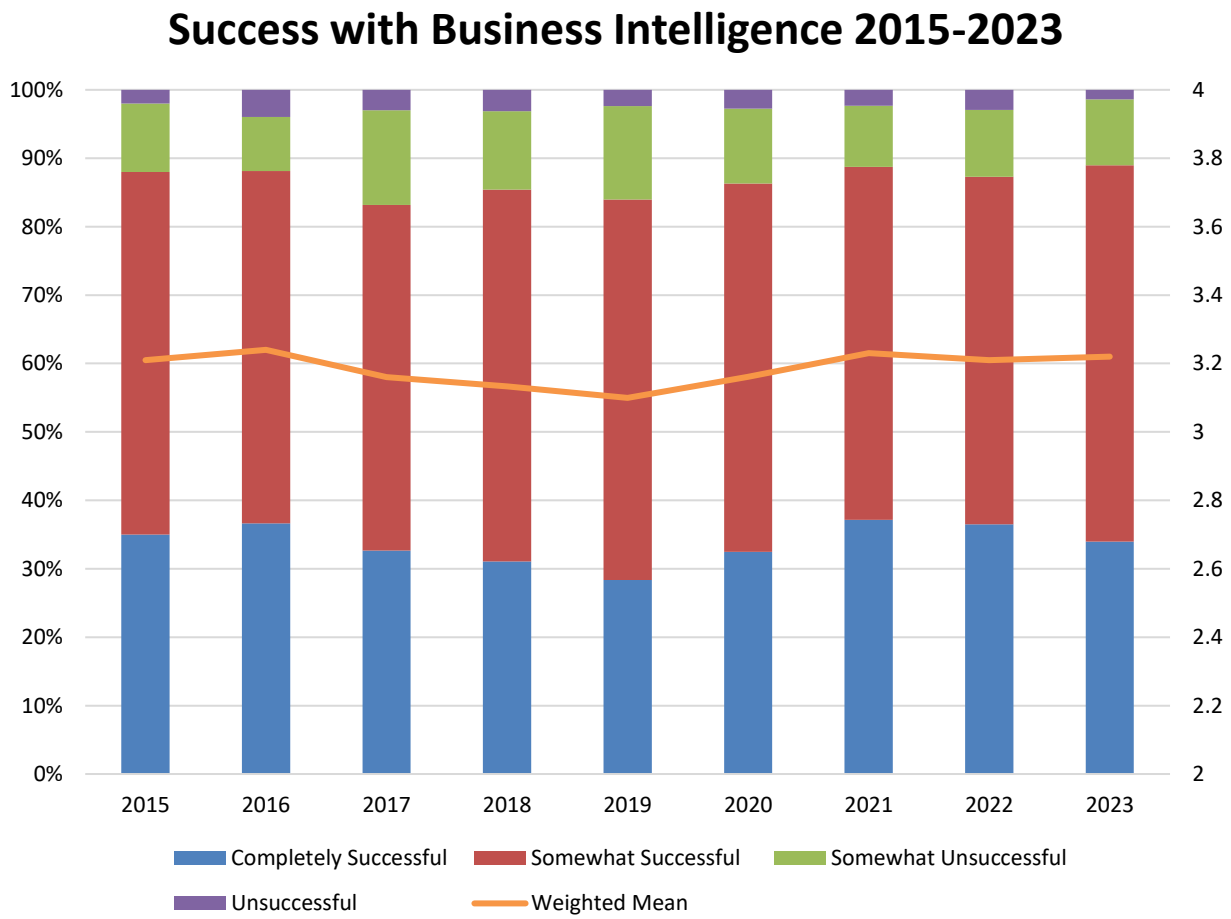


Figure 69 – Success with business intelligence 2015-2023

Measures of Success with Business Intelligence

Beginning in 2017, we asked respondents to quantify in detail how they measure the success of business intelligence initiatives (fig. 70). The top result in 2023 (as in all previous years) is *user feedback/satisfaction* (79 percent, down slightly from 82 percent in 2022), followed by *customer feedback/satisfaction* (49 percent, down slightly from 51 percent in 2022). This year, *return on investment (ROI)* is the next most-cited measure (45 percent, up from 43 percent in 2022), ahead of *system/application activity* (42 percent, unchanged year over year). The least-common named measure of success with BI is *number of deployed users,* used by about 28 percent (down significantly from 37 percent in 2022). By a significant margin, respondents tell us they engage with users and measure their satisfaction in qualitative ways rather than focusing on system activity or the sheer numbers of users.

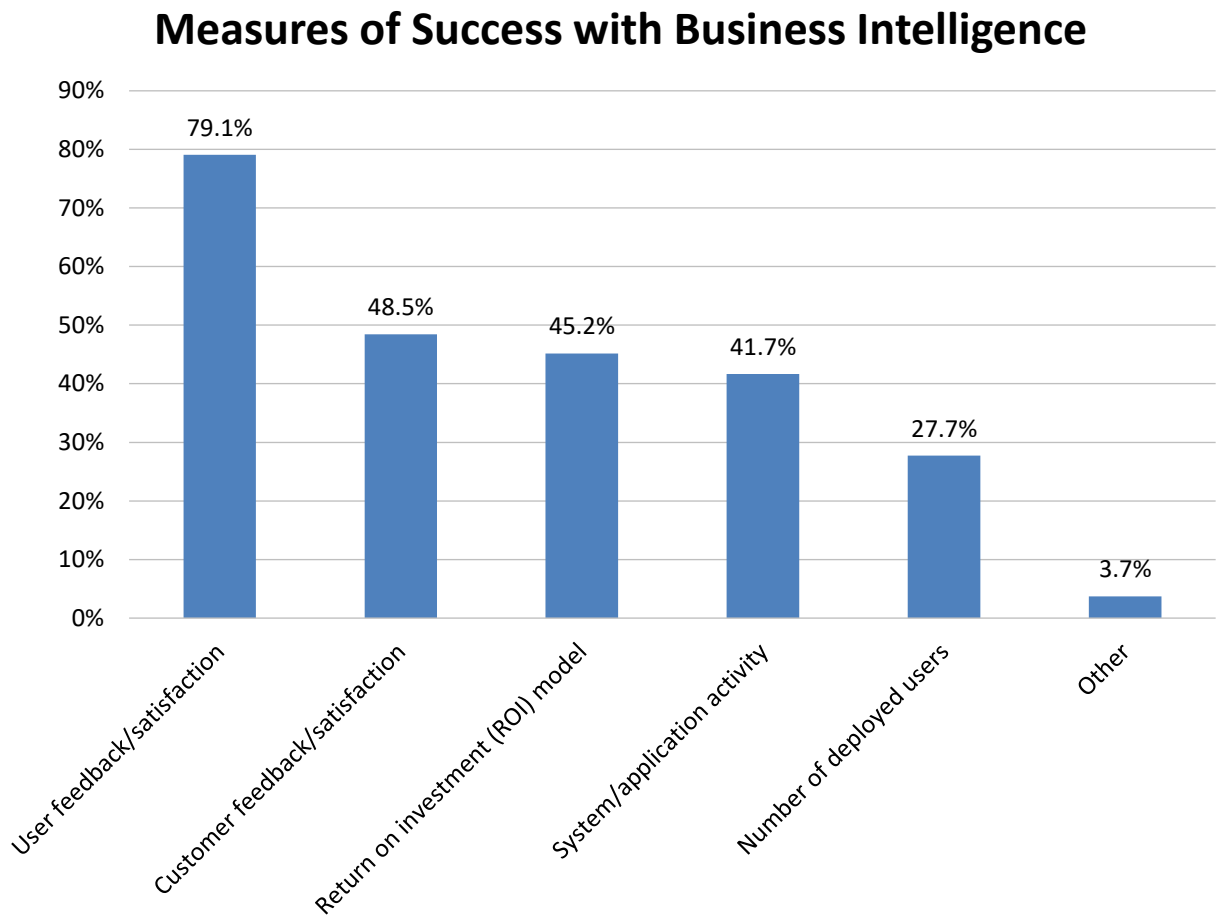


Figure 70 – Measures of success with business intelligence

Measures of Success by Organization Size

Organization size plays a role in how the success of business intelligence initiatives is measured, though companies of any size might avail themselves of any or multiple success measurement methods (fig. 71). *User feedback / satisfaction* is the most popular measure regardless of organization size. The next two most-used methods, *customer feedback / satisfaction* and *return on investment (ROI),* are similarly popular ; and both show strong new momentum as measures of success. Small organizations (1-100 employees) are particularly interested in the (more qualitative) top three rather than the two lowest ranked methods.

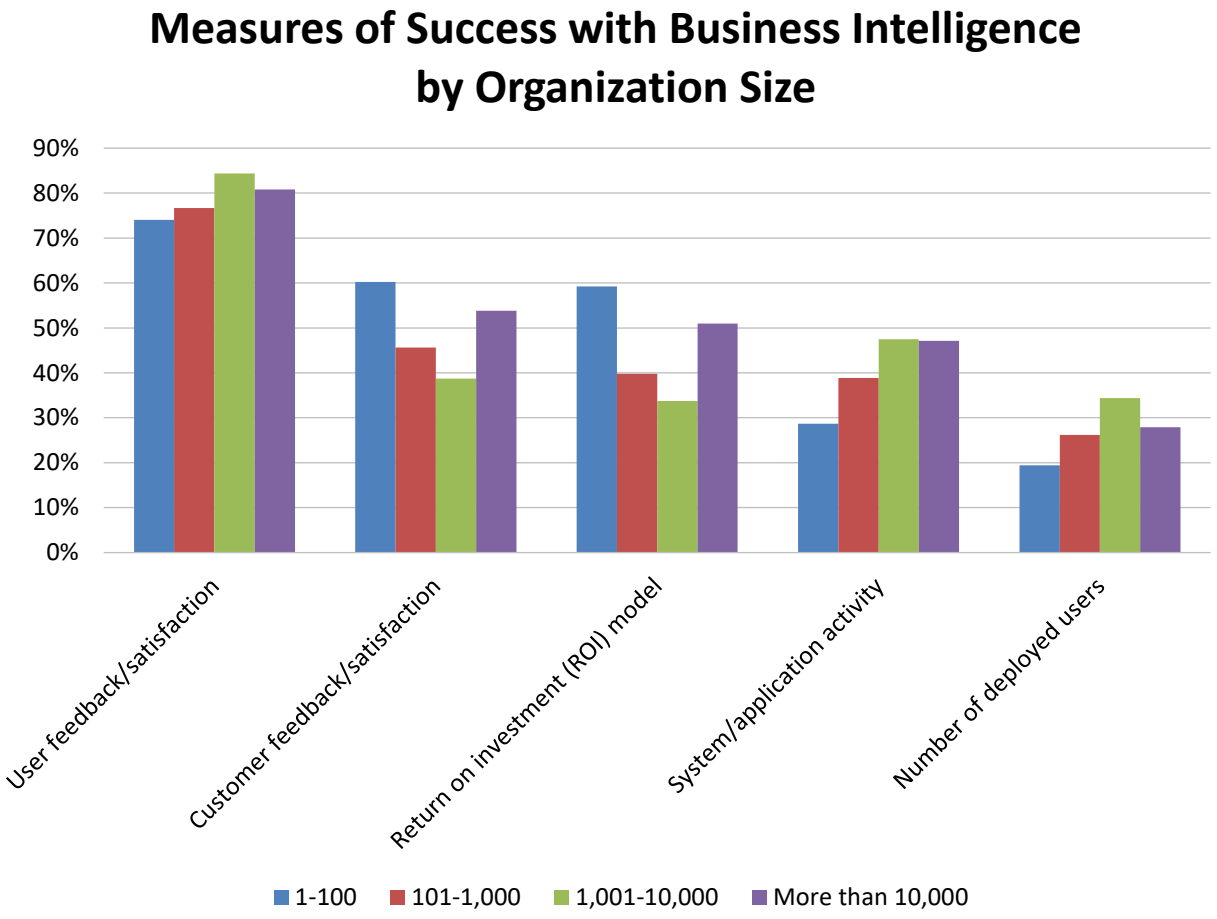


Figure 71 – Measures of success with business intelligence by organization size

Success with Business Intelligence by Data Leadership

At a high level, organizations that are incrementally more successful with business intelligence are more likely to have named data leadership in place (fig. 72). In 2023, organizations with data leadership *currently* in place are 42 percent likely to be completely successful with BI, compared to 34 percent of organizations with *future* data leader plans, and 24 percent of organizations with *no data leadership* in place. Organizations with *no data leadership* are about twice as likely (17 percent versus 8-10 percent) to be *somewhat unsuccessful* or *unsuccessful* with BI compared to those with *current* or *future plans* for data leadership.

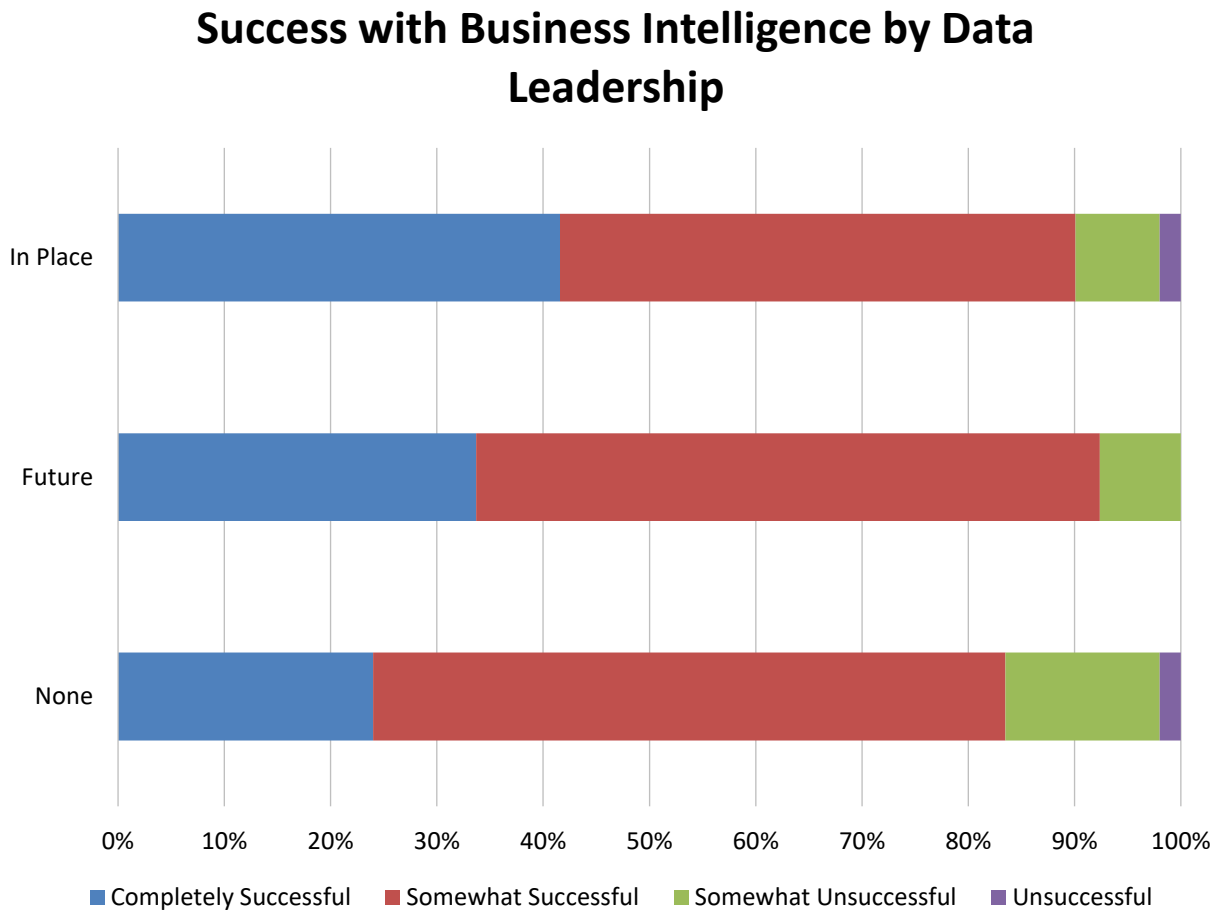


Figure 72 – Success with business intelligence by data leadership

Contributors to Success with Business Intelligence

We asked respondents, “Which of the following factors contributed to your organization's success with business intelligence?” and offered a list of 13 possible responses plus “other” (fig. 73). In 2023, the three most-cited contributors are *support from senior management or other BI champions*, *a culture that understands and values fact-based decision making*, and *good communication/collaboration between those developing/supporting BI solution and those using it.* These findings are identical to those seen in 2022, imply the presence of a competent user workforce, and suggest that cultural rather than technology or purely quantitative measures are the most important elements of BI success.

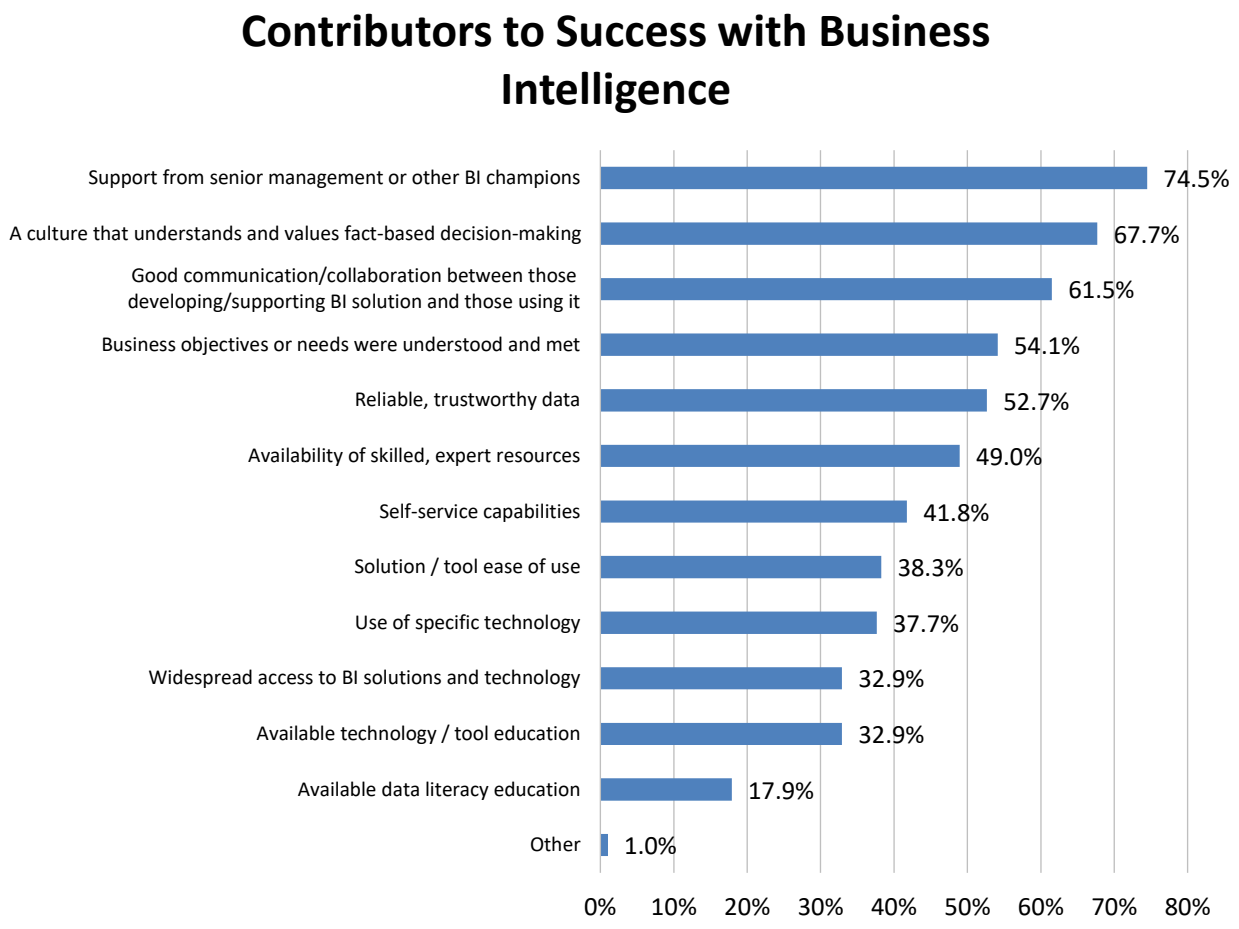


Figure 73 – Contributors to success with business intelligence

Obstacles to Success with Business Intelligence

Along with contributors to BI success, we also asked respondents, “Which of the following factors contributed to your organization's obstacles to business intelligence?” (fig. 74). In 2023, the most-cited obstacles are *lack of skilled, expert resources*, *a culture that doesn’t fully understand or value fact-based decision making*, and *business objectives and needs were not understood*. Like contributors to success (previous chart), the obstacles to BI success are in part cultural, but they also take on a flavor of resource gaps and a lack of business alignment. While contributors and obstacles to BI success are unique to each organization, we are not surprised to see a competitive business playing field and tight labor market as current obstacles to BI success.

Figure 74 – Obstacles to success with business intelligence

Success with Business Intelligence by Organization Size

Organizations of all sizes report very high levels of complete or at least partial BI success in 2023, though benefits of scale take greater hold in very large organizations (> 10,000 employees) (fig. 75). Most dramatically, 43 percent of very large organizations say they are *completely successful* with BI this year, compared to 23-33 percent of all smaller peers. Also, organizations with 1,000 or more employees are only 8 percent likely to be *somewhat unsuccessful* or *unsuccessful* with BI, compared to about 15 percent of organizations with fewer than 1,000 employees.

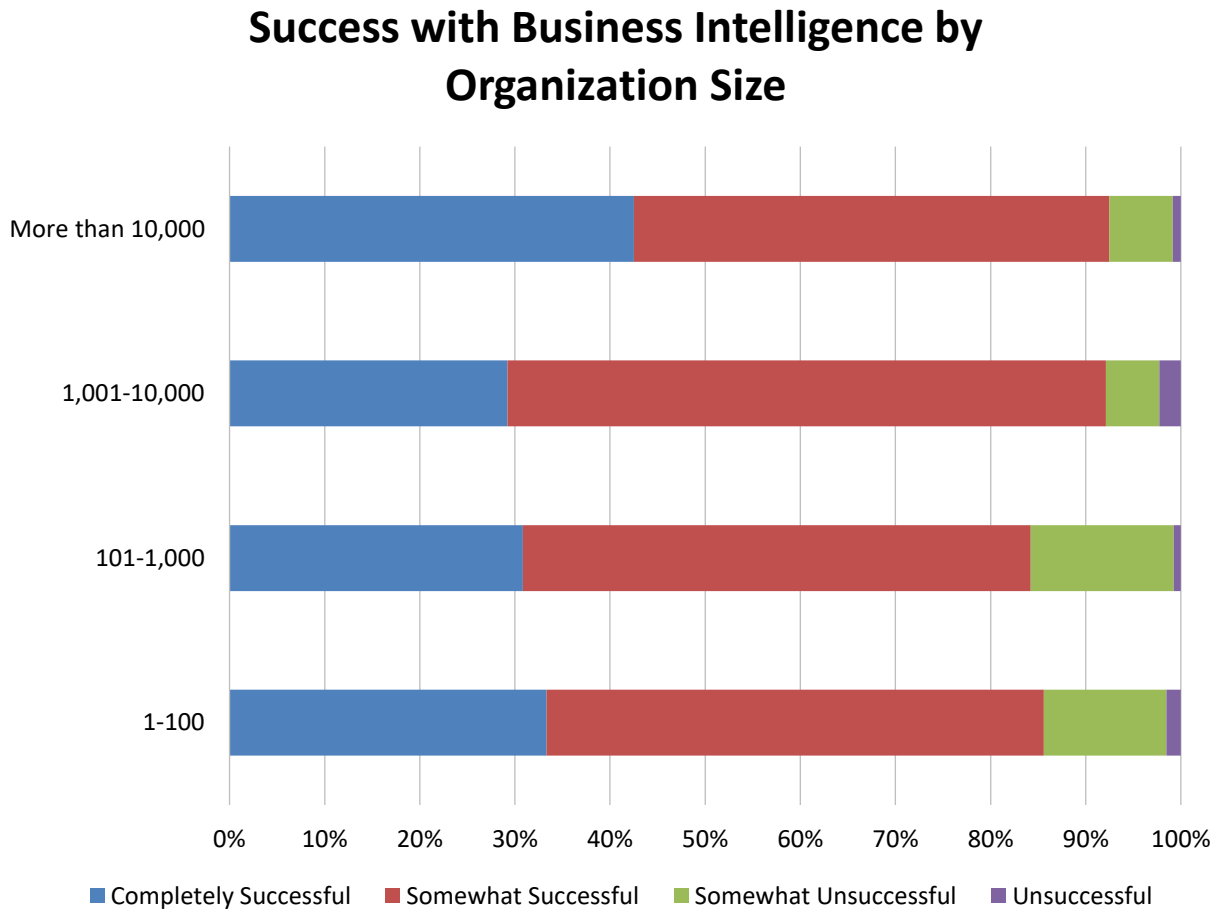


Figure 75 – Success with business intelligence by organization size

Success with Business Intelligence by BI Objectives

Organizations that are adept in applying business intelligence are more likely to focus on a full range of objectives in 2023 (fig. 76). *Completely successful* BI organizations post the highest overall score for *better decision making* (4.5, midway between *very important* and *critical*), and top scores in all other measurements. In those organizations that are *completely successful* with BI, all objectives except *enhanced customer service* and *compliance / risk management* are above or close to an adjusted mean value of 4.0 (*very important*). Organizations that consider themselves *somewhat unsuccessful and unsuccessful* are less emphatic in all areas and possibly more likely to see more "soft" than "hard" benefits of meeting objectives.

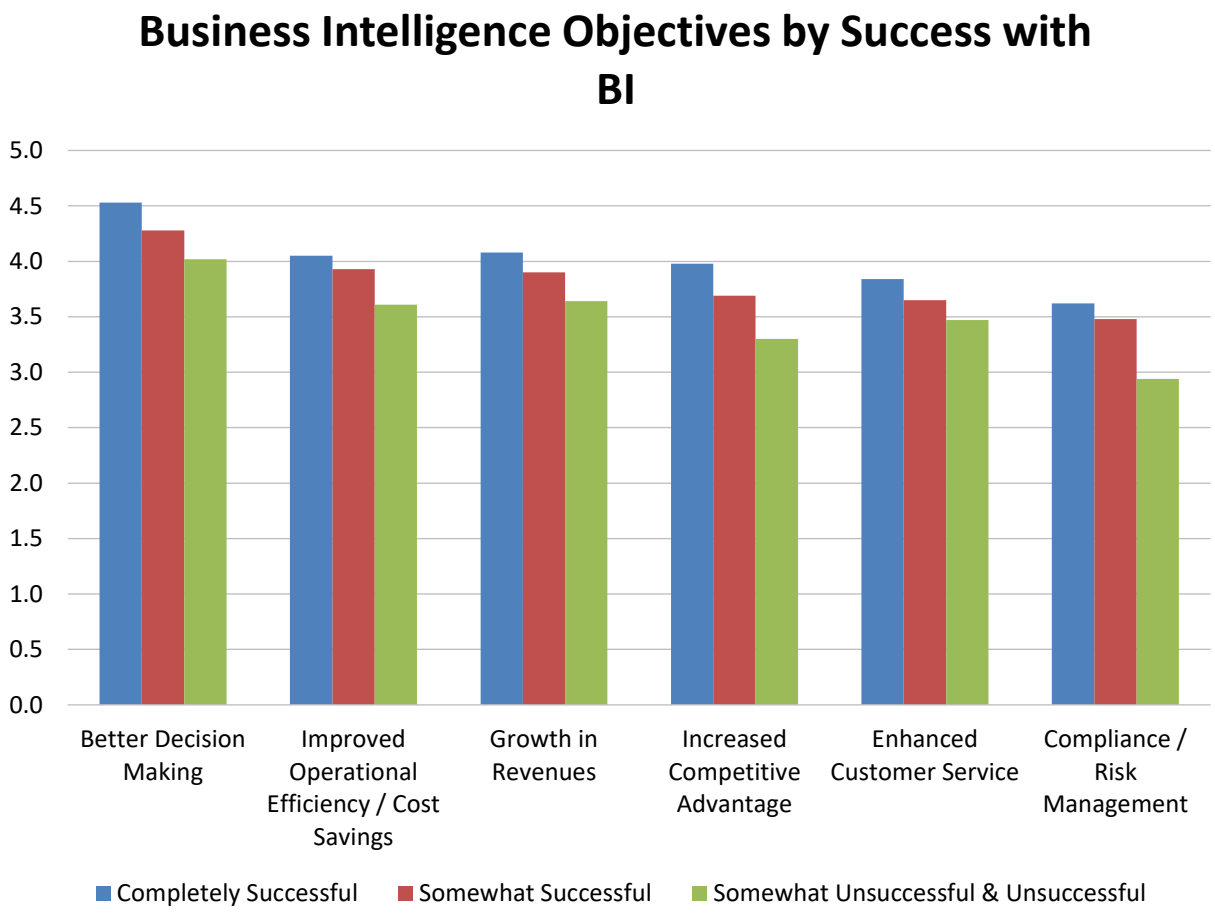


Figure 76 – Business intelligence objectives by success with BI

Success with Business Intelligence by Targeted Users

In 2023, we observe that targeting of multiple audiences, including non-traditional users, is associated with highly successful BI organizations (fig. 77). Most obvious this year, *customer* targeting is disproportionately embraced by *completely successful* BI organizations. In comparing the delta between *completely successful* versus *somewhat unsuccessful and unsuccessful* BI organizations, we also see a large gulf in targeting of *individual contributors and professionals, partners/affiliates*, and *suppliers,* among others. In every case, *completely successful* organizations place the most emphasis on every targeted audience.

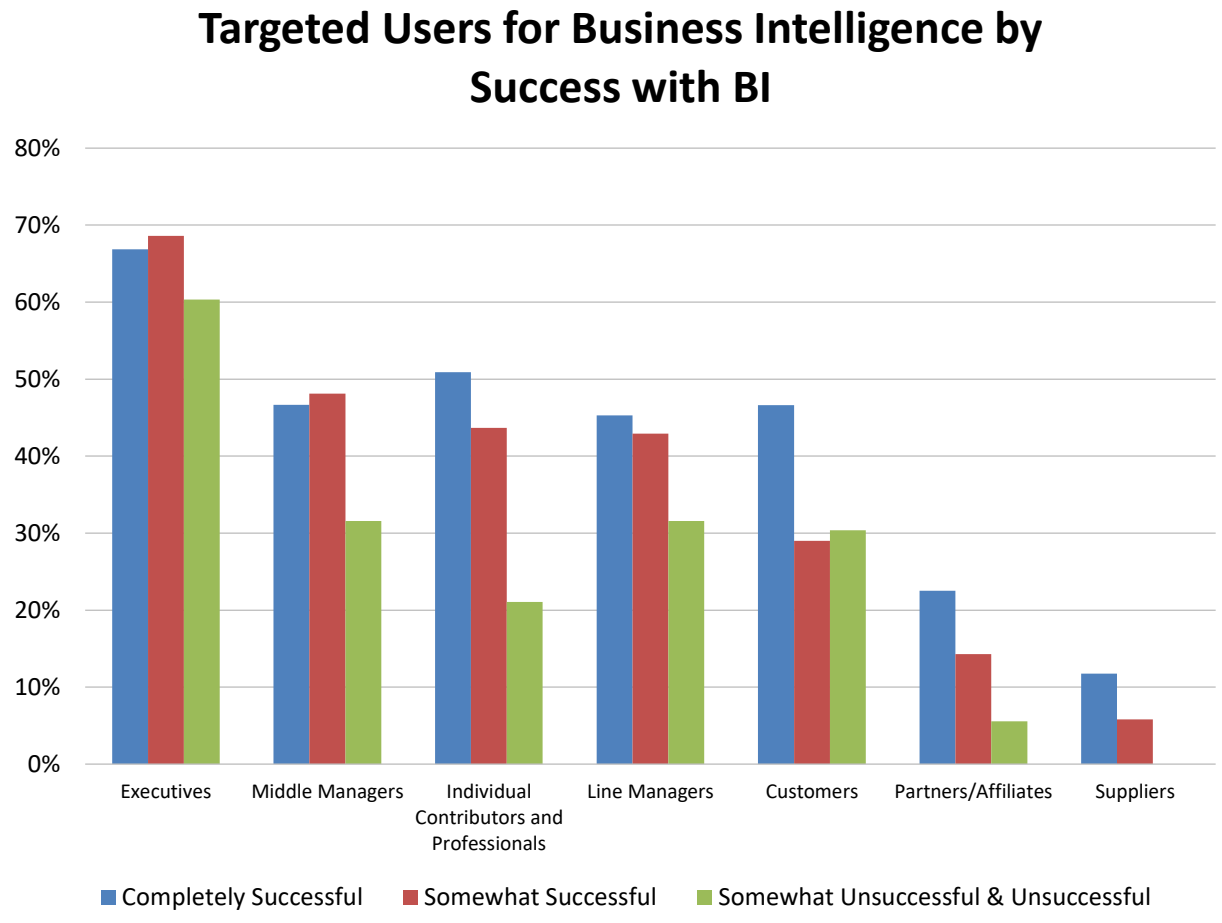


Figure 77 – Targeted users for business intelligence by success with BI

Success with Business Intelligence and Technology Priorities

Organizations that are *completely successful* with business intelligence (and to a lesser degree those that are *somewhat successful*) pay more attention to multiple BI-related technology priorities (fig. 78). The diversity of attention in high-performing organizations is remarkably broad and ranges from the most basic (*data quality, reporting, data visualization, dashboards*) to emergent growth areas (*data lakes, graph technology*) to more esoteric priorities (*streaming data, robotic process automation*, etc.). By comparison, *somewhat unsuccessful and unsuccessful* organizations under-invest in several areas including *data warehousing, data preparation*, and *governance*. The only initiative that does not distinctively correlate to success with BI is newly added *data security*, which shows the most clustered importance regardless of success.

Figure 78 – Technologies and initiatives strategic to business intelligence by success with BI

Success with Business Intelligence and Number of BI Tools

Success with BI correlates somewhat, if not dramatically, to increasing numbers of BI tools currently in use (fig. 79). In 2023, organizations that are *somewhat unsuccessful* or *unsuccessful* with BI are most likely to use *one* or *two* BI tools (39 percent), compared to *somewhat successful* and *completely successful* BI organizations (33-34 percent). *Completely successful* BI organizations usually offset this difference in the reported current use of *three* BI tools, while the use of *four* or *more* tools is similar regardless of success with BI. *Completely successful* organizations are only a bit less likely to not know the number of BI tools in use (17 percent), compared to less successful organizations (19-20 percent).

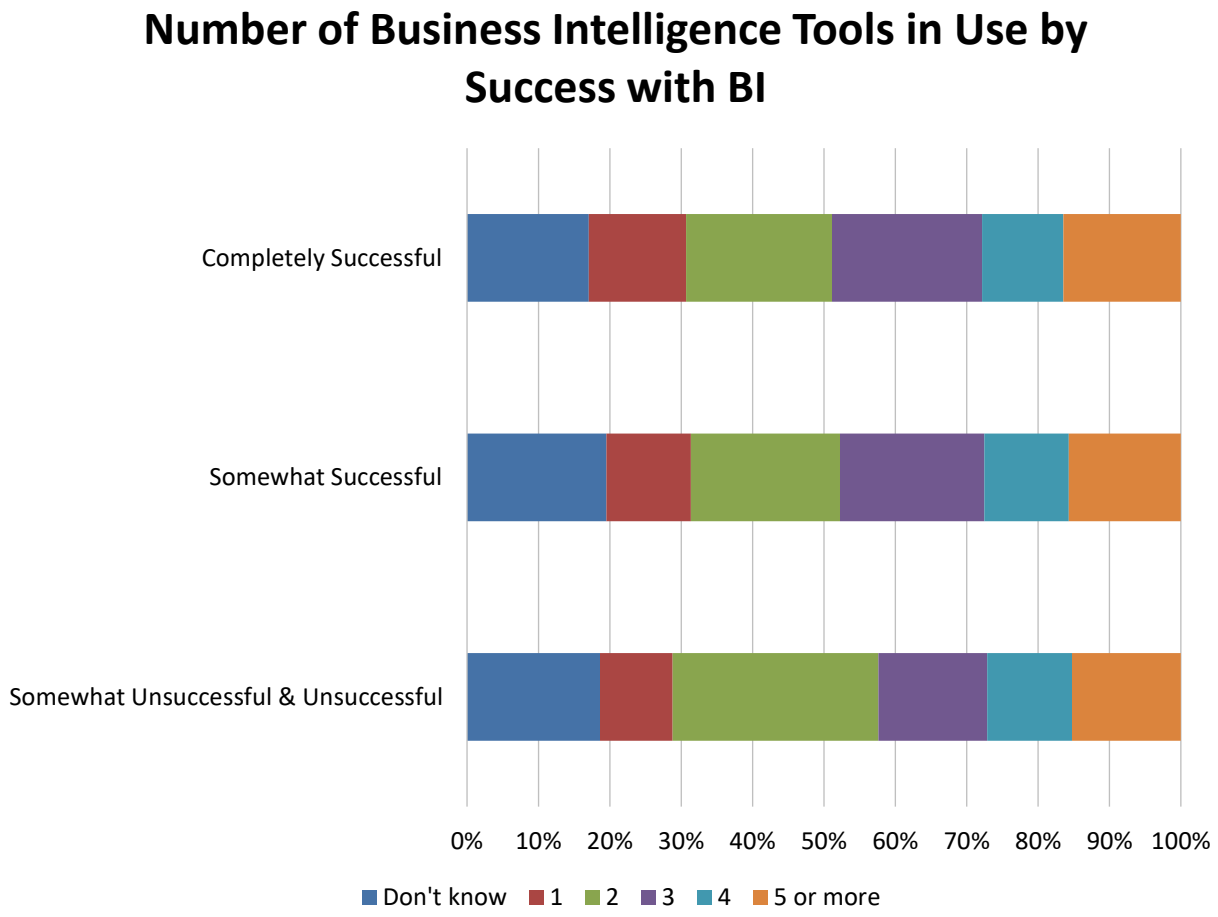


Figure 79 – Number of business intelligence tools in use by success with BI

Success with Business Intelligence and Penetration of Users

Figure 80 compares *success with BI* with *total average BI penetration* in organizations in current (2023) and future time frames. In this cross tabulation, we observe a clear positive correlation between higher total penetration and success with BI in every time frame we sampled. For example, *completely successful* BI organizations report 46 percent current BI penetration, compared to 39 percent current penetration at *somewhat successful*, and 24 percent current penetration at *somewhat unsuccessful and unsuccessful* BI organizations. Future time frames extrapolate positively regardless of success with BI, but organizations with greater BI success currently experience higher average penetration of usage and users and expect the same in the future.

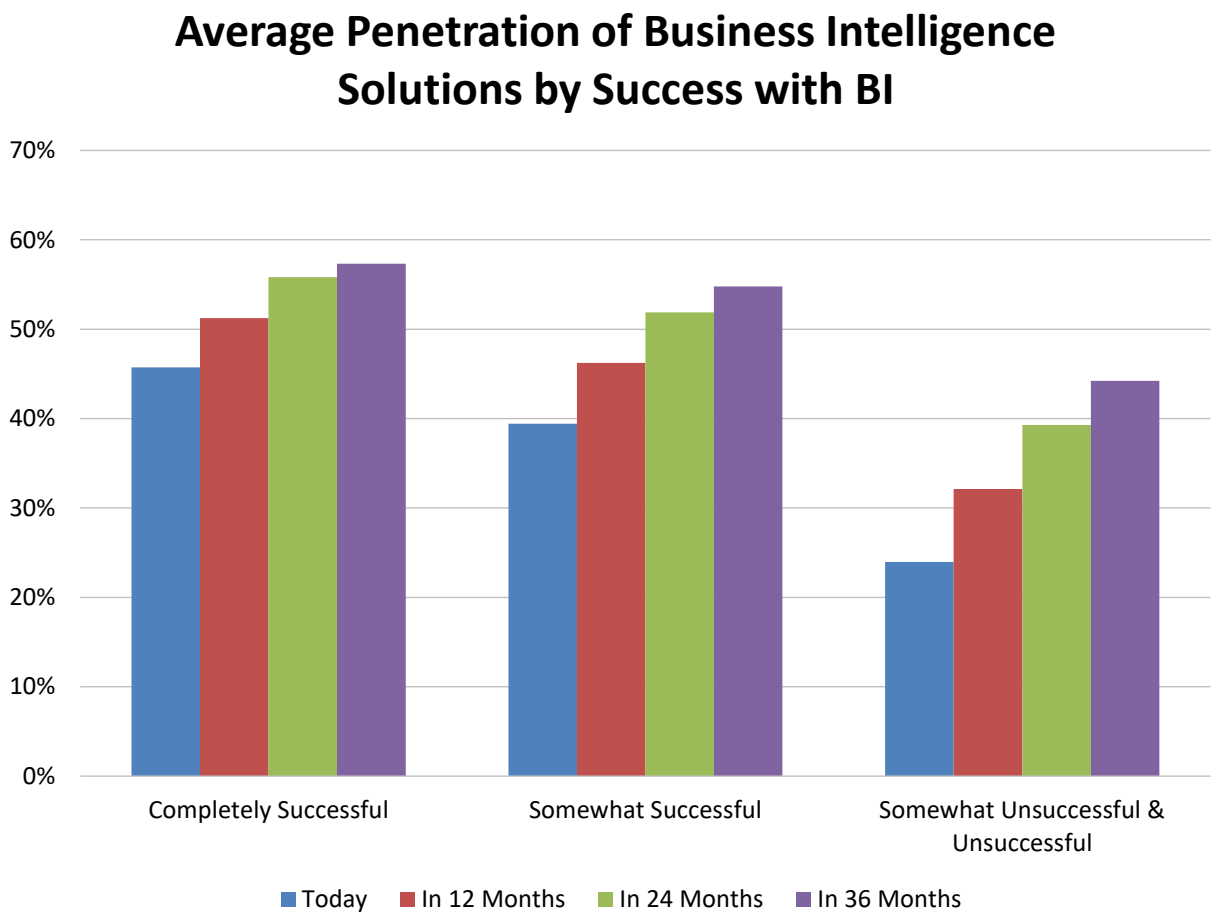


Figure 80 – Averge penetration of business intelligence solutions by success with BI

Business Intelligence Achievements by Success with BI

As we would expect, high-achieving organizations are far more likely to be successful in achieving multiple BI objectives (fig. 81). In 2023, *completely successful* organizations execute best at every objective, starting with *better decision making* (weighted mean 4.7) and *improved operational efficiency/cost savings* (4.2). Both these measures are above criticality of 4.0 or well higher than *moderate* achievement. Levels of BI success thereafter flatten in *completely successful* BI organizations, with continued strong performance. Achievement declines in linear fashion across all measures among *somewhat successful* and *somewhat unsuccessful and unsuccessful* organizations. We can assume that *somewhat unsuccessful and unsuccessful* organizations are less likely to attempt to meet multiple and various BI objectives.

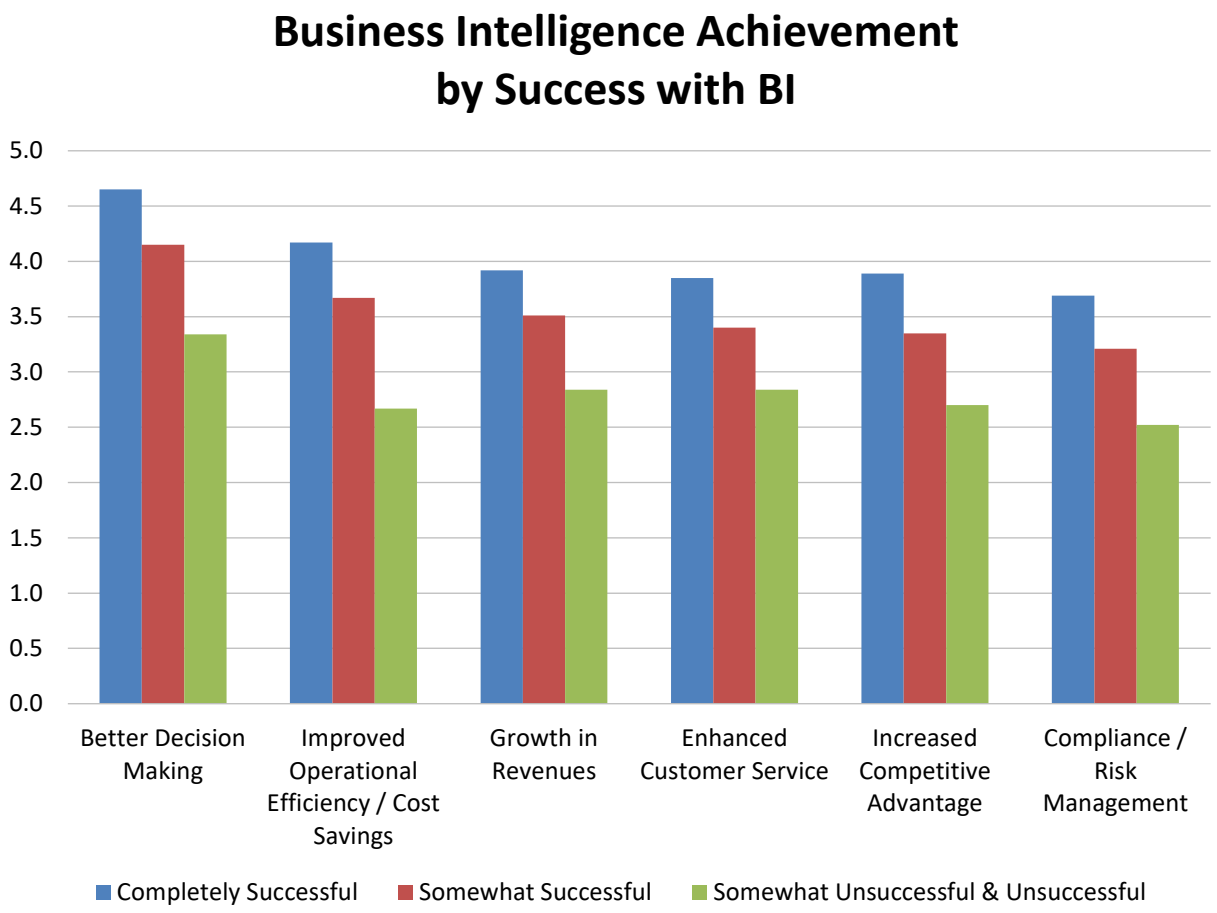


Figure 81 – Business intelligence achievement by success with BI

Budget Plans for Business Intelligence

We asked organizations (regardless of success with BI) whether they will increase, decrease, or maintain existing business intelligence budgets in 2023 (fig. 82). This year, about 51 percent of respondent organizations plan to *increase* BI investment above 2022 levels. Another 42 percent will *maintain* current budgeting, and just 6 percent will *decrease* budgeting. (More details on allocation of BI budgets are shown in fig. 92, p. 112)

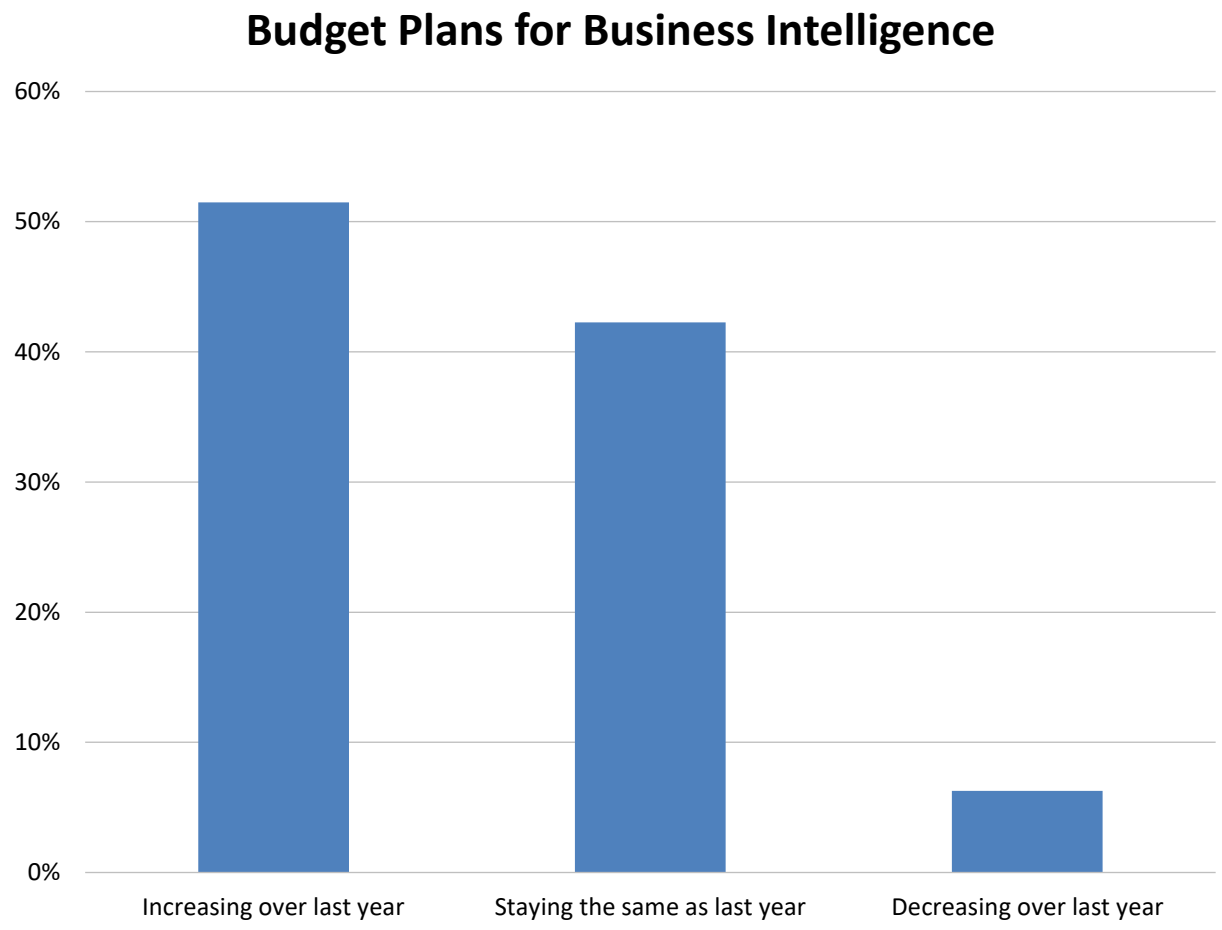


Figure 82 – Budget plans for business intelligence

Budget Plans for Business Intelligence 2017-2023

Budget changes for business intelligence (increase, decrease, maintain), across the latest six years of data are somewhat consistent by percentage, slightly lower year over year, and well above a 2021 low (fig. 83). In no year has the percentage of organizations *increasing* BI budgets been below 50 percent. This year, the number of organizations *increasing* budgets fell from 55 percent in 2022 to 51 percent. The number of organizations *decreasing* budgets rose from 5 percent in 2022 to 6 percent in 2023. Amid market and economic dynamics and the aftermath of the COVID-19 pandemic, we characterize global BI budget activity as very stable and expanding according to historical norms.

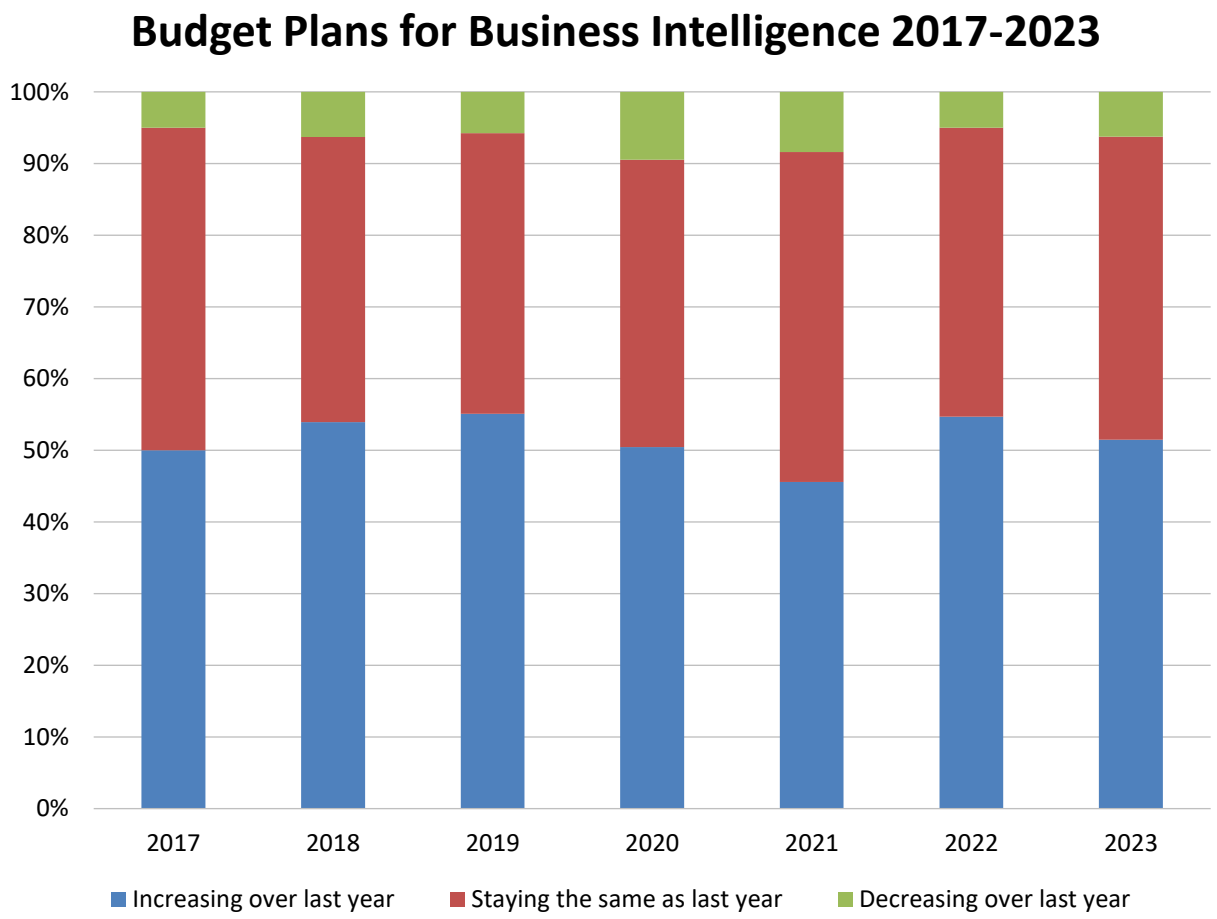


Figure 83 – Budget plans for business intelligence 2017-2023

Budget Plans for Business Intelligence by Geography

2023 BI budget plans vary somewhat by geographic region (fig. 84). This year, EMEA is the only geographic region where at least half of organizations are not increasing BI budgets (48 percent). By comparison, 58 percent of Latin America organizations say they will *increase* BI budgets this year, compared to 55 percent in Asia Pacific, and 52 percent in North America. Latin America and EMEA respondents represent the highest percentage of organizations *decreasing* BI budgets this year, though no more than 8 percent in any region report budget cuts. Thus, 92 percent or more will increase or maintain current budget levels for BI in all regions in 2023.

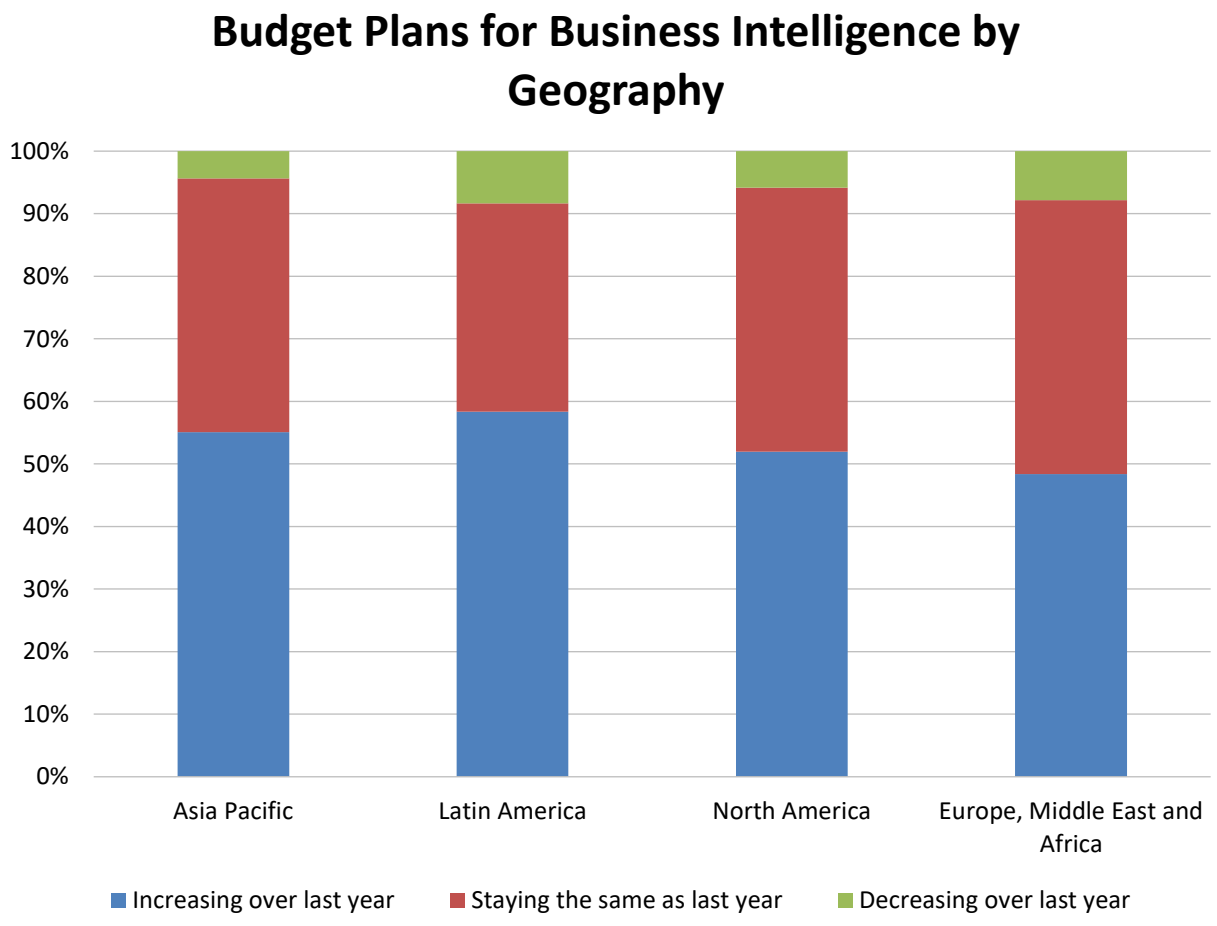


Figure 84 – Budget plans for business intelligence by geography

Budget Plans for Business Intelligence by Function

In 2023, budget plans for BI differ widely according to functions, with some functions reporting noticeable increases (fig. 85). This year, the *BICC* and, interestingly, *strategic planning* are the functions most aggressively *increasing* budgets (68 and 67 percent respectively). *IT* (58 percent) and *executive management* (54 percent) also report higher than sample-average *increases* in 2023. Respondents in *finance* and *operations* are least likely (about 36 percent each), to report BI budget *increases* this year, though 93-96 percent of both functions will at least *maintain* current budget levels.

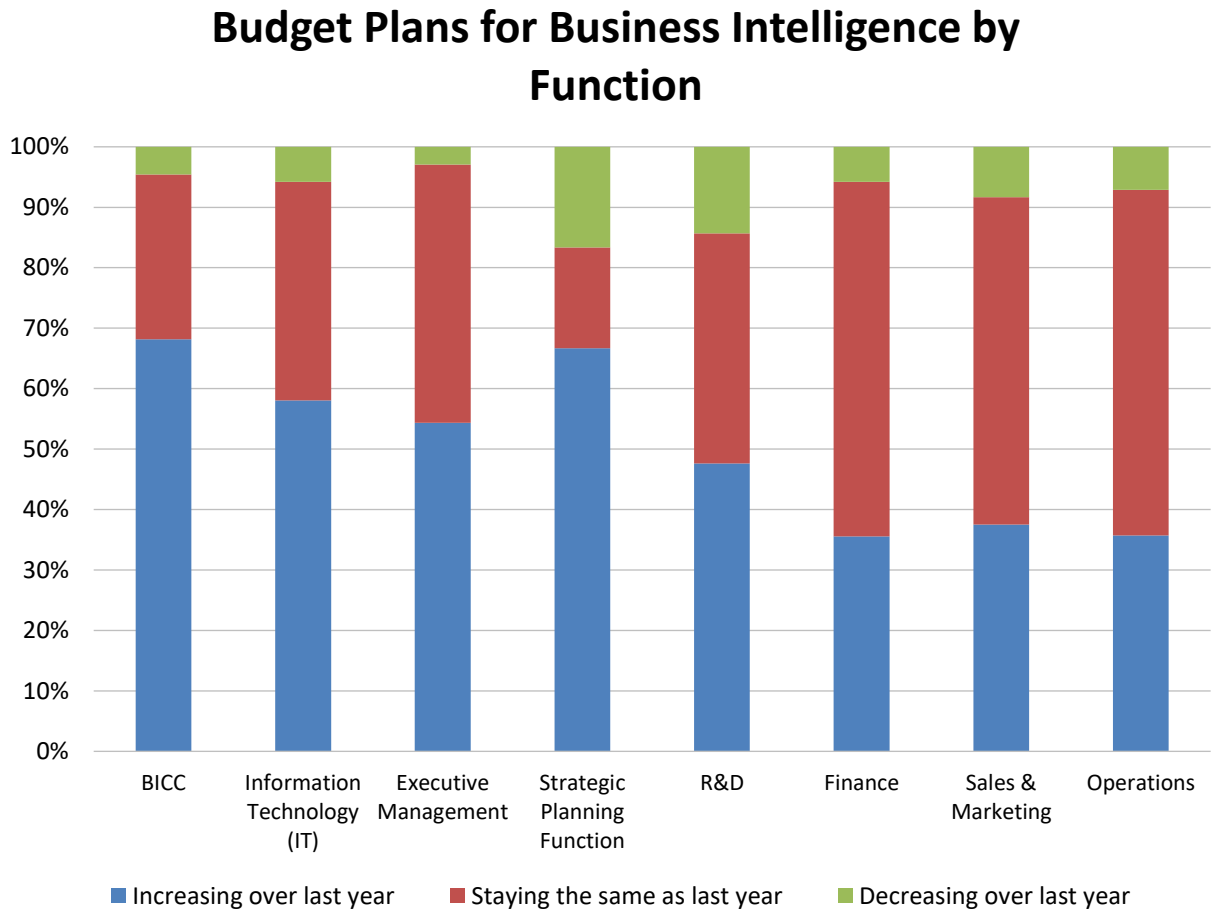


Figure 85 – Budget plans for business intelligence by function

Budget Plans for Business Intelligence by Vertical Industry

In 2022, budget plans for BI vary by industry, with above-sample-average *increases* reported in *healthcare* (59 percent) and *technology* (60 percent) (fig. 86). Respondent organizations in *financial services, manufacturing, business services*, and *retail and wholesale* are most likely to report near sample average *increases* (between 47-50 percent). Respondents in *education* (32 percent) and *government* (40 percent) are least likely to *increase* BI budgets this year, and respondents in *education* are most likely (21 percent) to report BI budget *decreases* this year.

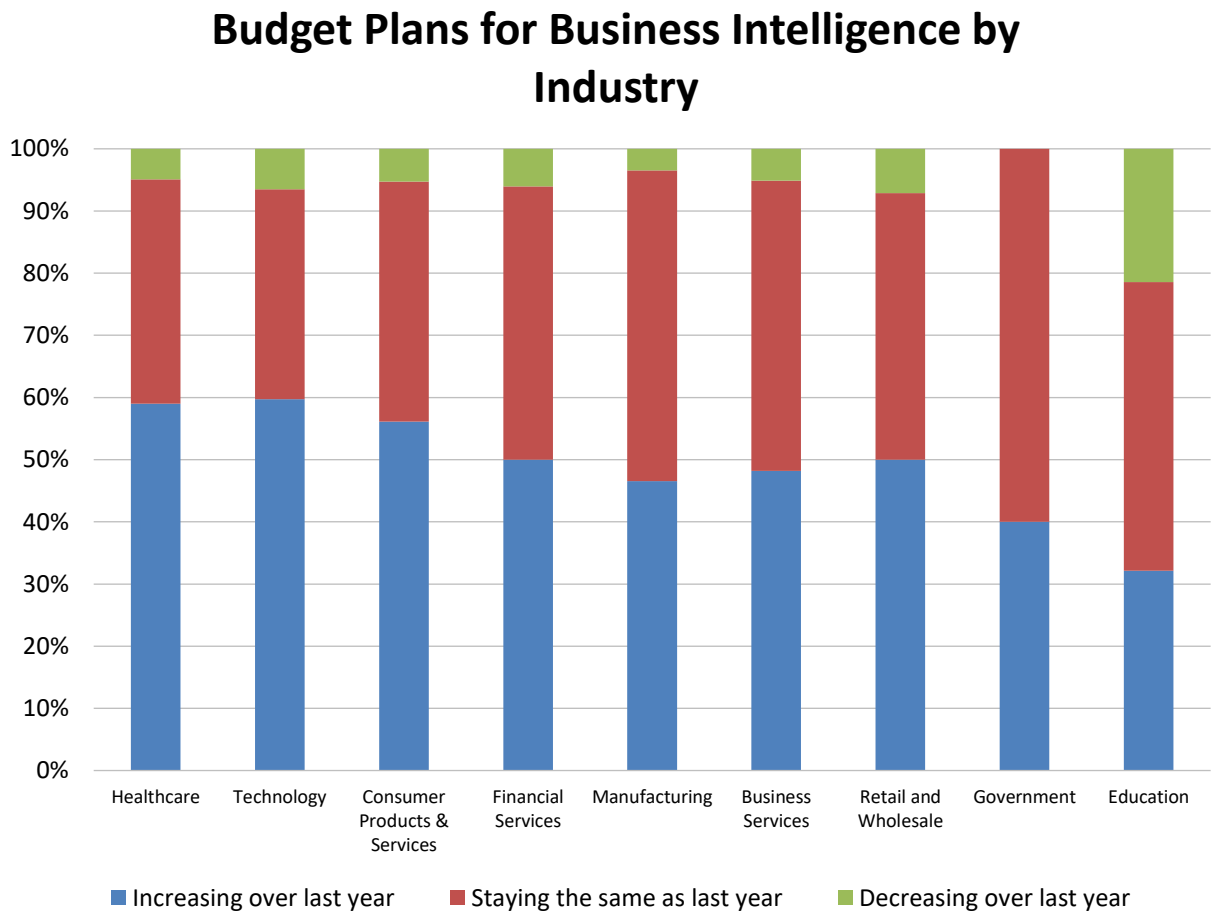


Figure 86 – Budget plans for business intelligence by industry

Budget Plans for Business Intelligence by Organization Size

In 2023, the smallest organizations (1-100 employees), and very largest organizations (> 10,000 employees) are most likely to *increase* BI budgets (fig. 87). The highest likelihood of *increases* falls to small organizations (55 percent), followed by very large (54 percent), large (51 percent) and finally 46 percent at midsize organizations with 101-1,000 employees. More than 90 percent of all organizations of any size plan to either *increase* or *maintain* current BI budgets, with the largest percentage of *decreases* (9 percent) in very large organizations.

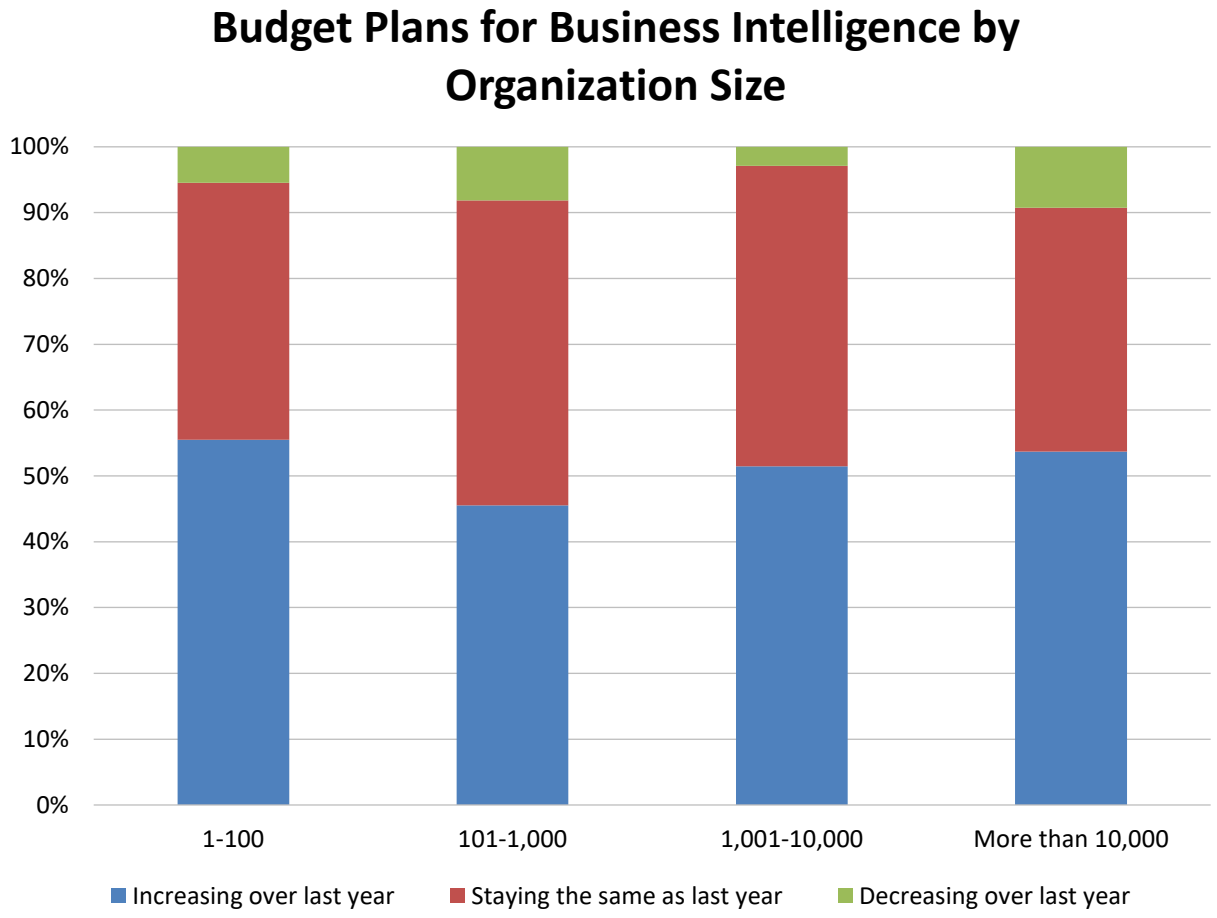


Figure 87 – Budget plans for business intelligence by organization size

Budget Plans for Business Intelligence by Penetration of BI Solutions

Figure 88 compares *BI budget plans* with *total average BI penetration* in organizations in current and future time frames. In this cross tabulation, we observe a positive correlation between higher total penetration and higher BI budgets. For example, organizations that are *increasing* BI budgets report 43 percent *current* BI penetration, compared to 39 percent current penetration at organizations *maintaining* BI budgets and 33 percent current penetration at organizations *decreasing* BI budgets. *Future* time frames extrapolate positively, regardless of budget plans; but organizations with *increasing* or *maintained* budgets currently experience higher average penetration of users and expect the same in the future.

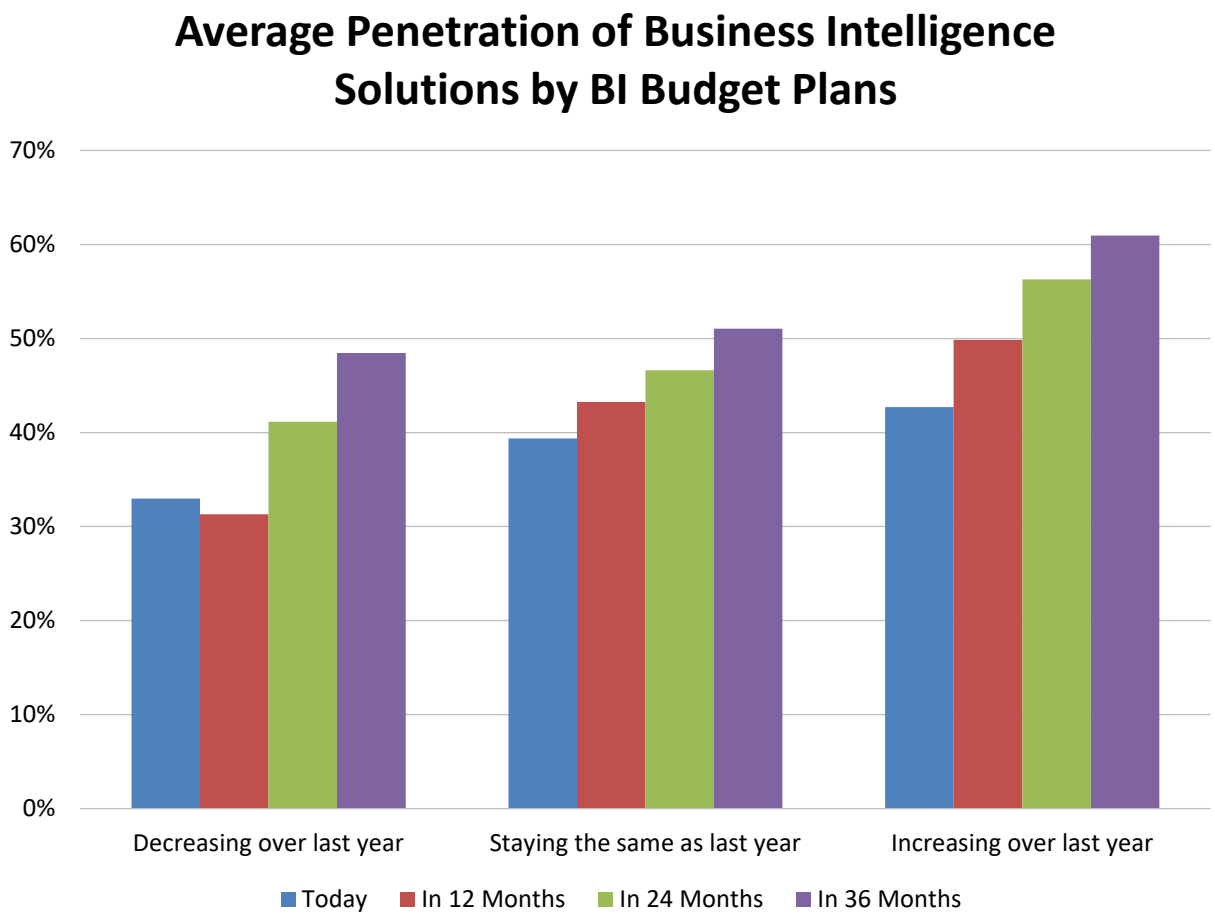


Figure 88 – Average penetration of business intelligence solutions by BI budget plans

Budget Plans for Business Intelligence by Success with BI

Organizations that are more successful with business intelligence are incrementally more likely to increase BI spending in 2023 compared to last year (fig. 89). Sixty-three percent of *completely successful* organizations will increase budgets this year, compared to 47 percent of *somewhat successful* and 39 percent of *somewhat unsuccessful and unsuccessful organizations*. As success decreases, organizations are more likely to decrease year-over-year budgets. *Somewhat unsuccessful and unsuccessful* organizations are 13 percent likely to decrease budgets compared to 5-6 percent of all *somewhat successful* and *completely successful* BI organizations.

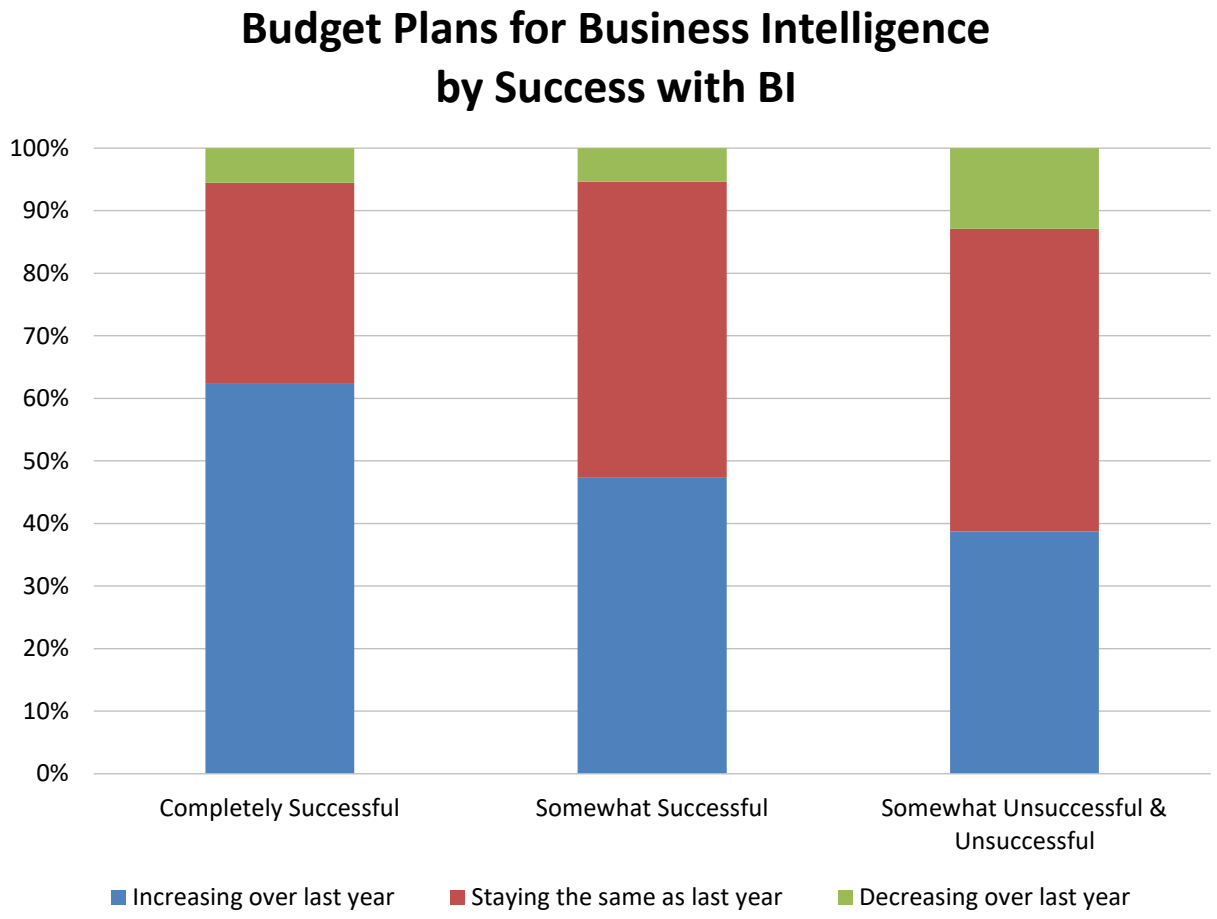


Figure 89 – Budget plans for business intelligence by success with BI

Budget Plans for Business Intelligence by Data Leadership

Organizations with data leadership *currently* in place are incrementally more likely to increase BI spending in 2023 compared to last year (fig. 90). Organizations with data leadership *currently* in place are 65 percent likely to *increase* budgets this year, compared to 52 percent of *somewhat successful* and 38 percent of *somewhat unsuccessful and unsuccessful organizations*. As the presence of data leadership is deferred to the *future* or *not planned*, organizations are more likely to *maintain* current BI budgets at current levels. Eight percent or fewer organizations plan BI budget *decreases* regardless of the presence or planning for data leadership. Interestingly, organizations with *no plans* for data leadership are least likely to *decrease* BI budgets, possibly indicating some fine tuning of spending within organizations *with* data leadership appointments.

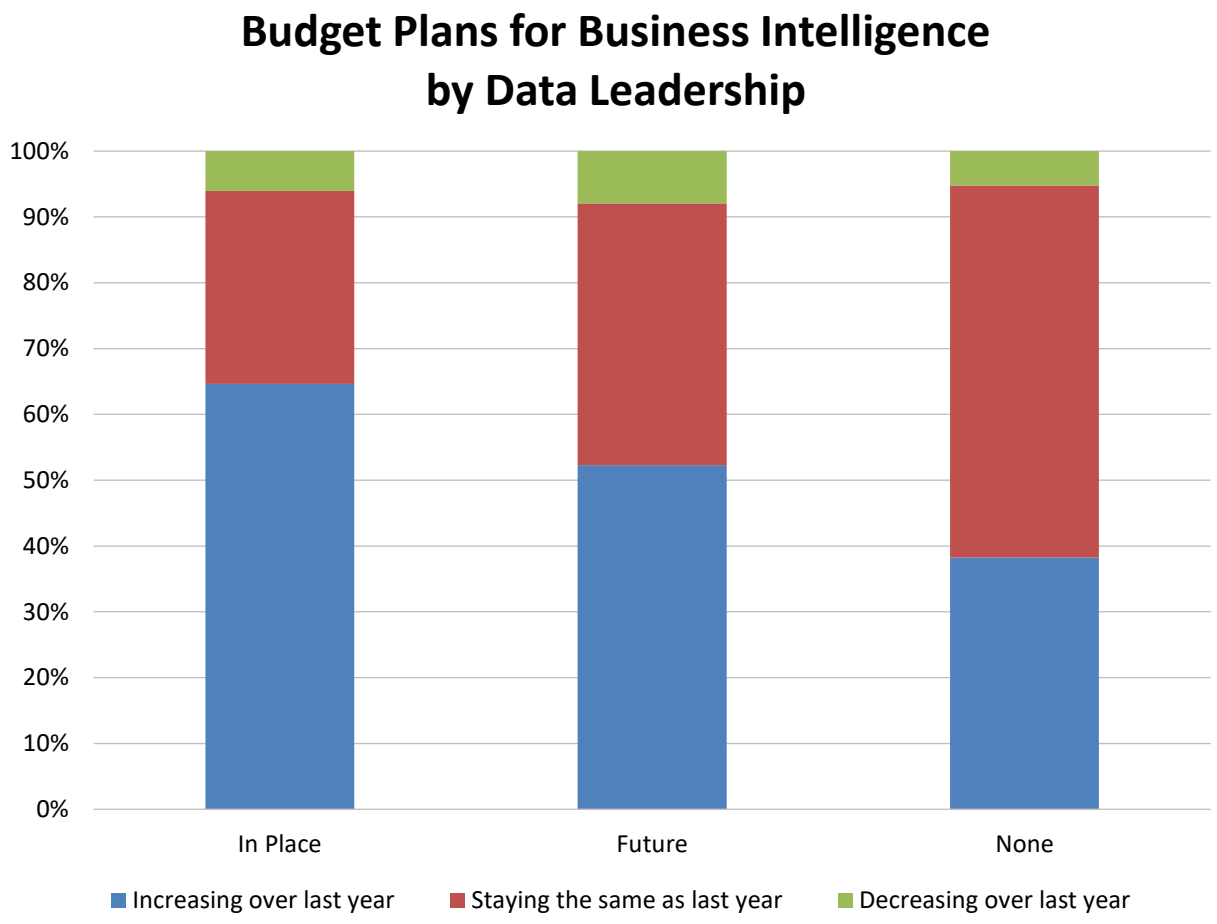


Figure 90 – Budget plans for business intelligence by data leadership

Source of BI Budget Increases

New for 2023, we asked respondents with a current year BI budget increase, "Was this increase part of an overall increase in spend or a reallocation of budget from other initiatives?" This year, a rather small minority of 17 percent reported their budget increase was the result of *reallocation*. The remaining 83 percent say increased funding is *new spend*.

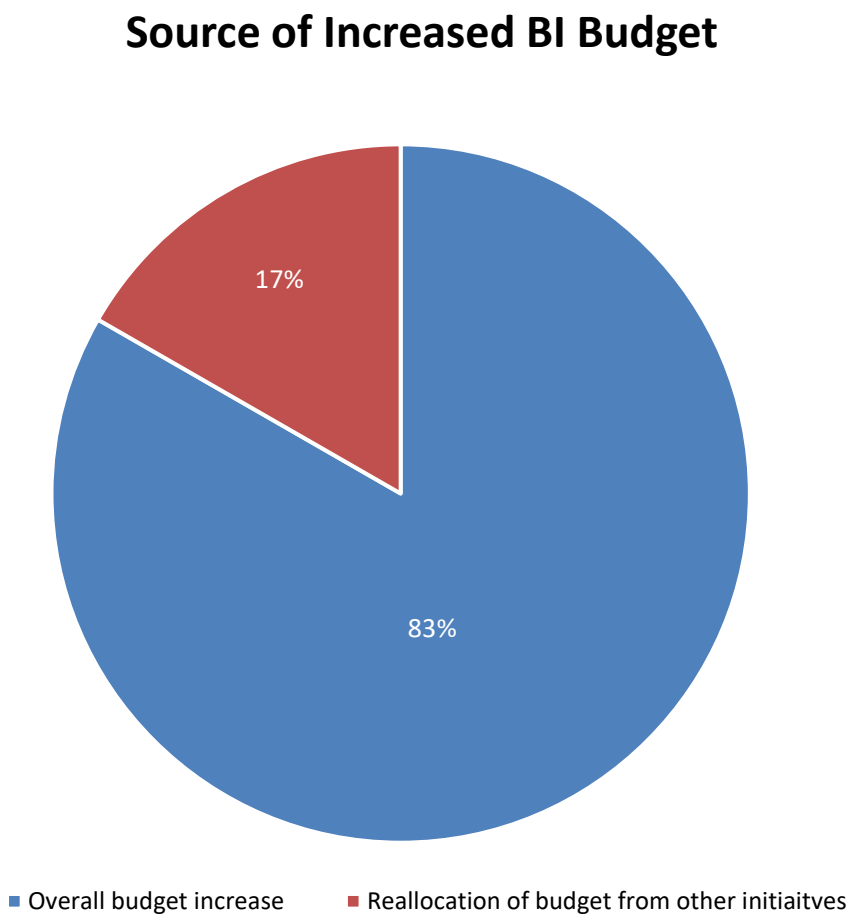


Figure 91 – Source of increased BI budget

BI Budget Allocations

New for 2023, we asked respondents, “Please indicate where your organization's business intelligence / analytics budget is allocated.” This year, the greatest average allocation (30 percent) is for existing *internal headcount* (fig. 92). After the undefined category of “*other*,” remaining allocations are for hardware, software/services, external resources/support, and education/training. Among licensing spend, the second largest overall single allocation is for *subscriptions for user BI software*. *Perpetual software licensing* (14 percent) and related *perpetual software maintenance* (12 percent), collectively account for slightly more than one-quarter of average BI budgets. Among remaining categories, 16 percent goes to *hardware*, 14 percent to *external consulting*, and 13 percent to *education and training*.

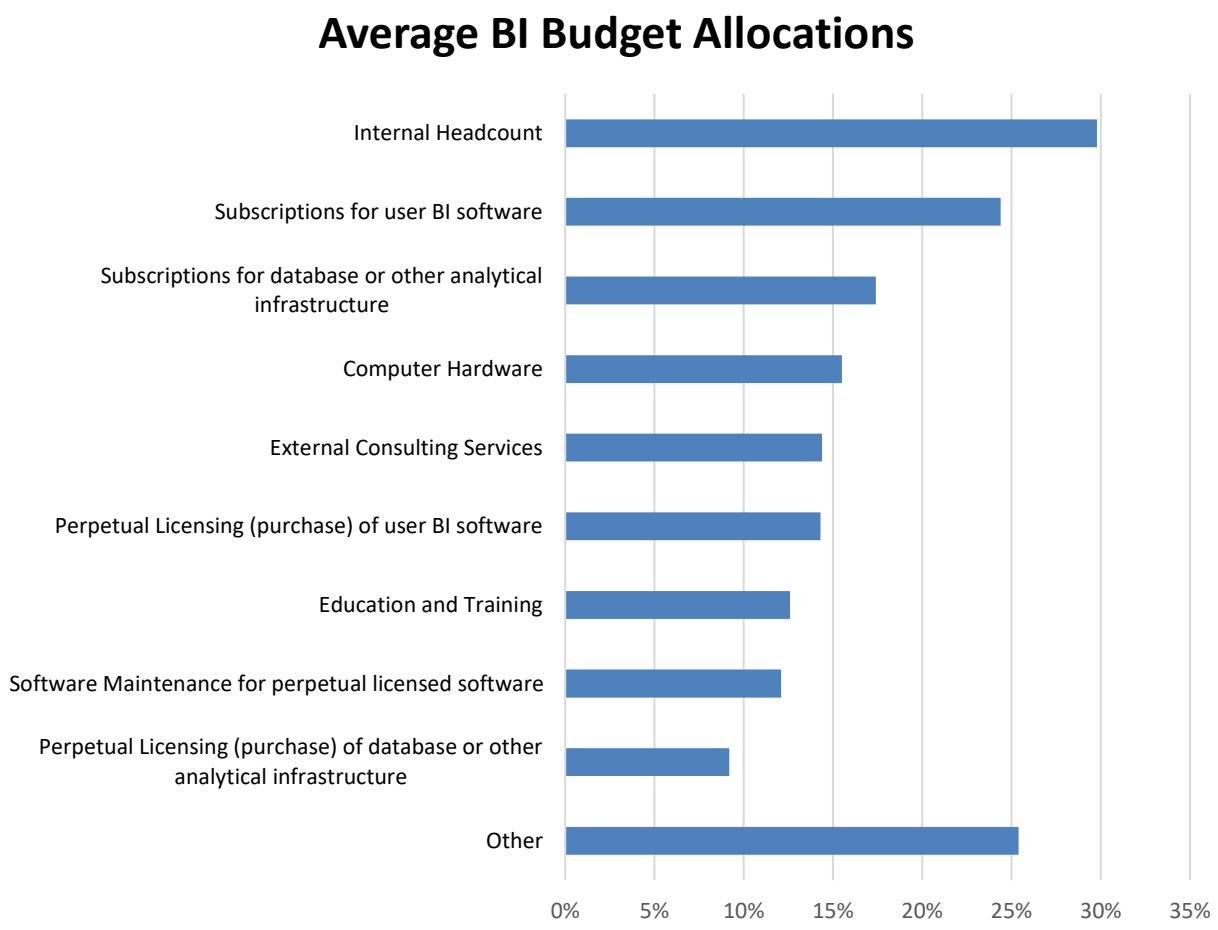


Figure 92 – -Average BI budget allocations

Business Intelligence Product Longevity and Replacement

Longevity of Business Intelligence Products

Most BI tools currently used (73 percent), have been in place for less than five years. When viewed across four years of data, we observe that the average longevity of currently used BI tools in organizations is increasing (fig. 93). For example, the percentage of tools in use for *6-10 years* and *more than 10 years* is sloping upward to all-time high percentages in 2023, while the percentage of tools in use for *less than one year, 1-2 years*, and *3-5 years* is lower year over year, and receding by degrees over time. This process is not entirely uniform, however; and given the 13 percent of "new" BI tools adopted for *less than one year*, we are likely seeing selective sunsetting and replacement. Also, we cannot say how much of this finding reflects cloud-based versus on-premises installations, though we have some sense of allocation in the previous chart (fig. 92, p. 109), and would expect that cloud-based tools and services account for the most new tool adoption.

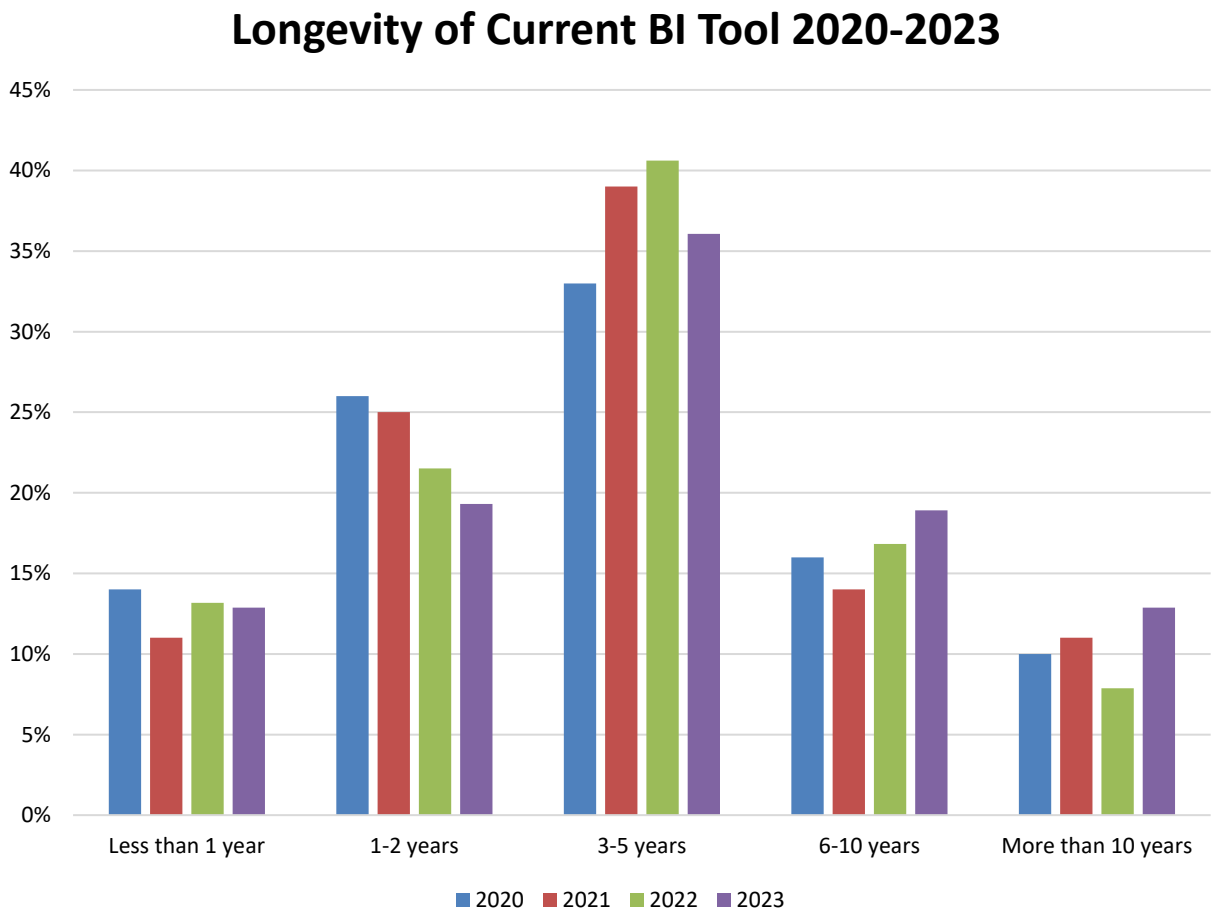


Figure 93 – Longevity of current BI tool 2020-2023

Longevity of Business Intelligence Products by Organization Size

As we would expect, longevity of current BI tools increases as organization size increases (fig. 94). Among other causes, larger organizations are often more likely to standardize, engage in perpetual license and maintenance agreements, and face higher cost, complexity, and technology debt with tool replacement. Thus, we see very large organizations with far fewer BI tools used less than one year, compared to smaller organizations that see lower risk and cost of entry or changing BI tools. Nonetheless, where multiple and newer tools are adopted by department or line of business, risks of entry are lower at organizations of any size due to the proliferation of subscription services and cloud-based applications and infrastructure.

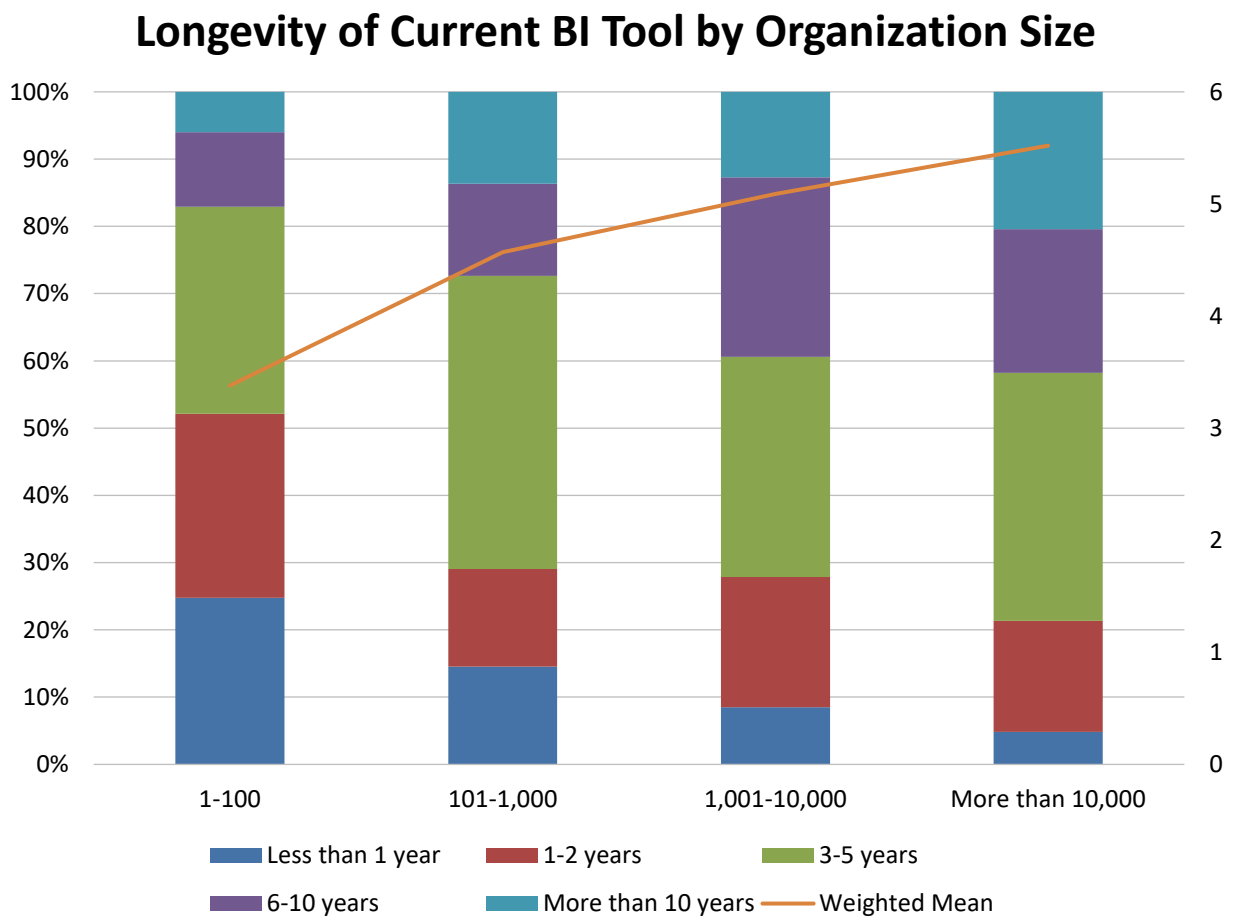


Figure 94 – Longevity of business intelligence products by organization size

Longevity of Business Intelligence Products by Success with BI

Organizations that are highly successful with business intelligence most often have extended experience with their BI tools (fig. 95). Stated another way, increasing tool longevity positively correlates with BI success. For example, tools in use for more than 10 years are three times more likely present (21 percent versus 7 percent) in *completely successful* versus *somewhat unsuccessful and unsuccessful* BI organizations. The effect is pronounced for tools of short as well as long duration. *Somewhat unsuccessful* and *unsuccessful* organizations are nearly four times as likely as *completely successful* peers to report tools in use for less than one year. We certainly do not suggest that new tool introduction leads to a lack of BI success or that legacy tools do not need replacement for a multitude of reasons. Rather, our sample finding might reflect overall BI maturity and success for majorities of users through consistent use of common standardized tools, and institutionalized practices.

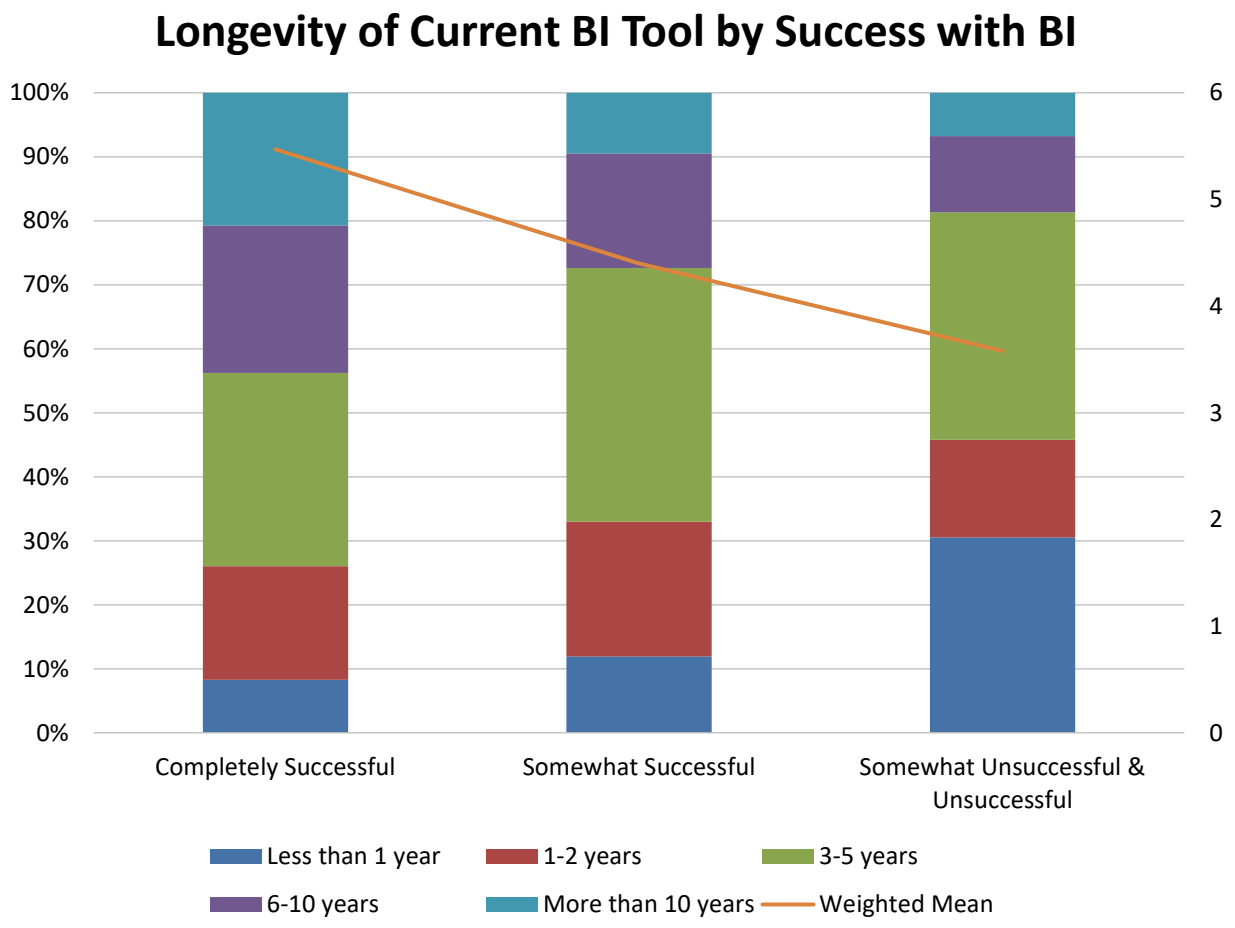


Figure 95 – Longevity of business intelligence products by success with BI

Current Business Intelligence Products Replaced by Another

Beginning in 2018, we asked respondents whether their current BI product replaced another BI product (fig. 96). In 2023, the net new product replacement rate of 28 percent continues a gentle upward slope (in a highly compressed view), from a 2018 low 24 percent, that has been essentially flat during the years 2019-2023. The inverse finding is perhaps more revealing in that about 72 percent of respondents say the acquisition of a current BI tool or service was *not due* to the replacement of another product. These scenarios might include instances where organizations implemented a product where none existed before. Alternately, an organization might implement a new product to serve a select audience or specific function with new capabilities.

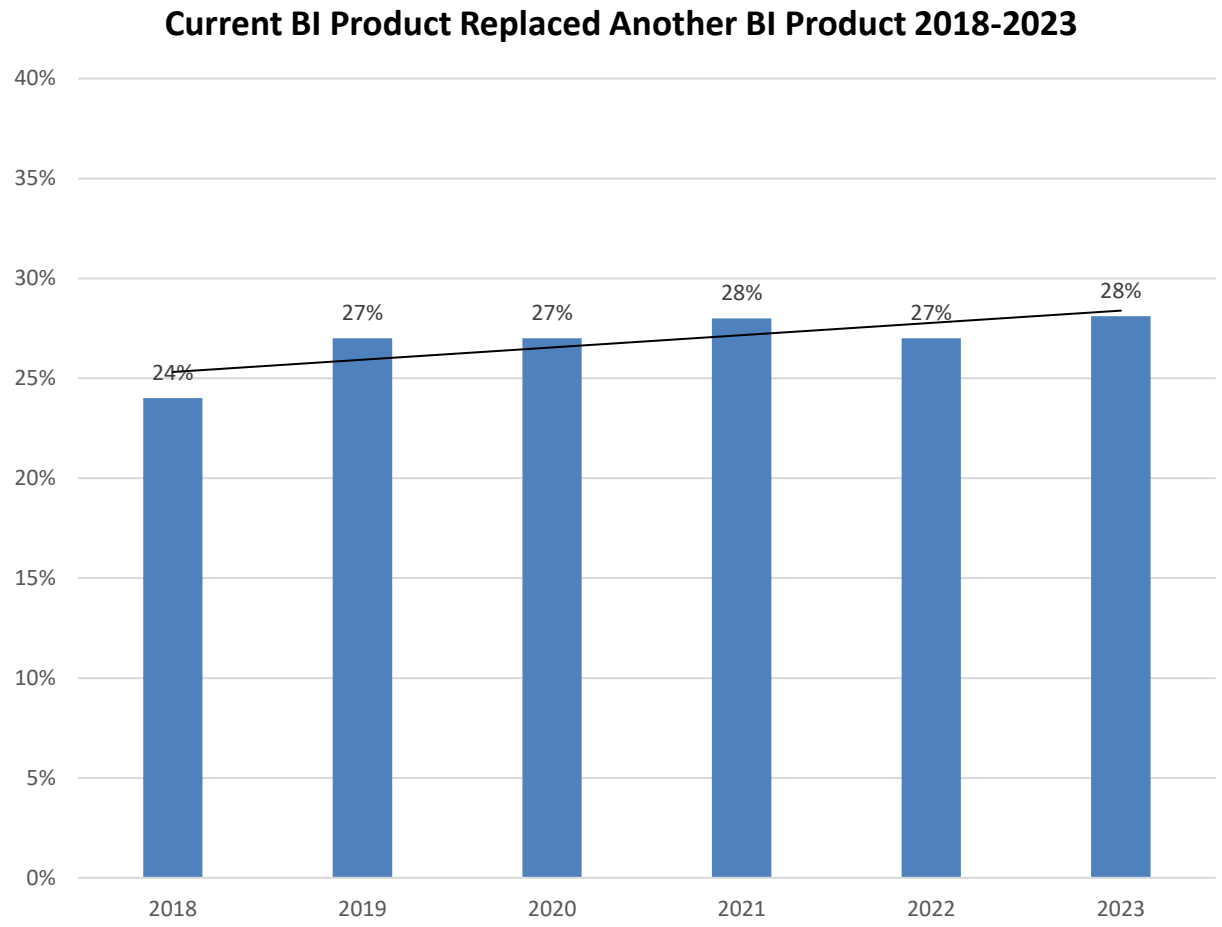


Figure 96 – Current BI product replaced by another BI product 2018-2023

Reasons BI Products Are Replaced

Of the 28 percent of respondent organizations that say their current BI product replaced another (previous chart), the primary reasons cited for doing so are *cost savings, ease of use, corporate standard, improved functionality*, and *modernization* (fig. 97). In many ways, these justifications are a summary rationalization of the evolution of BI toward cloud-based subscription services. As a snapshot, these benefits might also reflect in varying degrees the benefits of scale, the transition to cloud-based software/service development and updates, and the adoption of cloud as a corporate standard. Compared to earlier studies (not shown), 2023 also finds an increasing perceived benefit in the form of cost, which might relate to the attention to ROI as a measure of BI success (as shown in fig. 70. P. 87).

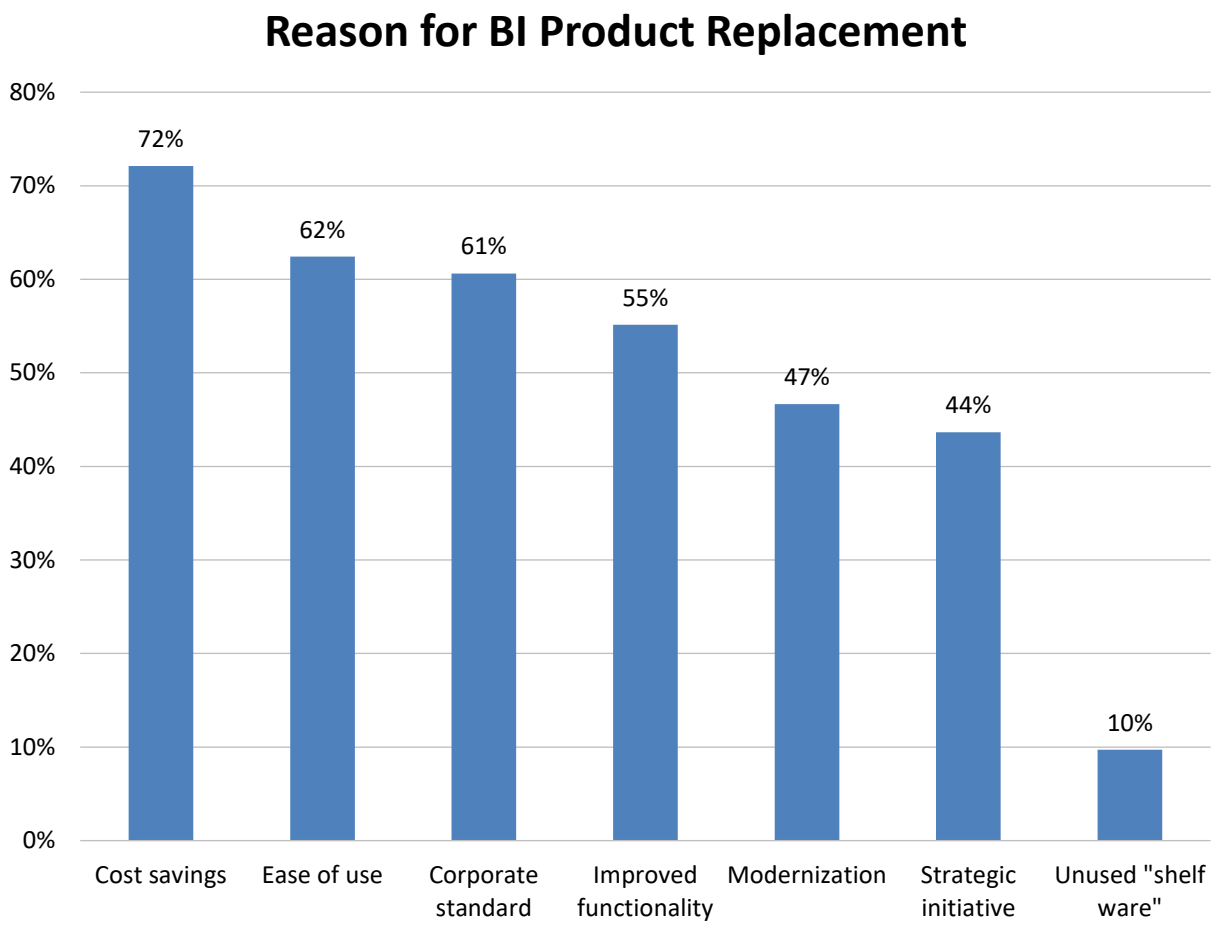


Figure 97 – Primary reason for BI product replacement

Industry and Vendor Analysis

Industry and Vendor Analysis

In this section, we review business intelligence vendor and market performance, using our trademark 33-criteria evaluation model.

Scoring Criteria

The criteria for the various industry and vendor rankings are grouped into seven categories including sales/acquisition experience, value for price paid, quality and usefulness of product, quality of technical support, quality and value of consulting, integrity, and whether the vendor is recommended. We also offer a summary overall performance improvement metric, and, new for 2023, perceived total cost of ownership.

Industry Performance

Sales/Acquisition Experience

We observe a slow but steady four-year (and longer-term) decline in respondent scores for industry sales and acquisition performance (fig. 98). 2023 again finds year-over-year industry scores lower in every metric. While summary scores do not relate to single vendors (see vendor scores at the end of this report), it should be observed that the incremental survey benchmarks (*excellent*, *very good*, *adequate*. *poor*, and *very poor*), are in a slow sustained downward trend for the industry as a whole. On a positive note, 2023 scales and acquisition scores continue a level of performance that can still be described as better than *adequate*.

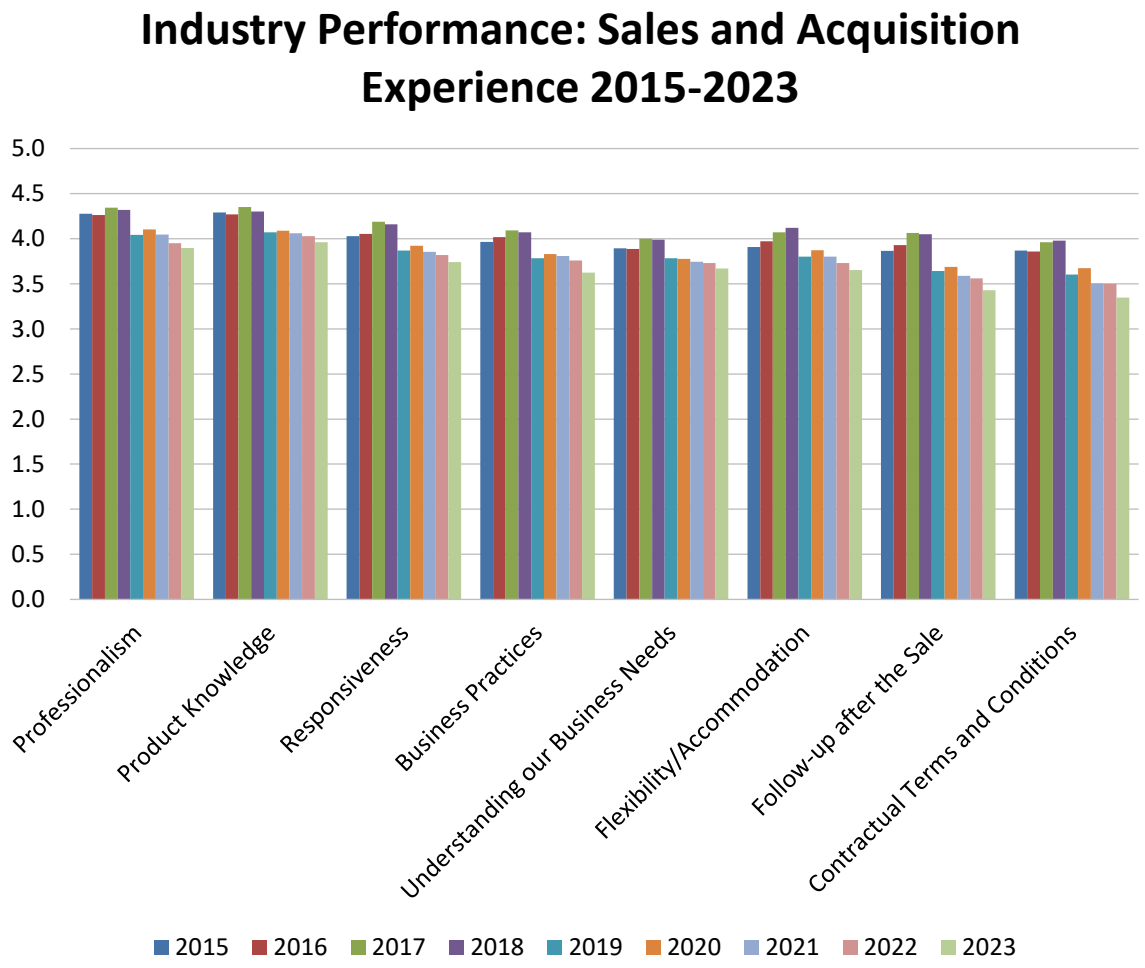


Figure 98 – Industry performance — sales and acquisition experience: 2015-2023

Value

End users report an improving trend and a slight 2023 rebound and better than *good* overall scores for industry value for the price paid (fig. 99). (Respondent scoring choices include *great value, good value, average value, poor value*, and *very poor* value). 2023 scores are in in the middle of the historic range. Across nine years of respondent data, scores for value have stayed consistently above the 4.1 level (> *good value).*

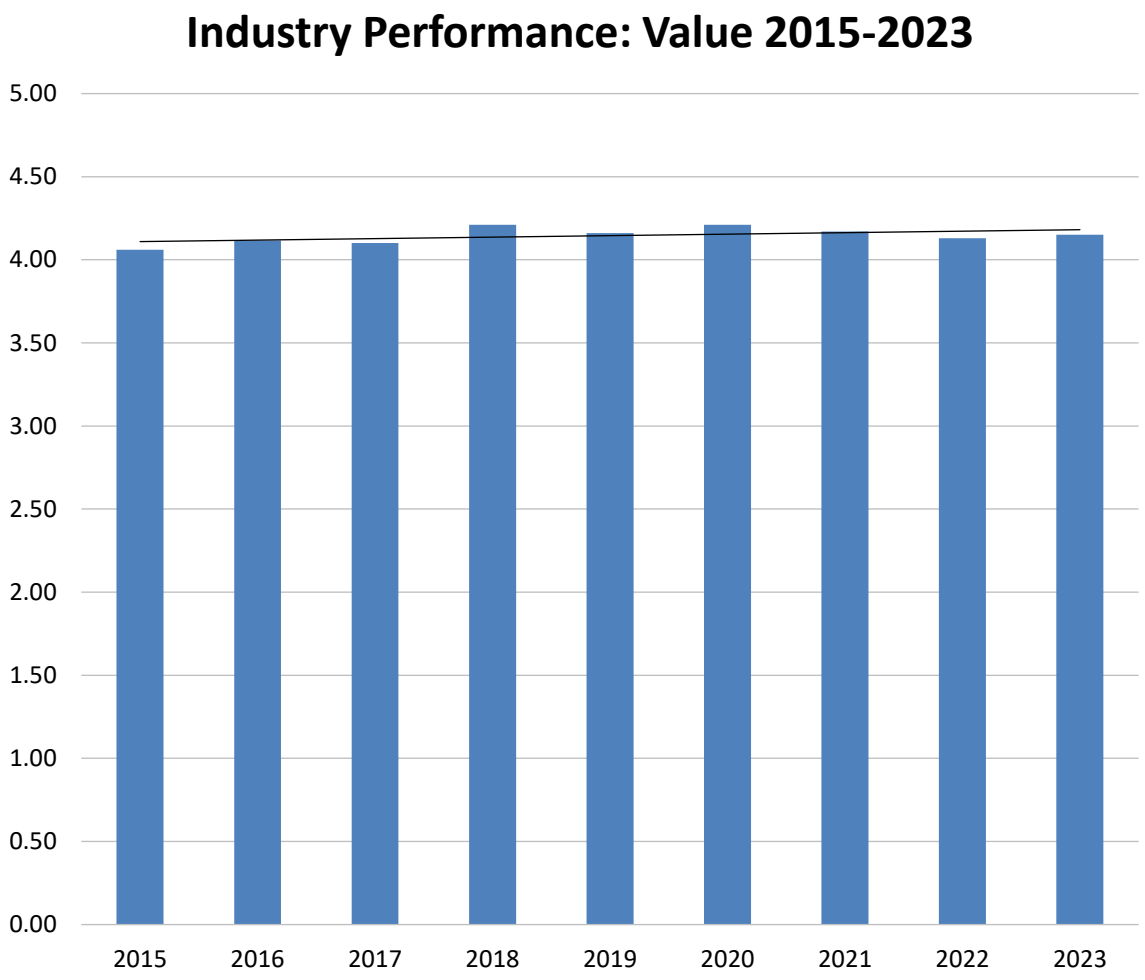


Figure 99 – Industry performance — Value: 2015-2023

Quality and Usefulness of Product

In 2023, various measures of industry quality and usefulness of product vary widely compared to historic average user scores (fig. 100). For example, historic high or near high scores are seen for *overall usability*, *reliability of technology*. *scalability*, *completeness of functionality*, and *online training*. Historic or near historic low scores are seen in several other areas including *customization and extensibility*, *ease of upgrade / migration to new versions*, *integration of components within the product*, and *ease of installation*. All scores are well above the level representing *adequate*. (Respondents were given quality/usefulness score choices of *excellent*, *very good*, *adequate*, *poor*, and *very poor*).

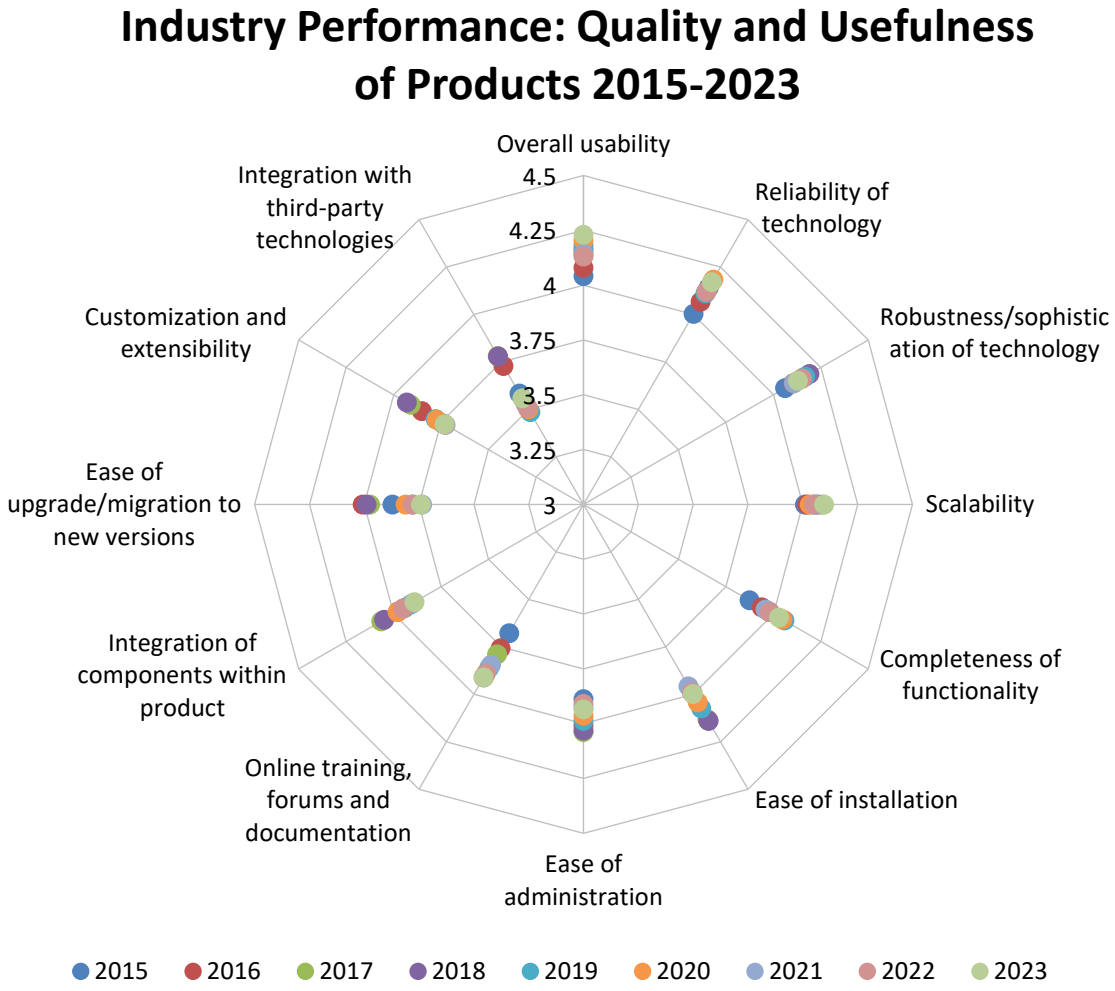


Figure 100 – Industry performance — Quality and usefulness of products: 2015-2023

Technical Support

In 2023, measures of industry technical support are within a five-year historical range we would describe as flat or very slowly declining (fig. 101). Across all metrics of technical support performance, year-over-year scores can be described as flat or very slightly changed. All 2023 scores are near or well above the 3.5 score representing the midway point between *adequate* and *very good*. (Respondents were given technical support score choices of *excellent*, *very good*, *adequate*, *poor*, and *very poor*).

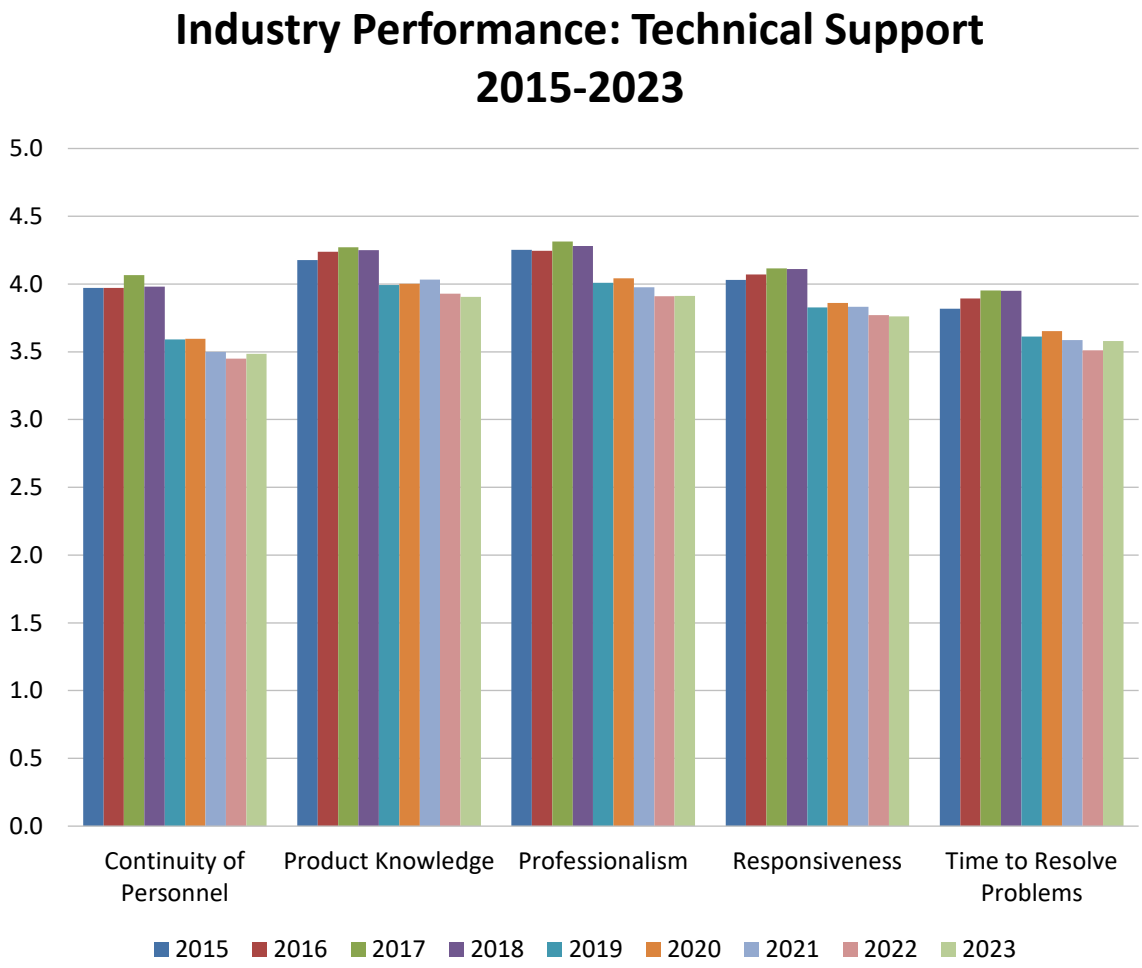


Figure 101 – Industry performance — Technical support: 2015-2023

BI Vendor Consulting

In 2023, BI consulting is, for a fifth year, the weakest-scoring area of industry performance, described by users as only *adequate*. (fig. 102). Across nine years of data, consulting performance slowly improves during 2014-2017, declines in 2018, and experiences a steep drop in 2019. This situation improves in 2020 only to decline slightly again in 2021, 2022, and into 2023. Though some attributes rebound slightly in 2023, all consulting attributes (*continuity*, *experience*, *product knowledge*, *professionalism*, and *value)* are in a long-term range near the 3.0 level, signifying a score of *adequate*. (Respondents were given vendor consulting score choices of *excellent*, *very good*, *adequate*, *poor*, and *very poor*).

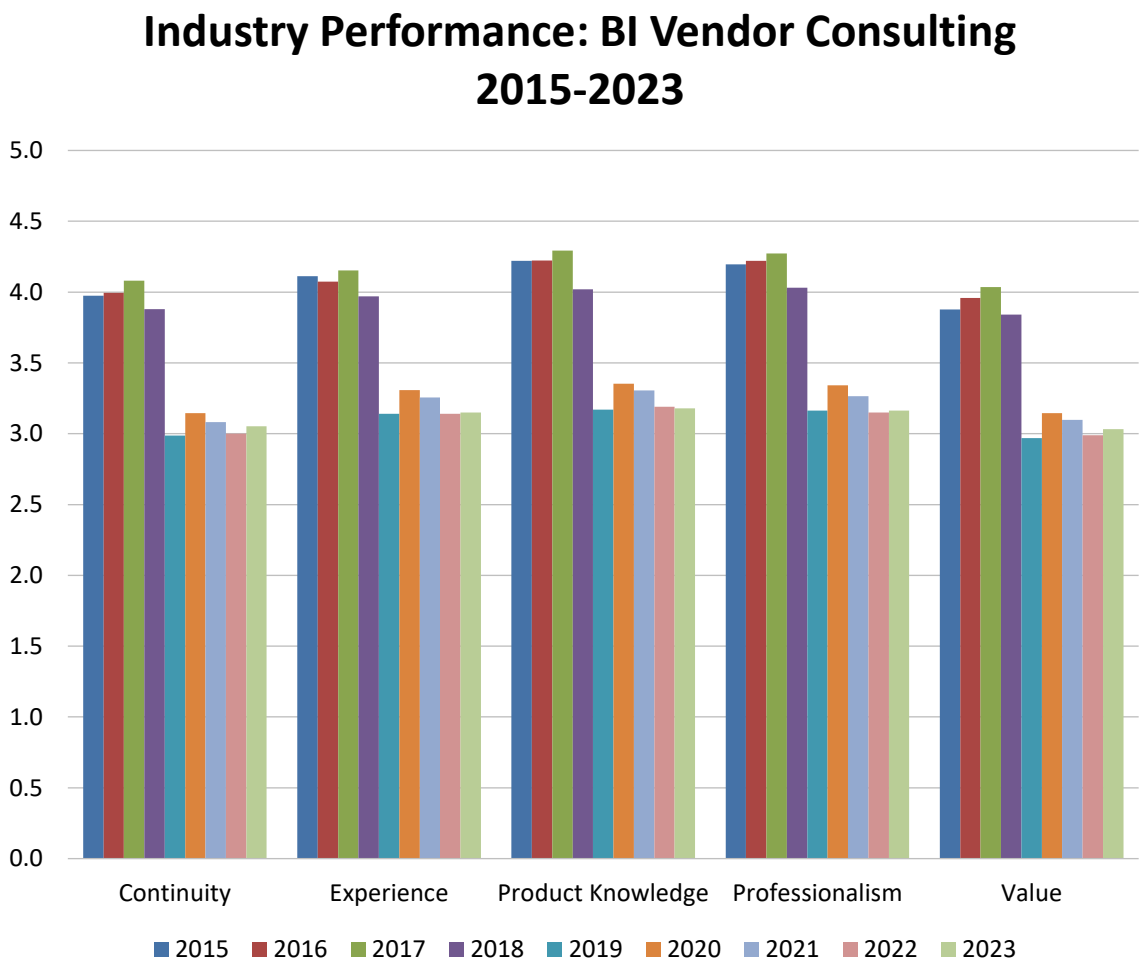


Figure 102 – Industry performance — BI vendor consulting: 2015-2023

Integrity

Vendor integrity—measured as honesty and truthfulness in all dealings—is in a very slow and slight decline trend for a third consecutive year, from 4.3 in 2020 to 4.2 in 2021 and 2022, to 4.1 in 2023 (fig.103). The current level is very narrowly an all-time low that nonetheless remains above the 4.0 level that signifies *very good*. (Respondents were given integrity score choices of *excellent*, *very good*, *adequate*, *poor*, and *very poor*). While the scores in this view are compressed and remain far above anything we would describe as dissatisfaction, an earlier positive trend line tipped to the negative.

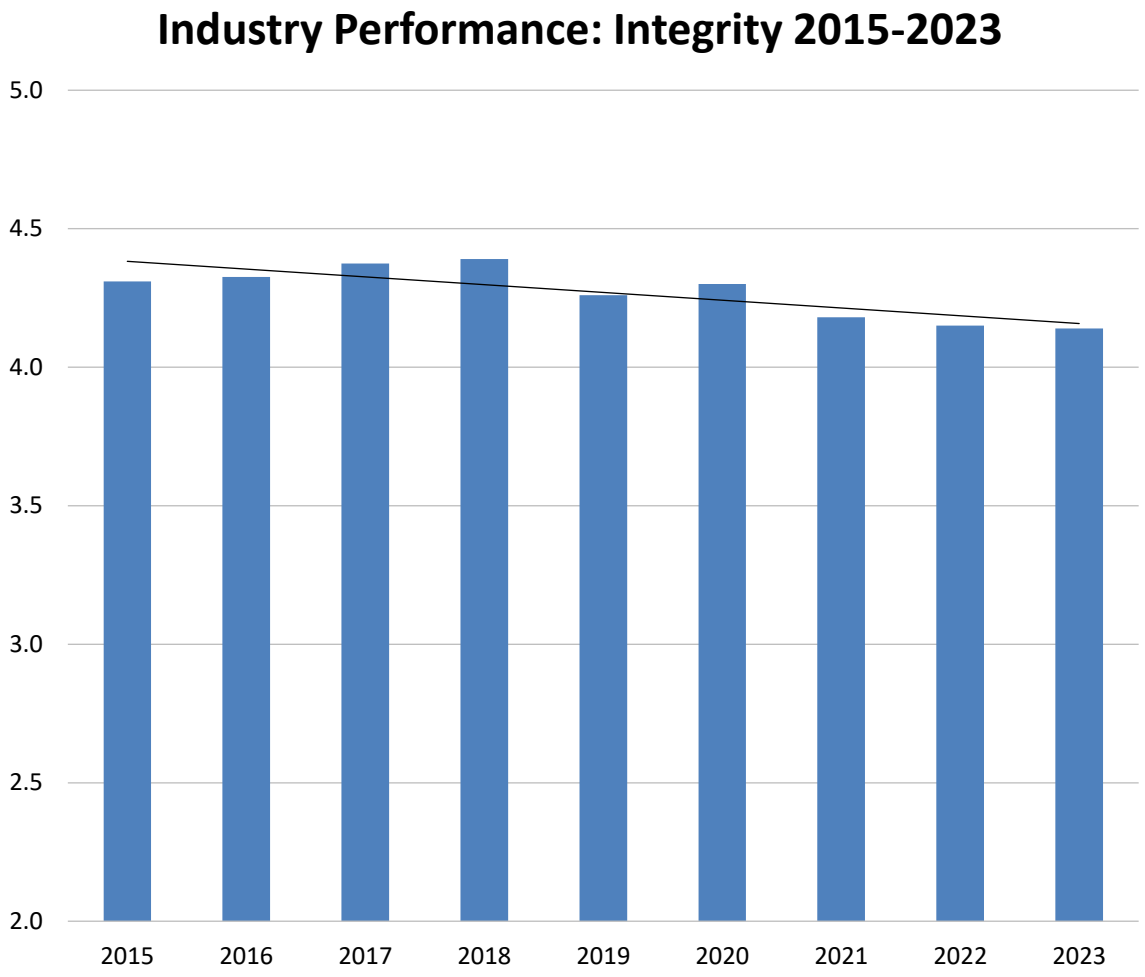


Figure 103 – Industry performance — Integrity: 2015-2023

Recommended

An ongoing positive note that continues into 2023 is user response to the question, "Would you recommend this vendor/product?" This year, respondents again offer a near perfect endorsement of their software service provider with a 4.8 score that is only fractionally lower than an all-time high (fig. 104). The nine-year positive trend of well above *very likely* to recommend is very close to our highest allowable score of 5.0, leaving little room for improvement.

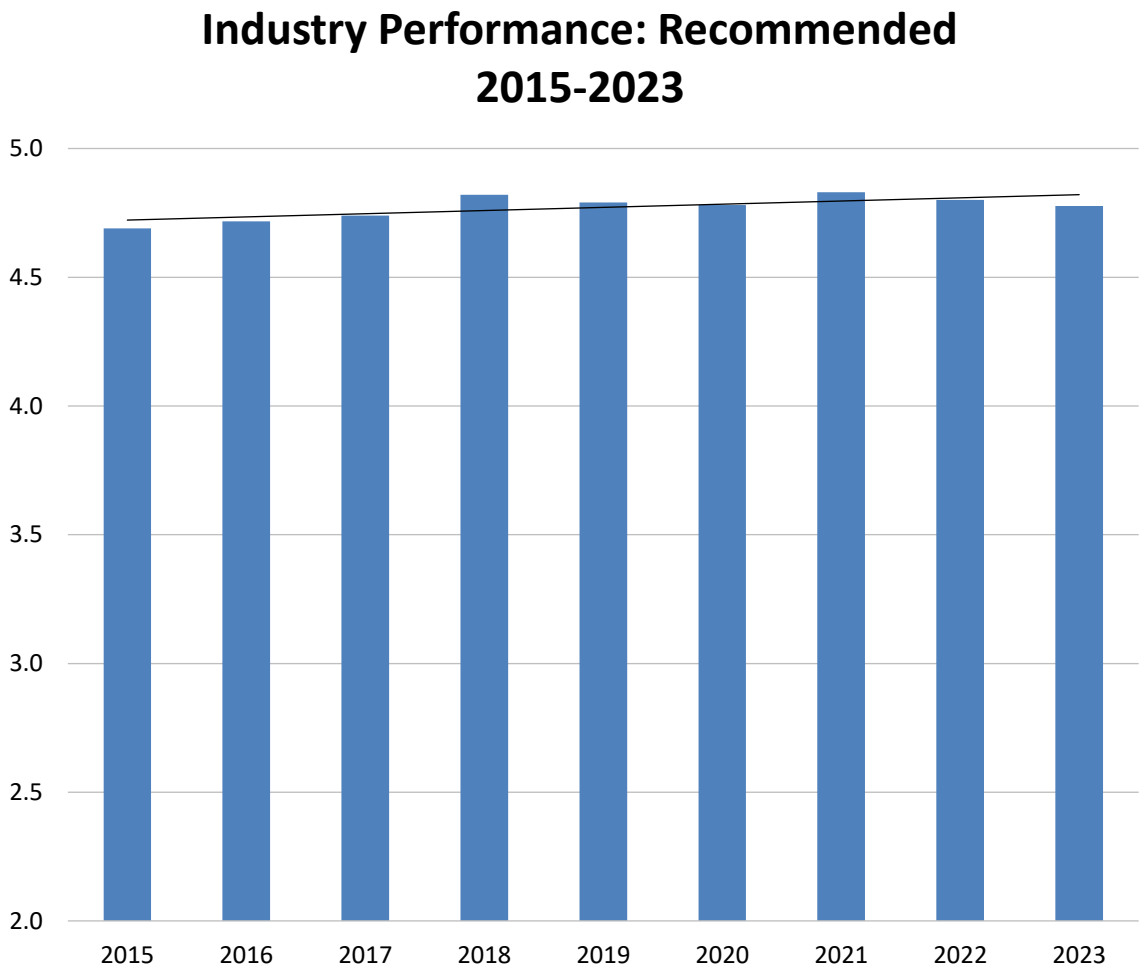


Figure 104 – Industry performance — Recommended: 2015-2023

Overall Industry Performance Improvements

Another high-level view of vendor performance is overall improvement which, as detailed in earlier charts (sales/acquisition, quality, and usefulness, etc.), fell slightly in 2023 (fig. 105). This year, about 38 percent of respondents found overall industry performance improved, compared to about 40 percent during the years 2019-2022. Additionally, a historic high 7 percent of respondents (combined to a historical 3-4 percent), said overall industry performance declined in 2023. While these findings deserve attention and reflection, we would nonetheless continue to describe industry performance as very consistent, especially given the economic, geopolitical, and COVID pandemic disruptions of recent years.

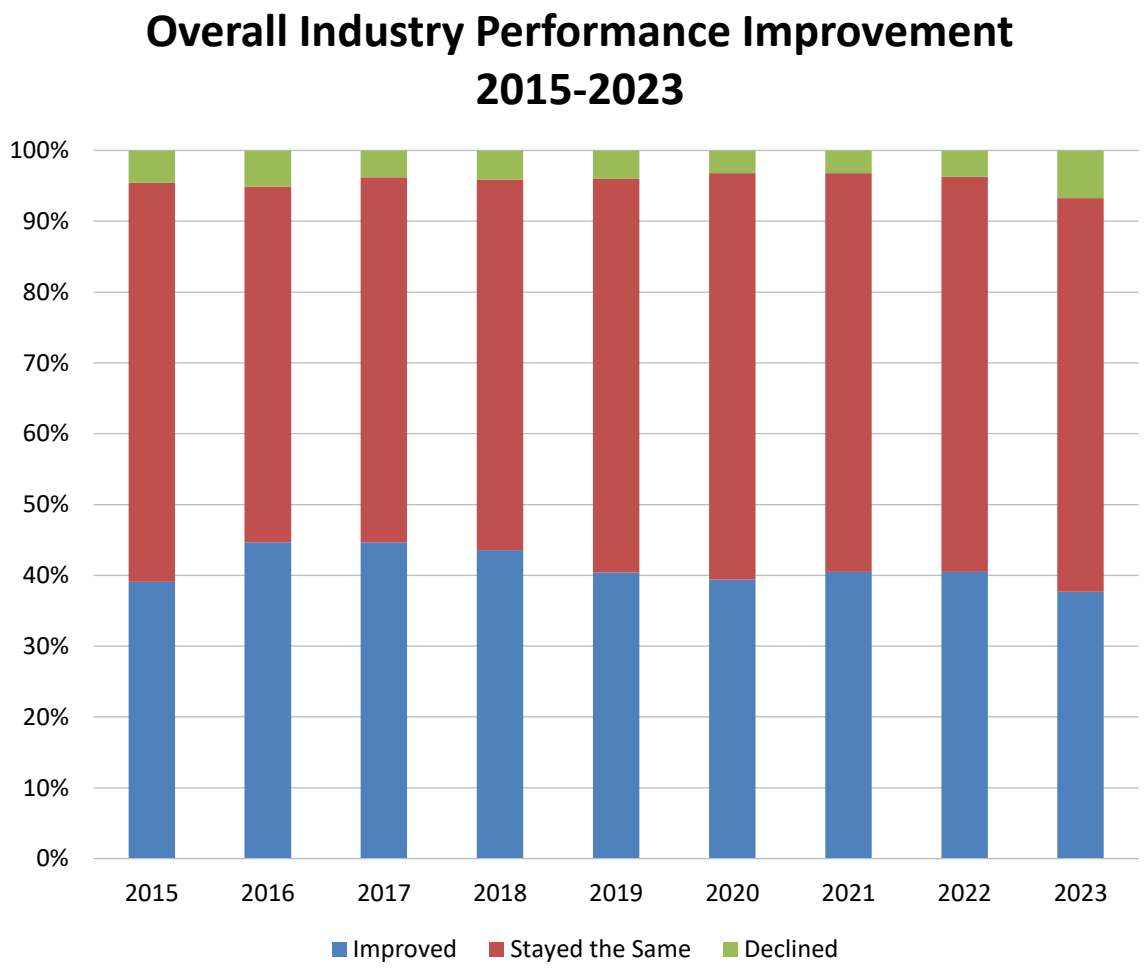


Figure 105 – Overall industry performance improvement: 2015-2023

Perceived Total Cost of Ownership

A final user measurement added for 2023 is respondent perceived total cost of ownership (TCO) (fig. 106). This year, about three-quarters of respondents describe their perceived TCO as *average, above average*, or *well above average*. Only about 13 percent believe their TCO is *somewhat below average* or *well below average*. Another 13 percent *don't know* their total cost of ownership or how it compares to expectations. In sum, and at a very high level, a large majority respondents clearly believe there are receiving good or very good efficiencies and returns from BI compared to other investments.

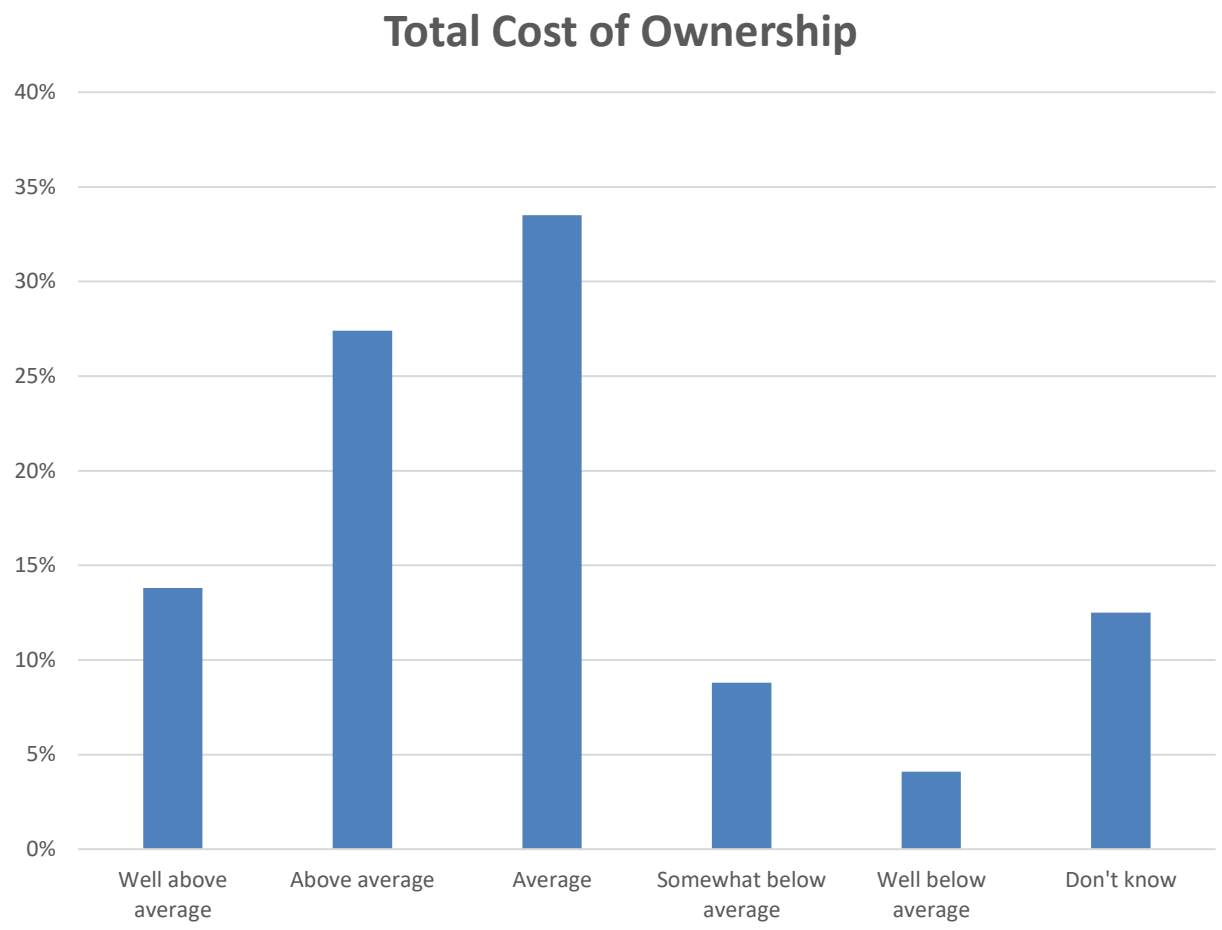


Figure 106 – Total cost of ownership

Vendor Ratings

In this section, we offer ratings of business intelligence software vendors. We rate vendors using 33 different criteria, on a five-point scale for each. Criteria covers sales /acquisition experience (8 criteria), value for price paid (1), quality and usefulness of product (12), quality of technical support (5), quality and value of consulting services (5), whether the vendor is recommended (1), and integrity (1).

As we explore vendor performance in more detail, it is important to understand the scale we use in scoring the industry and vendors:

- 5.0 = Excellent
- 4.0 = Very good
- 3.0 = Adequate
- 2.0 = Poor
- 1.0 = Very poor

Please note that "average score" is the mathematical mean of all items included in vendor ratings. Each column in the chart represents a scale consisting of varying numbers of items (for example, "sales" is a scale consisting of eight items, while "value for price paid" is one item). As such, each column is weighted differently (based upon the number of items represented and the number of respondents rating those items) in calculating the overall average rating. The average score cannot be calculated by simply averaging across the subscale scores.

Business Intelligence Market Models

Starting in 2015, we developed two new models for examining and understanding the business intelligence market. Using quadrants, we plotted aggregated user sentiment into x and y axes.

Customer Experience Model

The customer experience model considers the real-world experience of customers working with BI products on a daily basis (fig. 107). For the x axis, we combine all vendor touch points—including the sales and acquisition process (8 measures), technical support (5 measures), and consulting services (5 measures)—into a single "sales and service" dimension. On the y axis, we plot customer sentiment surrounding product, derived from the 12 product and technology measures used to rank vendors. On the resulting four quadrants, we plot vendors based on these measures.

The upper-right quadrant contains the highest-scoring vendors and is named Overall Experience Leaders. Technology Leaders (upper-left quadrant) identifies vendors with strong product offerings but relatively lower services scores. Contenders (lower-left quadrant) would benefit from varying degrees of improvement to product, services, or both.

User sentiment surrounding Outliers (outside of the four quadrants) suggests that significant improvements are required to product and services.

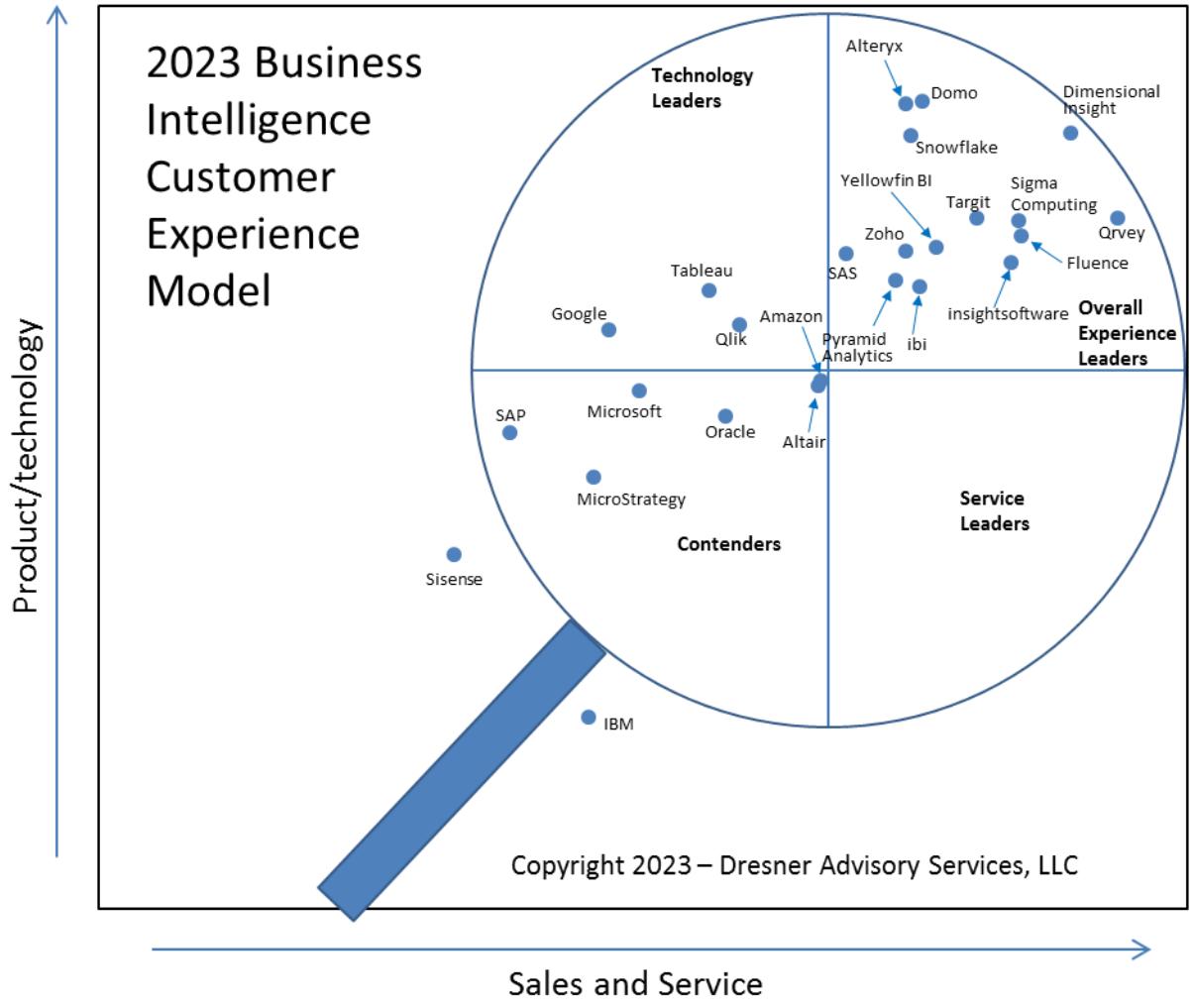


Figure 107 – Customer experience model

Vendor Credibility Model

The vendor credibility model considers how customers "feel" about their vendor (fig. 108). The x axis plots perceived value for the price paid. The y axis combines the integrity and recommend measures, creating a "confidence" dimension. The resulting four quadrants position vendors based on these dimensions.

The upper-right quadrant contains the highest-scoring vendors and is named Credibility Leaders. Trust Leaders (upper-left quadrant) identifies vendors with solid perceived confidence but relatively lower value scores. Contenders (lower-left quadrant) would benefit by working to improve customer value, confidence, or both.

User sentiment surrounding Outliers (outside of the four quadrants) suggests that significant improvements are required to improve perceived value and confidence.

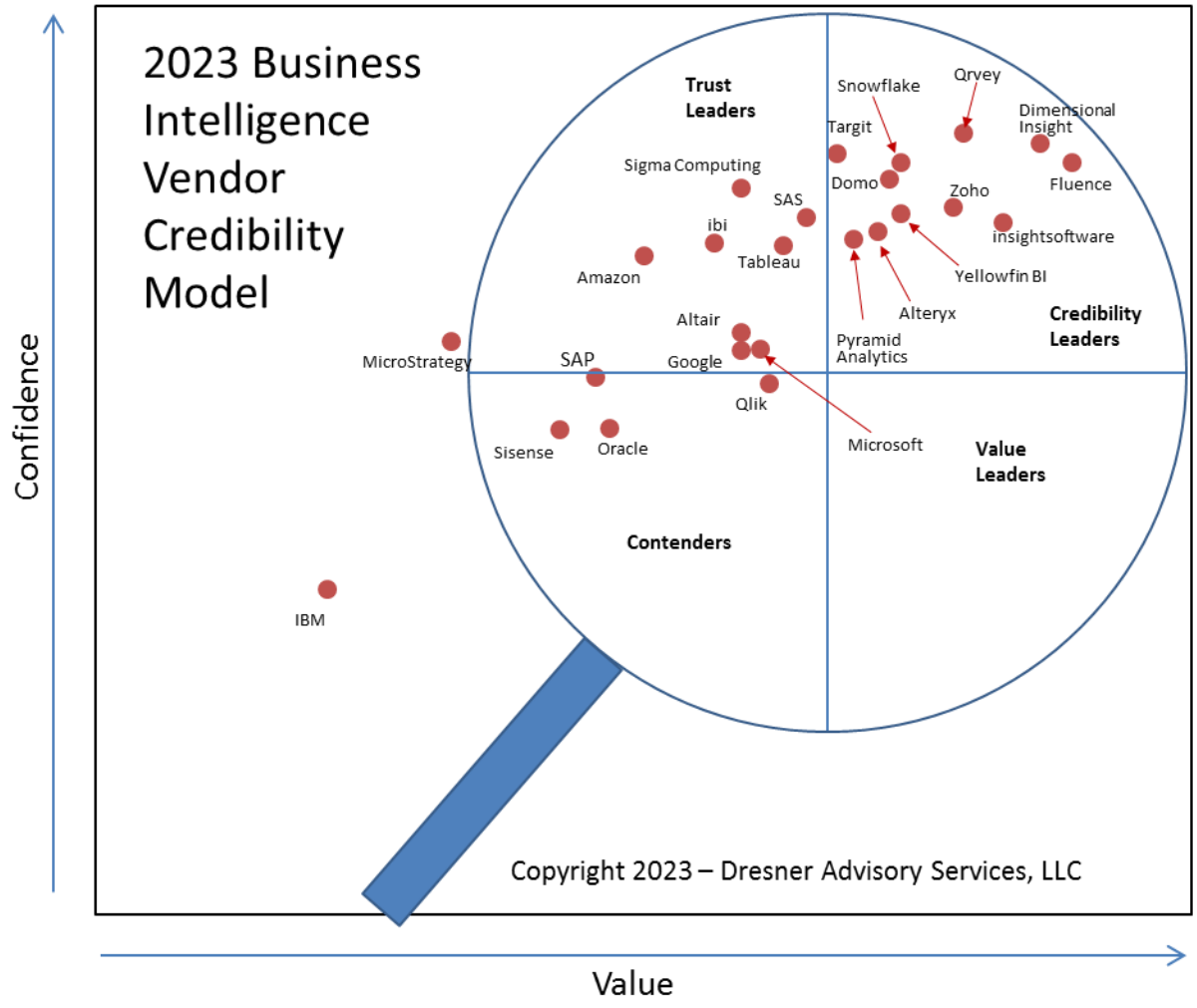


Figure 108 – Vendor credibility model

Detailed Vendor Ratings

In this section, we offer detailed vendor scores. Using our 33-criteria evaluation model (table 1), we compare each vendor's performance to its previous year's performance and to the average for all vendors (all records in the study population).

The detailed criteria are below. We add "clock" position information to assist in locating specific scores.

Table 1 - Detailed vendor rating criteria

- **Sales/acquisition experience** *(12 - 2 o'clock)*
  - Professionalism
  - Product knowledge
  - Understanding our business/needs
  - Responsiveness
  - Flexibility/accommodation
  - Business practices
  - Contractual terms and conditions
  - Follow-up after the sale
- **Value for price** *(3 o'clock)*
- **Quality and usefulness of product** *(3 - 7 o'clock)*
  - Robustness/sophistication of technology
  - Completeness of functionality
  - Reliability of technology
  - Scalability
  - Integration of components within product
  - Integration with third-party technologies
  - Overall usability
  - Ease of installation
  - Ease of administration
- **Quality and usefulness of product (continued)**
  - Customization and extensibility
  - Ease of upgrade/migration to new versions
  - Online forums and documentation
-
- **Quality of technical support** *(8 - 9 o'clock)*
  - Professionalism
  - Product knowledge
  - Responsiveness
  - Continuity of personnel
  - Time to resolve problems
- **Quality and value of consulting services** *(9 - 10 o'clock)*
  - Professionalism
  - Product knowledge
  - Experience
  - Continuity
  - Value
- **Integrity** *(11 o'clock)*
- **Whether vendor is recommended** *(12 o'clock)*

Altair Detailed Score

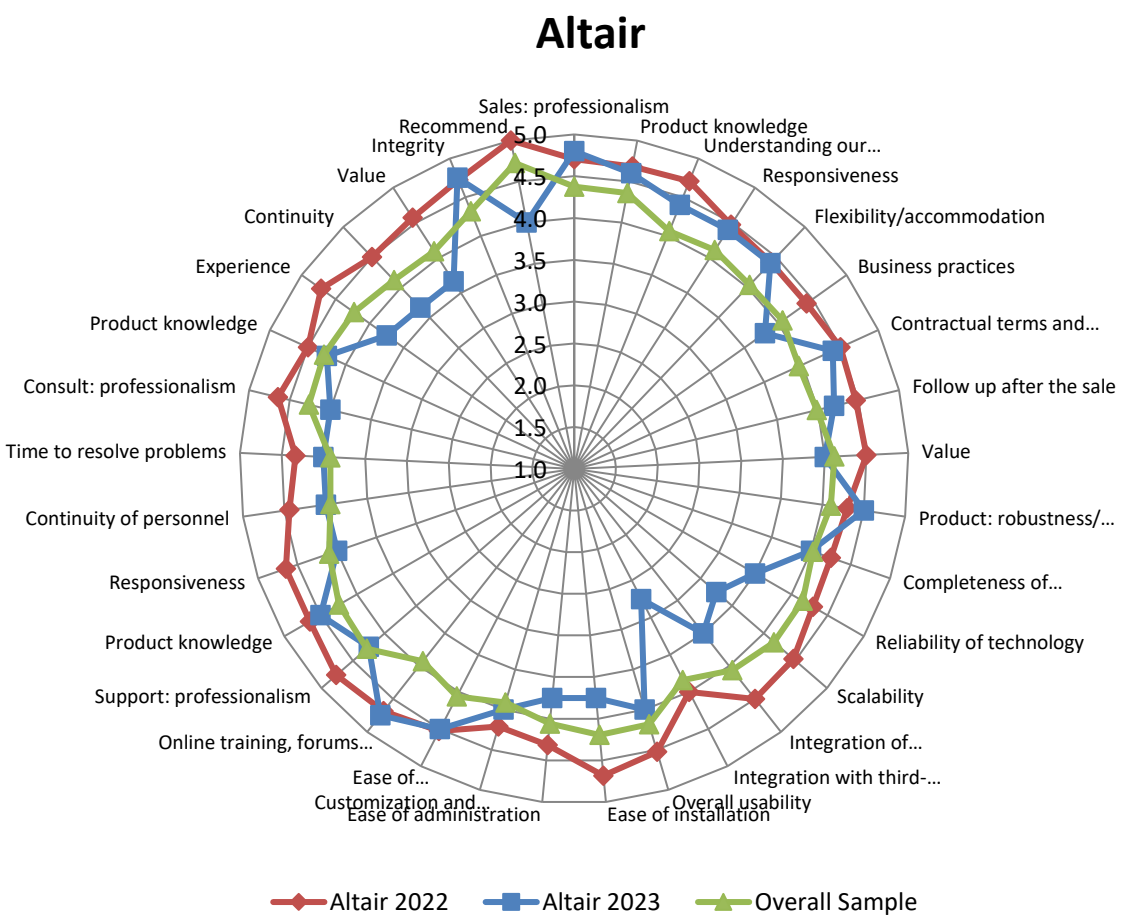


Figure 109 – Altair detailed score

In September 2022, RapidMiner was acquired by Altair; these scores reflect RapidMiner's performance versus the broader Altair suite of products. For 2023, Altair's (RapidMiner's) scores declined substantially across virtually all categories of measurement. It is a Contender in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model.

Alteryx Detailed Score

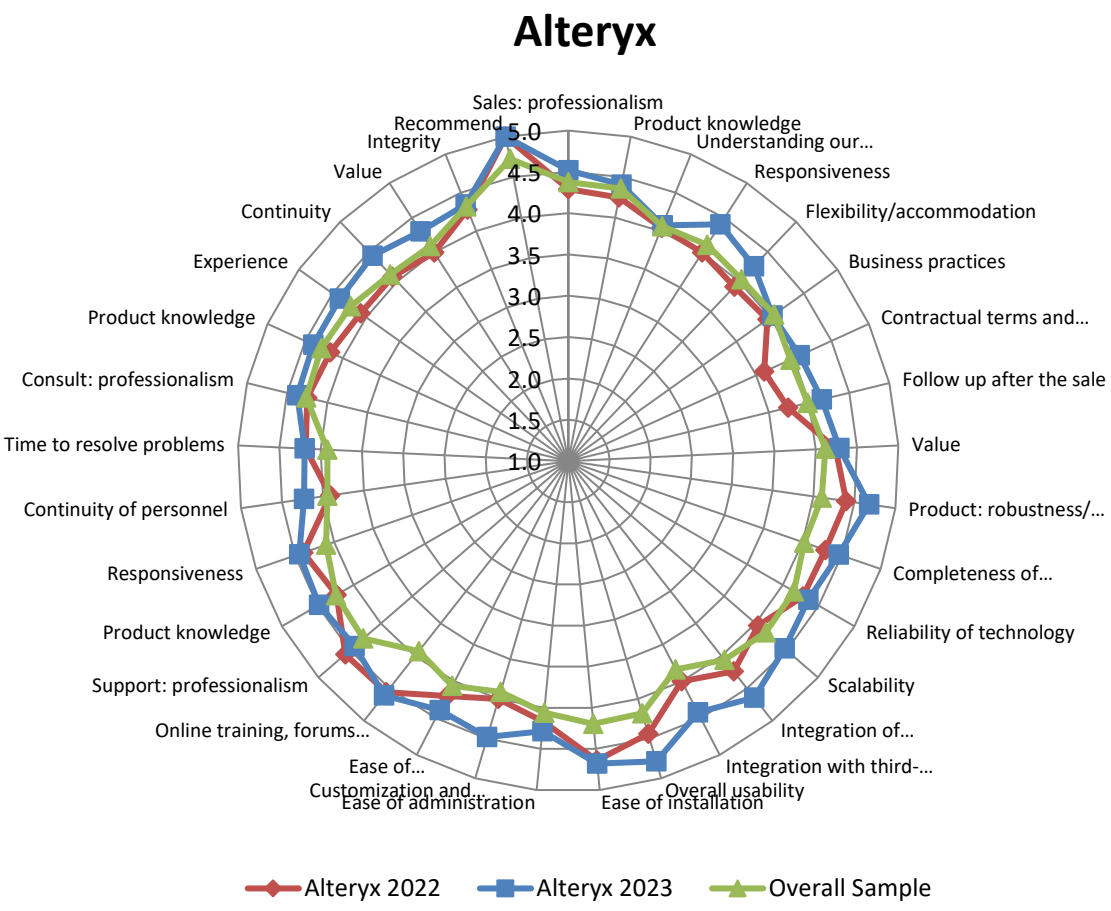


Figure 110 – Alteryx detailed score

For 2023, Alteryx is generally above the overall sample, with key improvements across virtually all measures including sales, product, technical support, consulting, and value. It is an Overall Leader in both Customer Experience and Vendor Credibility Models and is best in class for product robustness/sophistication of technology, completeness of functionality, integration of components within product, overall usability, and customization and extensibility. It maintains a perfect recommend score.

Amazon Detailed Score

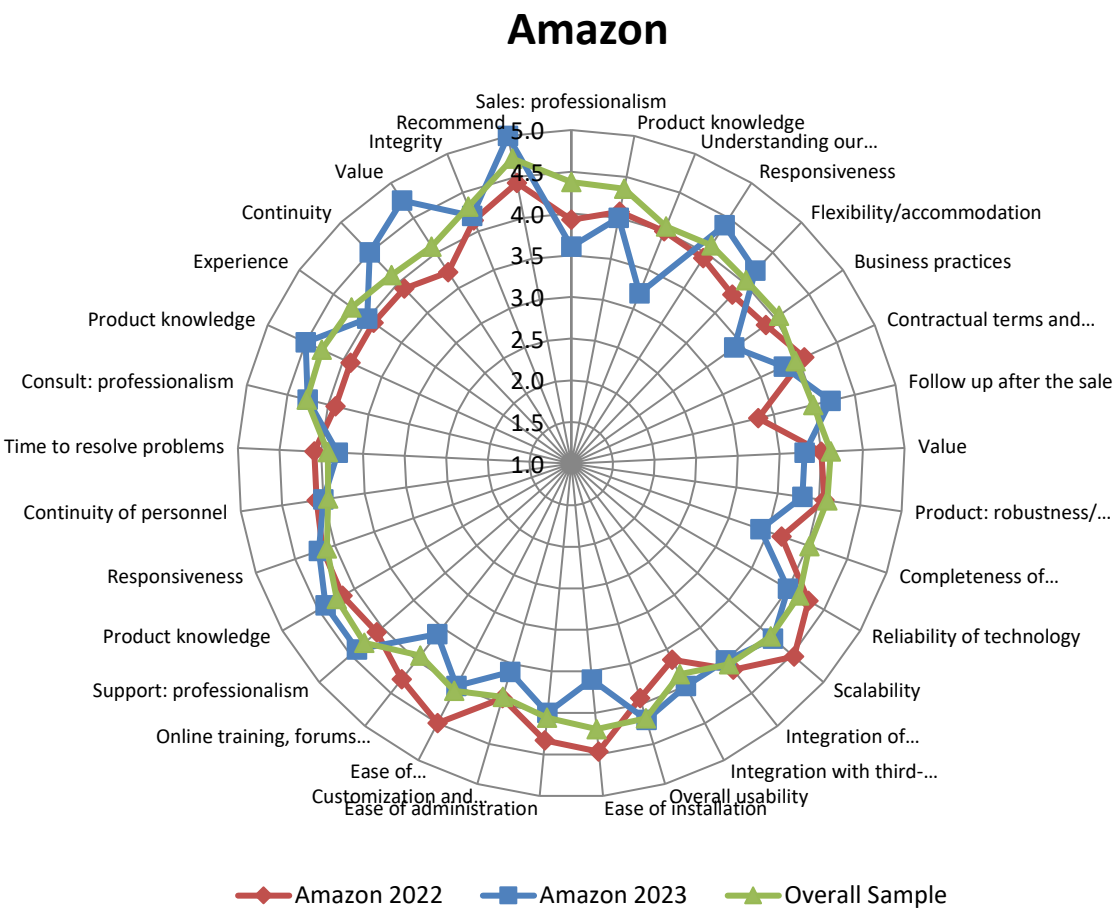


Figure 111 – Amazon detailed score

In 2023, Amazon's performance is mixed, with most measures below the overall sample and well below 2022. That said, several measures improved year-over-year, including those for consulting and technical support. It is a Contender in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. In spite of this, it has a perfect recommend score.

Dimensional Insight Detailed Score

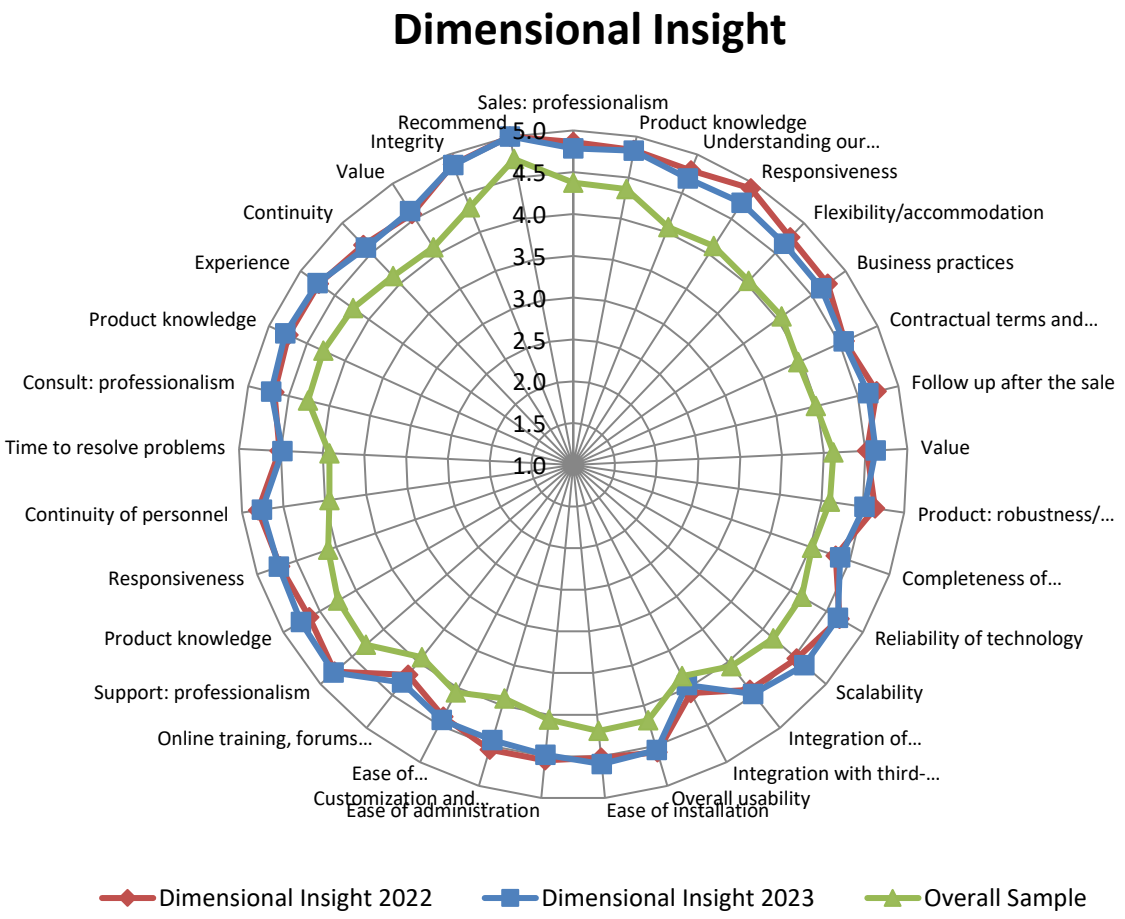


Figure 112 – Dimensional Insight detailed score

For 2023, Dimensional Insight maintains extremely high levels of performance across all categories of measurement including sales, value, product, technical support, consulting, and integrity. It is best in class for understanding business/needs, flexibility/accommodation, business practices, contractual terms and conditions, and reliability of technology. It remains an Overall Leader in both the Customer Experience, and Vendor Credibility Models and maintains a perfect recommend score.

Domo Detailed Score

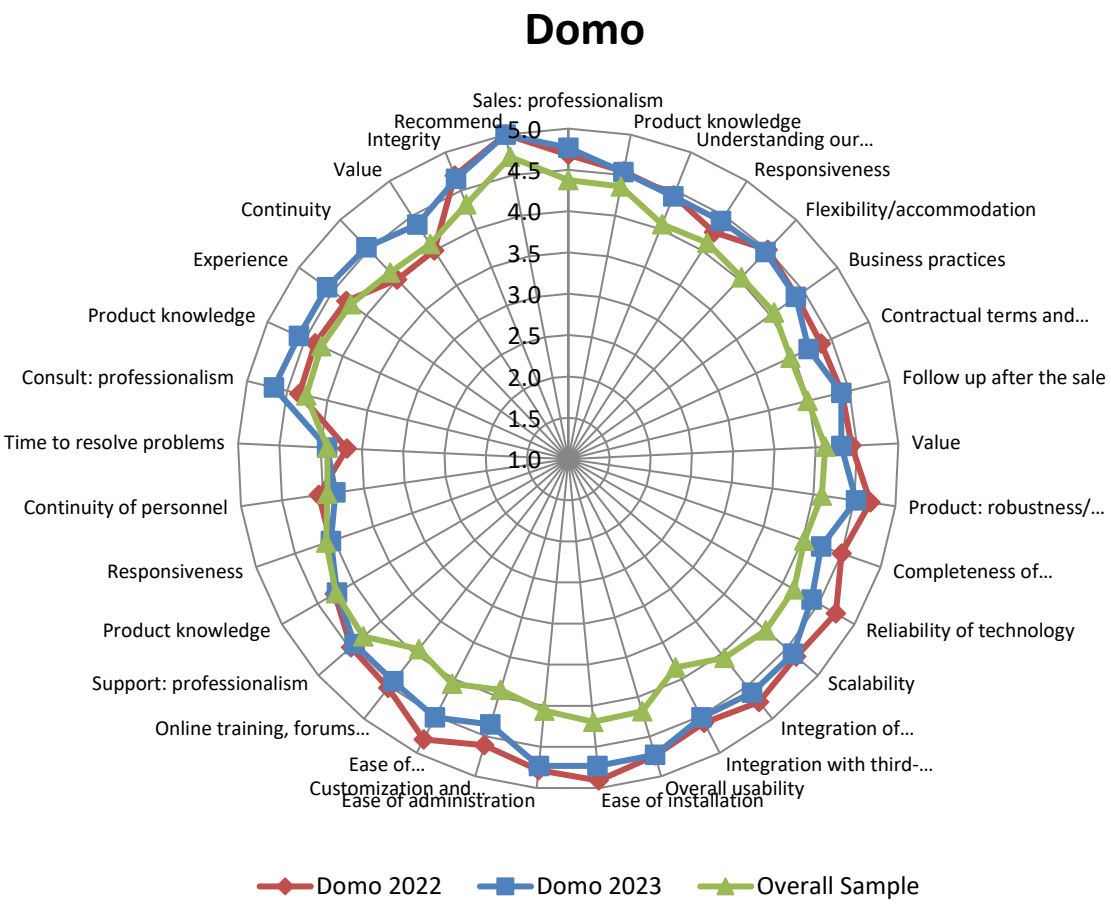


Figure 113 – Domo detailed score

In 2023, Domo remains well above the overall sample for virtually all measures and has key improvements for consulting services. It is an Overall Leader in both Customer Experience and Vendor Credibility Models and is best in class for integration with third-party technologies, product ease of installation, and ease of administration. It maintains a perfect recommend score.

Fluence Detailed Score

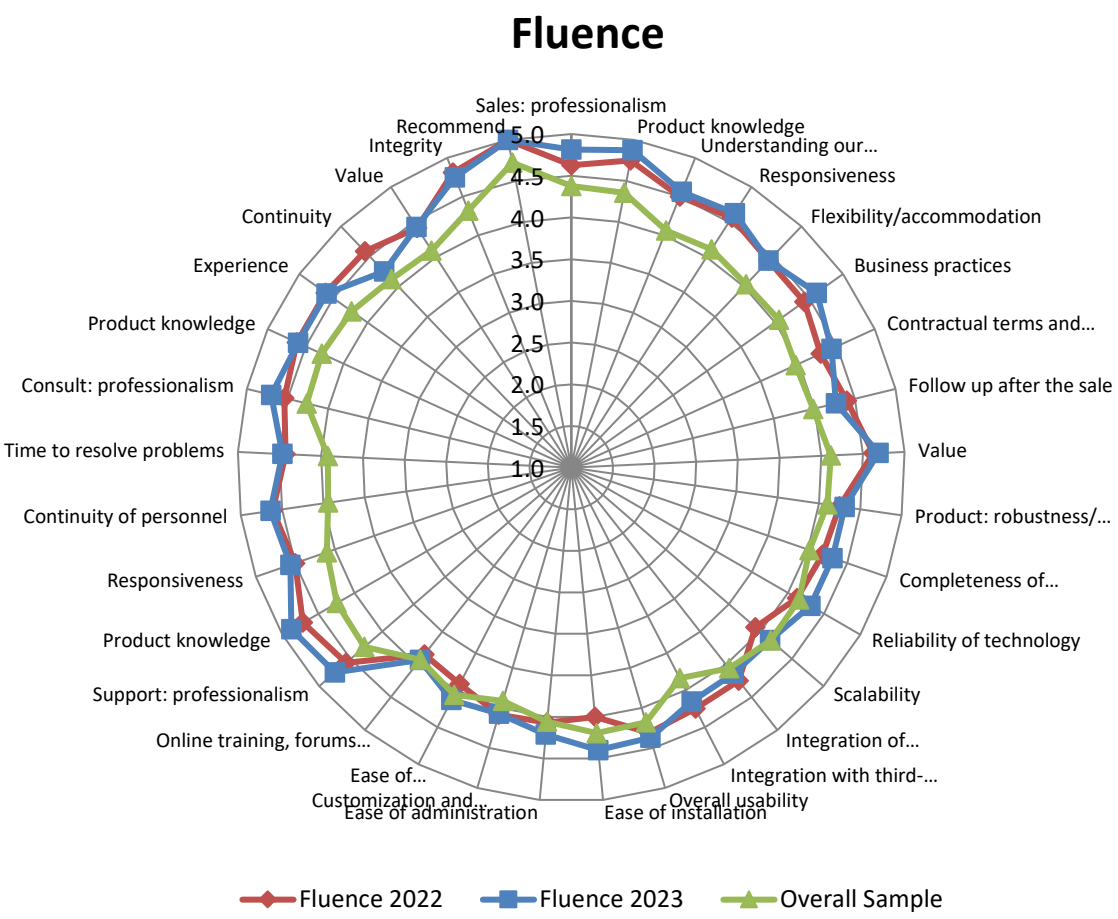


Figure 114 – Fluence detailed score

In 2023, Fluence remains generally above the overall sample for most categories of measurement, with improvements in sales, product, value, and technical support. It is best in class for overall value and is an Overall Leader in both Customer Experience and Vendor Credibility Models. It maintains a perfect recommend score.

Google Detailed Score

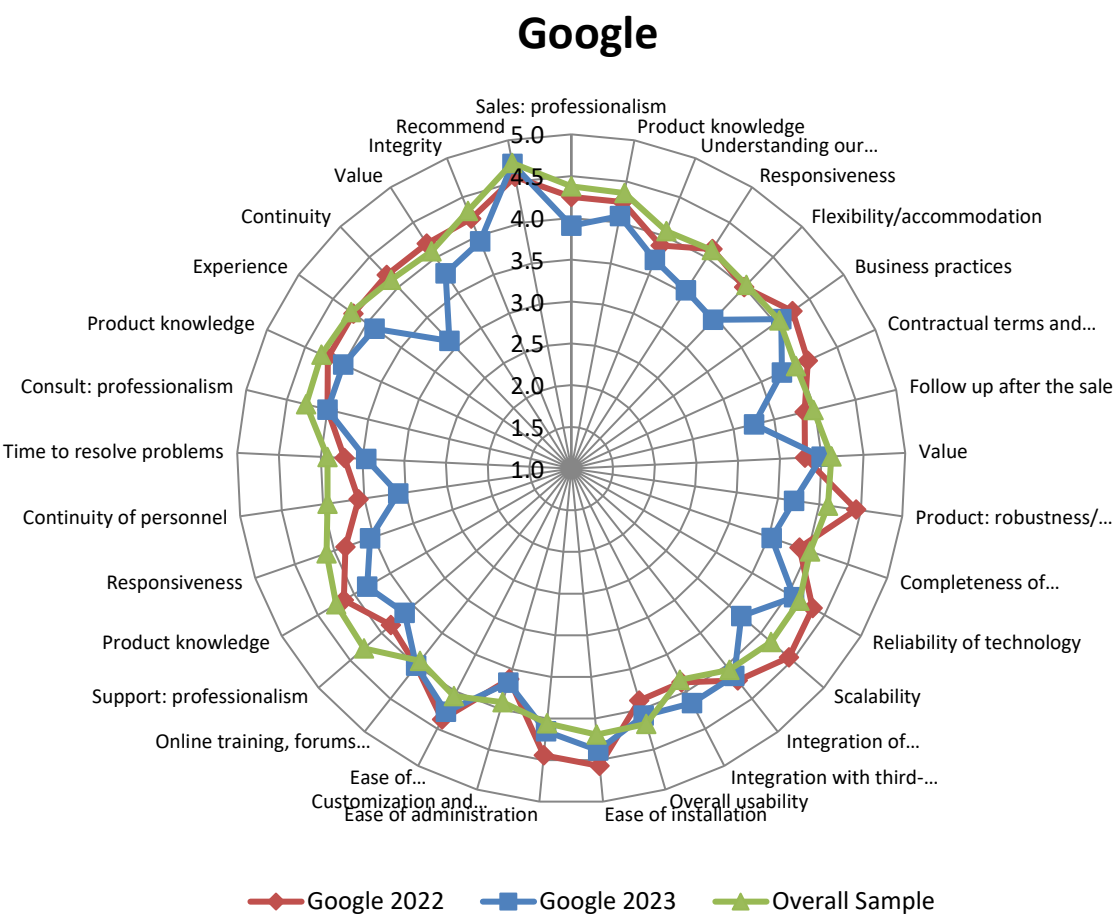


Figure 115 – Google detailed score

In 2023, Google's performance (including Looker) declined for most measures and is generally below the overall sample, with only a couple of exceptions. It is a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model.

ibi Detailed Score

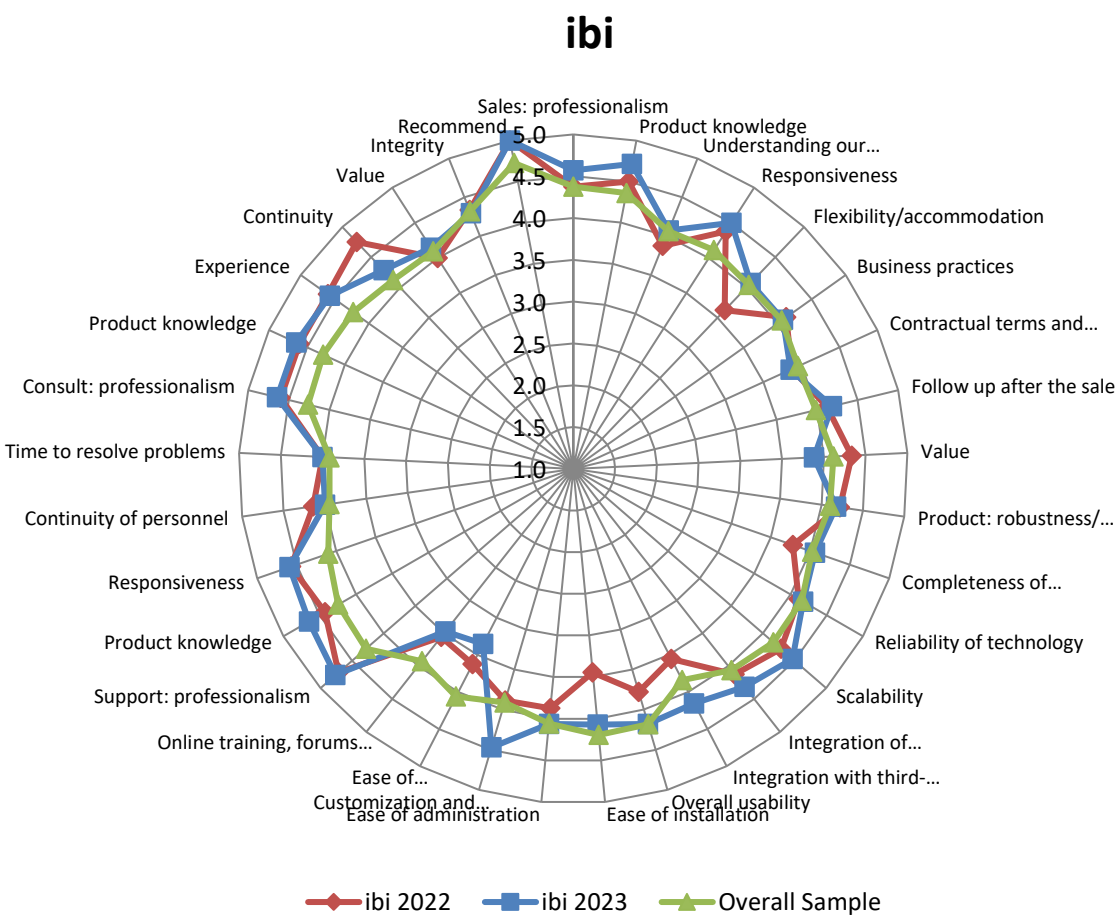


Figure 116 – ibi Software detailed score

In 2023, TIBCO spun Information Builders (ibi) out as a separate operating entity and brand. Compared to 2022, ibi's performance is generally above the overall sample for most measures, with key improvements for most product measures and a number of sales, technical support, and consulting measures. It is an Overall Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. It maintains a perfect recommend score.

IBM Detailed Score

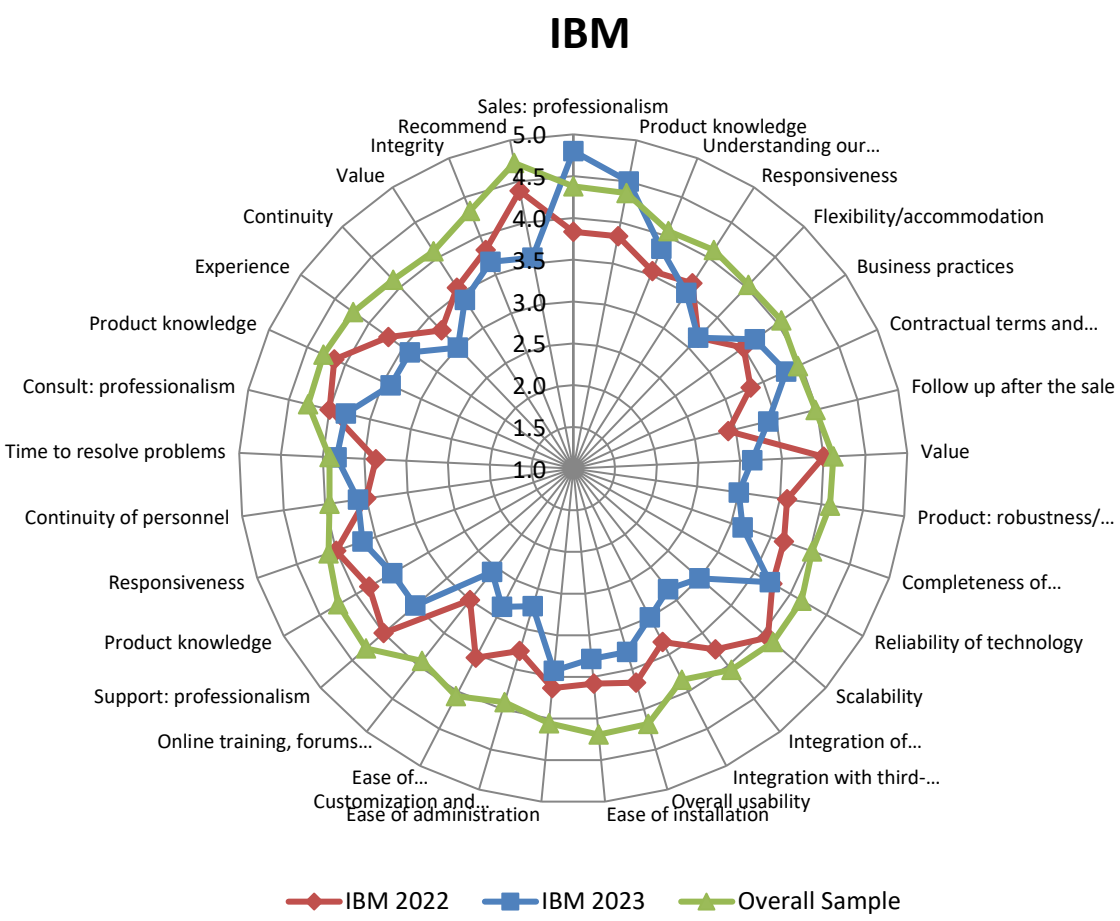


Figure 117 – IBM detailed score

In 2023, IBM declined in performance for most measures and is well below the overall sample. However, some improvements can be seen year over year for a number of sales performance measures. It is an Outlier in both Customer Experience and Vendor Credibility Models.

insightsoftware Detailed Score

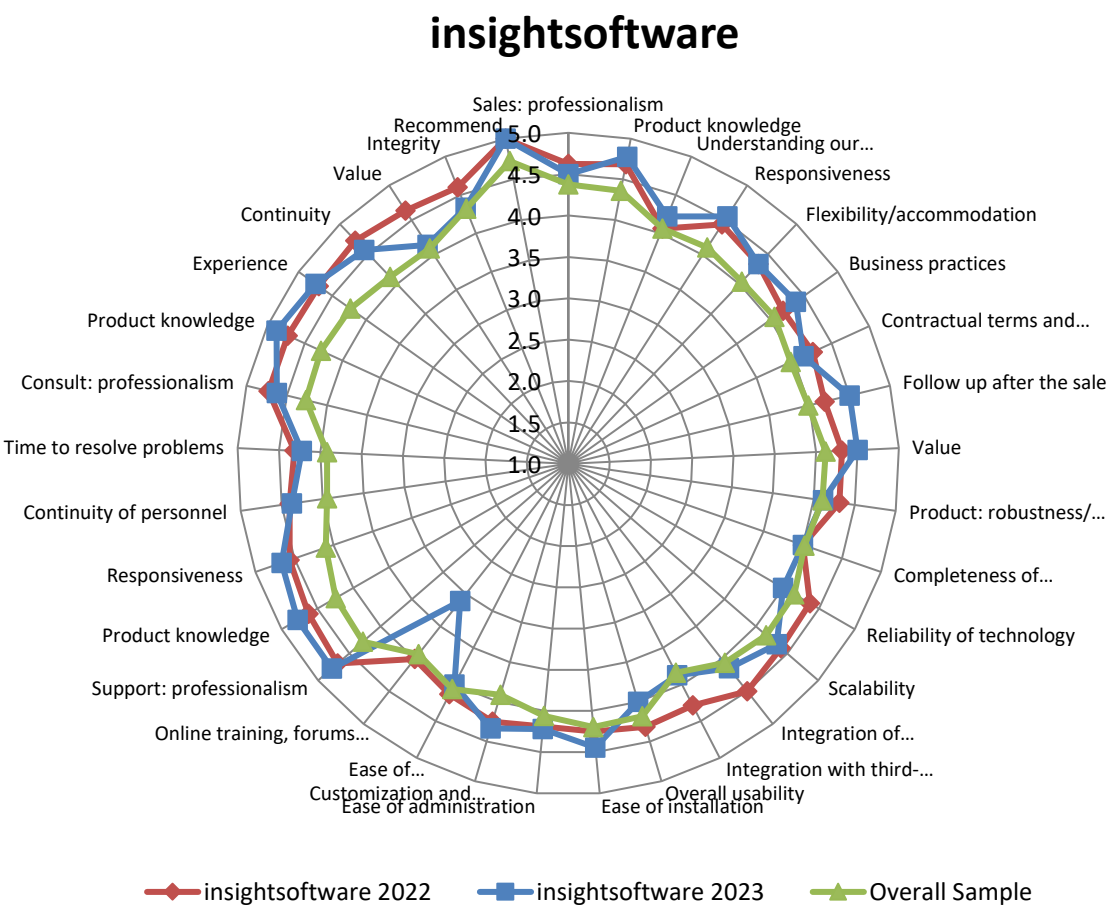


Figure 118 – insightsoftware detailed score

For 2023, insightsoftware is generally above the overall sample and has improvements in value, as well as some sales, product, technical support, and consulting measures. It is an Overall Leader in both Customer Experience and Vendor Credibility Models. It maintains a perfect recommend score.

Microsoft Detailed Score

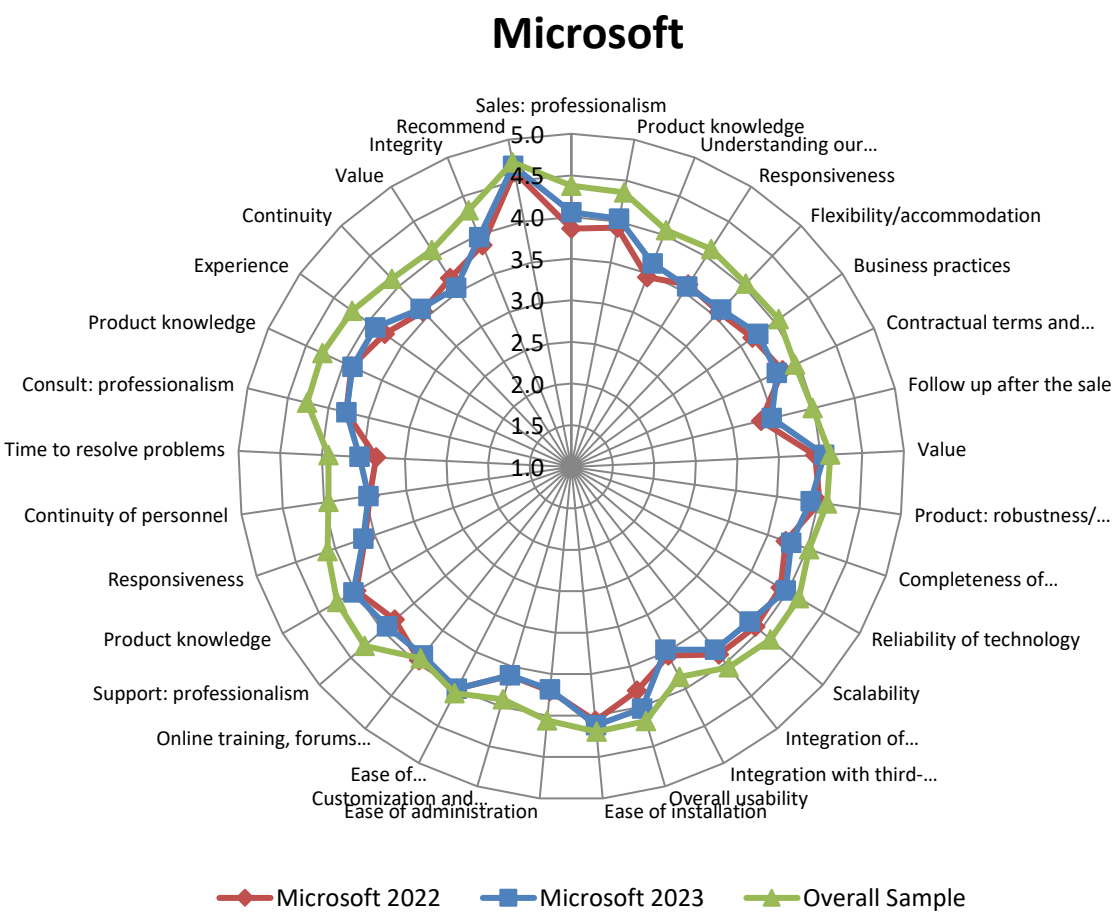


Figure 119 – Microsoft detailed score

In 2023, Microsoft remains below the overall sample for most measures with performance that is roughly in line with 2022. It is a Contender in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model.

MicroStrategy Detailed Score

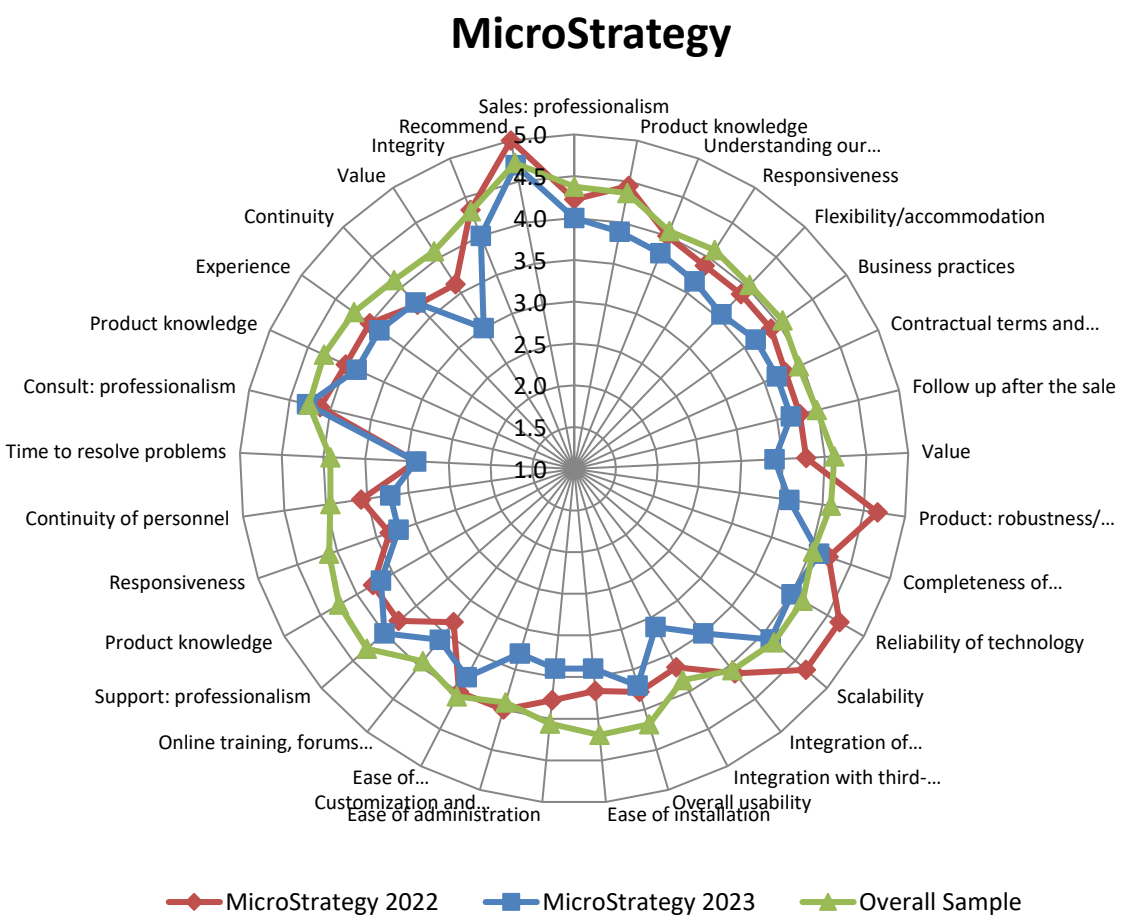


Figure 120 – MicroStrategy detailed score

In 2023, MicroStrategy's performance continues to erode and is well below the overall sample for virtually all measures. It is a Contender in the Customer Experience Model and an Outlier in the Vendor Credibility Model.

Oracle Detailed Score

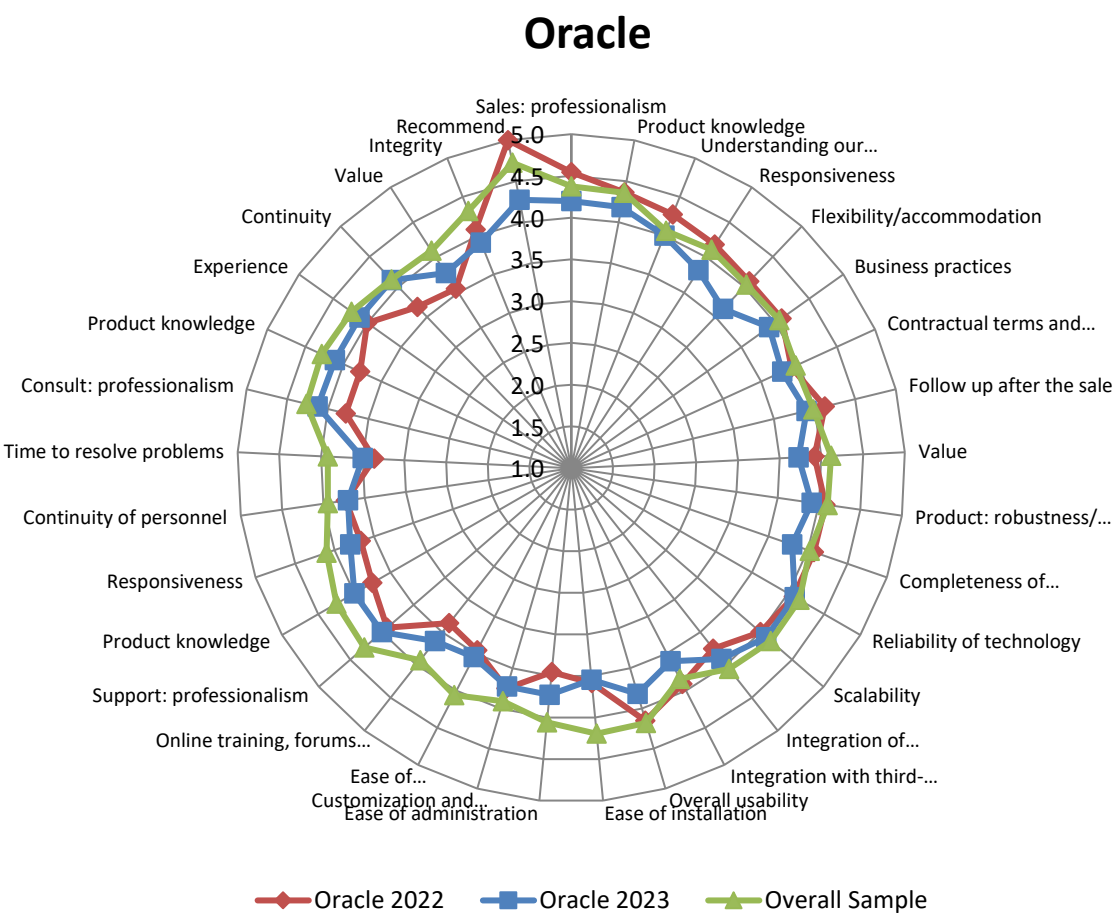


Figure 121 – Oracle detailed score

In 2023, Oracle remains generally below the overall sample with a mix of both performance declines and improvements. For example, all sales measures, value, some product measures, integrity, and recommend decline while technical support and consulting improve. It is a Contender in both Customer Experience and Vendor Credibility Models.

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Pyramid Analytics Detailed Score

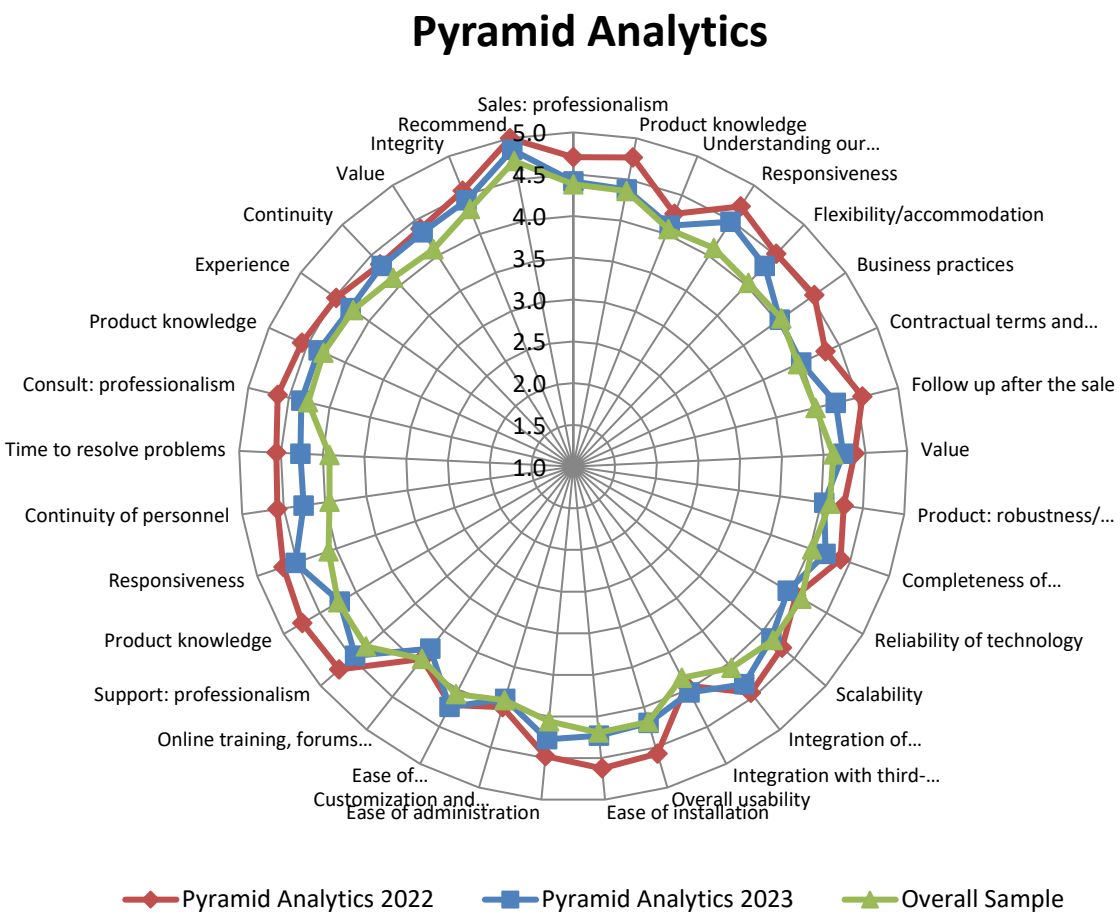

Figure 122 – Pyramid Analytics detailed score

In 2023, Pyramid Analytics is generally above or in-line with the overall sample, with declines in all categories of measurement including sales, value, product, technical support, consulting, integrity and recommend. In spite of that, it remains an Overall Leader in both Customer Experience and Vendor Credibility Models.

Qlik Detailed Score

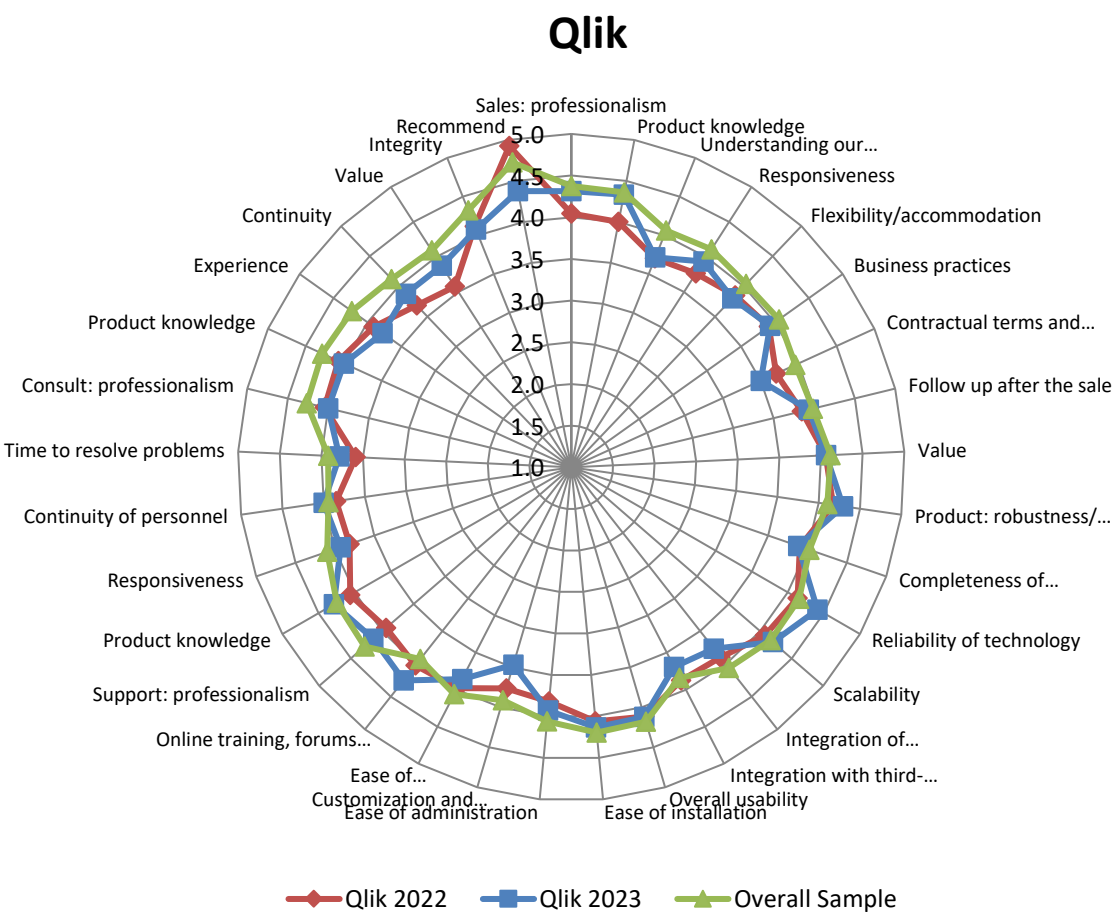

Figure 123 – Qlik detailed score

In 2023, Qlik remains somewhat below the overall sample with some improvements in sales, product, value, and technical support. It is a Technology Leader in the Customer Experience Model and a Contender in the Vendor Credibility Model.

Qrvey Detailed Score

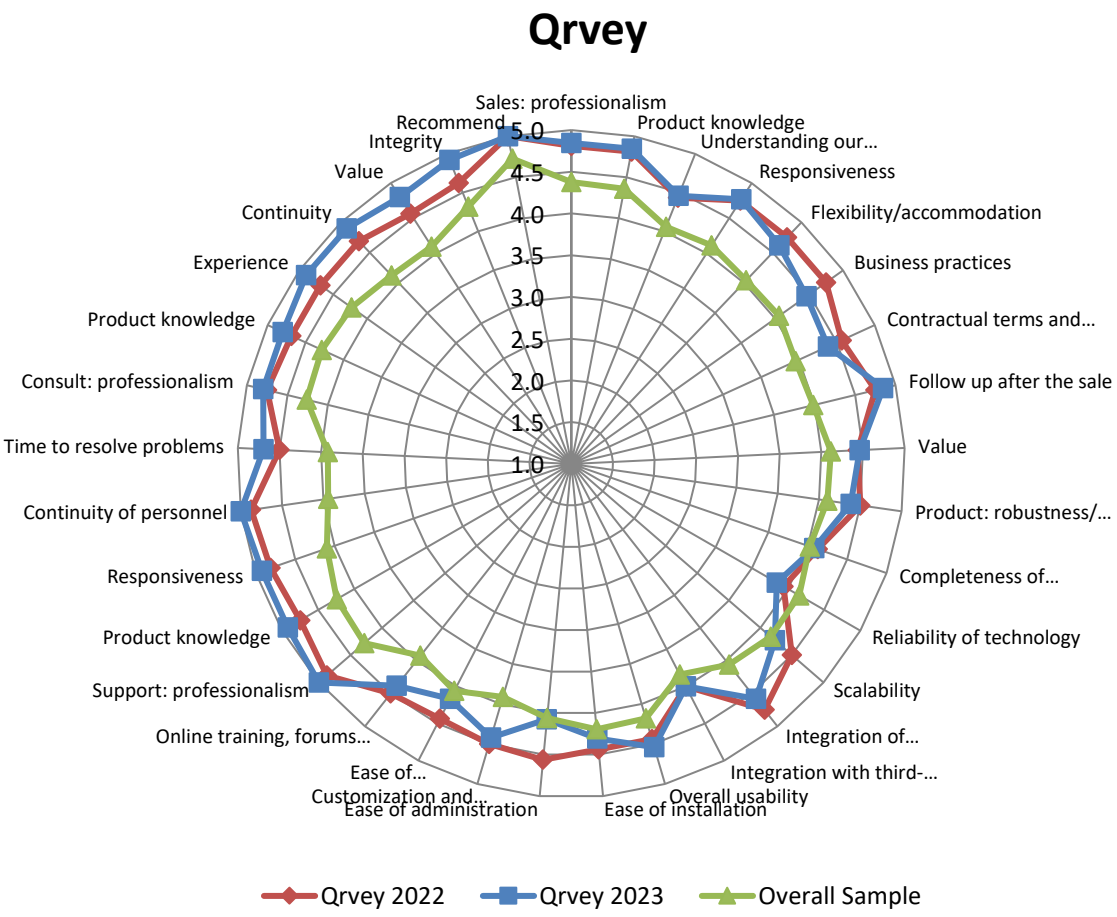

Figure 124 – Qrvey detailed score

In 2023, Qrvey remains above the overall sample for most measures with improvements in sales, value, technical support, consulting services, and integrity. It is an Overall Leader in both Customer Experience and Vendor Credibility Models and is best in class for sales professionalism, follow up after the sale, all technical support measures, and four out of five consulting measures. It maintains a perfect recommend score.

SAP Detailed Score

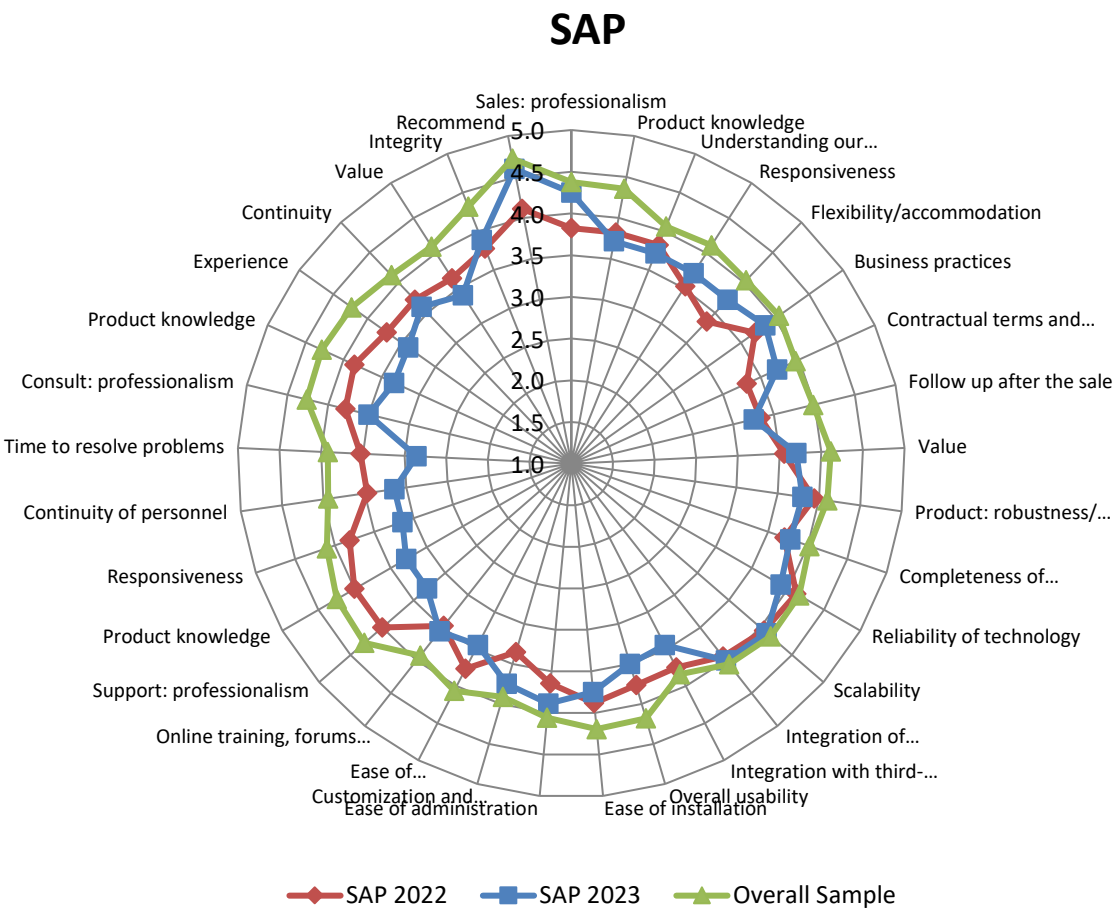

Figure 125 – SAP detailed score

For 2023, SAP remains generally below the overall sample with declines across a majority of measures including technical support and consulting. This is somewhat offset by improvement in some sales and product measures. It remains a Contender in both Customer Experience and Vendor Credibility Models.

SAS Detailed Score

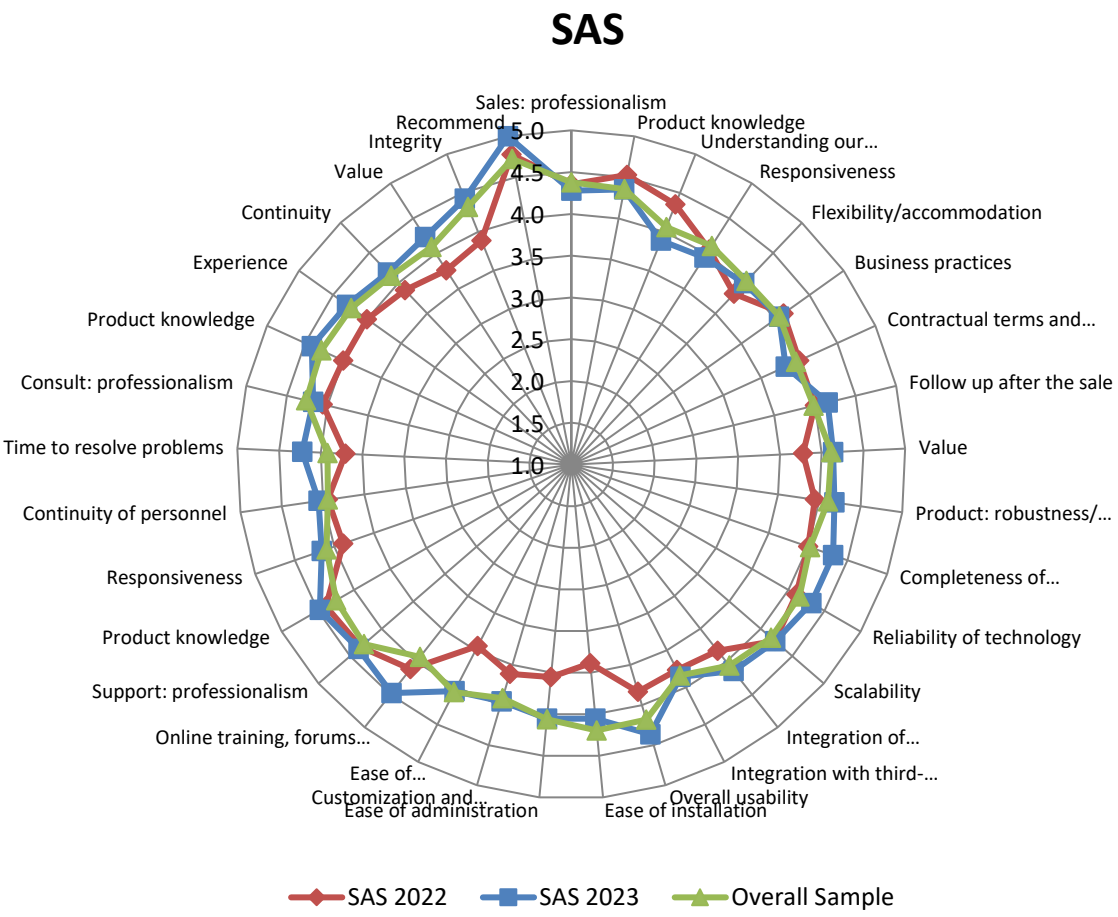

Figure 126 – SAS detailed score

In 2023, SAS finds itself generally in line with or somewhat above the overall sample, with improvements in most categories of measures with the exception of sales. It is an Overall Leader in the Customer Experience Model and a Trust Leader in the vendor Credibility Model. It has a perfect recommend score.

Sigma Computing Detailed Score

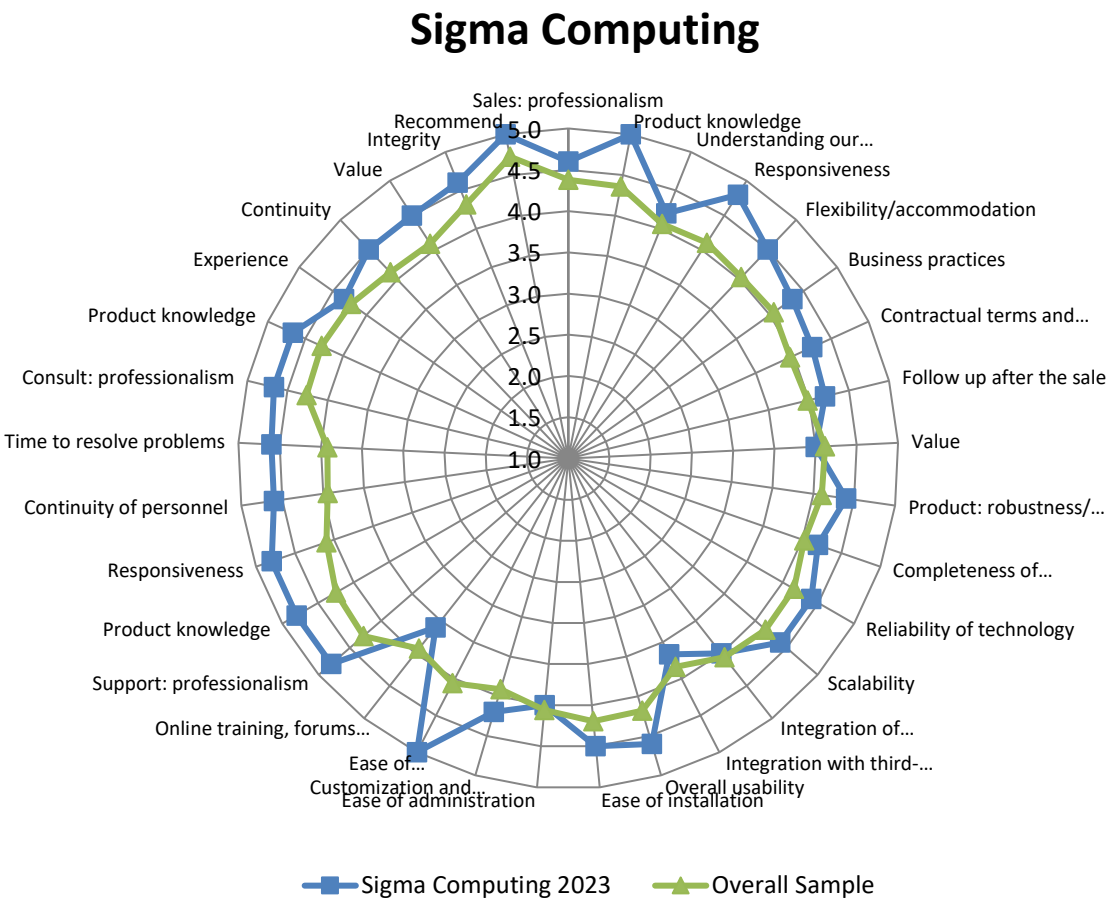

Figure 127 – Sigma Computing detailed score

In its first year of coverage, Sigma Computing is well above the overall sample for most measures. It is an Overall Leader in both Customer Experience Model and Vendor Credibility Models and is best in class for sales product knowledge, responsiveness, and product ease of upgrade/migration to new versions. It has a perfect recommend score.

Sisense Detailed Score

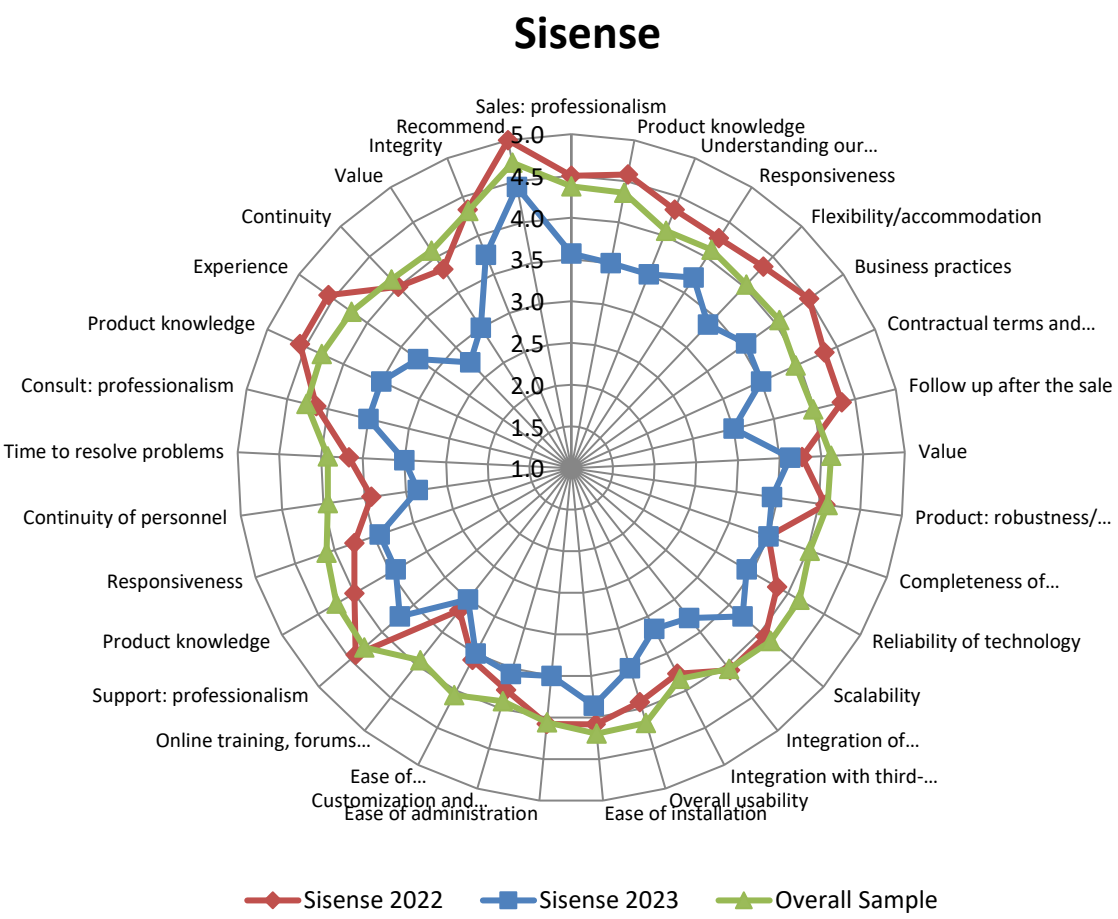

Figure 128 – Sisense detailed score

In 2023, Sisense's performance continues downward with virtually all measures below last year and this year's overall sample. It is an Outlier in the Customer Experience Model and a Contender in the Vendor Credibility Model.

Snowflake Detailed Score

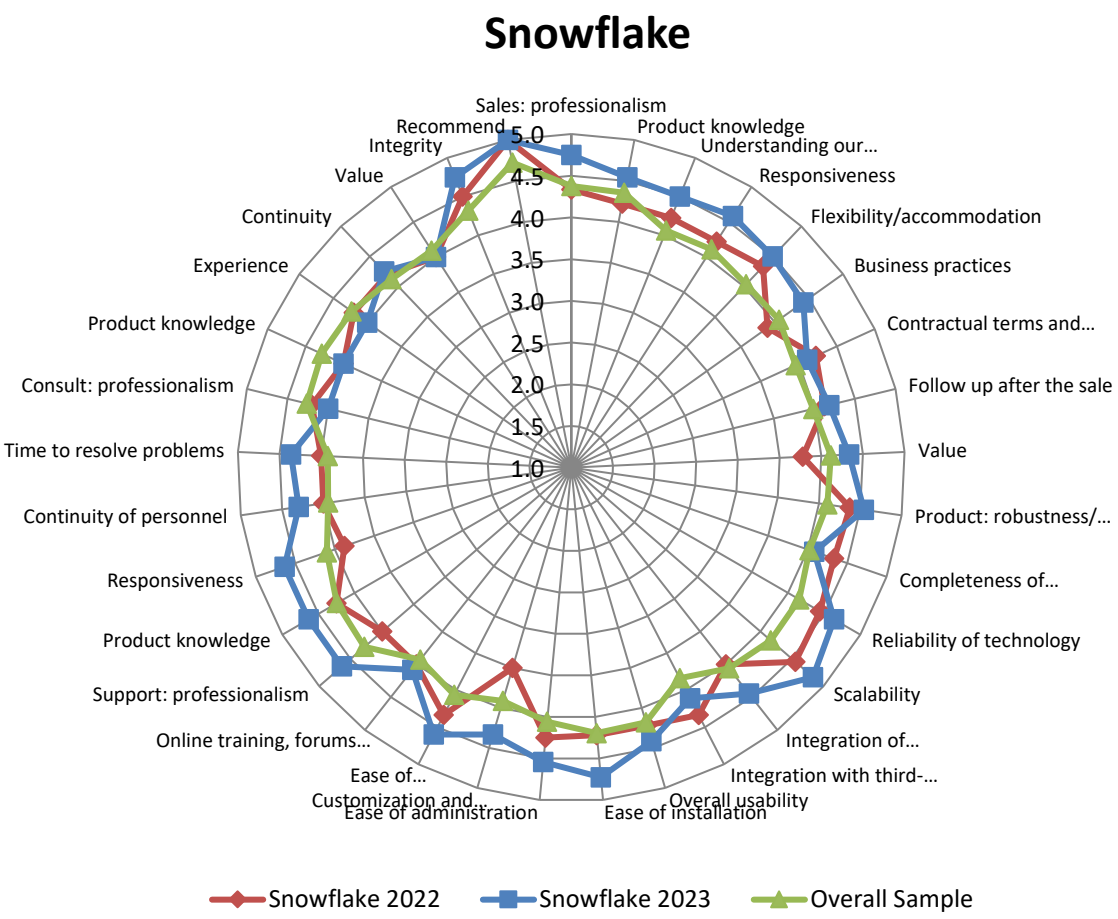

Figure 129 – Snowflake derailed score

For 2023, Snowflake made strides in improving performance for most categories of measurement including sales, value, product, technical support, consulting, and integrity. It is an Overall Leader in both Customer Experience and Vendor Credibility Models and is best in class for scalability. It maintains a perfect recommend score.

Tableau Detailed Score

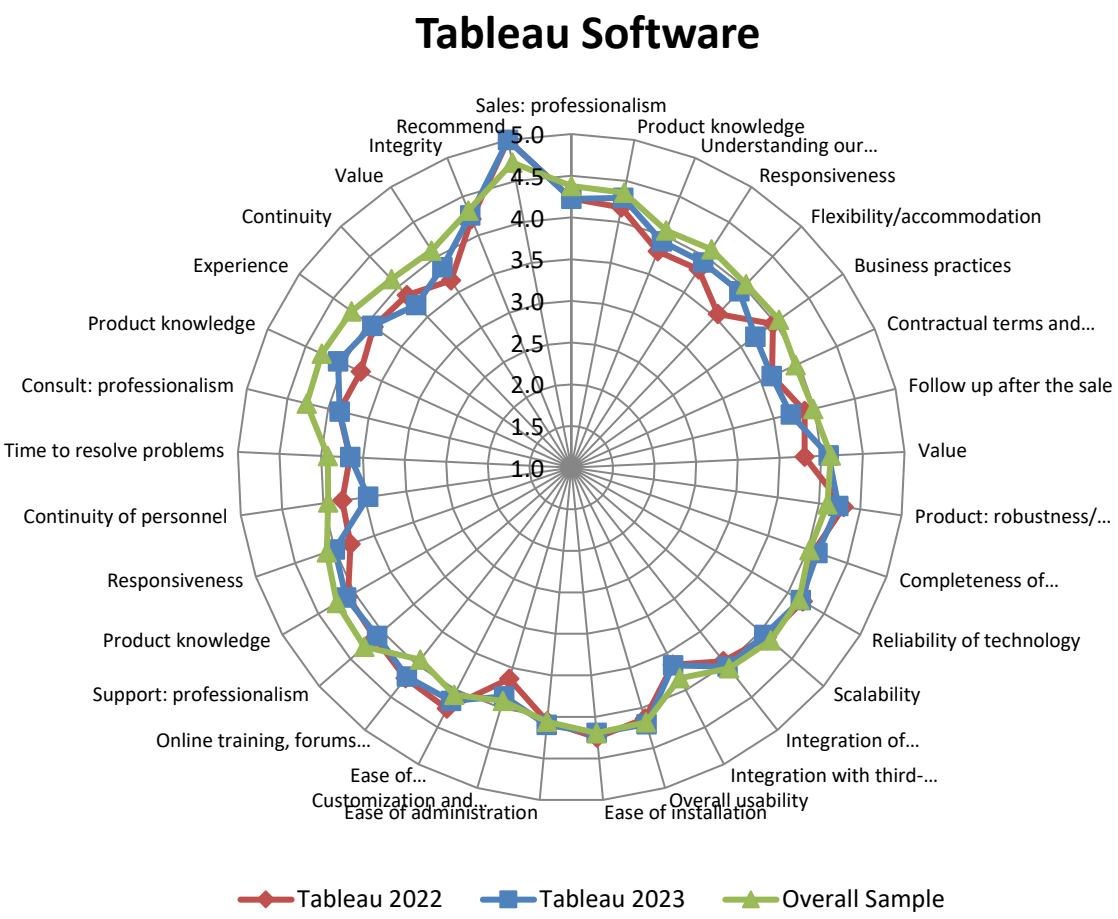

Figure 130 – Tableau detailed score

In 2023, Tableau is generally in line with or somewhat below the overall sample with some improvements in sales, product, value, technical support, and consulting. It is a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. It maintains a perfect recommend score.

Targit Detailed Score

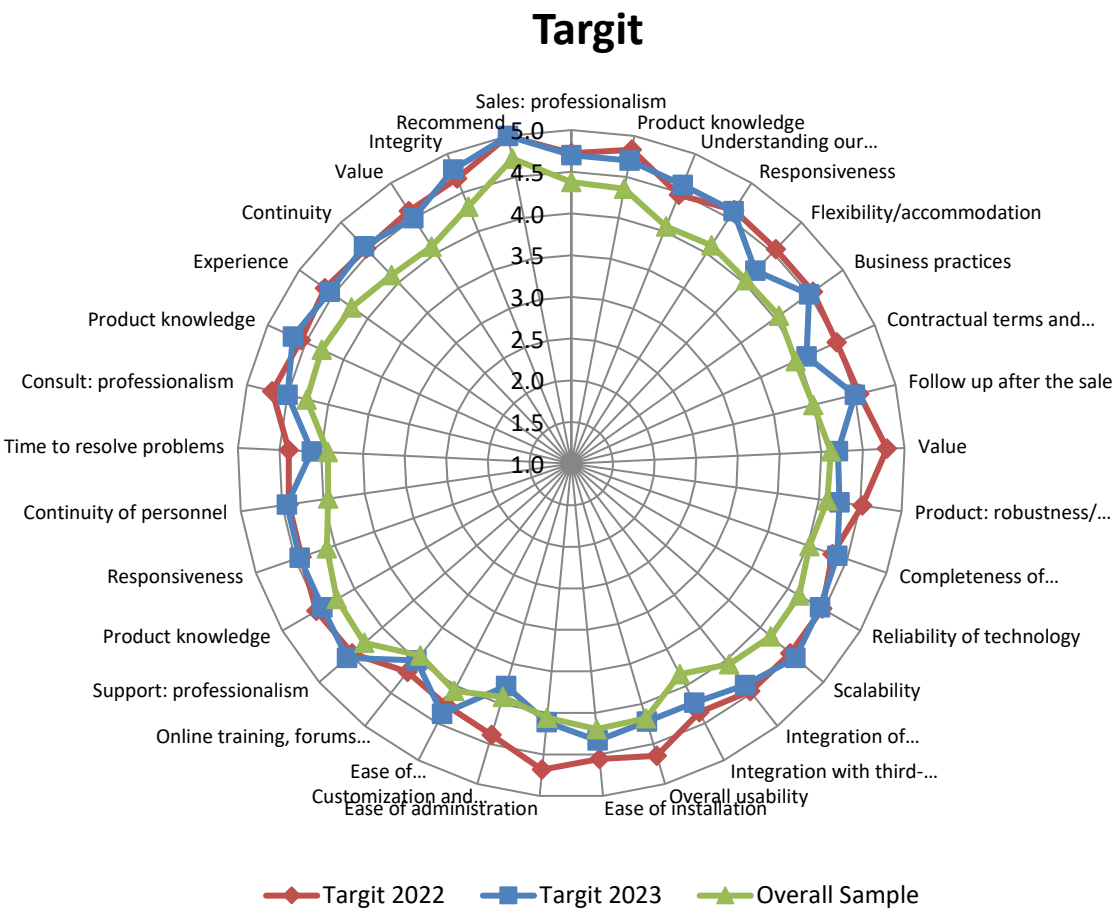

Figure 131 – Targit detailed score

For 2023, Targit remains above the overall sample for virtually all measures with some improvements in product, technical support, and consulting. It is an Overall Leader in both Customer Experience and Vendor Credibility Models and maintains a perfect recommend score.

Yellowfin BI Detailed Score

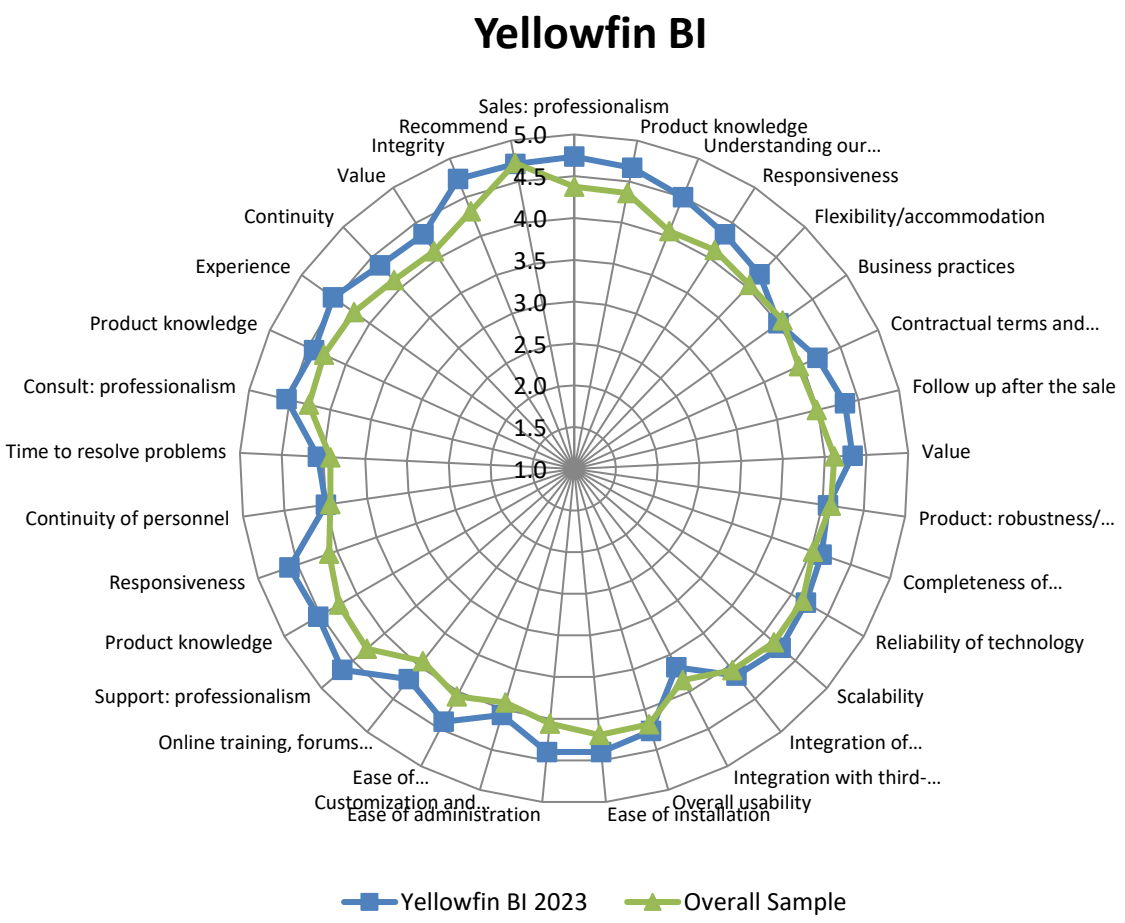

Figure 132 – Yellowfin BI detailed score

In its first year of inclusion, Yellowfin BI is above the overall sample for most measures of performance. It is an Overall Leader in both Customer Experience and Vendor Credibility Models.

Zoho Detailed Score

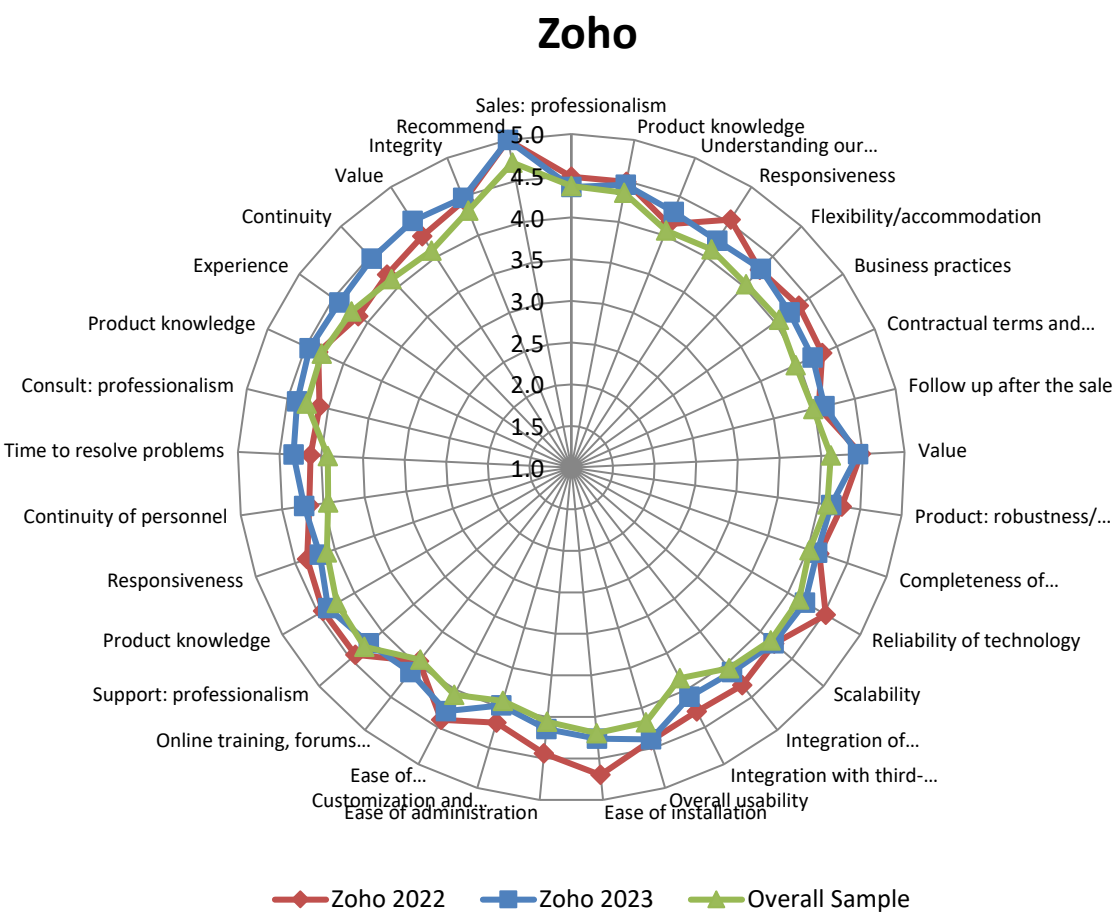

Figure 133 – Zoho detailed score

In 2023, Zoho's scores remain generally above the overall sample, with key improvements in overall value, technical support, consulting, and integrity. It is an Overall Leader in both Customer Experience and Vendor Credibility Models and has a perfect recommend score.

Other Dresner Advisory Services Research Reports

- Wisdom of Crowds® "Flagship" Business Intelligence Market Study
- Analytical Data Infrastructure
- Analytical Platforms
- BI Competency Center
- Cloud Computing and Business Intelligence
- Data Engineering
- Data Science and Machine Learning
- Embedded Business Intelligence
- Enterprise Performance Management
- ESG Reporting
- Financial Consolidations, Close Management, and Reporting
- Guided Analytics
- Master Data Management
- ModelOps
- Sales Performance Management
- Self-Service Business Intelligence
- Small and Mid-Sized Enterprise Business Intelligence
- Small and Mid-Sized Enterprise Performance Management
- Supply Chain Planning and Analysis
- Workforce Planning and Analysis

Dresner Advisory Services - Wisdom of Crowds® Survey Instrument

Please enter your contact information below

First Name*: _____

Last Name*: _____

Title: _____

Company Name*: _____

Street Address: _____

City: _____

State: _____

Zip: _____

Country: _____

Email Address*: _____

Phone Number: _____

URL: _____

May we contact you to discuss your responses and for additional information?

( ) Yes

( ) No

What major geography do you reside in?*

( ) North America

( ) Europe, Middle East and Africa

( ) Latin America

( ) Asia Pacific

Please identify your primary industry*

( ) Advertising

( ) Aerospace

( ) Agriculture

( ) Apparel & Accessories

( ) Automotive

( ) Aviation

( ) Biotechnology

( ) Broadcasting

( ) Business Services

( ) Chemical

( ) Construction

( ) Consulting

( ) Consumer Products

( ) Defense

( ) Distribution & Logistics

( ) Education (Higher Ed)

( ) Education (K-12)

( ) Energy

( ) Entertainment and Leisure

( ) Executive search

( ) Federal Government

( ) Financial Services

( ) Food, Beverage and Tobacco

( ) Healthcare (Payer)

( ) Healthcare (Provider)

( ) Hospitality

( ) Insurance

( ) Legal

( ) Manufacturing

( ) Mining

( ) Motion Picture and Video

( ) Not for Profit

( ) Pharmaceuticals

( ) Publishing

( ) Real Estate (Commercial)

( ) Real Estate (Residential)

( ) Retail and Wholesale

( ) Sports

( ) State and Local Government

( ) Technology

( ) Telecommunications

( ) Transportation

( ) Travel

( ) Utilities

( ) Other - Please specify below

Please type in your industry

_____

How many employees does your company employ worldwide?

( ) 1-100

( ) 101-1,000

( ) 1,001-2,000

( ) 2,001-5,000

( ) 5,001-10,000

( ) More than 10,000

What function do you report into?
*

( ) Business Intelligence Competency Center

( ) Executive Management

( ) Finance

( ) Human Resources

( ) Information Technology (IT)

( ) Marketing

( ) Operations (e.g., Manufacturing, Supply Chain, Services)

( ) Research and Development (R&D)

( ) Sales

( ) Strategic Planning Function

( ) Other - Write In

How many years has your company been in existence?

( ) Less than 5 years

( ) 5-10 years

( ) 11-16 years

( ) 16 or more years

How often is data instrumental in decision-making in your organization?

( ) All the time

( ) Most of the time

( ) Some of the time

( ) Infrequently

( ) Never

On average how recent must data be to support decision-making effectiveness?

( ) Quarterly

( ) Monthly

( ) Weekly

( ) Daily

( ) Hourly

( ) Real time

Has the need for more recent data increased, decreased or stayed the same versus the past 12 months?

( ) Increased

( ) Decreased

( ) Stayed the same

How would you describe the usage and role of spreadsheets within your organization?

How pervasive is the use of spreadsheets in your organization?

( ) Everyone uses them

( ) Most use them

( ) Some use them

( ) Few use them

What role do spreadsheets play within your organization?

( ) As a strategic tool for analysis (sanctioned by organization)

( ) As a necessary evil (tolerated by organization)

( ) As a nuisance (frowned upon by organization)

In the next year, will the use of spreadsheets increase or decrease?

( ) Increase

( ) Decrease

( ) Stay the same

Has your organization been impacted in the past 5 years by Mergers & Acquisitions (M&A) activity in the BI / Data and Analytics Industry?

( ) Yes

( ) No

How concerned are you about mergers and acquisitions (M&A) by BI / analytics or EPM vendors?

( ) Extremely concerned

( ) Very concerned

( ) Somewhat concerned

( ) Not concerned

What steps have you taken or will you take to mitigate the risk of M&A?

_____

Does your organization have identified data leadership in place?

( ) Yes

( ) No

( ) Future

Is this leadership a formal Chief Data Officer (CDO) or Chief Analytics Officer (CAO)?

( ) Yes

( ) Other Title - Write In: _____

How long has your organization had a Chief Data Officer or Chief Analytics Officer in place?

	For less than 1 year	1-3 years	3-5 years	More than 5 years
Chief Data Officer (CDO)	( )	( )	( )	( )
Chief Analytics Officer (CAO)	( )	( )	( )	( )

To which role does the CDO or CAO report?

	CEO	CFO	CMO	CIO	Other
Chief Data Officer (CDO)	( )	( )	( )	( )	( )
Chief Analytics Officer (CAO)	( )	( )	( )	( )	( )

If "other", to which role does your CDO report?

_____

If "other", to which role does your CAO report?

_____

How effective has the Chief Data Officer been within your organization?

( ) Extremely Effective

( ) Somewhat Effective

( ) Somewhat Ineffective

( ) Completely Ineffective

What actions do you associate with the role of the Chief Data Officer? Check all that apply.

[ ] Delegate

[ ] Orchestrate

[ ] Govern

[ ] Align

[ ] Communicate

[ ] Decide

How important is it that a Chief Data Officer be technically oriented?

( ) Critical

( ) Very Important

( ) Important

( ) Somewhat Important

( ) Not Important

How effective has the Chief Analytics Officer been within your organization?

( ) Extremely Effective

( ) Somewhat Effective

( ) Somewhat Ineffective

( ) Completely Ineffective

How "data literate" is your user community?

( ) Extremely High Literacy

( ) High Literacy

( ) Moderate Literacy

( ) Low Literacy

( ) Very Low Literacy

How has data literacy changed in the past 12 months?

( ) Increased

( ) Decreased

( ) Stayed the same

Do you have a data literacy program in place to build/reinforce these skills within your user community?

( ) Yes

( ) No

( ) We are planning to start one

Please indicate the importance of the following technologies to your strategy and plans.

	Critical	Very Important	Important	Somewhat Important	Not Important
Ability to Write to Transactional Applications	( )	( )	( )	( )	( )
Big Data (e.g., Hadoop)	( )	( )	( )	( )	( )
Cloud (Software-as-a-Service)	( )	( )	( )	( )	( )
Cognitive BI (e.g., Artificial Intelligence-Based BI)	( )	( )	( )	( )	( )
Collaborative Support for Group-Based Analysis	( )	( )	( )	( )	( )
Complex Event Processing (CEP)	( )	( )	( )	( )	( )
Dashboards	( )	( )	( )	( )	( )
Data Catalog	( )	( )	( )	( )	( )
Data Discovery	( )	( )	( )	( )	( )
Data Fabric	( )	( )	( )	( )	( )
Data	( )	( )	( )	( )	( )

Integration					
Data Lakes	( )	( )	( )	( )	( )
Data Operations (Ops)	( )	( )	( )	( )	( )
Data Preparation and Blending	( )	( )	( )	( )	( )
Data Science (e.g., Machine Learning, Data Mining, Advanced Algorithms, Predictive)	( )	( )	( )	( )	( )
Data Storytelling	( )	( )	( )	( )	( )
Data Visualization	( )	( )	( )	( )	( )
Data Warehousing	( )	( )	( )	( )	( )
Edge Computing	( )	( )	( )	( )	( )
Embedded BI (contained within an application, portal, etc.)	( )	( )	( )	( )	( )
End-User "Self-Service"	( )	( )	( )	( )	( )
Enterprise	( )	( )	( )	( )	( )

Planning / Budgeting					
GDPR (General Data Protection Regulation)	( )	( )	( )	( )	( )
Governance	( )	( )	( )	( )	( )
Graph Technology	( )	( )	( )	( )	( )
Guided Analytics	( )	( )	( )	( )	( )
HCM / People Analytics	( )	( )	( )	( )	( )
In-Memory Analysis	( )	( )	( )	( )	( )
Integration with Operational Processes	( )	( )	( )	( )	( )
Internet of Things (IoT)	( )	( )	( )	( )	( )
Location Intelligence / Analytics	( )	( )	( )	( )	( )
Low-code / No-code Analytics	( )	( )	( )	( )	( )
Master Data Management	( )	( )	( )	( )	( )
Marketing	( )	( )	( )	( )	( )

Analytics					
Metadata Management	( )	( )	( )	( )	( )
Mobile Device Support	( )	( )	( )	( )	( )
Natural Language Analytics (natural language query/ natural language generation)	( )	( )	( )	( )	( )
OLAP/ Multi-Dimensionality	( )	( )	( )	( )	( )
Open Source Software	( )	( )	( )	( )	( )
Prepackaged Vertical / Functional Analytical Applications	( )	( )	( )	( )	( )
Reporting	( )	( )	( )	( )	( )
Robotic Process Automation (RPA) and Analysis	( )	( )	( )	( )	( )
Sales Planning	( )	( )	( )	( )	( )
Search-Based Interface	( )	( )	( )	( )	( )

Spreadsheets	( )	( )	( )	( )	( )
Streaming Data Analysis	( )	( )	( )	( )	( )
Text Analytics	( )	( )	( )	( )	( )
Times Series Analysis	( )	( )	( )	( )	( )
Video Analytics	( )	( )	( )	( )	( )
Voice Analytics	( )	( )	( )	( )	( )

Please respond to the following statement: "My organization considers our business intelligence initiatives a success."*

( ) Completely Agree

( ) Agree Somewhat

( ) Disagree Somewhat

( ) Disagree

Which of the following factors contributed to your organization's success with business intelligence?

[ ] Support from senior management or other BI champions

[ ] A culture that understands and values fact-based decision-making

[ ] Business objectives or needs were understood and met

[ ] Good communication/collaboration between those developing/supporting BI solution and those using it

[ ] Use of specific technology

[ ] Reliable, trustworthy data

[ ] Availability of skilled, expert resources

[ ] Available data literacy education

[ ] Widespread access to BI solutions and technology

[ ] Available technology / tool education

[ ] Self-service capabilities

[ ] Solution / tool ease of use

[ ] Other - Write In: _____

[ ] Other - Write In: _____

How do you determine BI success?

[ ] Return on investment (ROI) model

[ ] User feedback/satisfaction

[ ] Customer feedback/satisfaction

[ ] Number of deployed users

[ ] System/application activity

[ ] Other - Write In: _____

[ ] Other - Write In: _____

Which of the following factors contributed to your organization's obstacles to business intelligence?

[ ] A culture that doesn't fully understand or value fact-based decision-making

[ ] Business objectives or needs were not understood or met

[ ] Inadequate budget / funding

[ ] Lack of a specific technology

[ ] Unreliable, untrustworthy data

[ ] Lack of skilled, expert resources

[ ] Lack of data literacy education

[ ] Limited access to BI solutions and technology

[ ] Lack of support from senior management or other BI champions

[ ] Lack of technology / tool education

[ ] Poor communication/collaboration between those developing/supporting BI solution and those using it

[ ] Poor self-service capabilities

[ ] Poor solution / tool ease of use

[ ] Unrealistic time frames / expectations

[ ] Other - Write In: _____

[ ] Other - Write In: _____

This year our budget for business intelligence / analytics is:

( ) Increasing over last year

( ) Decreasing over last year

( ) Staying the same as last year

Please indicate where your organization's business intelligence / analytics budget is allocated.

_____Computer Hardware

_____Internal Headcount

_____Education and Training

_____External Consulting Services

_____Subscriptions for user BI software

_____Subscriptions for database or other analytical infrastructure

_____Perpetual Licensing (purchase) of user BI software

_____Perpetual Licensing (purchase) of database or other analytical infrastructure

_____Software Maintenance for perpetual licensed software

_____Other

Which function drives your business intelligence initiatives?

	Always	Often	Sometimes	Rarely	Never
Operations	( )	( )	( )	( )	( )
Competency Center/ Center of Excellence	( )	( )	( )	( )	( )

Customer Service / Support	( )	( )	( )	( )	( )
Sales	( )	( )	( )	( )	( )
Finance	( )	( )	( )	( )	( )
Research and Development (R&D)	( )	( )	( )	( )	( )
Information Technology (IT)	( )	( )	( )	( )	( )
Human Resources	( )	( )	( )	( )	( )
Executive Management	( )	( )	( )	( )	( )
Marketing	( )	( )	( )	( )	( )
Manufacturing	( )	( )	( )	( )	( )
Strategic Planning Function	( )	( )	( )	( )	( )

Where has business intelligence helped to achieve business goals?

	High Achievement	Moderate Achievement	Acceptable Achievement	Not Yet Attempted	Not Yet Achieved
Better Decision-Making	( )	( )	( )	( )	( )
Compliance / Risk Management	( )	( )	( )	( )	( )
Growth in Revenues	( )	( )	( )	( )	( )
Improved Operational Efficiency / Cost Savings	( )	( )	( )	( )	( )
Enhanced Customer Service	( )	( )	( )	( )	( )
Increased Competitive Advantage	( )	( )	( )	( )	( )

What does your organization expect to achieve with business intelligence?

	Critical	Very Important	Important	Somewhat Important	Unimportant
Better Decision-Making	( )	( )	( )	( )	( )
Compliance	( )	( )	( )	( )	( )

/ Risk Management					
Growth in Revenues	( )	( )	( )	( )	( )
Improved Operational Efficiency / Cost Savings	( )	( )	( )	( )	( )
Enhanced Customer Service	( )	( )	( )	( )	( )
Increased Competitive Advantage	( )	( )	( )	( )	( )

Who are the targeted consumers of business intelligence within your organization?

	Primary	Secondary	Future Plans	No Plans
Customers	( )	( )	( )	( )
Executives	( )	( )	( )	( )
Individual Contributors and Professionals	( )	( )	( )	( )
Line Managers	( )	( )	( )	( )
Middle Managers	( )	( )	( )	( )
Partners/Affiliates	( )	( )	( )	( )
Suppliers	( )	( )	( )	( )

What percentage of all employees have access to business intelligence solutions?

	Under 10%	11 - 20%	21 - 40%	41 - 60%	61 - 80%	81% or More
Today	( )	( )	( )	( )	( )	( )
In 12 Months	( )	( )	( )	( )	( )	( )
In 24 Months	( )	( )	( )	( )	( )	( )
In 36 Months	( )	( )	( )	( )	( )	( )

How many business intelligence products are currently used in your organization today?

( ) Don't know

( ) 1

( ) 2

( ) 3

( ) 4

( ) 5

( ) 6

( ) 7

( ) 8

( ) 9

( ) 10 or more

Are you planning to consolidate the number of tools currently in place?

( ) Yes

( ) No

Why are you planning to consolidate BI tools? Check all that apply.

[ ] Cost savings

[ ] Corporate standard

[ ] Ease of use

[ ] Improved functionality

[ ] Strategic initiative

[ ] Unused "shelf ware"

[ ] Modernization

[ ] Other - Write In

[ ] Other - Write In: _____

Please select one vendor to rate. You will have an opportunity to rate a second vendor at the end of this section.*

( ) 1010data

( ) Adaptive Insights (Workday)

( ) Altair (Datawatch)

( ) Alteryx

( ) Amazon (i.e., QuickSight)

( ) Board

( ) C3.AI

( ) Dataiku

( ) DataRobot

( ) Dimensional Insight

( ) Domo

( ) Dundas

( ) GoodData

( ) Google (including Looker)

( ) Grid

( ) Grow

( ) H2O.ai

( ) IBM

( ) Incorta

( ) InetSoft

( ) Infor (Birst)

( ) Jedox

( ) Klipfolio

( ) KNIME

( ) Logi Analytics

( ) Microsoft

( ) MicroStrategy

( ) Mode Analytics

( ) OmniSci

( ) Oracle

( ) Palantir

( ) Phocas

( ) Pyramid Analytics

( ) Qlik

( ) Qrvey

( ) RapidMiner

( ) SAP

( ) SAS Institute

( ) Sigma Computing

( ) Sisense

( ) Snowflake (i.e., Snowsight)

( ) Tableau (Salesforce)

( ) TARGIT

( ) ThoughtSpot

( ) TIBCO (Includes Information Builders)

( ) Toucan Toco

( ) Yellowfin

( ) Zoho

( ) Other - Write In: _____

Please specify the product name and version for the selected vendor

_____

How long has this product been in use in your organization?

( ) Less than 1 year

( ) 1-2 years

( ) 3-5 years

( ) 6-10 years

( ) More than 10 years

Did this product replace another BI product?

( ) Yes ( ) No

Which product did it replace?:

_____

Why was it replaced?

	Primary Reason	Secondary Reason	Was Not a Factor
Cost	( )	( )	( )
Functionality	( )	( )	( )
Corporate Standard	( )	( )	( )
Modernization	( )	( )	( )
Product Reliability	( )	( )	( )

How many users currently use this product?

( ) 1-10

( ) 11-50

( ) 51-100

( ) 101-200

( ) 201-500

( ) More than 500

How would you characterize the sales/acquisition experience with this vendor?

	Excellent	Very Good	Adequate	Poor	Very Poor	Don't Know
Professionalism	( )	( )	( )	( )	( )	( )
Product Knowledge	( )	( )	( )	( )	( )	( )
Understanding our Business Needs	( )	( )	( )	( )	( )	( )
Responsiveness	( )	( )	( )	( )	( )	( )
Flexibility/Accommodation	( )	( )	( )	( )	( )	( )
Business Practices	( )	( )	( )	( )	( )	( )
Contractual Terms and Conditions	( )	( )	( )	( )	( )	( )
Follow-up after the Sale	( )	( )	( )	( )	( )	( )

How would you characterize the value for the price paid?

( ) Great Value (Well exceeded expectations)

( ) Good Value (Somewhat exceeded expectations)

( ) Average Value (Met expectations)

( ) Poor Value (Fell short of expectations)

( ) Very Poor Value (Fell far short of expectations)

How would you characterize the quality and usefulness of the product?

	Excellent	Very Good	Adequate	Poor	Very Poor	Don't Know
Robustness/Sophistication of Technology	( )	( )	( )	( )	( )	( )
Completeness of Functionality	( )	( )	( )	( )	( )	( )
Reliability of Technology	( )	( )	( )	( )	( )	( )
Scalability	( )	( )	( )	( )	( )	( )
Integration of Components within Product	( )	( )	( )	( )	( )	( )
Integration with Third-party Technologies	( )	( )	( )	( )	( )	( )
Overall Usability	( )	( )	( )	( )	( )	( )
Ease of Installation	( )	( )	( )	( )	( )	( )
Ease of Administration	( )	( )	( )	( )	( )	( )
Customization and	( )	( )	( )	( )	( )	( )

Extensibility						
Ease of Upgrade/Migration to New Versions	( )	( )	( )	( )	( )	( )
Online Training, Forums and Documentation	( )	( )	( )	( )	( )	( )

How would you characterize the vendor's technical support?

	Excellent	Very Good	Adequate	Poor	Very Poor	Don't Know
Professionalism	( )	( )	( )	( )	( )	( )
Product Knowledge	( )	( )	( )	( )	( )	( )
Responsiveness	( )	( )	( )	( )	( )	( )
Continuity of Personnel	( )	( )	( )	( )	( )	( )
Time to Resolve Problems	( )	( )	( )	( )	( )	( )

How would you characterize the vendor's consulting services?

	Excellent	Very Good	Adequate	Poor	Very Poor	Don't Know
Professionalism	( )	( )	( )	( )	( )	( )
Product Knowledge	( )	( )	( )	( )	( )	( )

Experience	( )	( )	( )	( )	( )	( )
Continuity	( )	( )	( )	( )	( )	( )
Value	( )	( )	( )	( )	( )	( )

How would you rate the integrity (i.e., truthfulness, honesty) of this BI vendor?

( ) Excellent

( ) Very Good

( ) Adequate

( ) Poor

( ) Very Poor

( ) Don't Know

Did your experience with this vendor improve, remain the same or decline from last year?

( ) Improved

( ) Stayed the Same

( ) Declined

Would you recommend this vendor/product?

( ) I would recommend this vendor/product

( ) I would NOT recommend this vendor/product

Please enter any additional comments regarding this vendor and/or its products

_____

_____

_____

_____