June 3, 2021

Dresner Advisory Services, LLC

Wisdom of Crowds® Business Intelligence Market Study

2021 Edition

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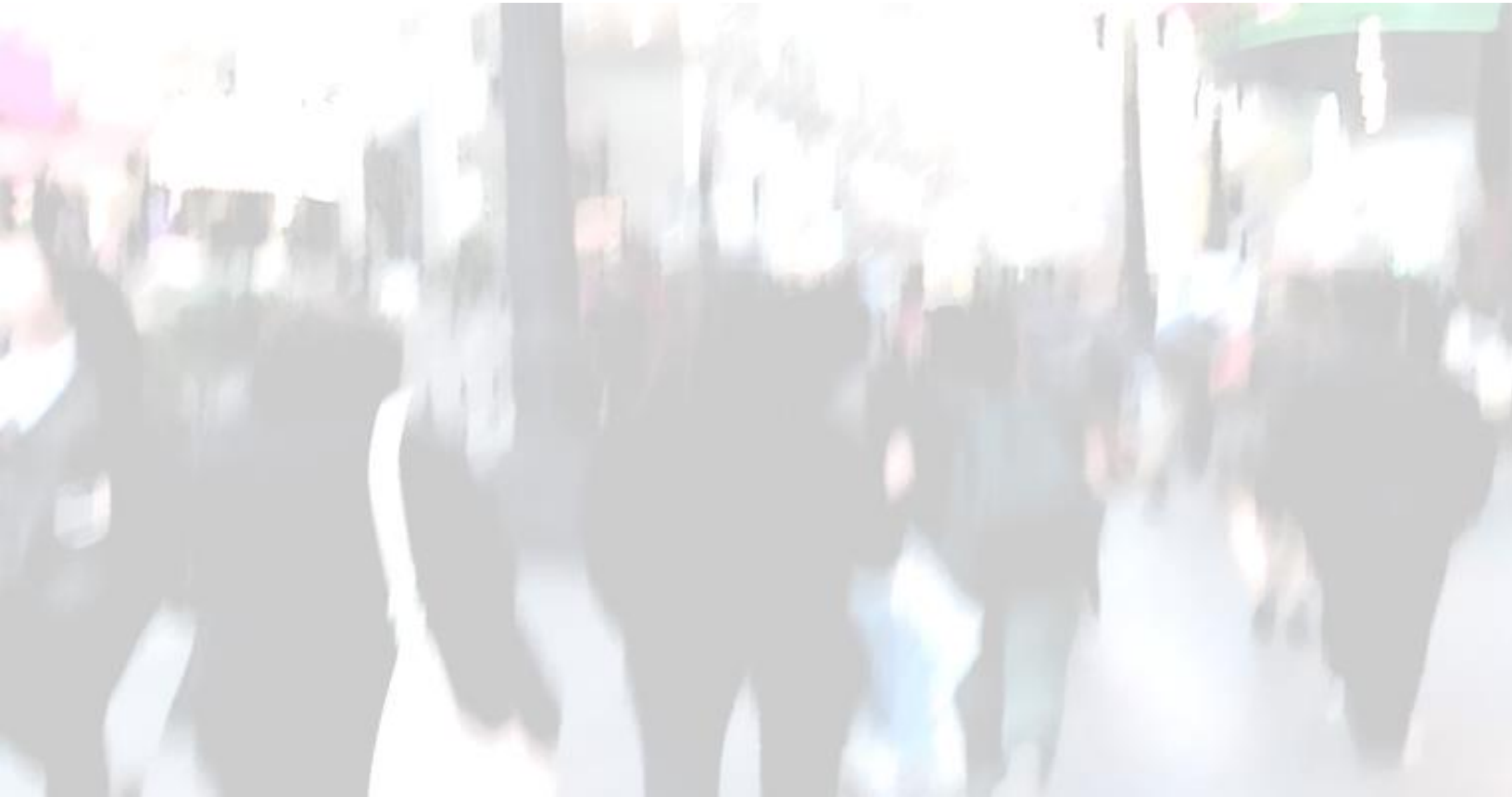


Disclaimer

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

In 2021, we mark the 14th anniversary of Dresner Advisory Services and the 12th edition of this report. Our thanks to all of you for your continued support and ongoing encouragement.

Since our founding in 2007, we worked hard to set the "bar" high—challenging ourselves to innovate and lead the market—offering ever greater value with each successive year.

At the time of publication of this report, the COVID-19 pandemic continues to affect millions worldwide and impacts businesses and how they leverage data and business intelligence. As our data collection took place during Q1 of 2021, the data and resulting analyses continue to reflect the pandemic's impact.

Through this period, we separately conducted specific COVID-19 research, which is not reflected in this report but is available on our blog at no cost. Additionally, we will continue to collect this data

As organizations strive to make sense of the changing market conditions and work to determine how best to proceed and invest in their businesses, we hope that this report will provide guidance and offer direction.

We wish you and yours the best as we manage through this challenging time.

Howard Dresner
Chief Research Officer
Dresner Advisory Services

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 two 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 Data Infrastructure
- Cloud Computing and Business Intelligence
- Data Preparation
- Data Pipelines and Integration
- Data Science and Machine Learning
- Embedded Business Intelligence
- Enterprise Performance Management
- Guided Analytics
- Natural Language Analytics

Howard (www.twitter.com/howarddresner) conducts a bi-weekly Twitter "tweetchat" on alternate Fridays at 1:00 p.m. ET. The hashtag is #BIWisdom. During these live events, the #BIWisdom community discusses a wide range of business intelligence topics.

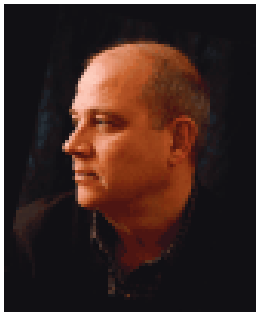
You can find more information about Dresner Advisory Services at www.dresneradvisory.com.

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.

Survey Method and Data Collection

As in our original Wisdom of Crowds® Business Intelligence Market Study, we constructed a survey instrument to collect data and used social media and crowd-sourcing techniques to recruit participants.

We also include our own research community of over 5,000 organizations as well as vendors' customer communities.

Data Quality

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

Executive Summary

Executive Summary

- Operations, Executive Management, and Finance most often drive business intelligence direction in organizations (p. 22-27).
- Executives, followed by managers and individual contributors are the roles most often targeted for BI; customer targeting is increasing, and successful BI organizations target broader audiences (p. 28-34).
- "Better decision-making" is the top objective for BI; cost-cutting/efficiency and revenue goals are next most important (p. 35-41).
- Top BI achievements mirror top goals, but organizations realize efficiency and customer service gains more often than revenue goals (p. 42-47).
- Penetration of BI within organizations improves over time with higher percentages of users; expansion plans continue to be bullish (p. 48-57).
- The uptake and longevity of chief data and chief analytics officers remains modest but shows slow improvement; plans to name a future CDO or CAO are also modest (p. 58-59).
- Organizations with a CDO and/or CAO are seen as more "effective." CDO/CAO connections to "BI success" are tenuous, but "BI achievements" improve with a CDO and/or CAO. Very large organizations account for the most long-tenured CDO/CAOs; reporting structure for CDO/CAOs varies (p. 60-64).
- Most organizations use more than one BI tool, and there is an increase in the average number of tools (p. 65-69).
- Familiar technologies including reporting, dashboards, and data integration remain the most important BI initiatives (p. 70-75).
- Most organizations have high internal common trust in data and governance (p. 76-80) and high "maturity in insight creation and sharing" (p. 81-85).
- Success with BI is improving and best measured via user feedback. Contributors to success include executive support, communication, and collaboration. Lack of a supporting culture is the top obstacle to success (p. 86-98).
- The great majority of organizations increase or maintain BI budgets (p. 99-108).
- Most BI tools are in place five years or less, and longevity is shifting. A majority of organizations do not replace existing BI tools. When they do, functionality and modernization are the main reasons (p. 109-111).
- User measures of vendor performance in sales/acquisition experience, value for price, quality and usefulness, quality of technical support, quality and value of consulting, integrity, and vendor recommendations are shown on p. 114-121.
- Vendor ratings are shown on p. 122-152.

Study Demographics

Our 2021 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

About 52 percent of respondents work at North America-based organizations (including the United States, Canada, and Puerto Rico). EMEA accounts for 31 percent of respondents; the remainder are distributed across Asia Pacific and Latin America (fig. 1).

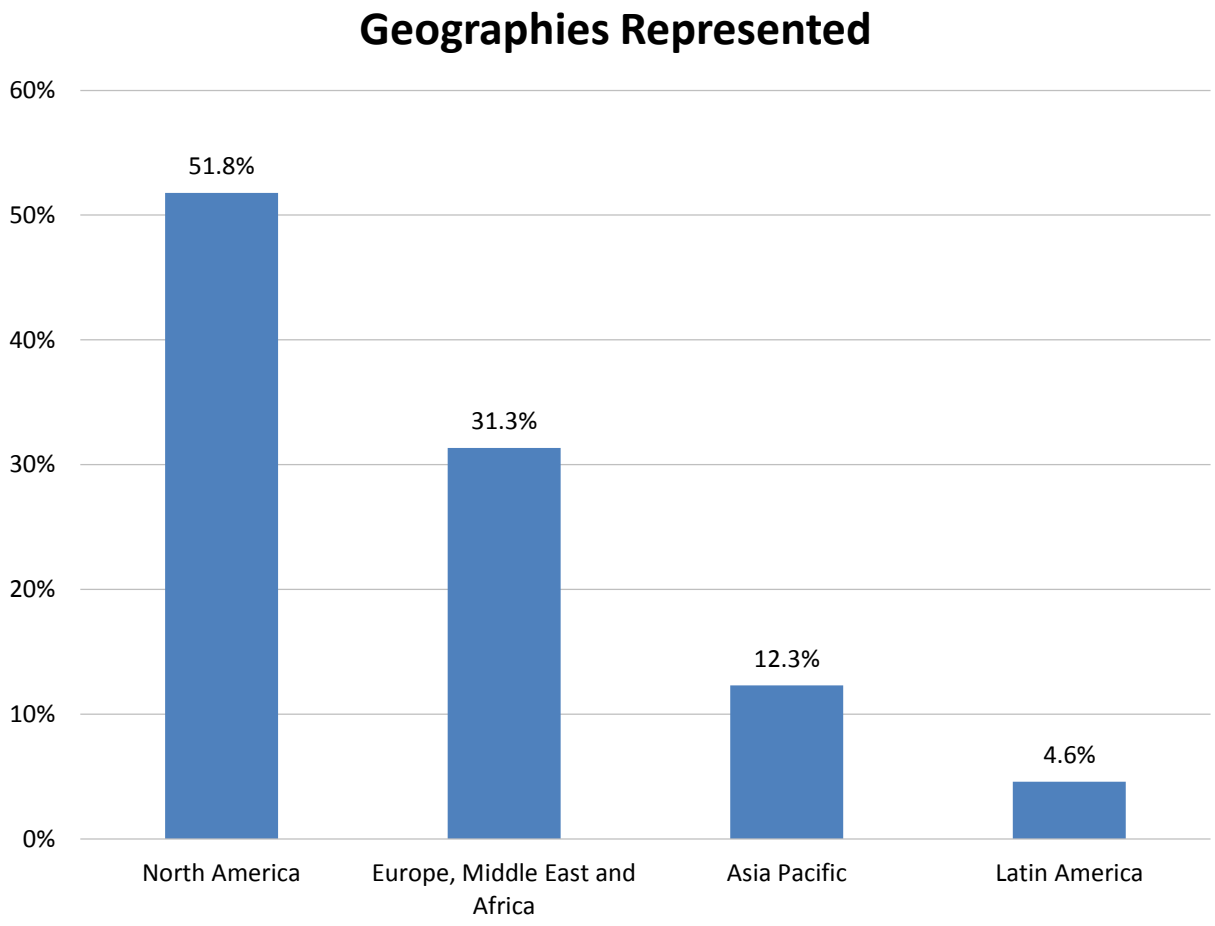


Figure 1 – Geographies represented

Functions

Our 2021 sample base includes a mix of functions (fig. 2). Information Technology accounts for the largest group (31 percent), followed by Finance (19 percent), Executive Management (15 percent), and BICC (10 percent).

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

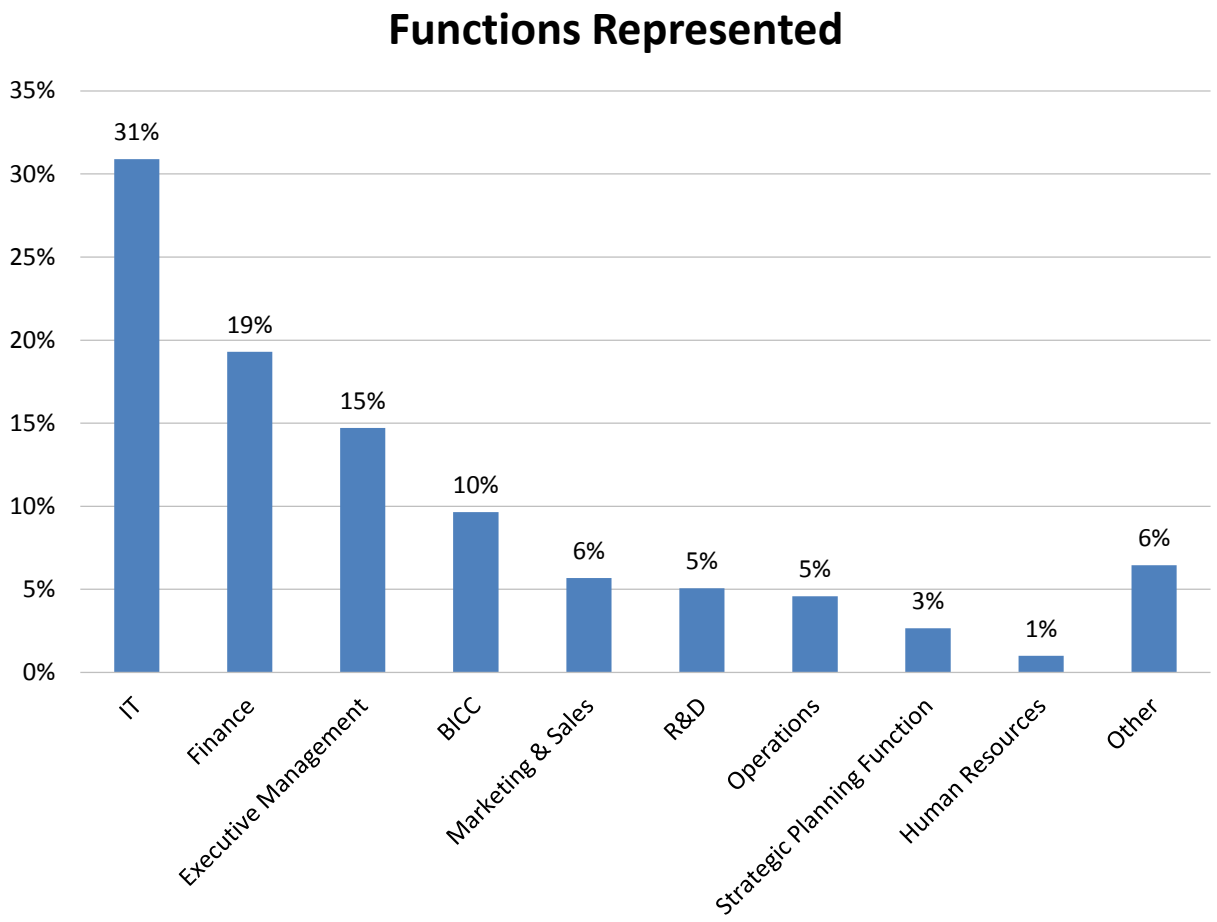


Figure 2 – Functions represented

Vertical Industries

In 2021, Manufacturing organizations lead our vertical industry distribution (23 percent). Business Services represents 17 percent, Technology 13 percent, and Financial Services 11 percent. Consumer Services, Education, and Healthcare 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.

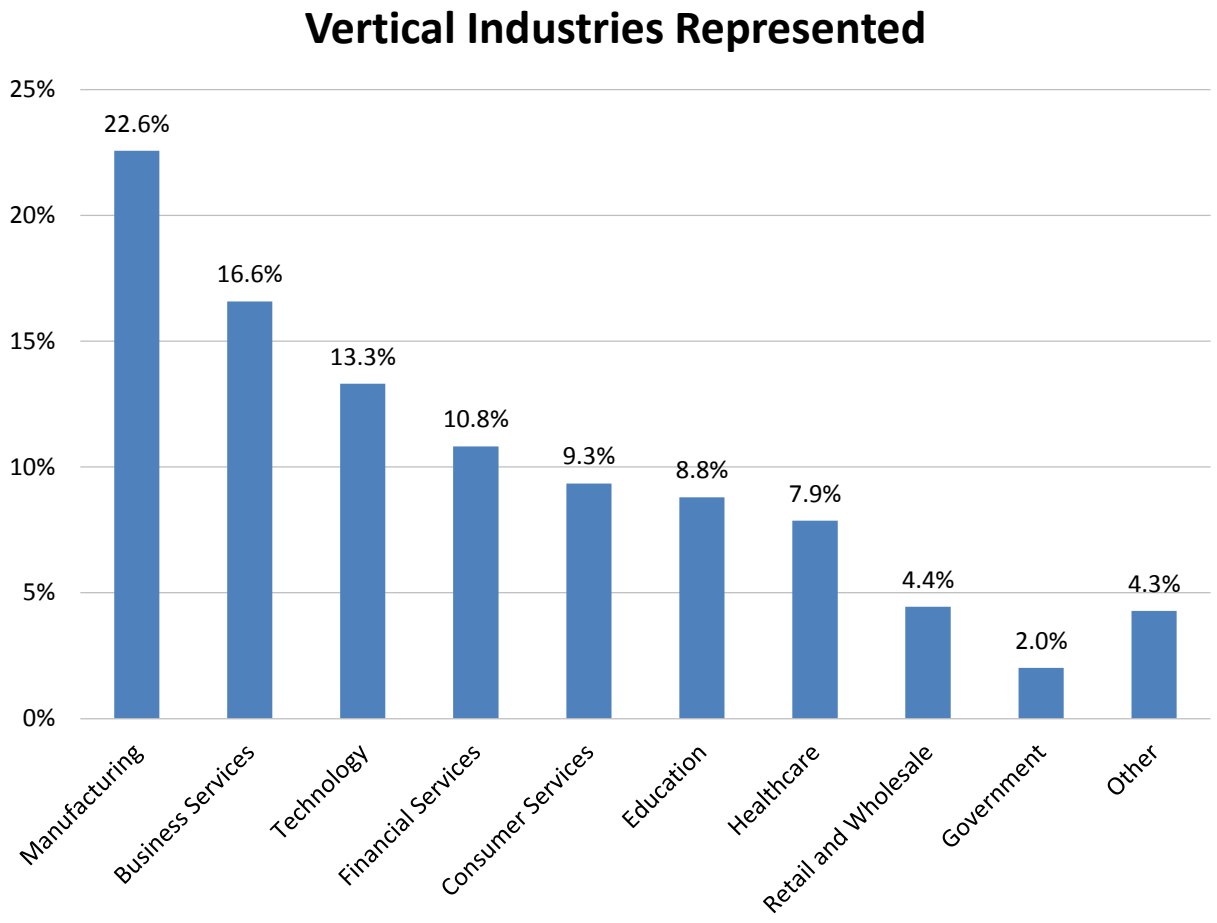


Figure 3 – Vertical industries represented

Organization Size

Our sample base includes a mix of organizations of different sizes in 2021 (based on global headcount). Small organizations (1-100 employees) represent about 22 percent of respondents, mid-size organizations (101-1,000 employees) represent about 30 percent, and large organizations (>1,000 employees) account for the remaining 48 percent (fig. 4).

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

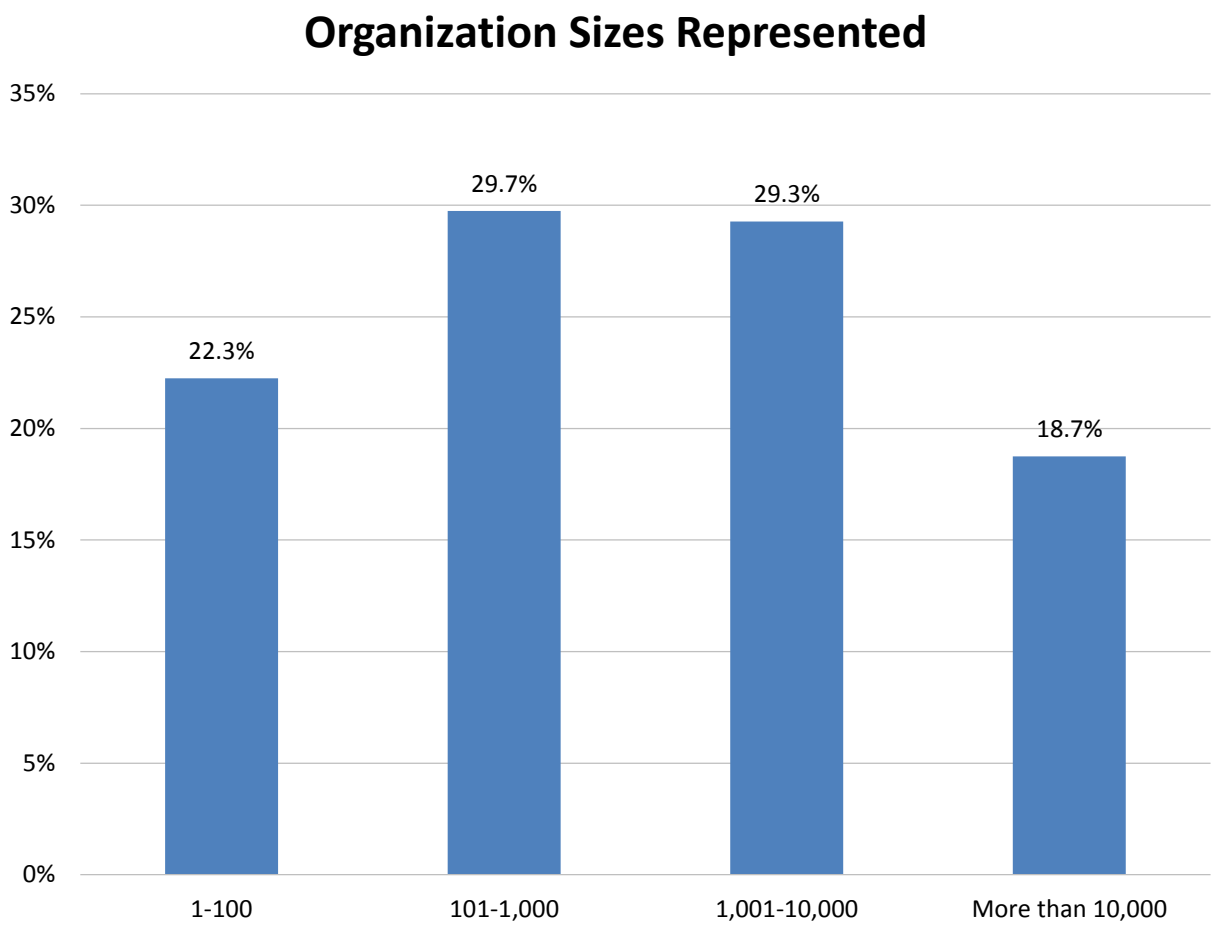


Figure 4 – Organization sizes represented

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 breadth of influence. In 2021, survey respondents say Operations, Executive Management, and Finance are the most influential roles. Each of these is at least 63 percent likely to "often" drive BI, and 82-90 percent is likely to at least "sometimes" drive BI. Operations and Executive Management are the top drivers in many of our flagship studies, and Finance exerts increasing influence over time. While functional influence often rolls up to a centralized program or strategy, we observe that BI deployments and influence are widely distributed in organizations.

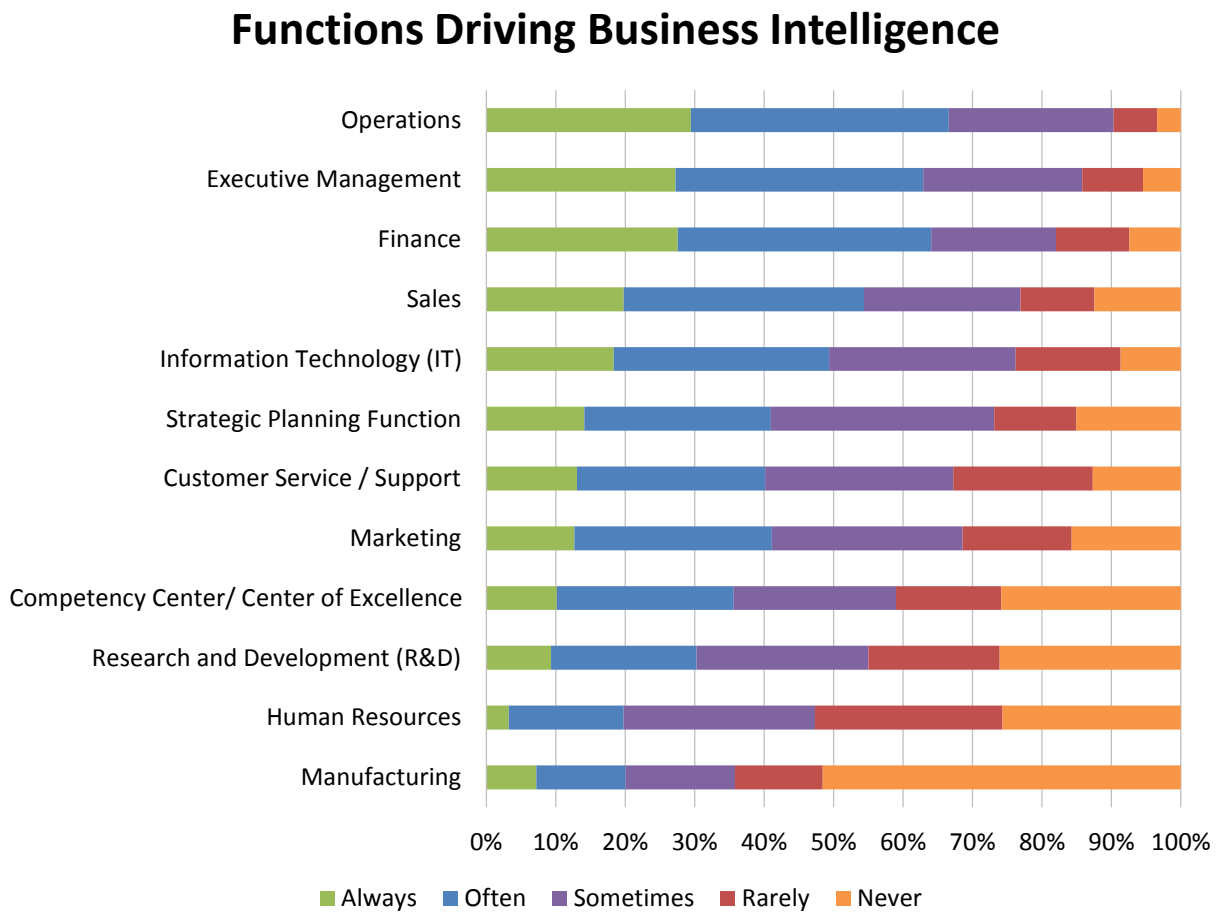


Figure 5 – Functions driving business intelligence

Functions Driving Business Intelligence 2017-2021

Across the most recent four years of data, functional drivers of BI (ordered by 2021 ranking) jockey in degrees of influence (fig. 6). Operations respondents cluster as the top influencer over time. We observe that Finance holds high levels of 2021 influence compared to previous years. We also observe that the second most likely influencer, Executive Management, shows a bit less influence today from a high reached as far back as 2018, as have Sales and Marketing.

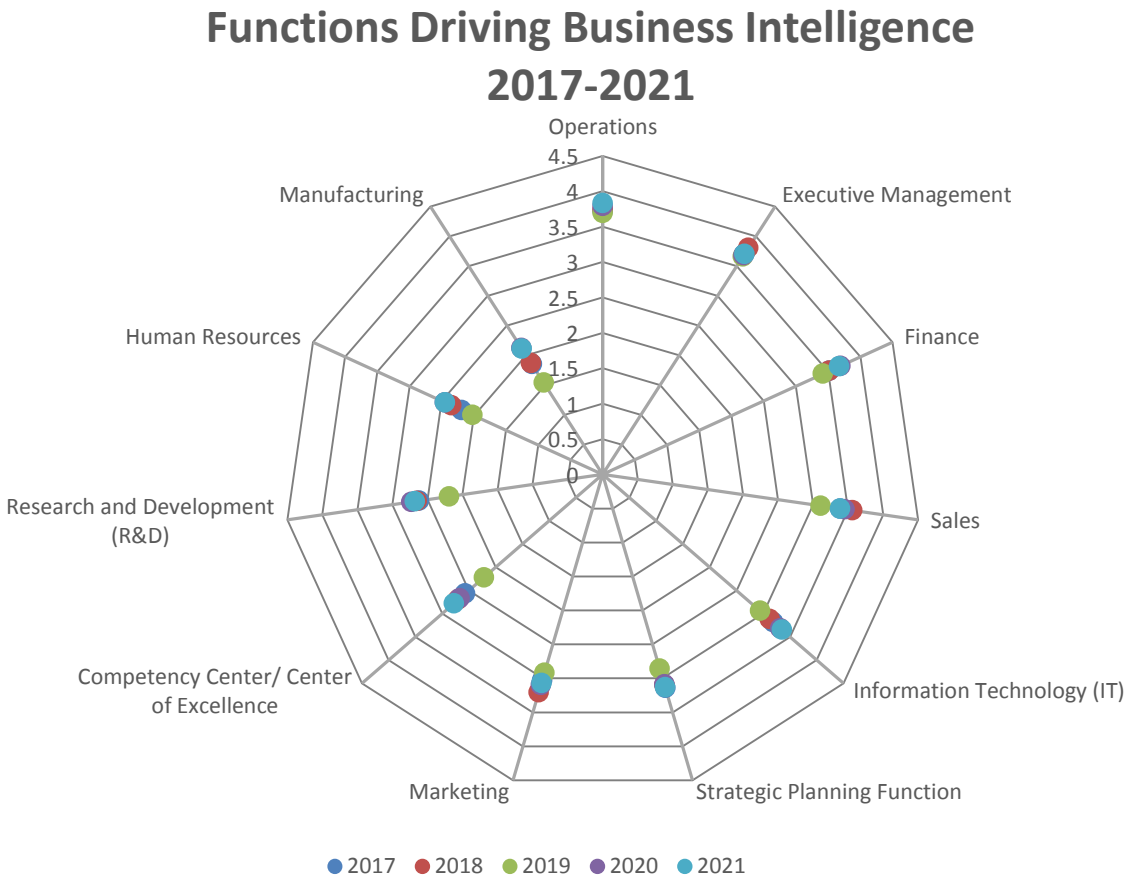


Figure 6 – Functions driving business intelligence 2017-2021

Change in Functions Driving BI 2020-2021

Fig. 7 gives another instructive view of influence by function, this time measuring change in functional driver influence year over year from 2020-2021. This year's study shows that BICC respondents in our sample most grew influence (4 percent), and that Strategic Planning, Operations, IT, and Executive Management also reported minor gains. Among functions that saw declines in influence, R&D and Sales both fell by 2 percent.

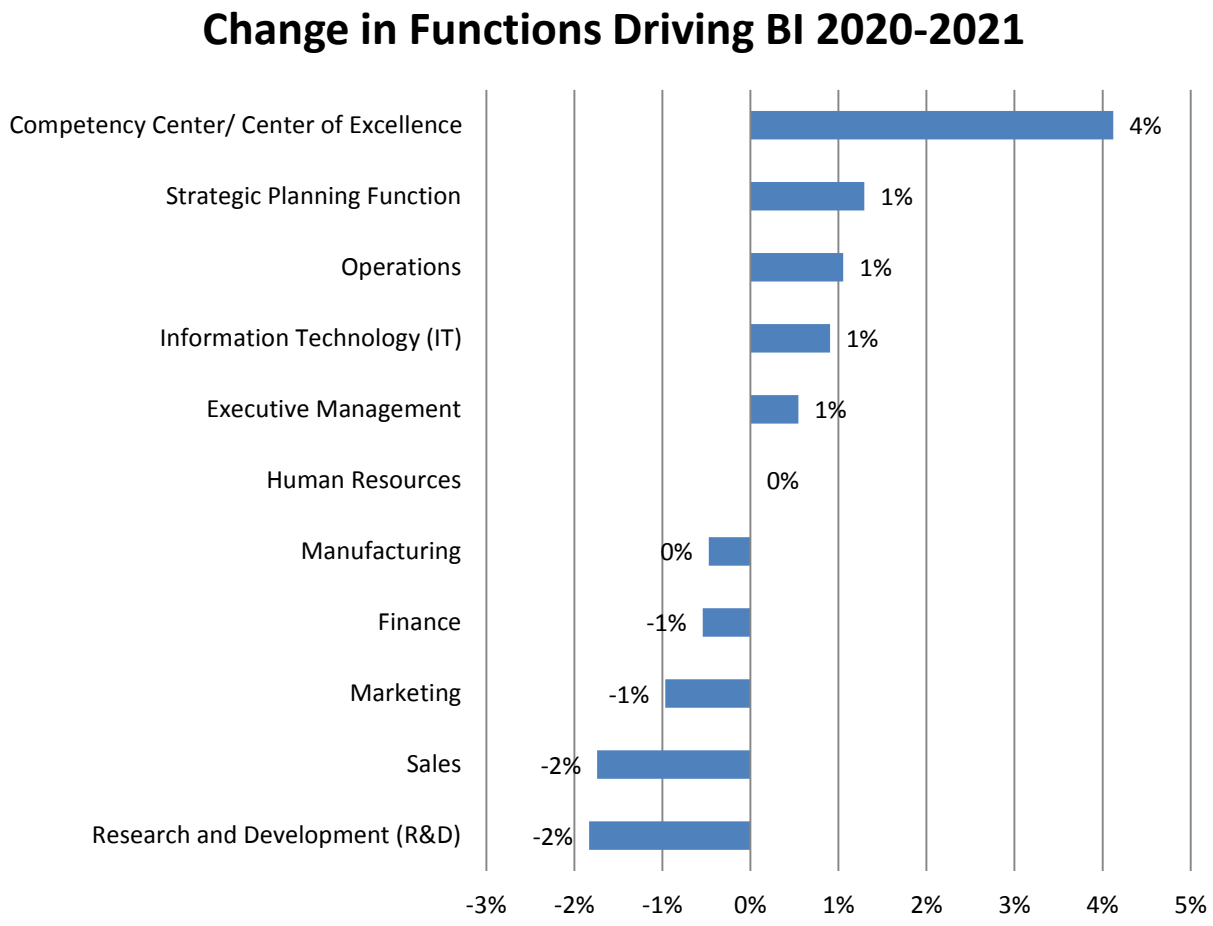


Figure 7 – Change in functions driving BI 2020-2021

Functions Driving Business Intelligence by Major Geography

Functional influence of business intelligence varies interestingly by geography though is globally strongest in Operations (fig. 8). Among some standout findings, we observe for example that Executive Management respondents in North America and EMEA carry more influence than executives in other regions. Among Latin American respondents, Sales and Marketing hold considerably more influence, but IT is less influential than elsewhere. Somewhat surprisingly, BI Competency Center respondents in Asia Pacific and also EMEA are more influential than peers in North America in our 2021 sample.

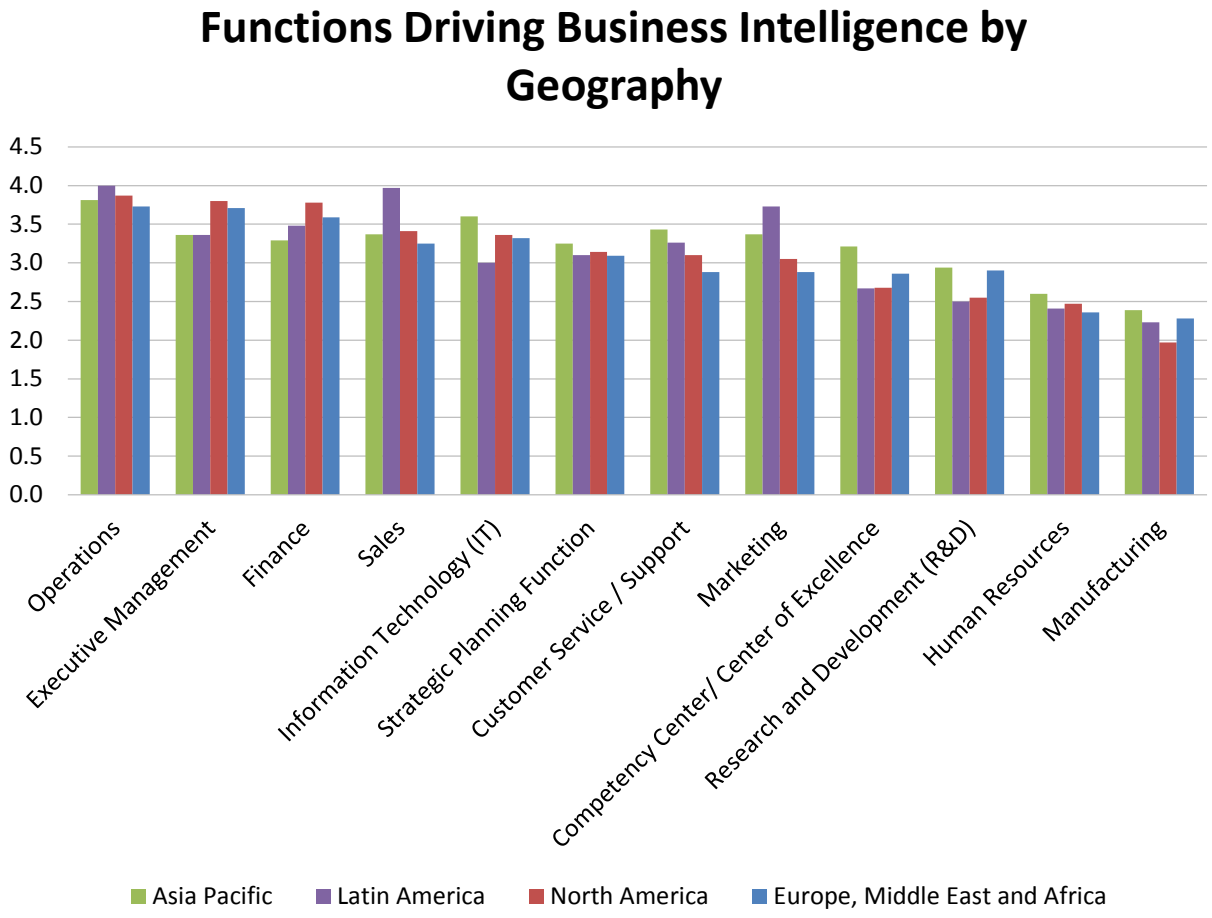


Figure 8 – Functions driving business intelligence by geography

Functions Driving Business Intelligence by Industry

The influence of different functional role drivers of BI varies markedly and sometimes predictably across industries (fig. 9). Among the interesting findings in 2021, Operations is most influential in Healthcare, Business Services, and Technology organizations. The same industries also show strong influence from Executive Management leaders. Retail/Wholesale, Finance, and Sales are likely to be strong drivers of business intelligence. IT influence tightly clusters across different industries and is slightly most prominent in Consumer Services organizations. Customer Service and Support functions most often drive Technology organizations (which often outsource Manufacturing). .

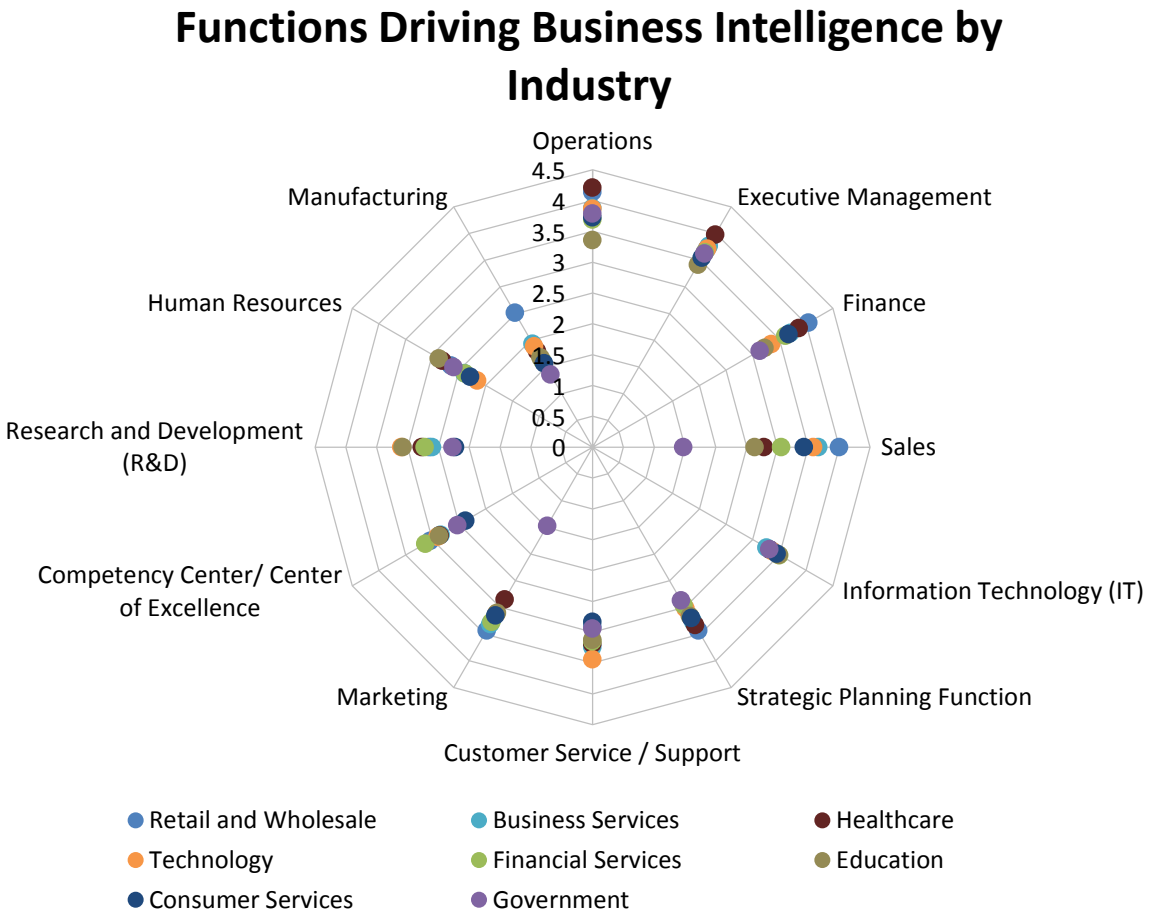


Figure 9 – Functions driving business intelligence by industry

Functions Driving Business Intelligence by Organization Size

Multiple functional drivers of BI generally but not always gain influence as organization size increases (fig. 10). Part of this phenomenon is predictable, since growing headcount creates more titles of departmental importance. Examples of scale creating influence in organizations with more than 1,000 employees include roles in Operations, Finance, IT, and the BI Competency Center. In contrast, small organizations of 1-100 employees are most influenced by roles in Sales, Customer Service/Support, Marketing, and Research and Development. We note that at least six functional categories (Operations, Executive Management, Finance, Sales, IT, and Strategic Planning) have at least "important" influence (weighted mean 3.0 or greater) in all organizations regardless of size.

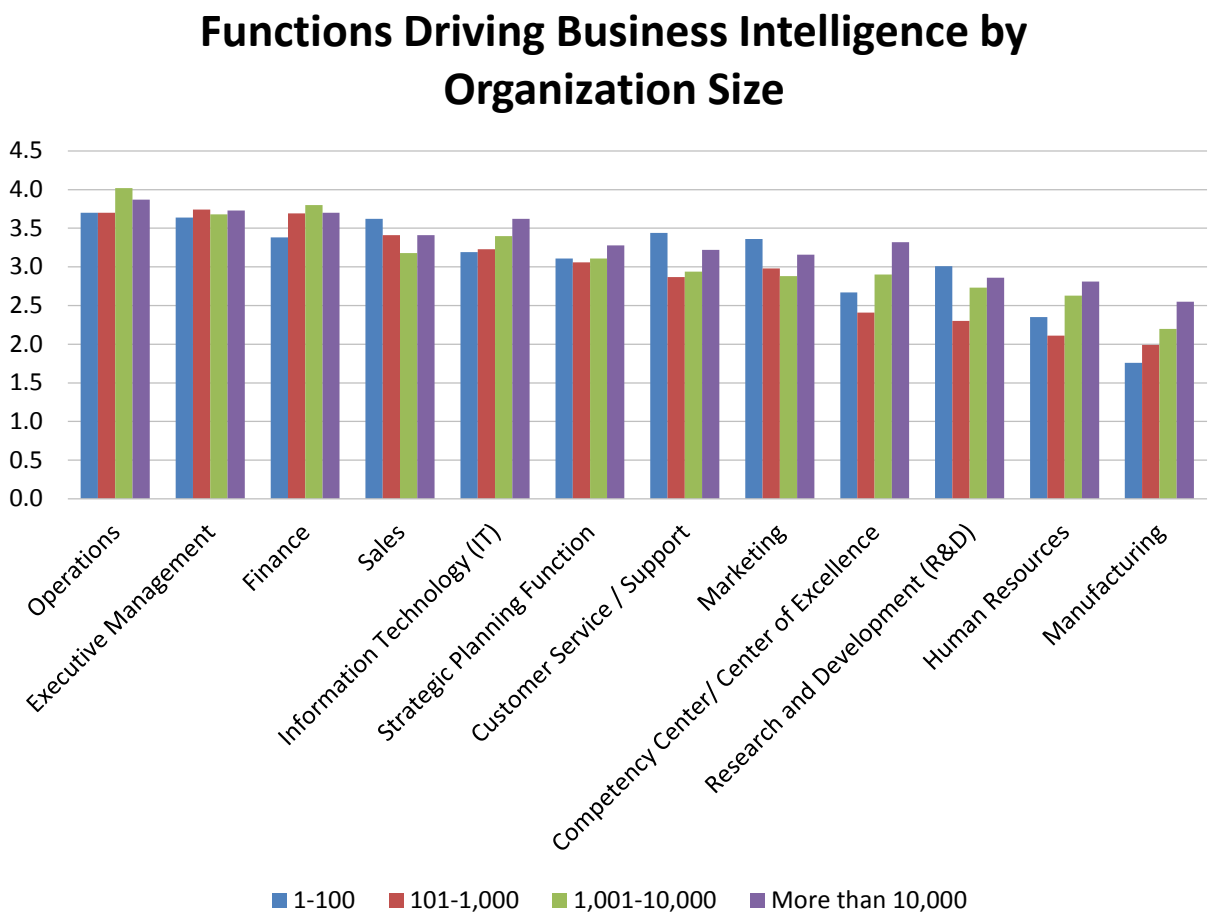


Figure 10 – Functions driving business intelligence by organization size

User Roles Targeted for Business Intelligence

By a significant margin, Executives remain the most likely primary (64 percent) and overall targeted users of business intelligence in 2021 (fig. 11). After this, a second tier of middle managers, individual contributors, and line managers all are between 76-80 percent likely to be primary or secondary targeted users. Targeting thereafter trails off significantly. Customers are about 53 percent likely to be targeted as primary or secondary users, a figure that falls to 37 percent for partners and just 22 percent for suppliers.

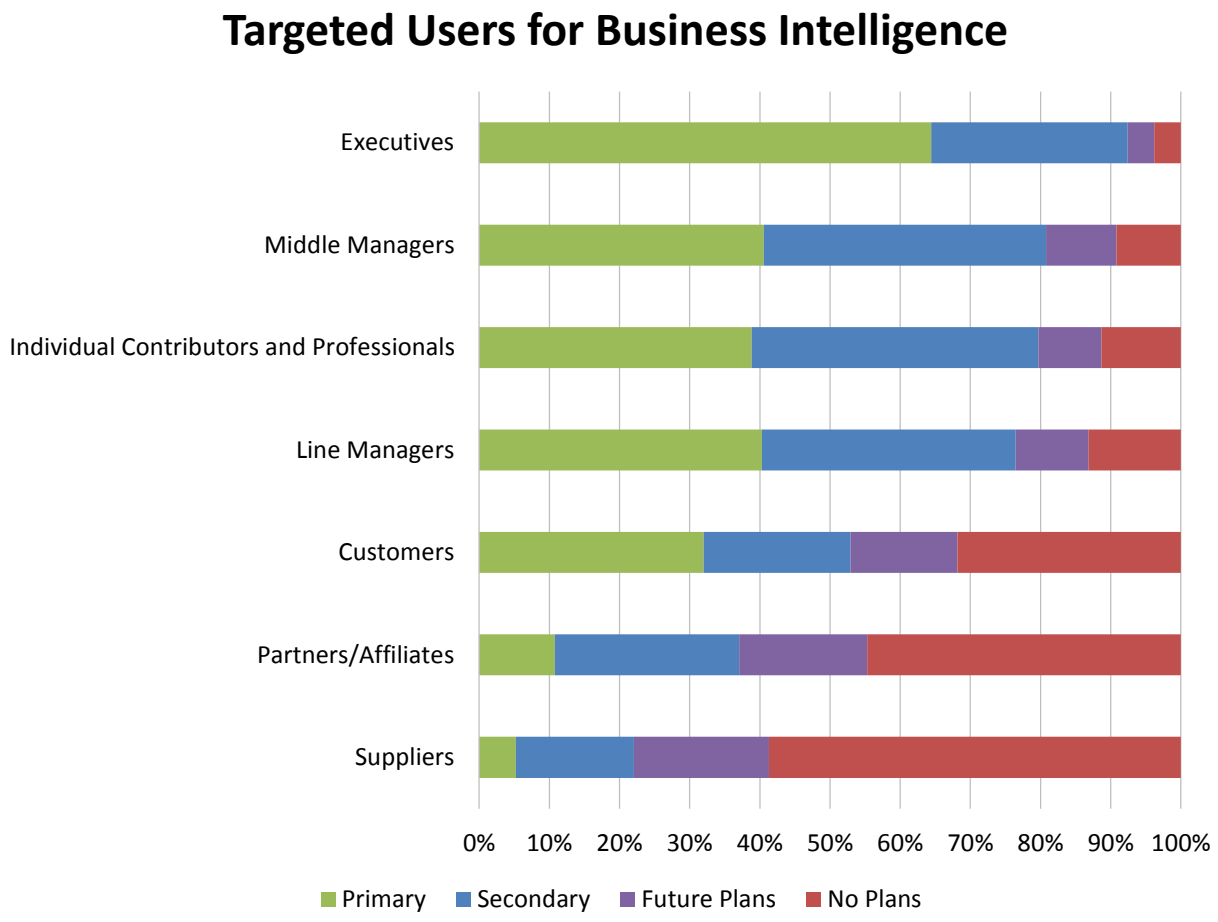


Figure 11 – Targeted users for business intelligence

Targeted Users for Business Intelligence through 2019-2021

Fig. 12 shows three years of data measuring targeting of users for business intelligence. The top four target audiences (executives, middle managers, individual contributors, and line managers), all fell slightly in importance compared to 2020 levels. Among these, executive targeting fell the most (also see the following chart), while managers and individual contributors fell only slightly. Customer targeting increases noticeably year over year. We expect that, over time, less-served audiences of partners and suppliers will continue to gather attention as targets for BI, perhaps at a faster rate than seen in the past (see the following chart).

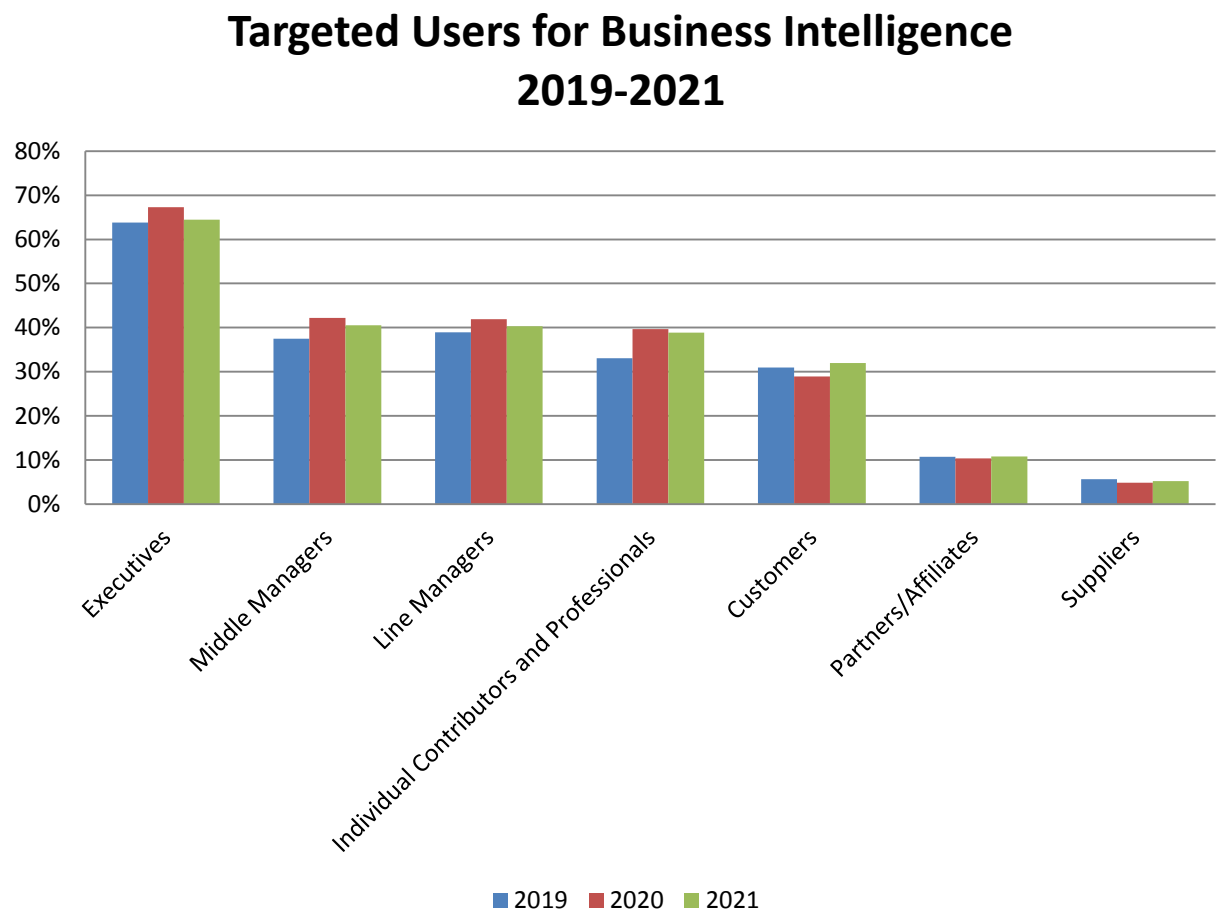


Figure 12 – Targeted users for business intelligence 2019-2021

Change in Targeted Users for BI 2020-2021

Fig. 13 shows the year-over-year relative percentage change in BI targeting for each function sampled. Here, we observe that the less-served audiences of customers, partners, and suppliers are now newly targeted at a faster rate than traditional audiences of executives, managers, and contributors; but they remain well behind in terms of BI enablement (see the previous chart). Customers, followed by suppliers and partners/affiliates, are at the fore of this increased attention, which is not surprising given the tools and outreach of information sharing and decision-support in the broader consumer and B2B world.

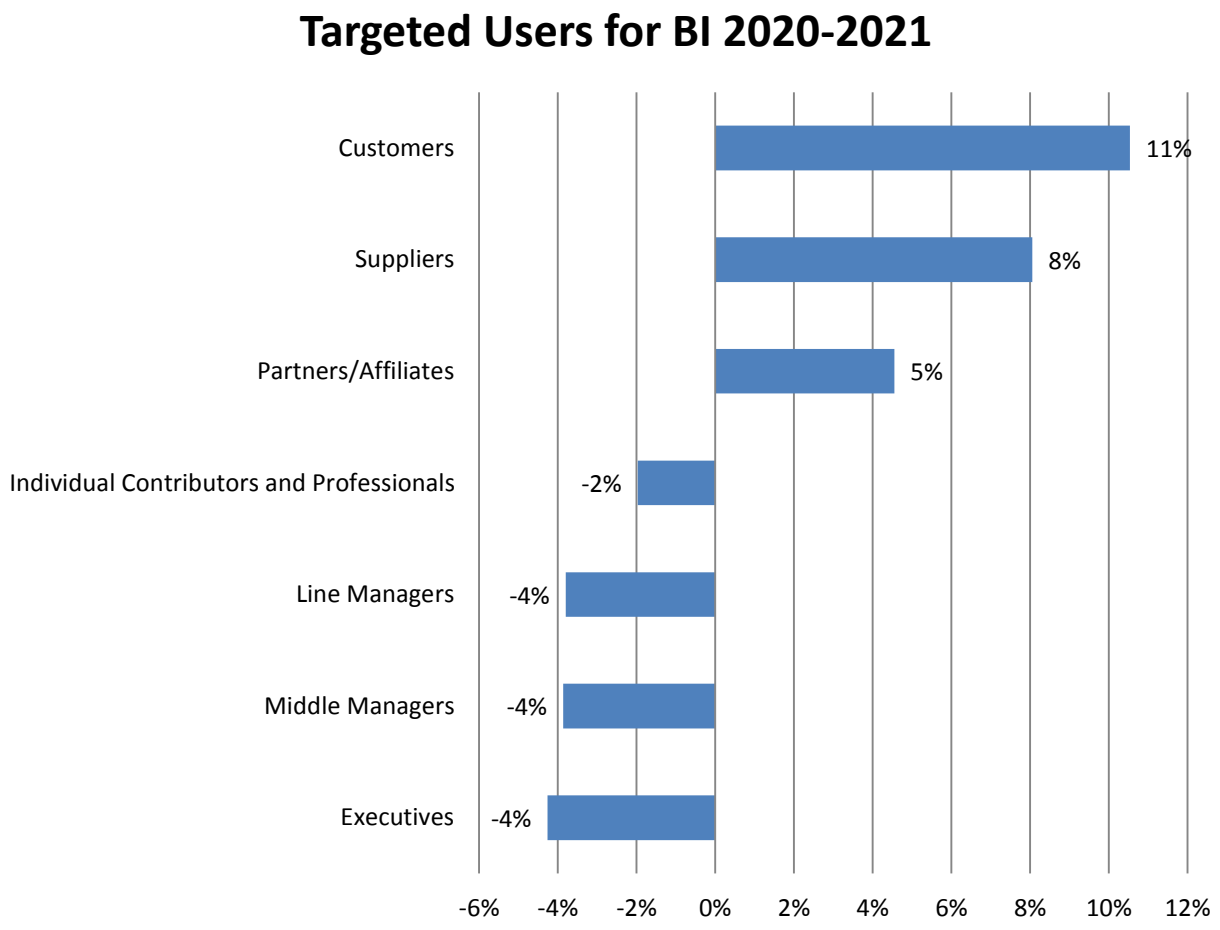


Figure 13 – Targeted users for BI 2020-2021

Targeted Users for Business Intelligence by Geography

Executives are the most likely targets for business intelligence across all geographies, most notably in Latin America (76 percent) and North America (67 percent) (fig. 14). We find Asia-Pacific organizations proportionately least likely to target executives. This region also pays relatively strong attention to customers and to line managers. Likewise, EMEA respondents lead all regions in targeting middle managers and strongly support line managers, while North American respondents pay the most attention to individual contributors.

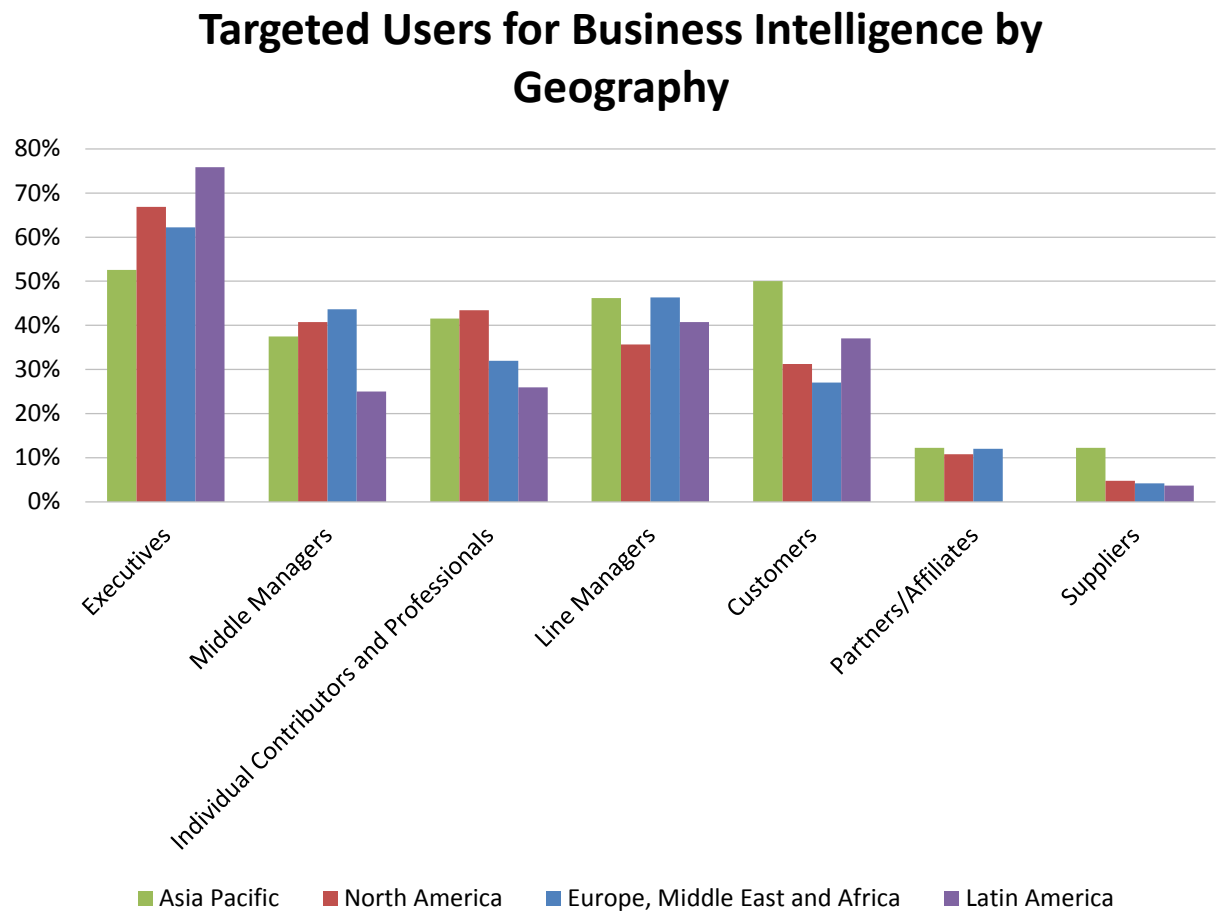


Figure 14 – Targeted users for business intelligence by geography

User Targets for Business Intelligence by Organization Size

Organizations of any size, particularly larger enterprises (more than 1,000 employees), most likely target executives as BI users in 2021 (fig. 15). Thereafter, increasing headcount also correlates with the likelihood of targeting middle managers, individual contributors, and line managers; targeting these titles decreases consistently among all smaller organization groupings. Small organizations (1-100 employees) excel noticeably in targeting customers (56 percent, a finding consistent with earlier studies). Only very large organizations (> 10,000 employees) organizations target partners/affiliates more than 10 percent of the time, and organizations of any size are only about 10 percent or less likely to target suppliers.

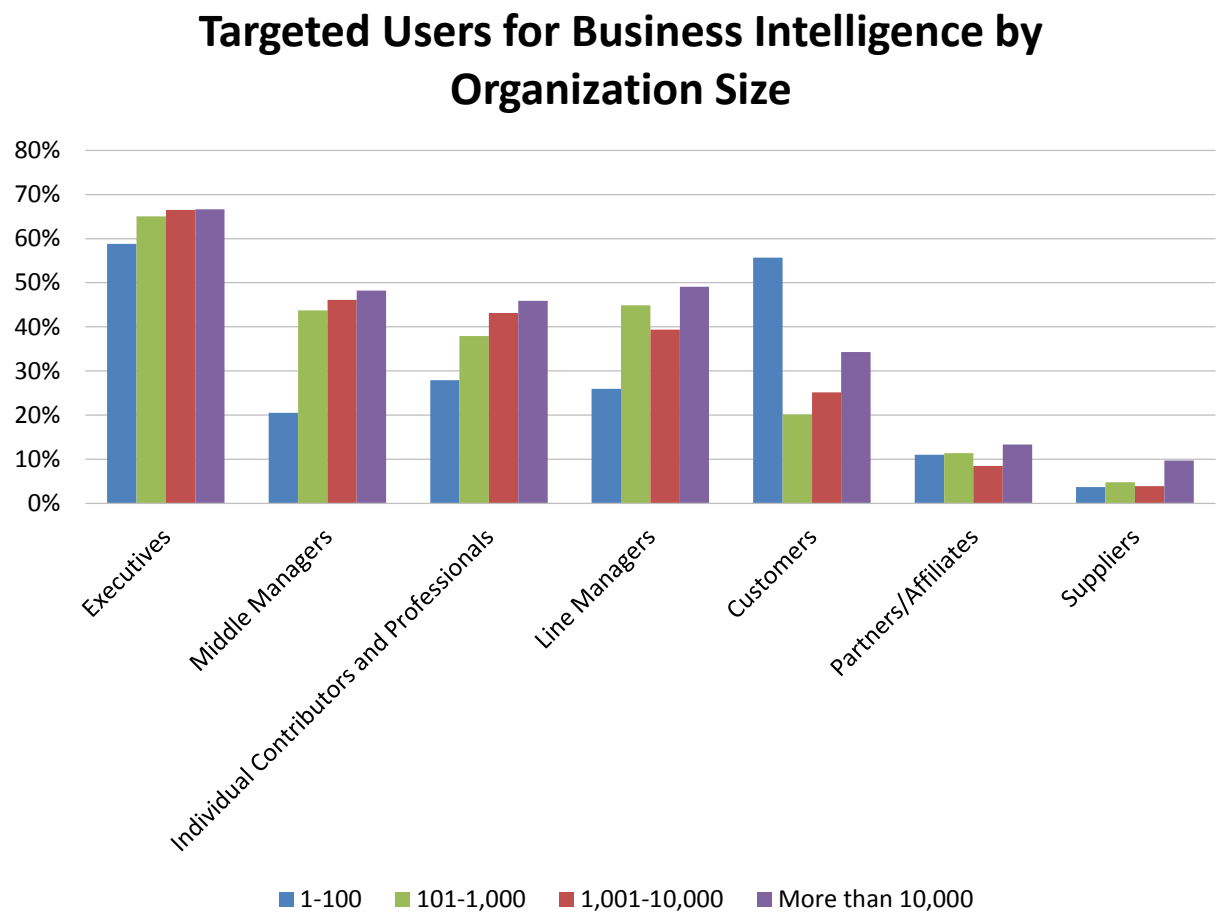


Figure 15 – Targeted users for business intelligence by organization size

User Targets for Business Intelligence by Vertical Industries

In our 2021 sample, all vertical industries (led by Healthcare, Retail/Wholesale, and Business Services) report that they most often target executives for business intelligence enablement (fig. 16). Over time, executives are consistently the audience of top interest. In another finding, respondents in Retail/Wholesale disproportionately report that they target middle managers, line managers, and individual contributors at a higher rate than other industries. Technology and Business Services organizations most likely target customers.

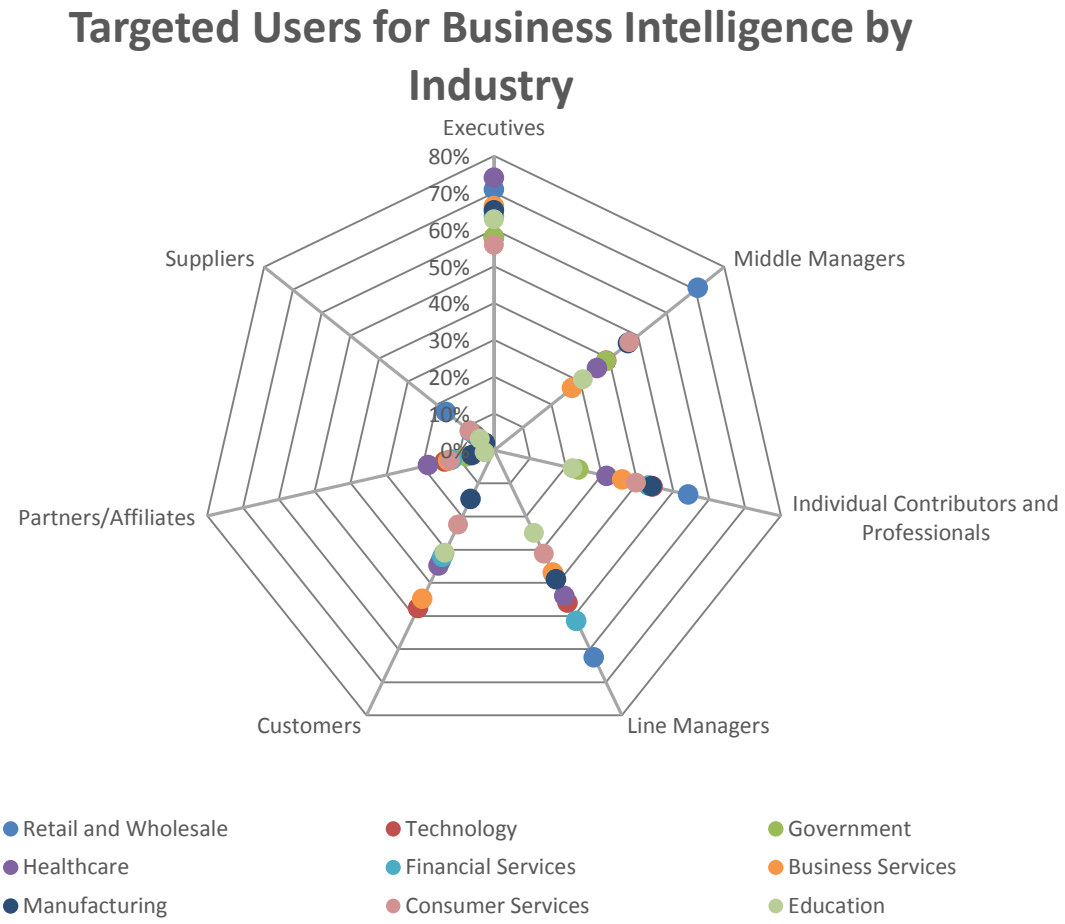


Figure 16 – Targeted users for business intelligence by industry

Targeted Users by Success with Business Intelligence

Organizations that are "completely successful" with BI most likely enable almost all potential target audiences with BI (fig. 17). The exception to this is in targeting of individual contributors, which shows a correlation that is less strong between BI targeting and success with business intelligence. The strongest correlation with BI success is targeting of line managers, executives, and middle managers and in the likelihood of targeting customers and other external parties. Generally, we can say that multiple audience targeting is a trait of successful BI organizations.

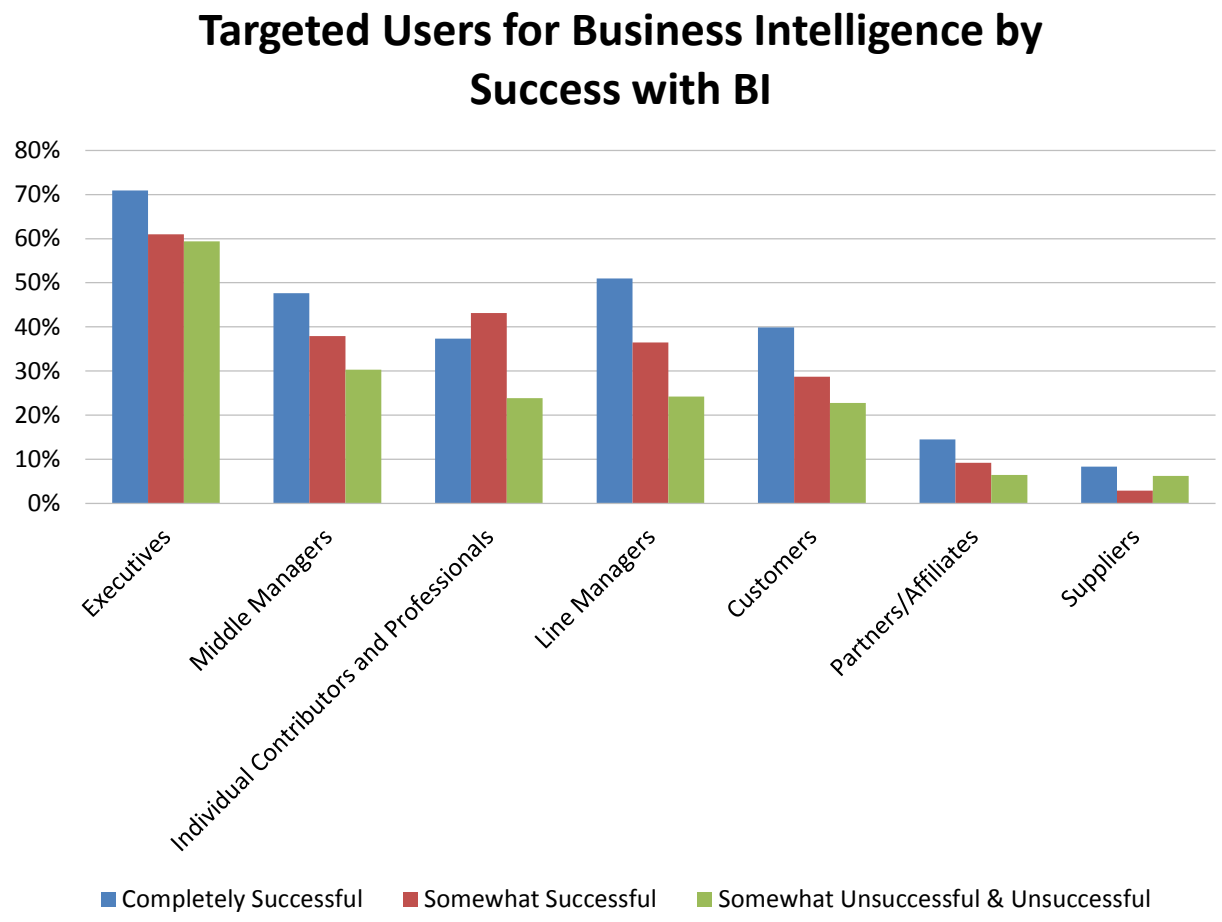


Figure 17 – Targeted users for business intelligence by success with BI

Objectives for Business Intelligence

In 2021 (and throughout the 12-year history of our study), the non-specific goal of "better decision-making" sits well atop respondents' business intelligence objectives (fig. 18). We can casually observe that this goal (which we associate with organizations seeking general improvements wherever they may be found) is far more likely to be "critical" (52 percent) compared to any other objective. A second tier of quantifiable objectives that includes "improved operational efficiency/cost savings" ("critical" to 30 percent) and "growth in revenues" ("critical" to 32 percent) is next most important. The top five objectives are, at minimum, "very important" to large majorities of respondents. Least important is "compliance/risk management" which, coincidentally, was an early promoted benefit of adopting business intelligence. In this regard, while compliance is certainly an organizational governance requirement, it is only loosely associated with business intelligence objectives.

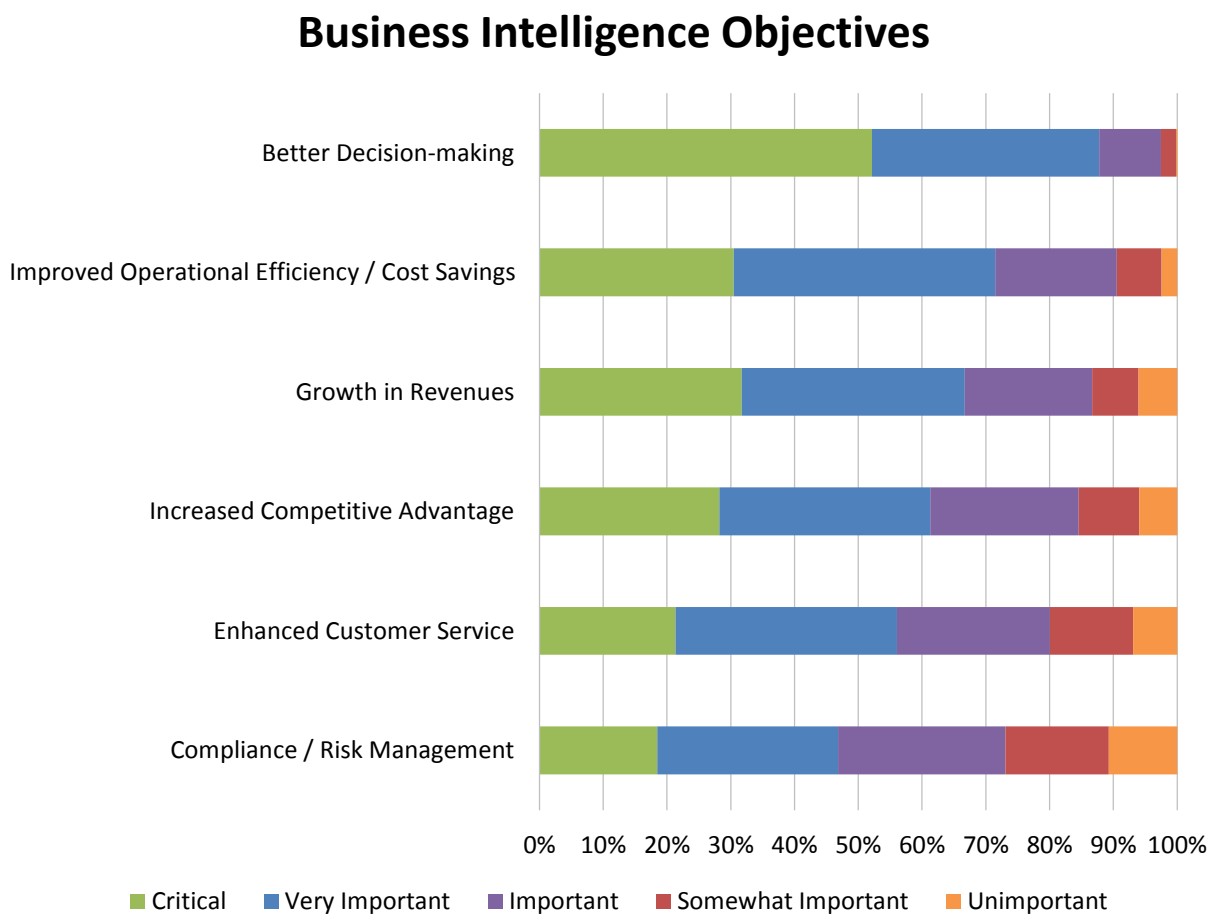


Figure 18 – Business intelligence objectives

Business Intelligence Objectives 2017-2021

Across the last five years of our study, objectives for business intelligence remain mostly steady by rank (fig. 19). Among these, we see "better decision-making" the only objective that consistently holds weighted-mean value > 4.0 ("very important"). Only "compliance/risk management" finds scores below 3.5, the midway point between "important" and "very important." In 2021, we observe narrowly changing scores for objectives (see following chart for year-over-year details), with all values below all-time highs mostly seen in 2018-2019.

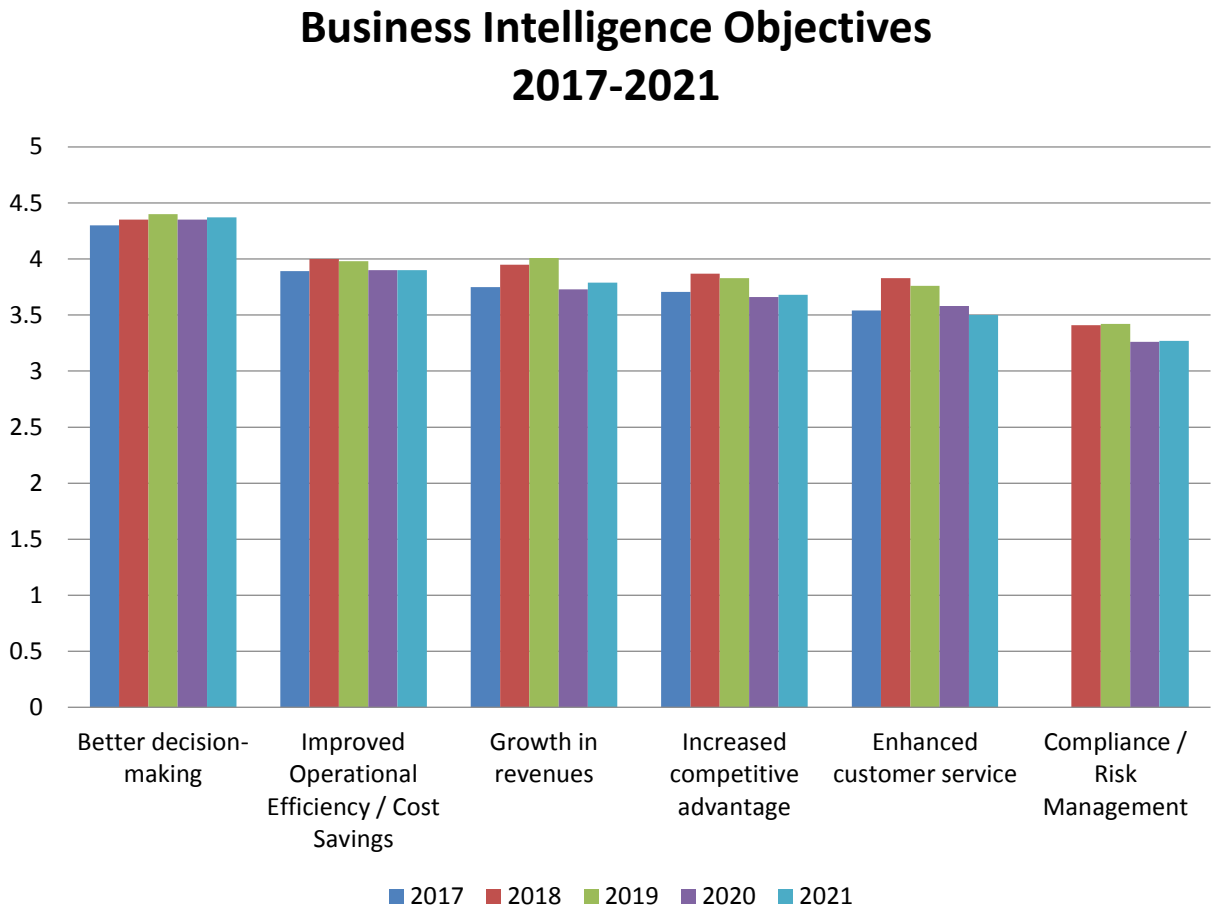


Figure 19 – Business intelligence objectives 2017-2021

Percent Change in BI Objectives 2020-2021

Fig. 20 provides a detailed year-over-year view of changes in attitudes toward BI objectives. Here we observe that the top BI objectives of "better decision-making" along with “compliance/risk management” and “improved operational efficiency” are all flat compared to 2020, and “enhanced customer service “falls slightly in importance. The remaining measures, “growth in revenues” and “increased competitive advantage,” gain slightly from 2020 levels. Given the relative importance of different objectives in 2021 and previous years, we find that soft benefits are still the priority and that revenue/competitive goals, while moving into focus, are less critical.

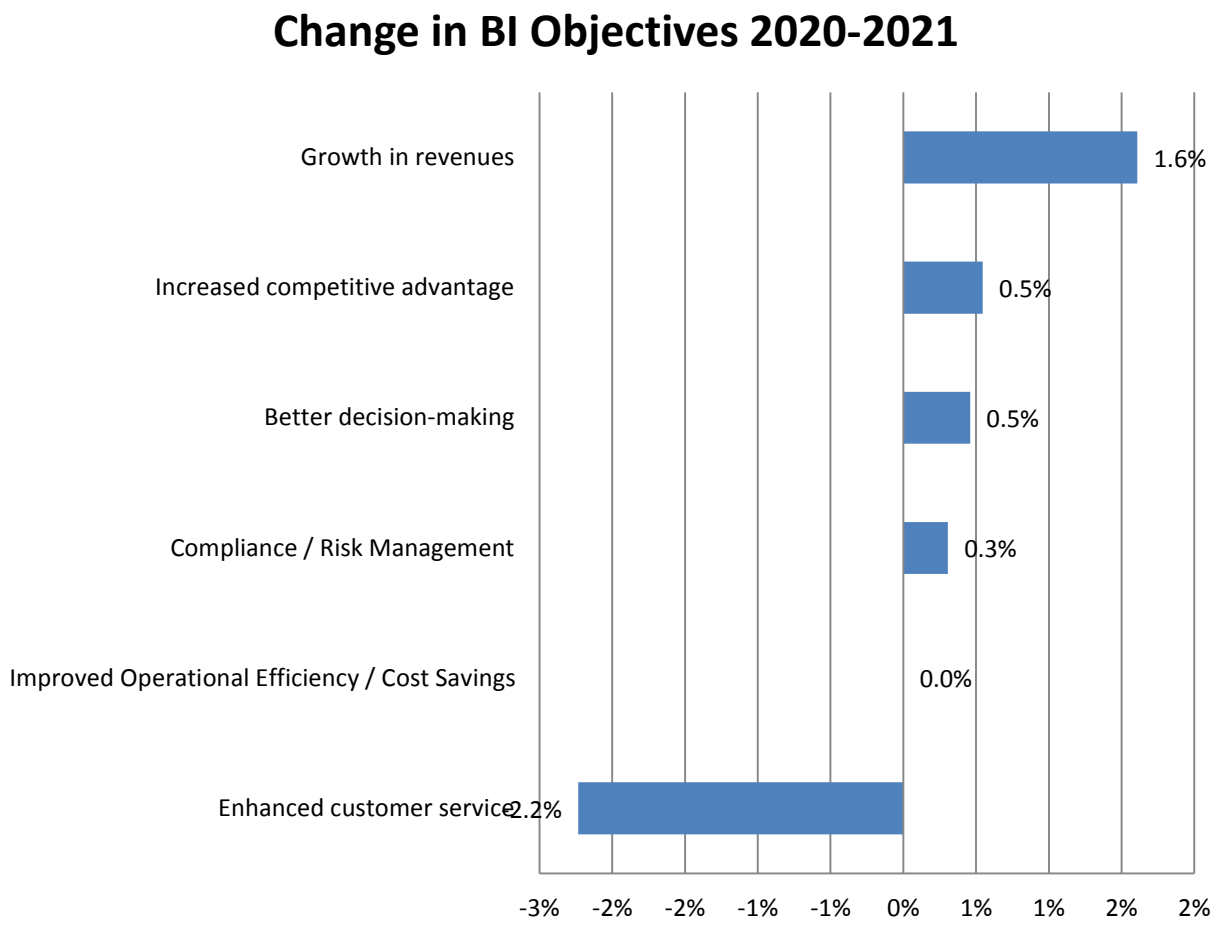


Figure 20 – Change in BI objectives 2020-2021

Business Intelligence Objectives by Geography

Business intelligence objectives are somewhat similar across geographies with some noticeable differences in priority (fig. 21). “Better decision-making” is the most important BI objective across all geographical regions in 2021, most so in Latin America and North America. North American respondents are a bit more likely than the overall sample to prioritize “improved operational efficiency.” Asia-Pacific respondents are a bit more likely to emphasize “enhanced customer service” and “compliance/risk management.” Latin America is the most interested of all regions in “growth in revenues” and “increased competitive advantage.”

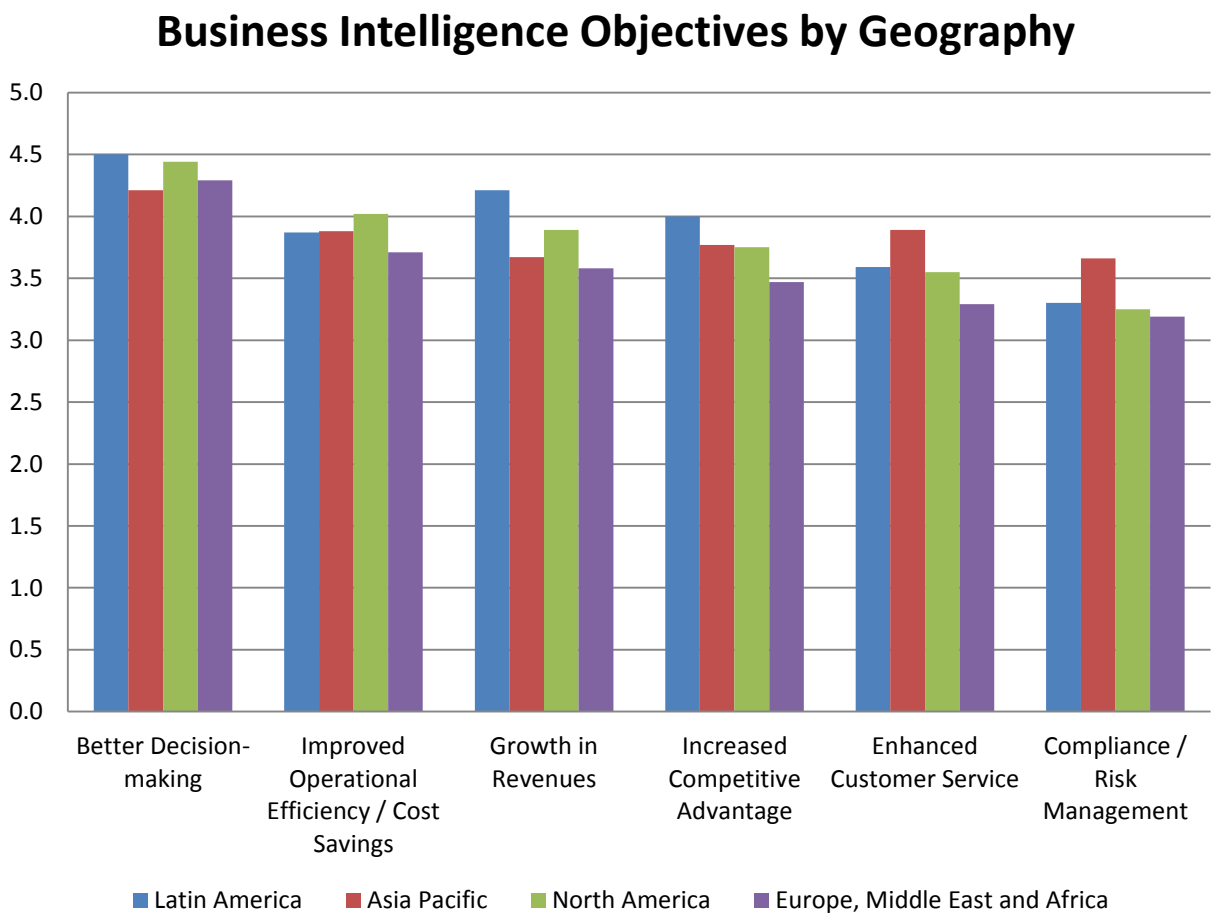


Figure 21 – Business intelligence objectives by geography

Business Intelligence Objectives by Function

In 2021, all functions place the greatest emphasis on the importance of "better decision-making," often by a significant margin over other objectives (fig. 22). Also, results for this top measure are consistently greater than "very important" and the most tightly clustered of all BI objectives. Unsurprisingly, Operations respondents are most interested in improved efficiencies. Marketing/Sales, followed by Executive Management, logically focus most on "growth in revenues."

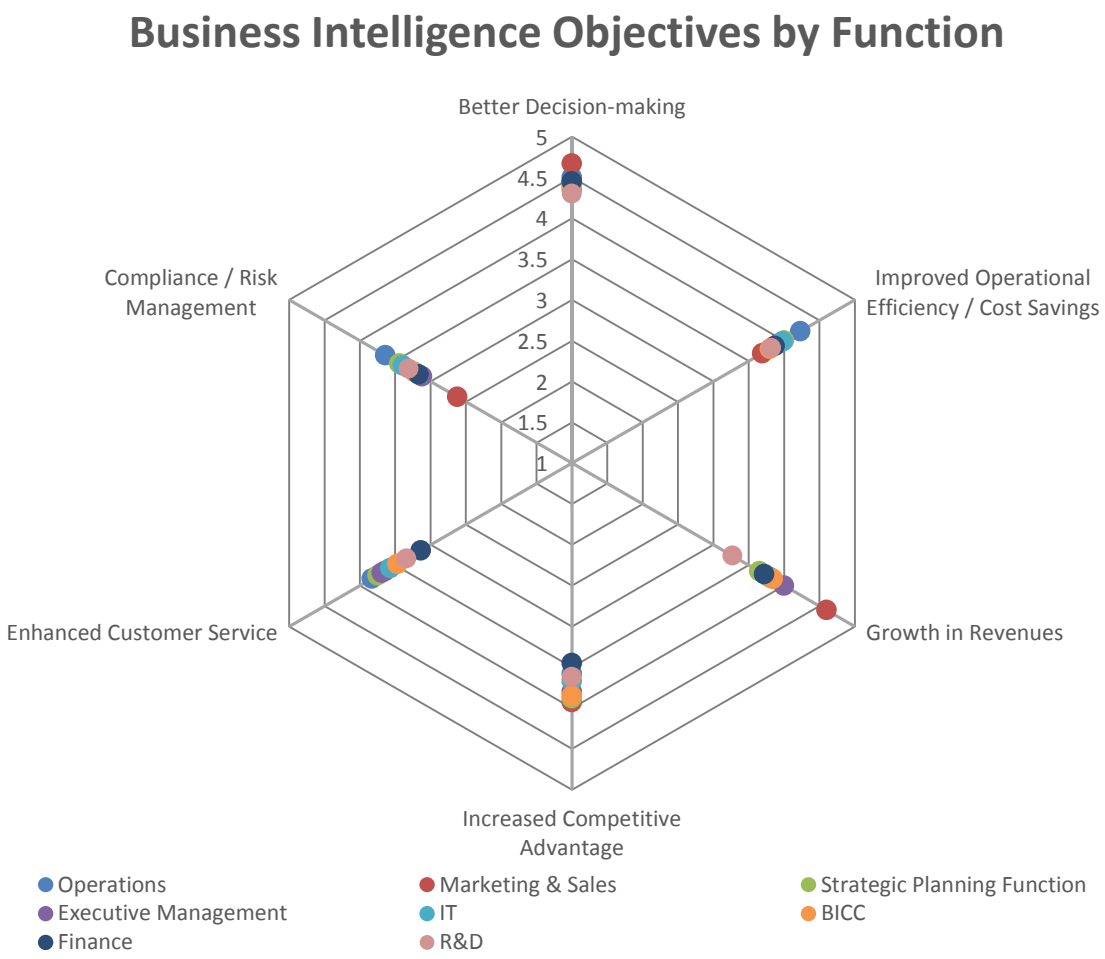


Figure 22 – Business intelligence objectives by function

Business Intelligence Objectives by Vertical Industry

By industry, "better decision-making" is the top pick across industries, with most sentiment in the range of “very important” to “critical” (fig. 23). Perhaps more telling, Retail/Wholesale, Technology, and Healthcare respondents have the most interest in “improved operational efficiency.” Margin-thin Retail/Wholesale also focuses on “growth in revenues,” “increased competitive advantage,” and “enhanced customer service.” Expectedly, Financial Services respondents have the most interest in “risk/compliance.” Government and Higher Education respondents generally have the lowest interest in all BI objectives.

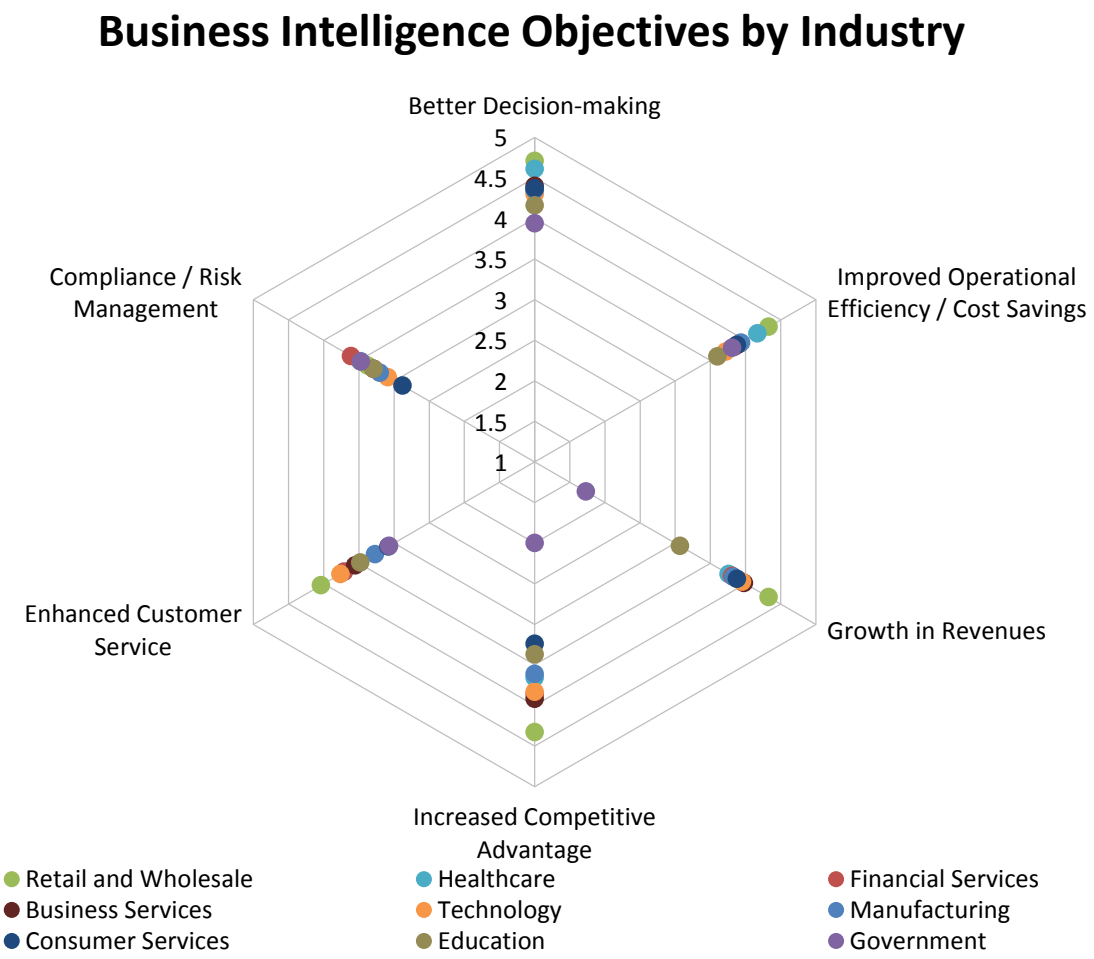


Figure 23 – Business intelligence objectives by industry

Business Intelligence Objectives by Organization Size

Interest in BI objectives generally increases with organization size, though small organizations (1-100 employees) sometimes account for the most interested audience (fig. 24). Small organization interest in 2021 is slightly highest for “growth in revenues,” “enhance customer service,” and roughly equal with many larger organizations for “increased customer service.” Interest in “compliance/risk” most notably increases as organization headcount grows. Organizations of different sizes all place the highest emphasis on "better decision-making," all with mean importance well above the level of "very important.” We note that all six objectives have mean scores above 3.0, or "important" to all organizations regardless of size.

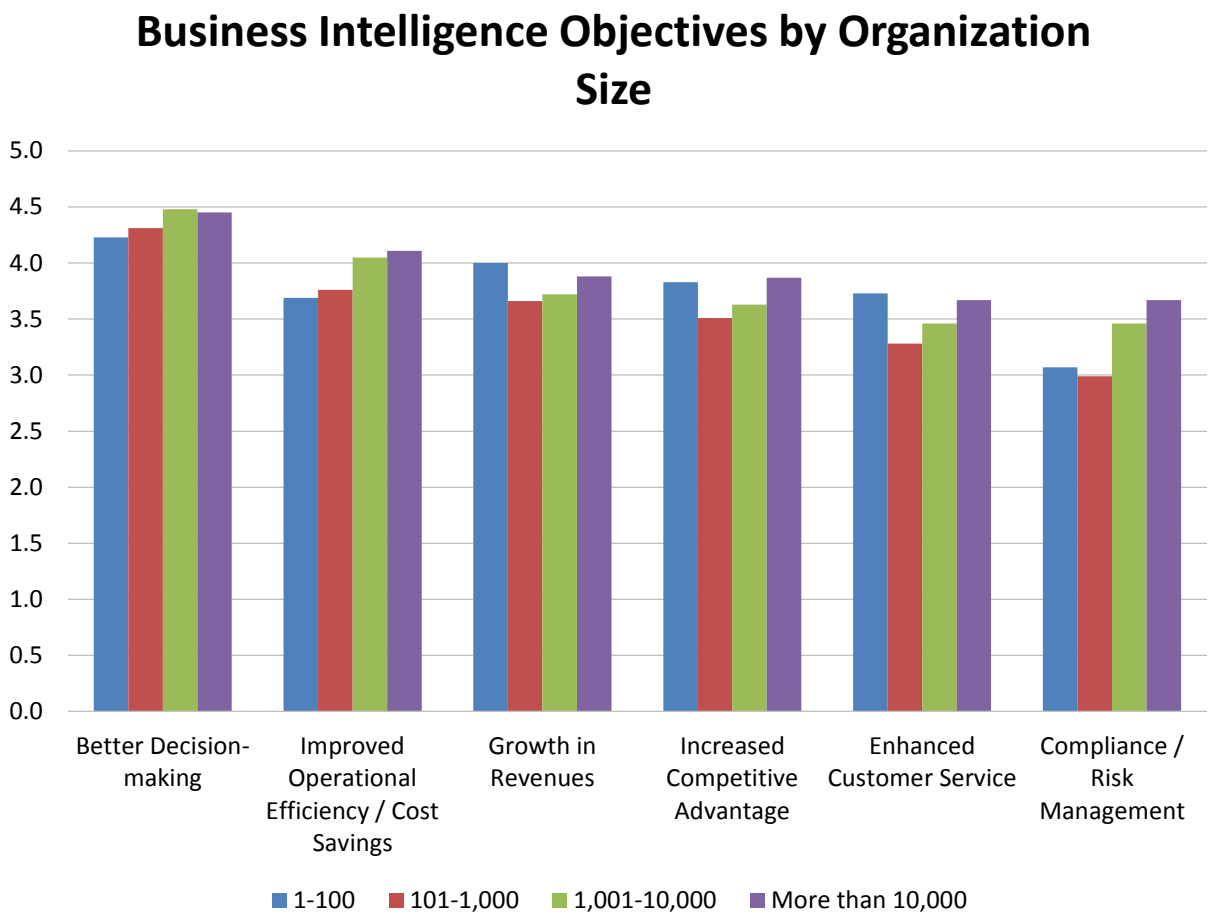


Figure 24 – Business intelligence objectives by organization size

Business Intelligence Achievements

Beginning in 2017, we asked respondents to augment their view of "BI objectives" by gauging their perceived level of "BI achievements" (fig. 25). By this measure, we find some minor distinctions between intent and ongoing accomplishment. In 2021, for example, "better decision-making" and “improved operational efficiency” are the top choices by both measures. "Growth in revenues," however, is the third most important objective among respondents (fig. 17, p. 34) but the fifth most likely achievement. Other things being equal, this tells us that organizations are more effective at improving efficiency than garnering revenue regardless of their stated objectives. Likewise, we observe that “improved customer service” is more likely to be an achievement than its ranking sets it as a priority. Over time, we expect this polling will help identify distinctions between specific organizational goals and the difficulty of modeling and managing different processes successfully.

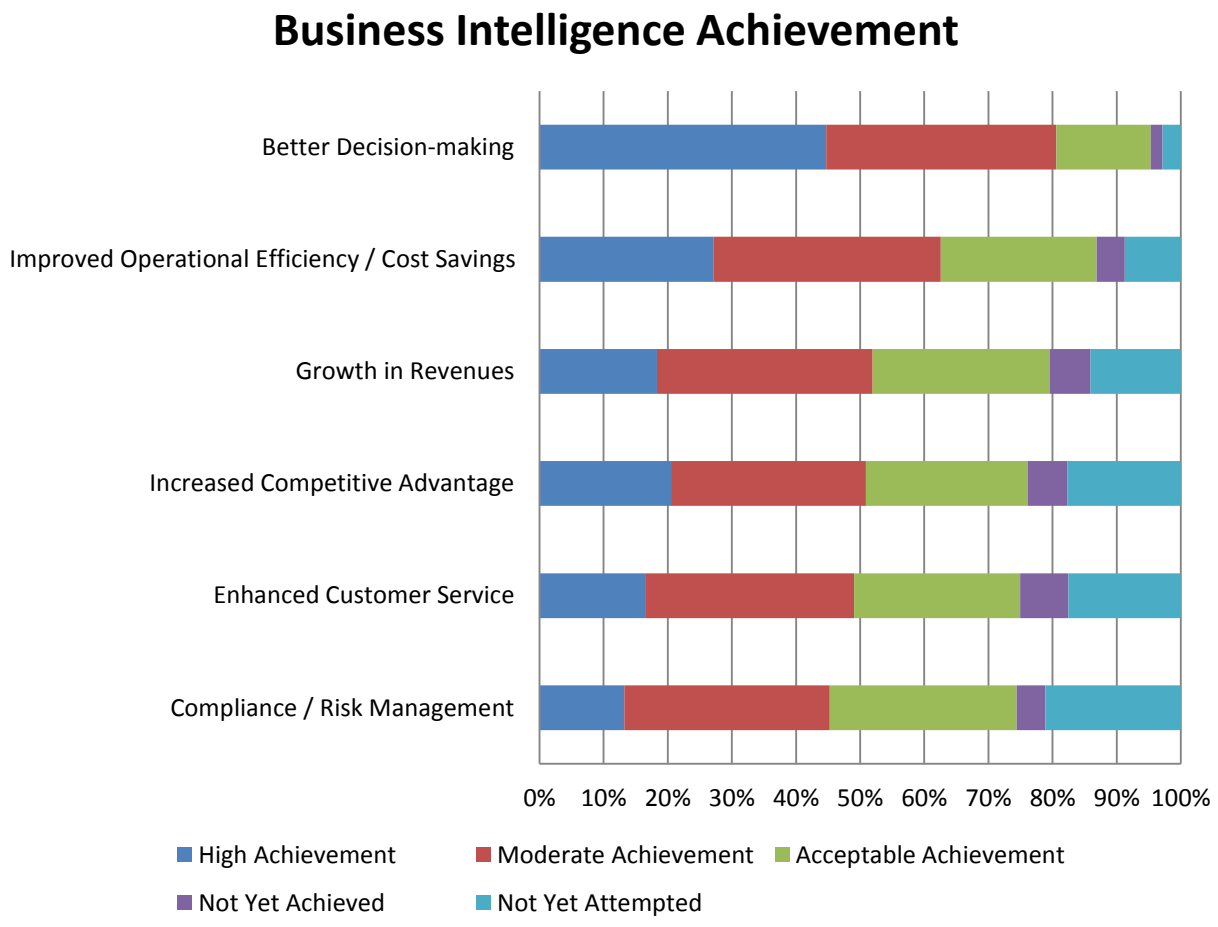


Figure 25 – Business intelligence achievement

Business Intelligence Achievement 2018-2021

Fig. 26 shows organizational measures of perceived achievement over time. This year, measures of achievement for "better decision-making," "improved operational efficiency," "growth in revenues," and "increased competitive advantage" all improve slightly. "Enhanced customer service" and "compliance/risk management" score slightly lower compared to 2020. All achievement scores are very consistent over time, and all fall into "good" to "very good" levels of performance.

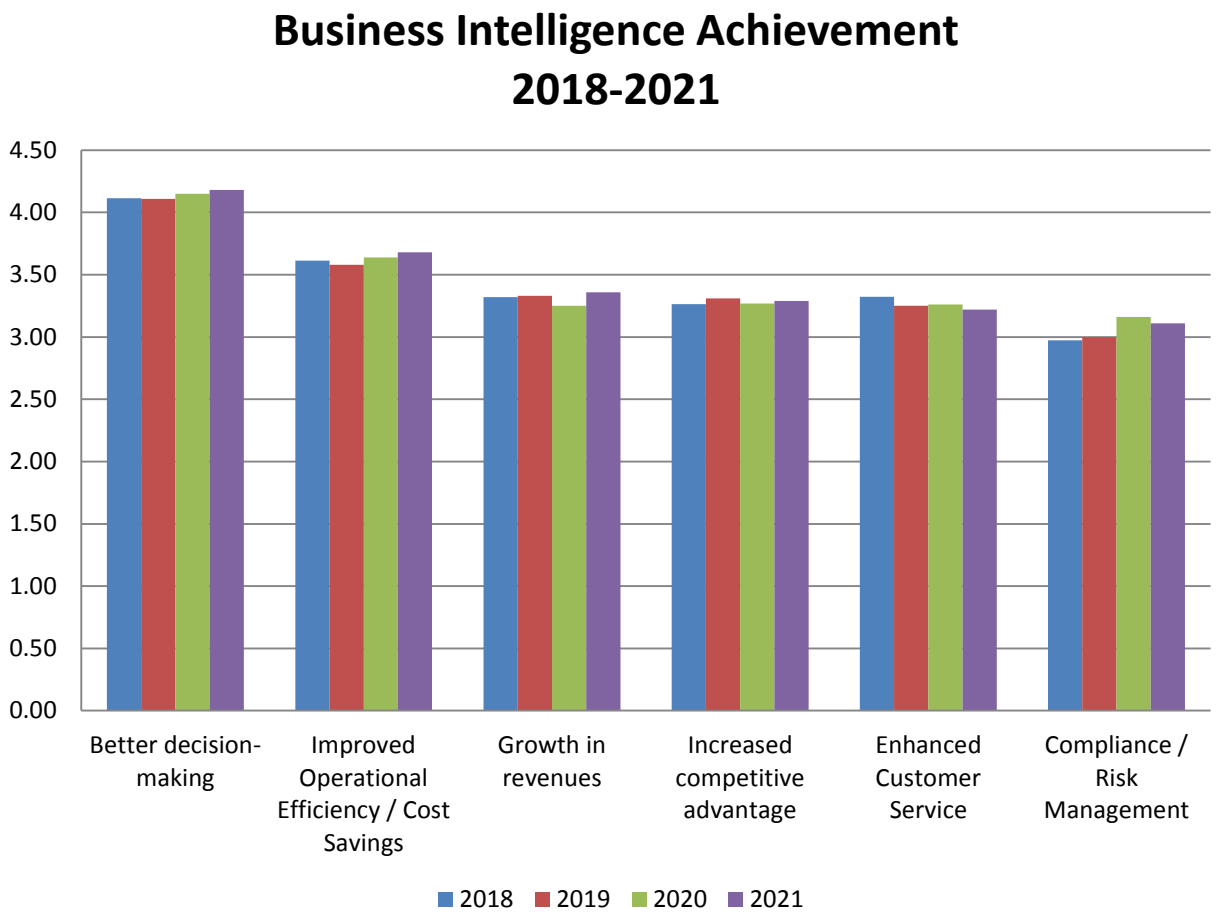


Figure 26 – Business intelligence achievement 2018-2021

Change in BI Achievement 2020-2021

Fig. 27 provides a detailed year-over-year view of changes in estimations of BI achievements. Here, we observe that the top BI achievements of "better decision-making" along with “improved operational efficiency” and “increased competitive advantage” all improve by about 1 percent compared to 2020 performance. Achievements in “enhanced customer service” and “compliance/risk management” decline by about 1 percent and 2 percent respectively. In the larger scheme of achievements over time, we find these adjustments interesting but only minor variations.

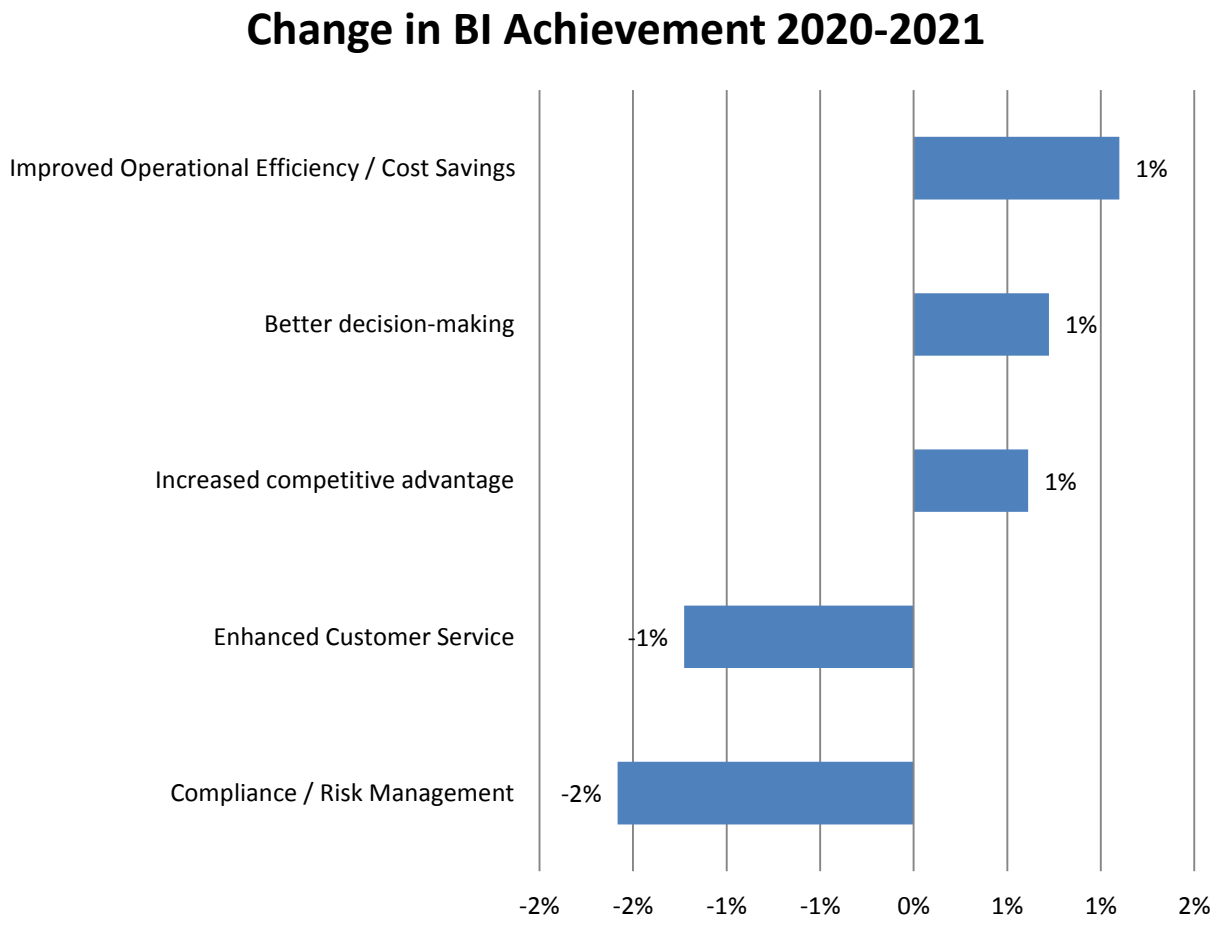


Figure 27 – Change in BI achievement 2020-2021

Business Intelligence Achievements by Function

Viewed by function, all organizational roles claim the greatest achievements in "better decision-making" with high marks that tightly cluster across roles (fig. 28). After this, achievements are more likely to vary by function. In 2021, for example, Strategic Planning, BICC, and R&D respondents often point to operational efficiency and competitive-advantage improvements. Executives are most likely to claim revenue-growth achievements. Operations, Strategic Planning, and BICC respondents are more likely than Executives or Marketing/Sales to point to compliance/risk management achievements.

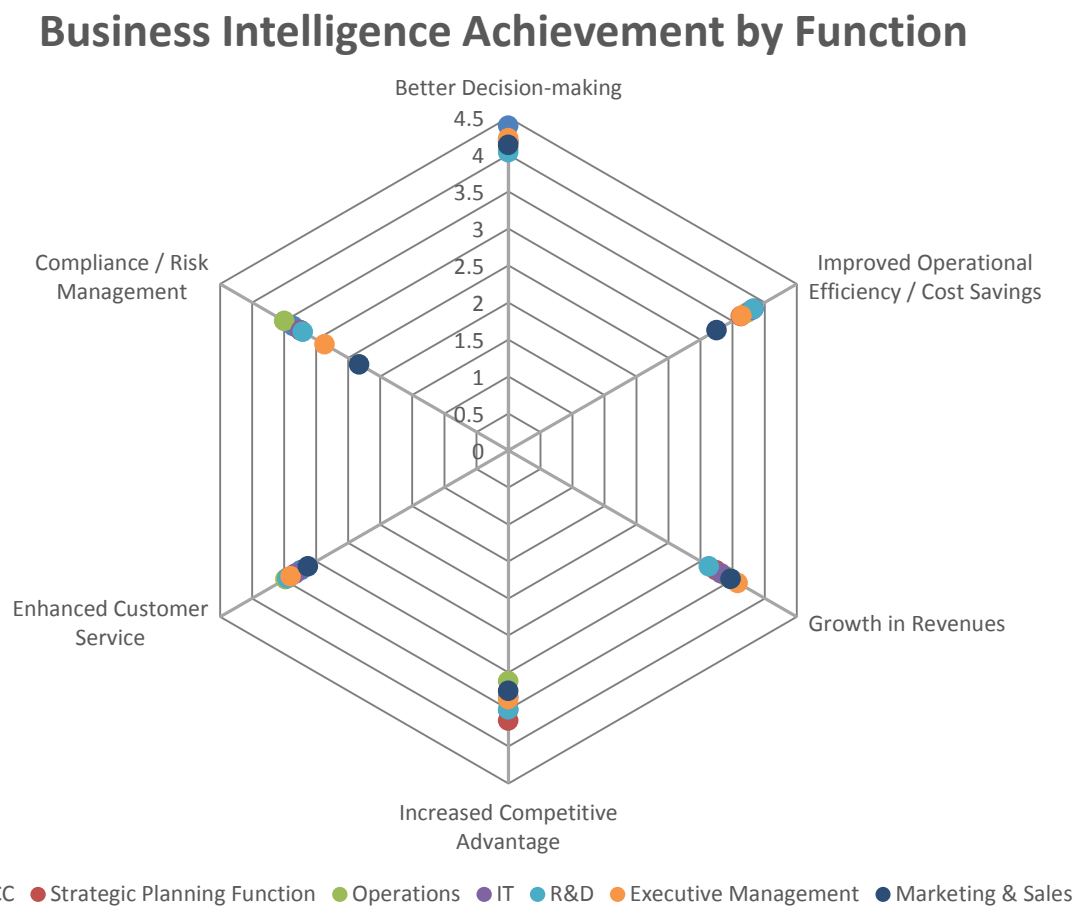


Figure 28 – Business intelligence achievement by function

Business Intelligence Achievements by Industry

Viewed by industry, all respondents claim their greatest number of achievements is in "better decision-making" (fig. 29). This year, several industries including R&D, Technology, and Manufacturing list “improved operational efficiency” as the area of second-greatest achievement. Retail/Wholesale also points to “growth in revenues” and “increased competitive advantage” more than other industries. Technology organizations most often cite “enhanced customer service” achievements, while Financial Services organizations most likely to name “compliance/risk management” achievements.

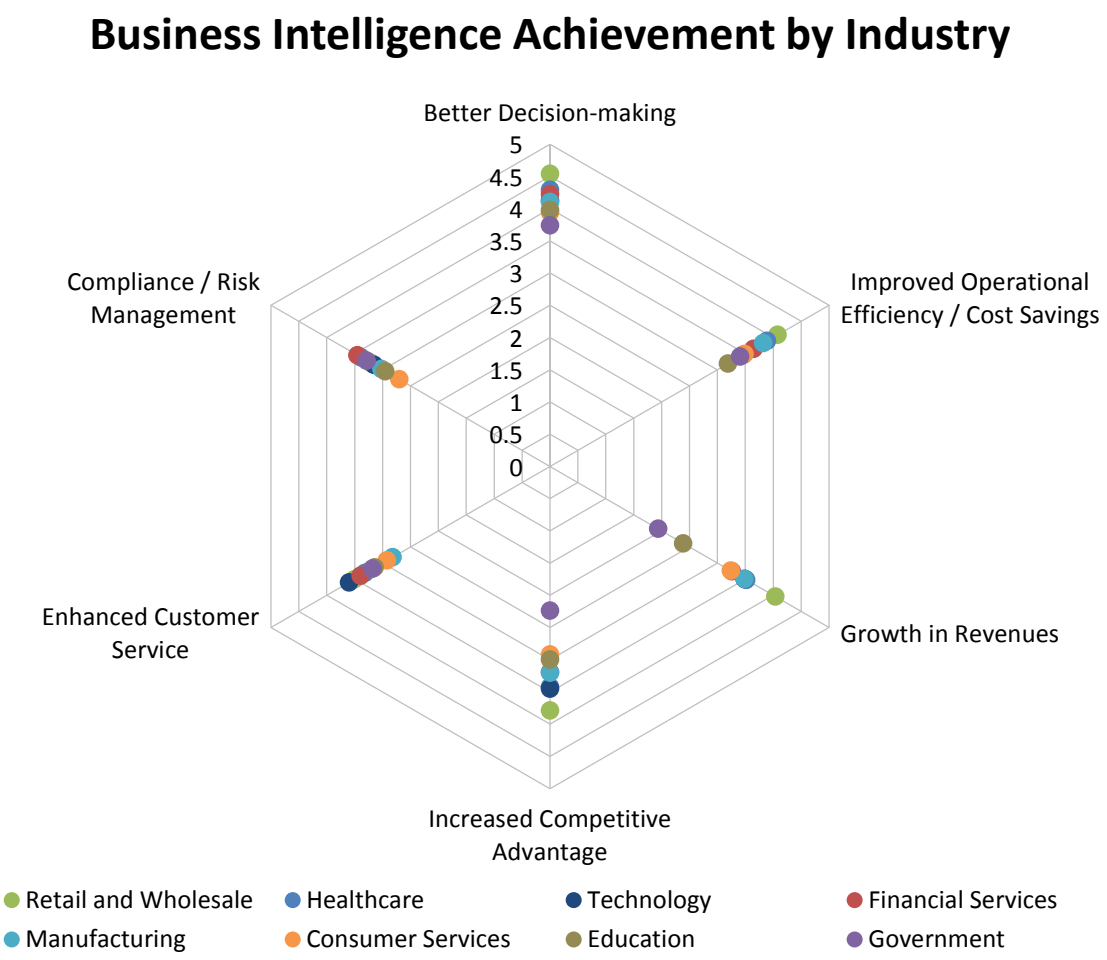


Figure 29 – Business intelligence achievement by industry

Business Intelligence Achievements by Organization Size

Measured by organization size, respondents at all organizations clearly identify "better decision-making" as their most realized BI achievement (fig. 30). Somewhat predictably, we observe that very large organizations (>10,000 employees) identify “improved operational efficiency” as their second most likely achievement. In contrast, small organizations (1-100 employees) identify “growth in revenues,” “enhanced customer service,” and “increased competitive advantage” as their leading secondary achievements. Only when we exclude these small-organization priorities is it obvious that business intelligence achievement consistently increases with organization headcount.

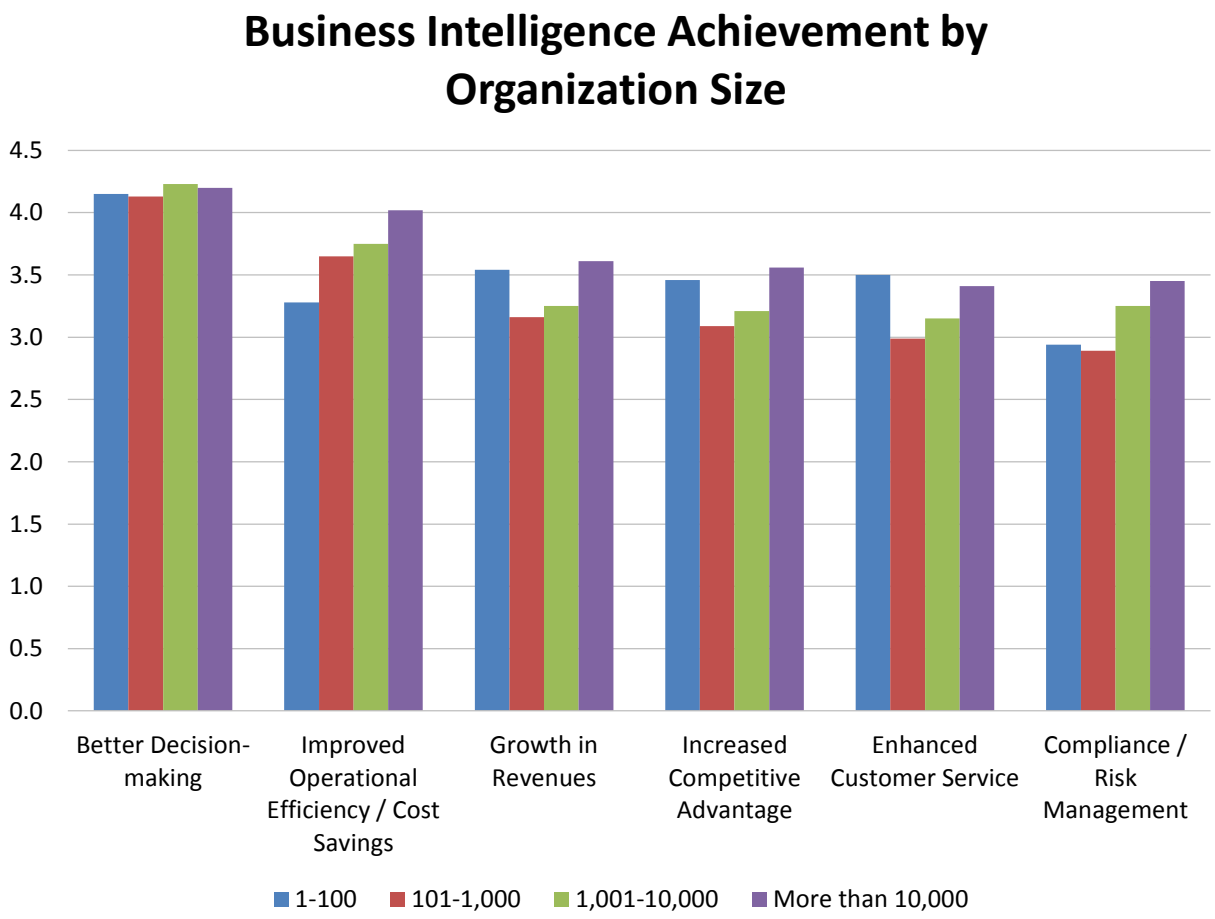


Figure 30 – Business intelligence achievements by organization size

Penetration of Business Intelligence Solutions

Over time, we see an ongoing and positive development in the improving penetration of business intelligence usage (measured as percentage of total employees). Fig. 31 compares penetration of BI through the years 2015-2021 and finds low-level penetration decreases as higher levels climb. Between 2015 and 2021, the lowest level (< 10 percent) declined most (from 35 percent to 25 percent), and 11-20 percent penetration fell from 22 percent to 20 percent. The next four levels of penetration all grew noticeably. For example, 21-40 percent penetration increased from 16 percent to 20 percent, 41-60 percent penetration grew from 10 percent to 14 percent, and 61-80 percent penetration doubled from 4 percent to 8 percent.

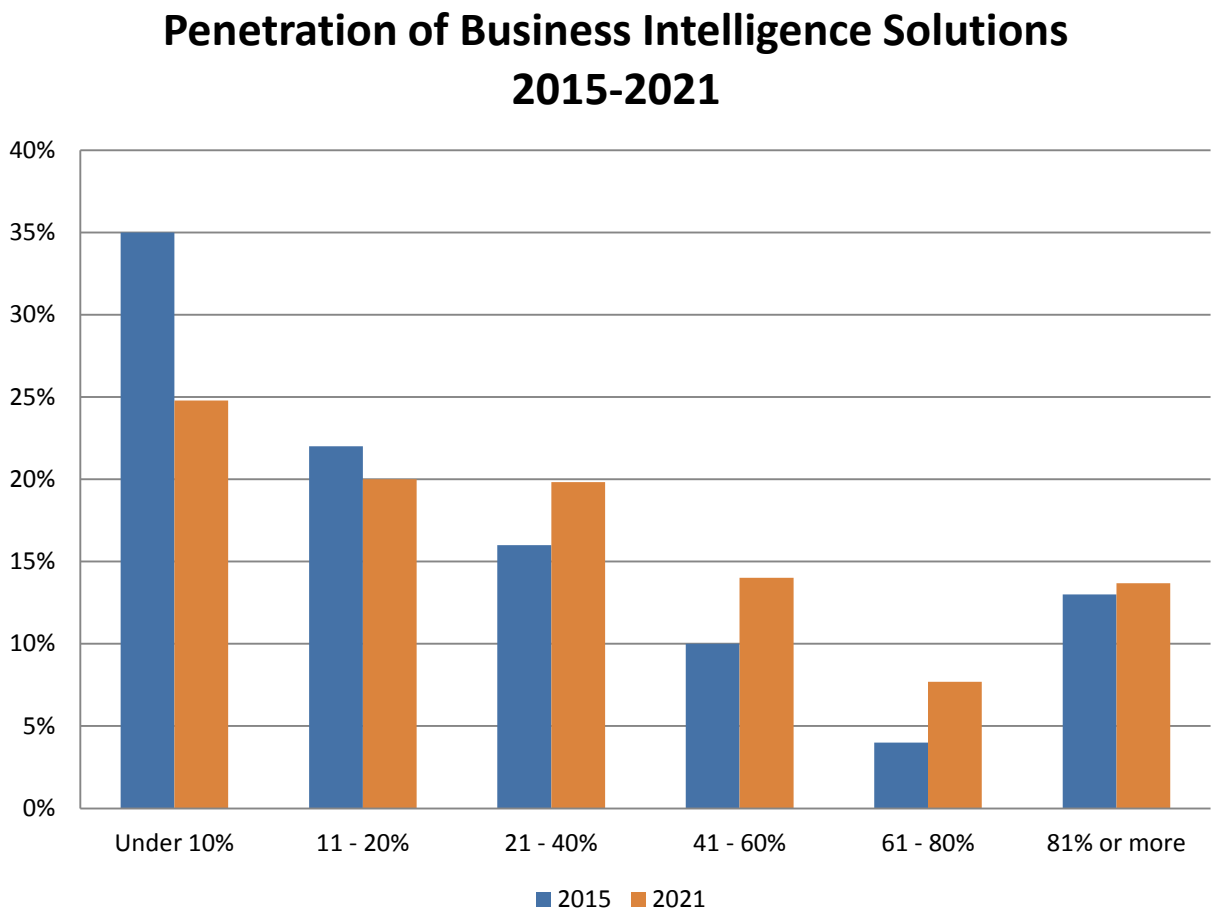


Figure 31 – Business intelligence penetration 2015-2021

Expansion Plans for Business Intelligence Through 2024

Beyond improved current deployment, respondents continue to describe bullish plans for expanding BI in future time frames (fig. 32). 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 almost half, from about 25 percent to about 14 percent, and expect all other measures of penetration to improve. In the longest 36-month view, respondents expect sub-10 percent penetration will fall to near 10 percent, while penetration at the very highest level (> 80 percent) will improve from 14 percent today to 24 percent.

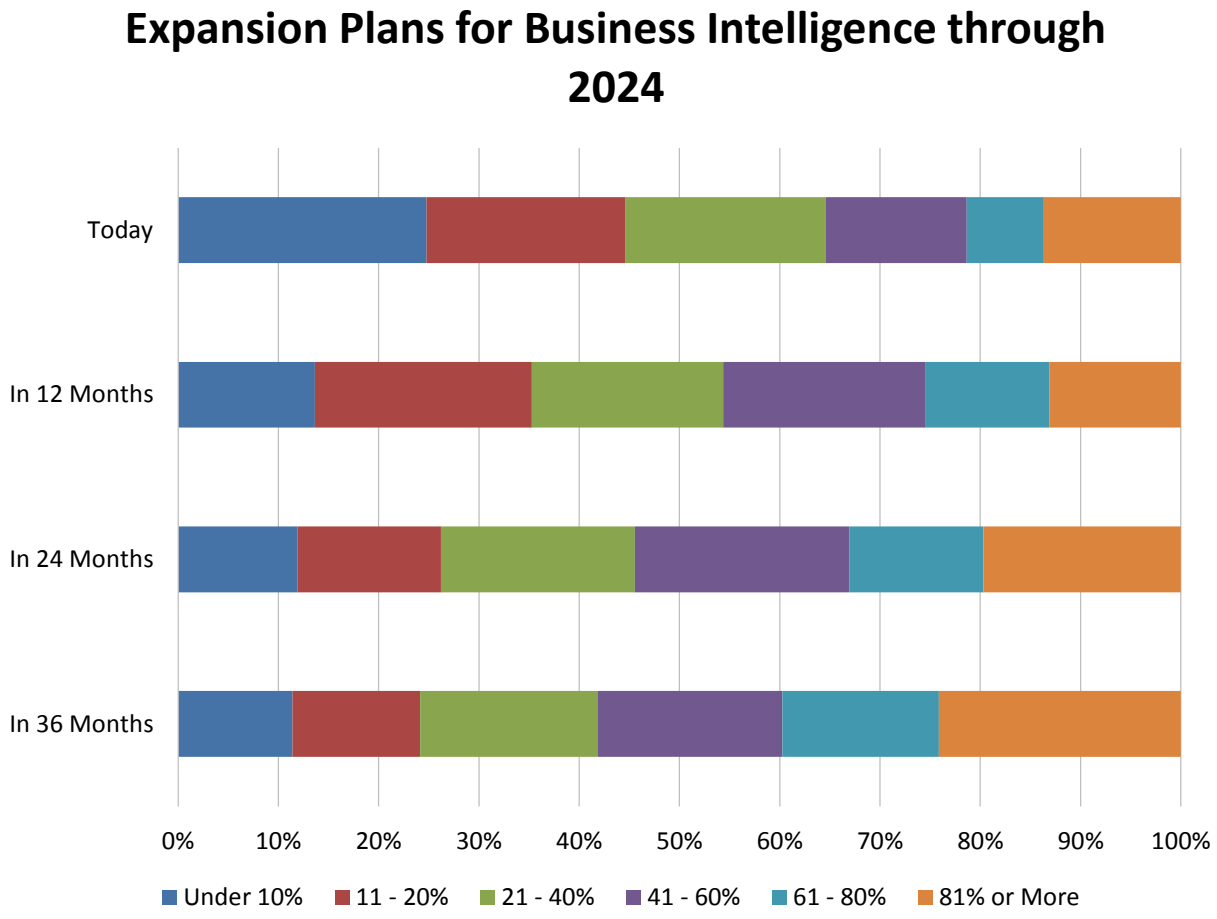


Figure 32 – Expansion plans for business intelligence through 2024

Current Business Intelligence Penetration by Geography

Viewed by geographic region, North America, EMEA, and Latin America report less sub-10 percent penetration (21-25 percent) compared to Asia Pacific (44 percent) (fig. 33). Asia Pacific is also least penetrated overall. In 2021, North America and EMEA, arguably the most mature BI markets, report the highest levels of penetration (41 percent or greater). Latin American respondents claim the most very high (> 80 percent) penetration.

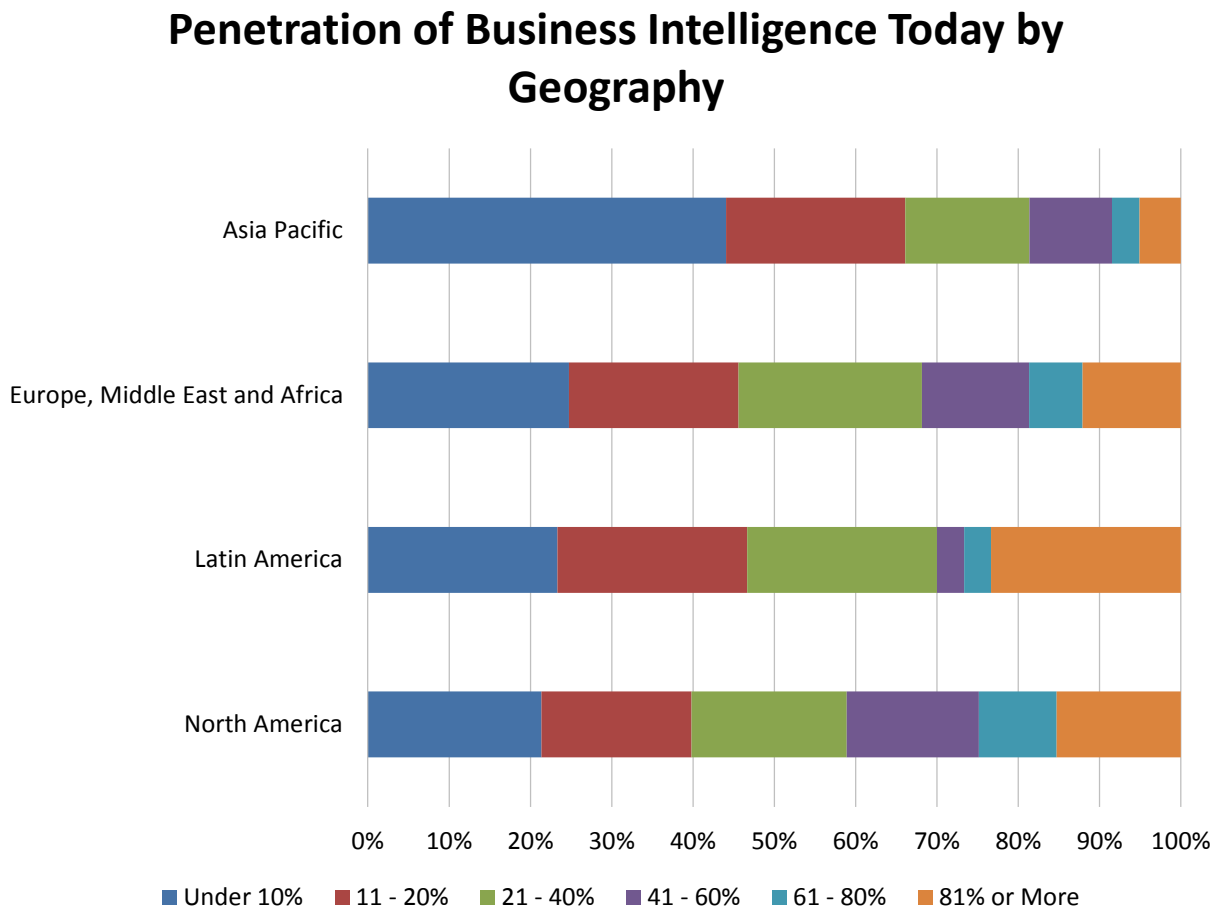


Figure 33 – Penetration of business intelligence today by geography

Planned Business Intelligence Penetration by Geography

A view of future BI plans by geography reveals variations but globally supports growing expectations in 12, 24, and 36-month time frames (fig. 34). Asia-Pacific respondents have the most conservative, slow-growth expectations for future time frames. EMEA respondents might have the most consistent "across the board" expectations for future time frames with steady improvements from low to high levels of penetration. In comparison, North American respondents expect flat levels of penetration at low levels but better improvements at the highest levels of BI penetration. Latin American predictions are modest at low levels and most strong at the > 80 percent penetration level.

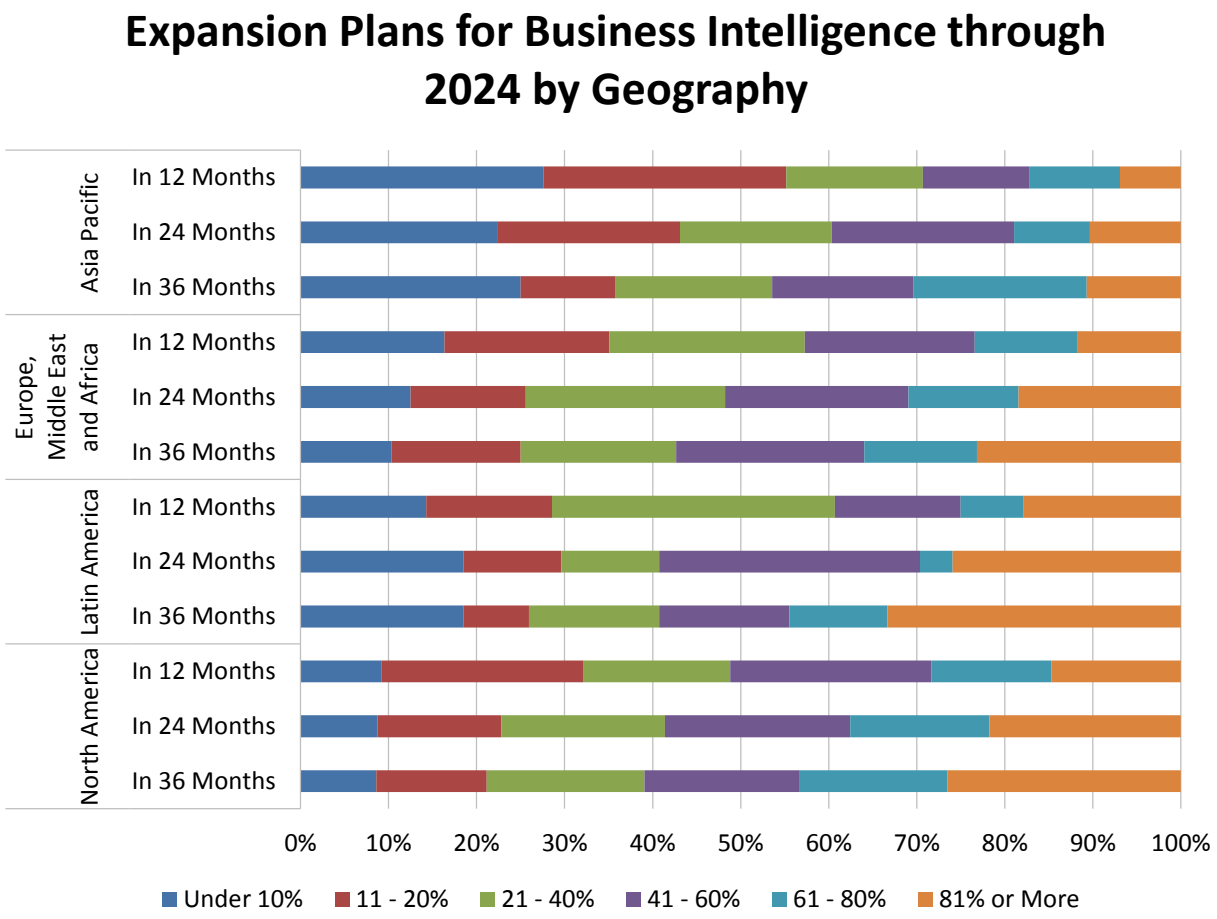


Figure 34 – Expansion plans for business intelligence through 2024 by geography

Current Business Intelligence Penetration by Function

As measured by adding the top three levels of penetration, the most penetrated BI users by function in 2021 are in Strategic Planning, R&D, and Executive Management, closely followed by Operations and IT (fig. 35). Marketing/Sales reports the most compartmentalized penetration at the two highest levels of 61 percent or more. At the other end of the spectrum, the two lowest levels of penetration are more evenly distributed across all functions but collectively greatest in Operations and Finance. In all, overall importance of BI is hard to quantify by functional penetration, given that pockets of penetration exist in roles that account for greater organizational headcount. In the same regard, we are somewhat surprised to find so many executives (or their organizations) at significant levels of low penetration.

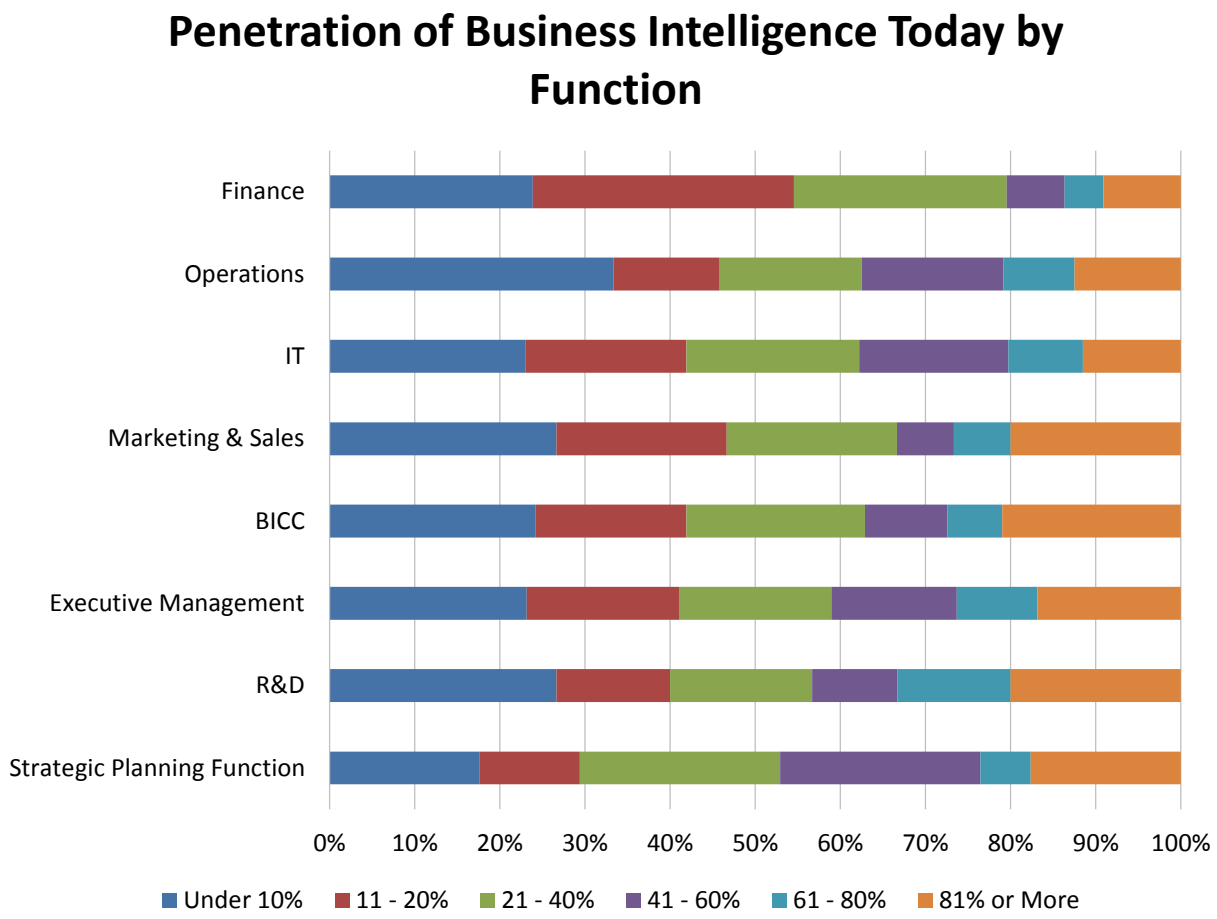


Figure 35 – Penetration of business intelligence today by function

Planned Business Intelligence Penetration by Function

Expansion plans at different levels of BI penetration vary by function, though most functions expect to see at least a bit more "high-level" BI penetration over coming time frames (fig. 36). Respondents in R&D, Marketing/Sales, and Executive Management expect the highest levels of future penetration of 81 percent or more. Future penetration is expected to improve at the high end for Operations, though low-level penetration will remain stalled closer to current levels. In other measures of low-level penetration, Strategic Planning, Marketing/Sales, and BICC respondents expect to most minimize sub-21 percentages of users.

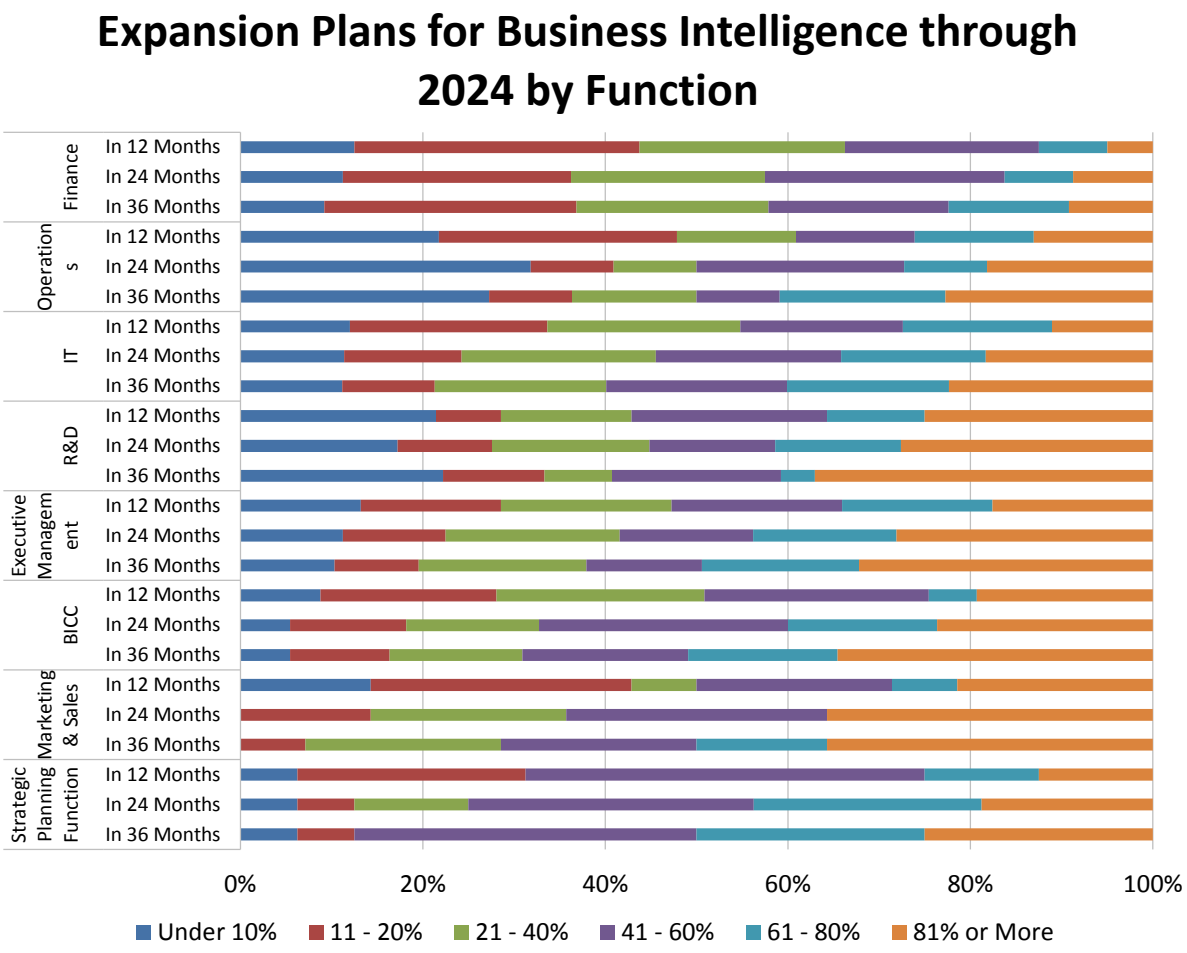


Figure 36 – Expansion plans for business intelligence through 2024 by function

Current Business Intelligence Penetration by Vertical Industry

Both high and low levels of BI penetration differ by vertical industry in 2021 (fig. 37). Currently, the best performing industry is Technology, with the lowest low (< 20 percent) and greatest high (> 40 percent) BI penetration. Business Services and Consumer Services are the next best performers at the very highest level and at all levels of 11 percent or more. At the low end of performance by industry, Education, Government, and Healthcare report the highest sub-10 percent penetration and relatively little penetration at the highest levels.

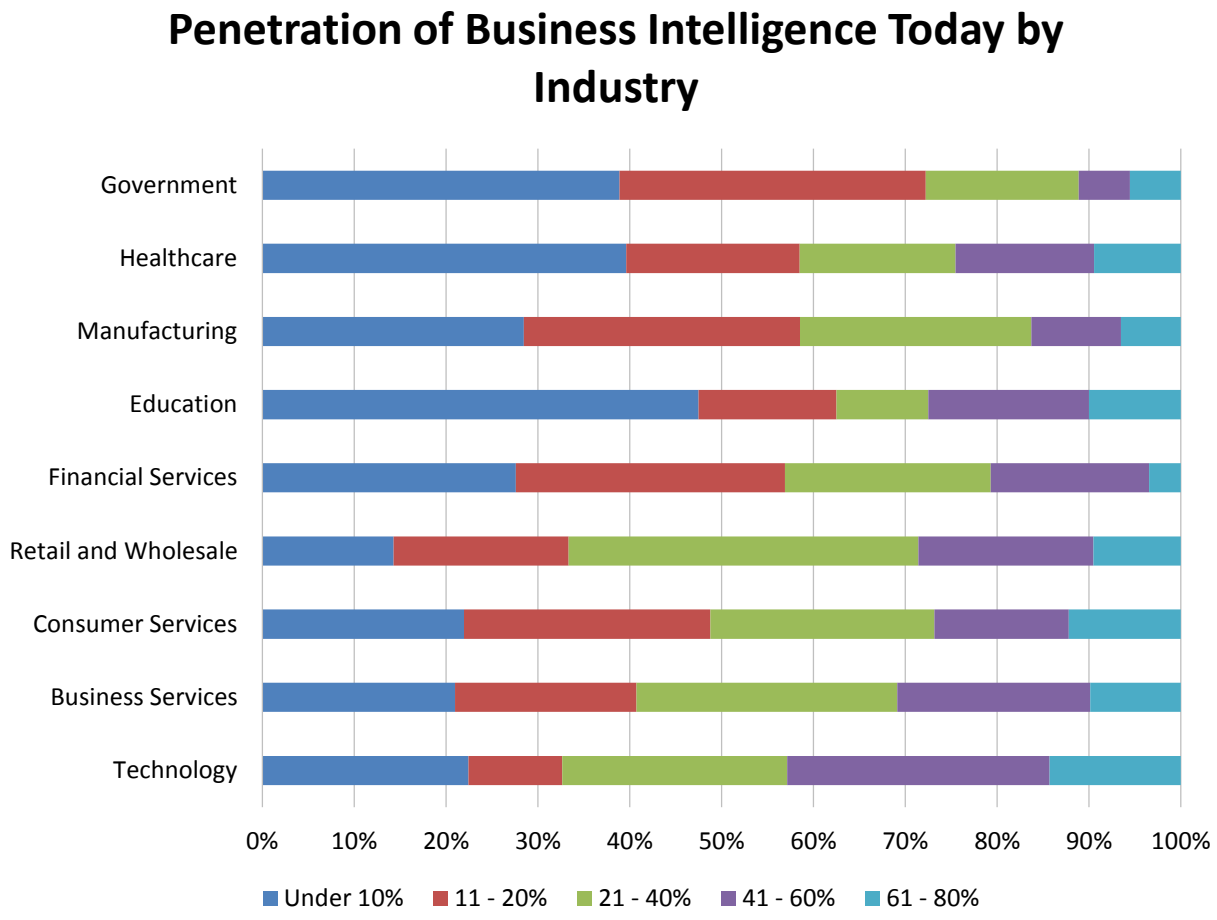


Figure 37 – Penetration of business intelligence today by industry

Planned Business Intelligence Penetration by Vertical Industry

In our 2020 sample, expansion plans for business intelligence vary unevenly by industry (fig. 38). Most visibly, 12, 24, and 36-month estimations of improved very high-level (> 80 percent) penetration are highest among respondents in the Technology, Business Services, and Consumer Services industries. Among several interesting industry findings, Manufacturing, for example, sees steady improvements at multiple levels, and Healthcare and Higher Education respondents see lingering low-level penetration but some progress at the highest levels.

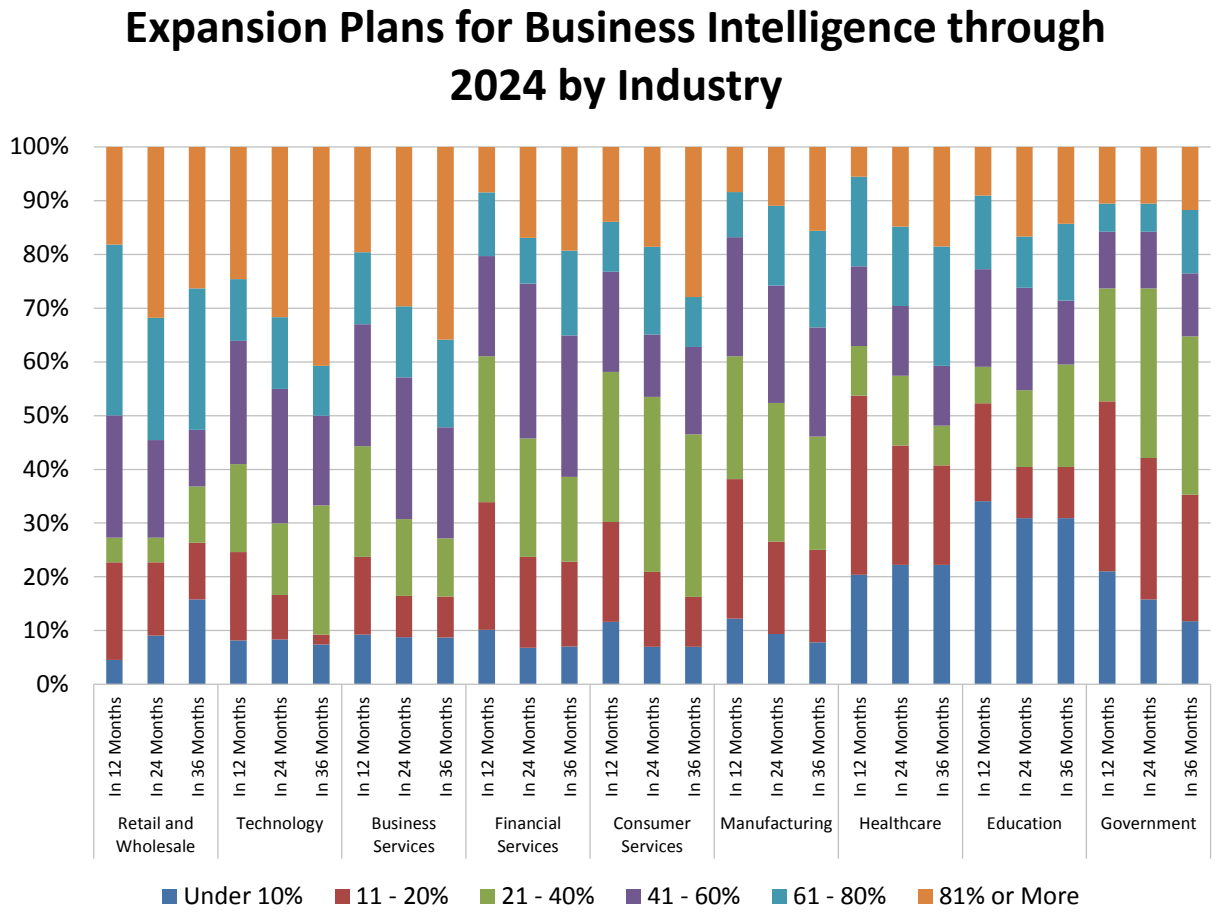


Figure 38 – Expansion plans for business intelligence through 2024 by industry

Current Business Intelligence Penetration by Organization Size

As we observed in every year of our study, in 2021, small organizations of 1-100 employees have more BI penetration at higher levels and less low-level penetration compared to all larger peers (fig. 39). While overall headcount almost ensures this score, we also expect small organizations, which are likely to have a higher proportion of information workers, would find fewer barriers of cost or deployment and more immediate benefits than larger and older companies. Nonetheless, in 2021 we see verygood high-level BI penetration at very large organizations (> 10,000 employees), where well more than half of all organizations report greater than 20 percent penetration, and almost 40 percent have 40 percent or greater penetration.

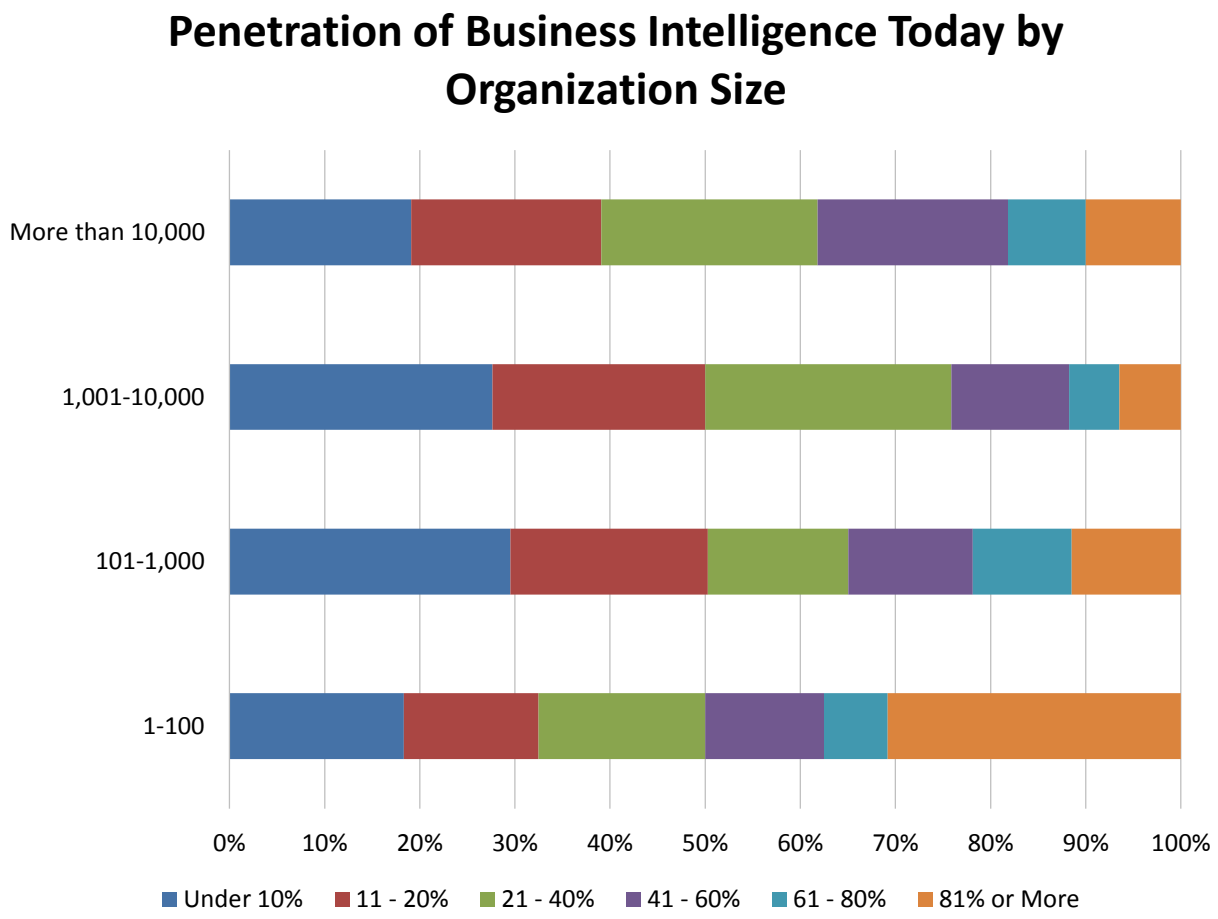


Figure 39 – Penetration of business intelligence today by organization size

Planned Business Intelligence Penetration by Organization Size

Along with being the most penetrated today, small organizations (1-100 employees) have the steepest expectations for future high-level BI penetration in coming time frames (fig. 40). All other organizations expect improvements at all levels, albeit with less aggressive growth. Very large organizations (> 10,000 employees) also have improving expectations at the 11-20 percent and 21-40 percent levels. The lowest penetration (< 10 percent) in organizations of any size appear somewhat "stuck" at ongoing levels, perhaps identifying a segment that will not / does not need to be targeted with BI.

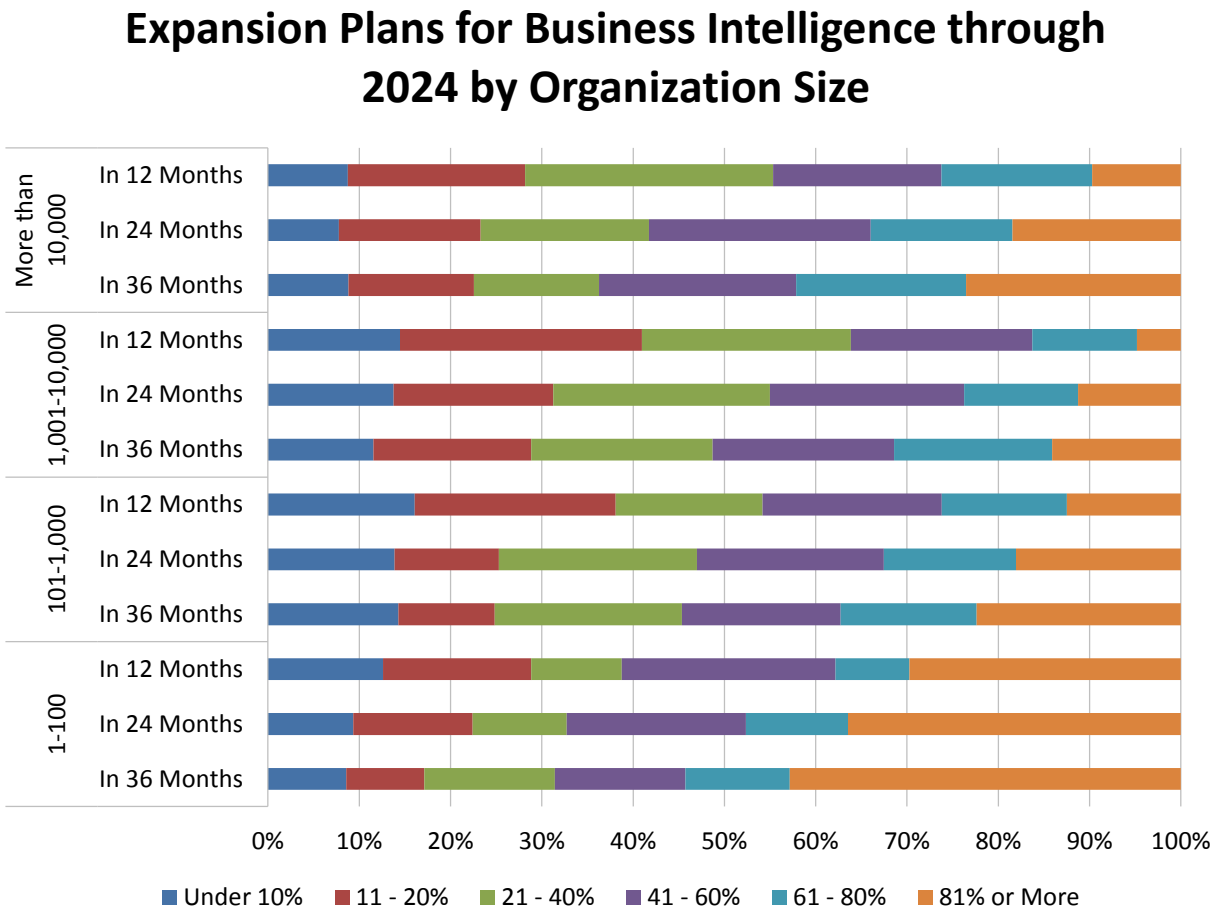


Figure 40 – Expansion plans for business intelligence through 2023 by organization size

Chief Data and Chief Analytics Officers

Beginning in 2016, we asked our audience whether their organizations had appointed a chief data officer (CDO) or chief analytics officer (CAO). We understand these appointments cause changes in the technology and business architecture of organizations and that these roles and titles evolve in their definition.

Enterprises with Chief Data or Chief Analytics Officers

The ongoing uptake and longevity of chief data and chief analytics officers remains quite modest but began showing improvements in 2019 leading into 2020, and again leading into 2021 (fig. 41). This year, CDO appointments top 20 percent for the first time, and CAO appointments top 15 percent for the first time. By another measure, the number of named CDOs and CAOs grows by about 15-20 percent each of the last two years. In the longer term, both titles appear to rebound from lower numbers reported in 2018 and 2019. Traction and tenure favor CDOs over CAOs over time, and slowly growing longevities indicates that the title "sticks" in organizations that adopt them.

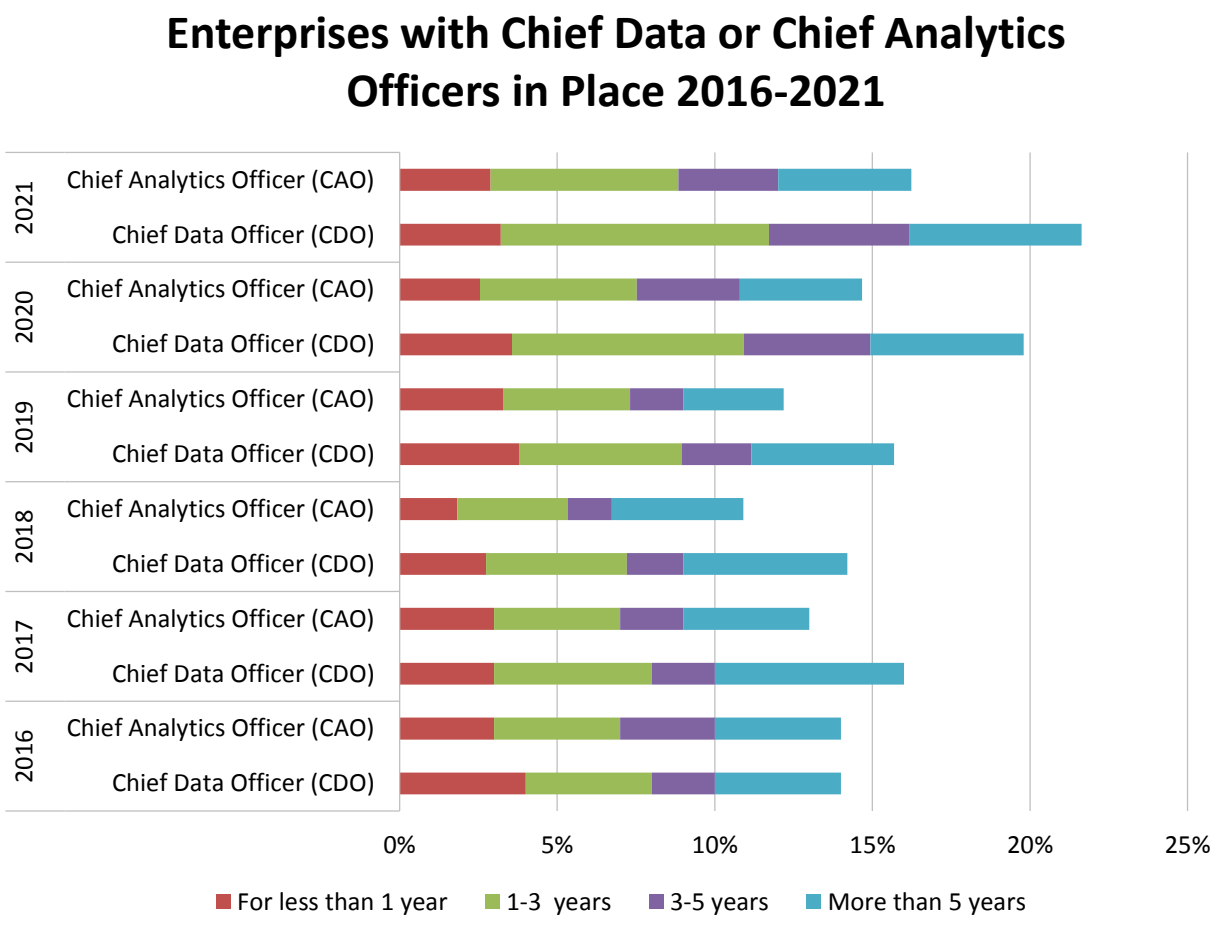


Figure 41 – Enterprises with chief data or chief analytics officers in place 2016-2021

Plans to Implement Chief Data or Chief Analytics Officers

Among the large majority of organizations that have no CDO or CAO, adoption plans for coming time frames are modest for both roles (but improve compared to previous years) (fig. 42). About 6 percent of organizations say they will name a CDO this year; a bit more than 2 percent will name a CAO this year. About 11 percent will name a CDO this year or next year; a bit more than 6 percent will name a CAO this year or next. About two-thirds or more of all organizations currently have no plans to appoint either title.

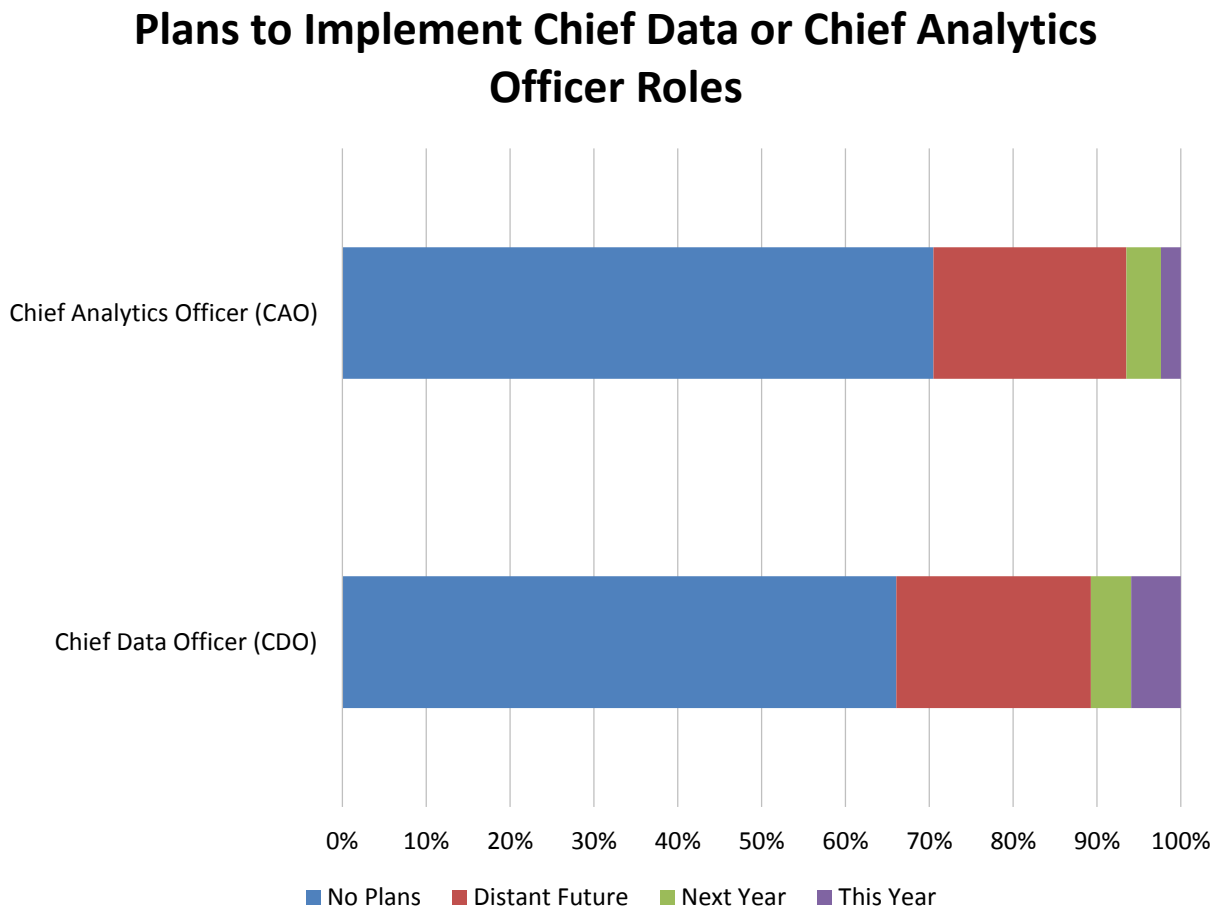


Figure 42 – Plans to implement chief data or chief analytics officer roles

Effectiveness of Chief Data or Chief Analytics Officers

We asked respondents to describe the effectiveness of a chief data officer or chief analytics officer in their organization (fig. 43). By this measure, success slightly favors the chief analytics officer in 2021. This year, we find that CAOs are "extremely effective" 40 percent of the time and "somewhat effective" another 50 percent of the time. By comparison, CDOs are "extremely effective" 36 percent of the time and "somewhat effective" another 52 percent of the time. Notably, only 10 percent say CAOs are "somewhat ineffective" or "completely ineffective," (about 12 percent for CDOs), indicating that, despite their low penetration, respondents highly regard the presence of either title.

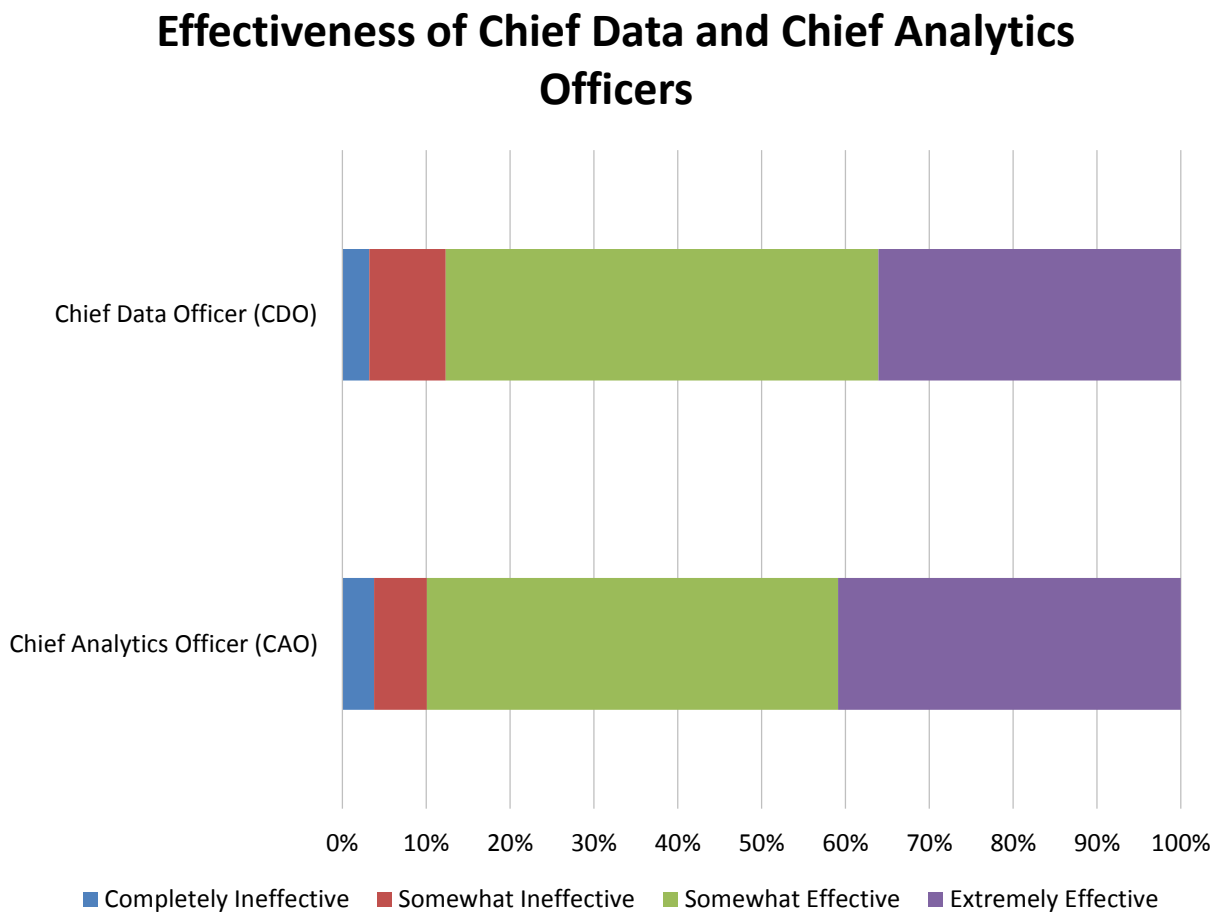


Figure 43 – Effectiveness of Chief Data and Chief Analytics officers

Presence of Chief Data and Chief Analytics Officer by Success with BI

We might predict that both CDOs and CAOs would accompany higher estimations of success with business intelligence. Indeed, the titles correspond with perceived success with BI in 2021, though a caveat exists in our "control" sample (fig. 44). About 92 percent of organizations with a CAO and 87 percent that have a CDO are "completely successful" or "somewhat successful." Only about 6 percent of organizations with both a CAO and a CDO (an admittedly rare scenario!) are "somewhat unsuccessful" or "unsuccessful." However, the odds of BI success are only slightly less when neither a CAO nor CDO (versus one or the other) is present. Given the low current penetration of both titles, this may be a finding better borne out over a longer period of time (also see the following chart on Achievement with BI leadership).

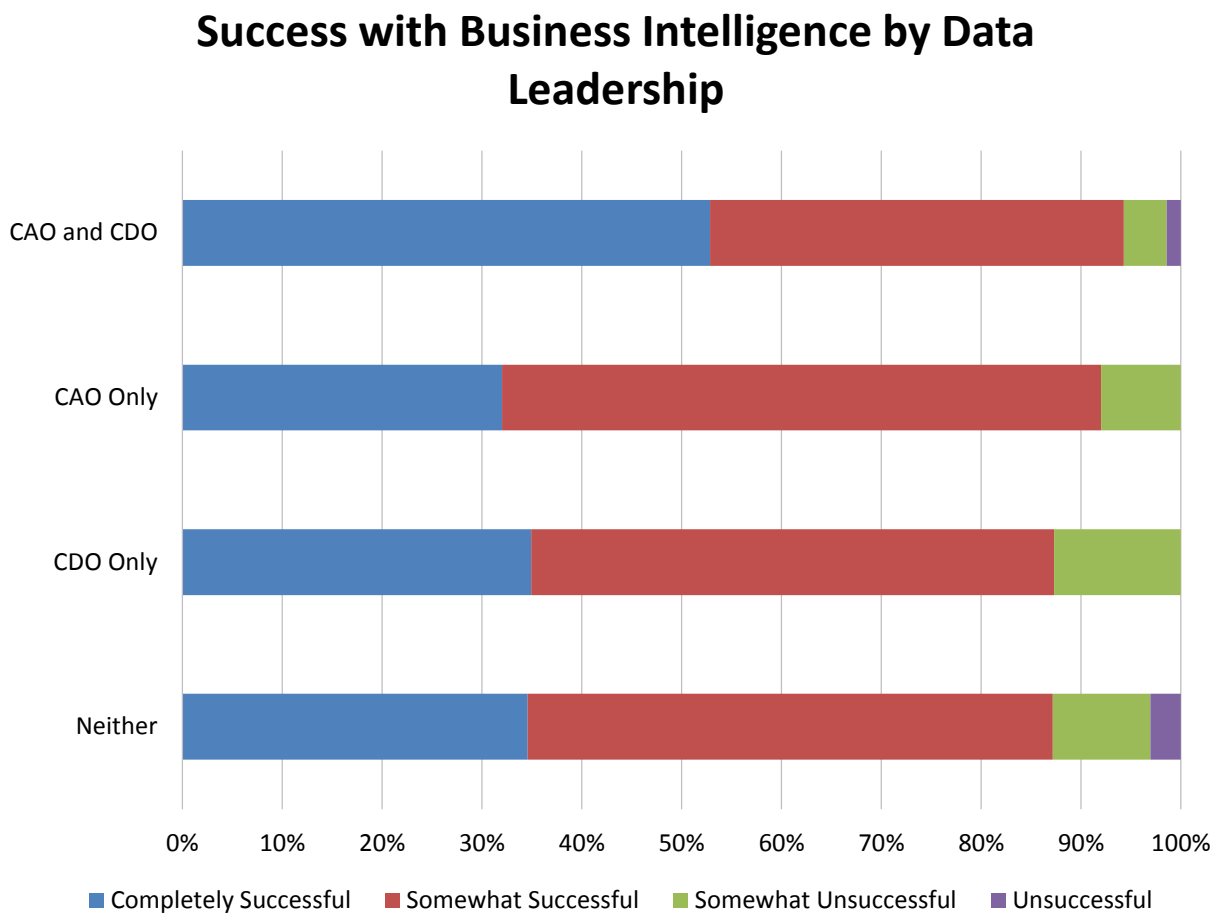


Figure 44 – Success with business intelligence by data leadership

Business Intelligence Achievements by Presence of CDO / CAO

We asked respondents to describe their sense of achievement of BI objectives in the presence of a chief data officer, chief analytics officer, both, or neither (fig. 45). The results here are noticeable and fare better than with "BI Success" as presented in the previous chart (fig. 44, p. 61). This chart reveals that respondents sense or can point to improved BI outcomes in the presence of a CAO or CDO. Both titles yield higher measures of achievement in all BI objectives than do "neither." "Both" most often performs best, and CAO performs at least slightly better than CDO except in "enhanced customer service." The top achievement, "better decision-making," seems best served in the presence of the Chief Analytics Officer title. By measures of difference in presence or absence, "enhanced customer service" and "compliance/risk management" improve most by presence of a CDO or CAO.

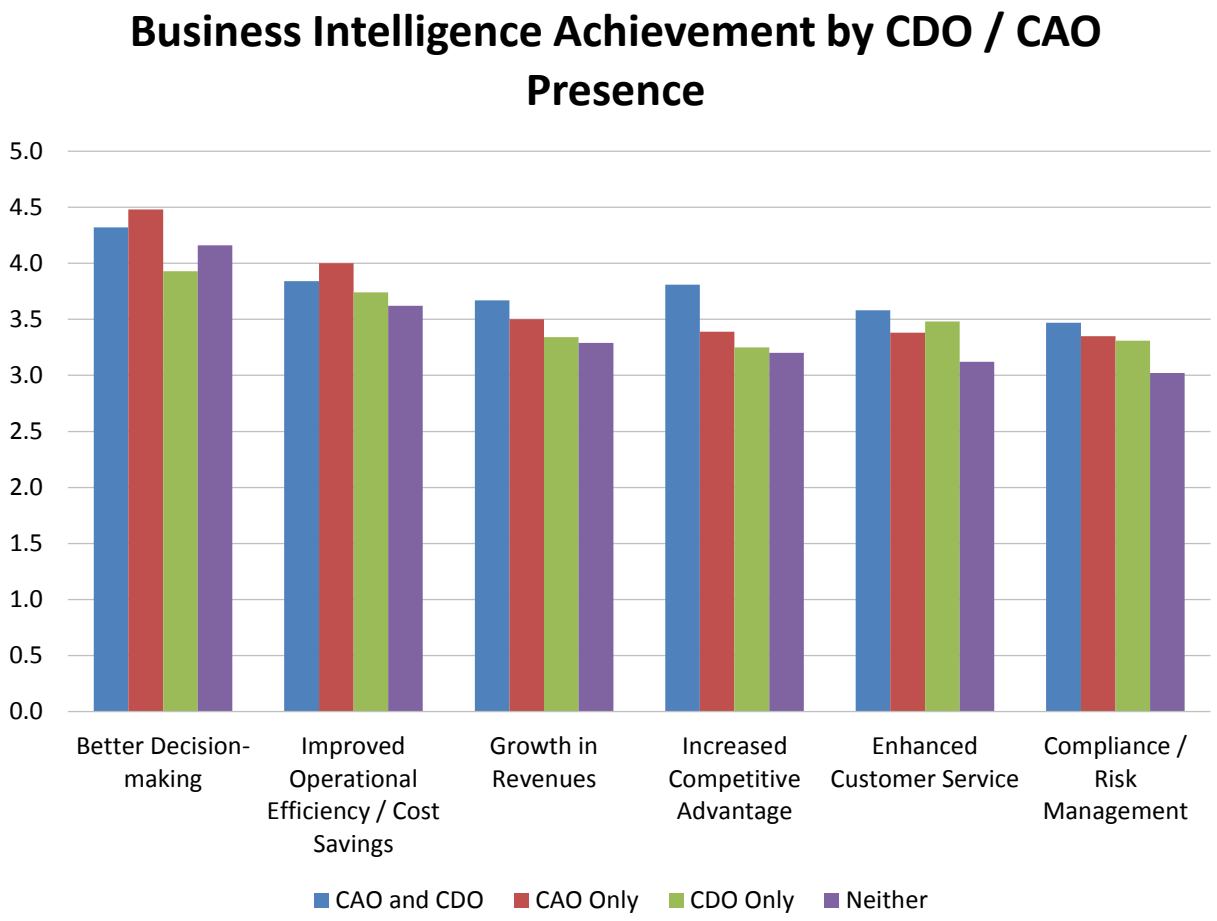


Figure 45 – Business intelligence achievement by presence of CDO / CAO presence

Enterprises with Chief Data or Chief Analytics Officers by Organization Size

The presence of chief data officers and/or chief analytics officers in 2021 is more likely to be longer tenured, large-organization phenomena but also extends downstream to smaller enterprises (fig. 46). Very large organizations (>10,000 employees) account for the greatest number of five-plus-year CDO and CAO appointments compared to smaller organizations. But newer appointments of less than one year (especially for CDO), are more likely at small organizations (1-100 employees) and also occur to a lesser extent at organizations of any size. We also observe that very large organizations are considerably more likely overall to have a CDO than a CAO and that small organizations are only somewhat more likely to have a CDO, partly abetted by recent appointments.

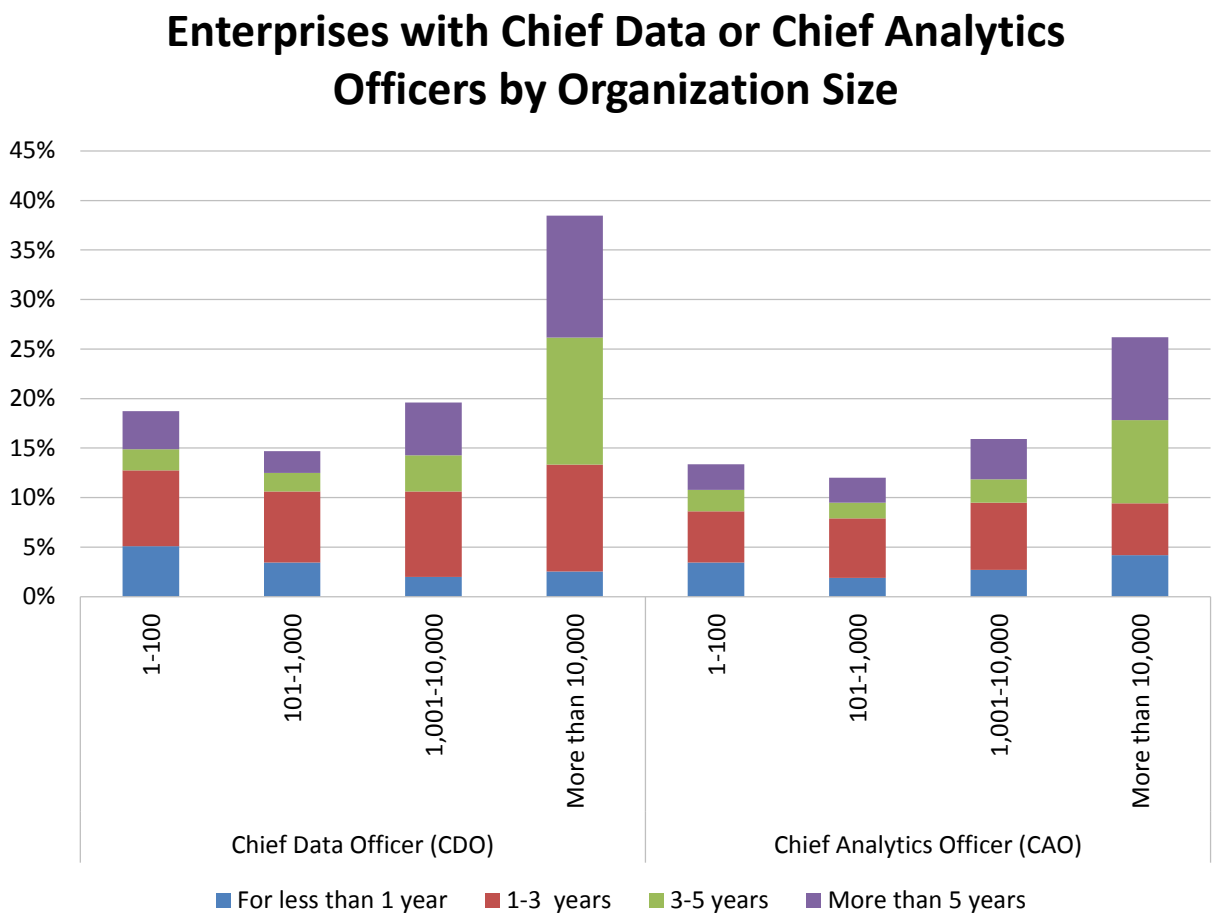


Figure 46 – Enterprises with chief data or chief analytics officers by organization size

Enterprises with Chief Data and Chief Analytics Officers Reporting Structure

Among organizations with a CAO or CDO, both titles are by far most likely to report to the CEO (and thus may be considered strategic and worthy of C-level status) (fig. 47). In 2021 and in smaller numbers, CAOs are a bit more likely to report to Finance than are CDOs. The opposite is true in reporting to the CIO, which the CDO is more likely to do. (This is a reversal of our 2020 finding and may not be a lasting trend.) Year over year, CDOs and CAOs more often report to CEOs and CIOs than in 2020 (and less often to CFOs). It is worthwhile to note that Marketing, often mentioned as the "tip of the spear" of analytic activities, remains least likely to have reporting oversight of the CAO and, even less, the CDO.

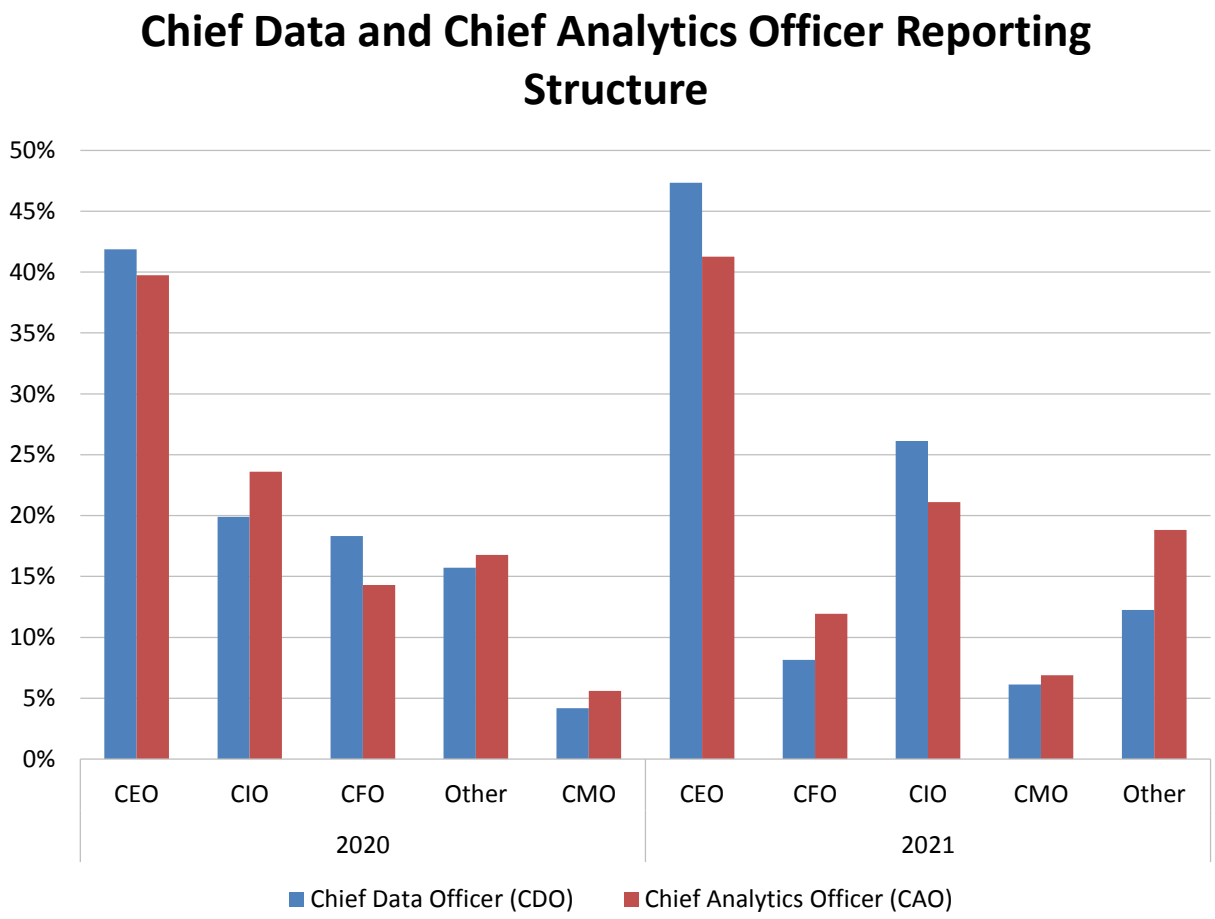


Figure 47 – Chief data and chief analytics officer reporting structure

Number of Business Intelligence Tools in Use

Number of Business Intelligence Tools in Use 2013 to 2021

Across the last nine years of our study, we see a somewhat constrained range in the number of business intelligence tools in use by organizations (fig. 48). In 2021, however, we see a year-over-year increase in the number of tools in use compared to 2020. Just 17 percent report only one tool in use (compared to 23 percent in 2020), and 24 percent report two tools (compared to 26 percent in 2020). The use of four or more tools correspondingly increased from 24 percent to 26 percent. We see no strong consolidation trends across the history of the study but would expect that tool use would expand in the presence of service-based and/or role-based options for BI tools that are easily implemented and perhaps paid for with departmental or project budgets.

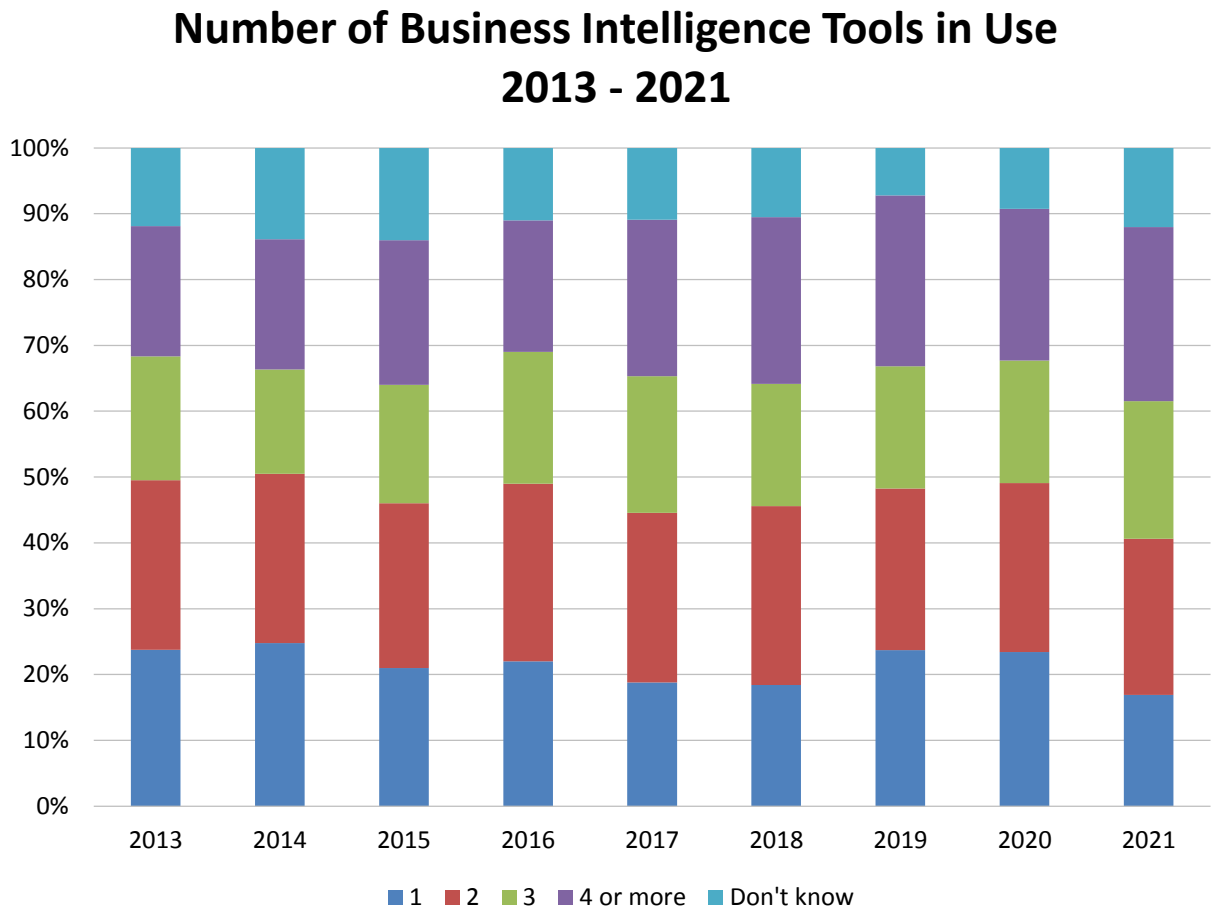


Figure 48 – Number of business intelligence tools in use 2013-2021

Number of Business Intelligence Tools by Geography

Organizations in different geographic regions all employ a range of one to many BI tools (fig. 49). Respondents in EMEA, Latin America, and Asia Pacific are about equally likely to use one or two tools (47-48 percent), while North American peers are more likely to use three (22 percent), four, or more (31 percent). In comparison, EMEA respondents are just 18 percent likely to use four or more tools. Lack of awareness is highest in Latin America (17 percent) and Asia Pacific (15 percent), but only about 10-12 percent in North America and EMEA.

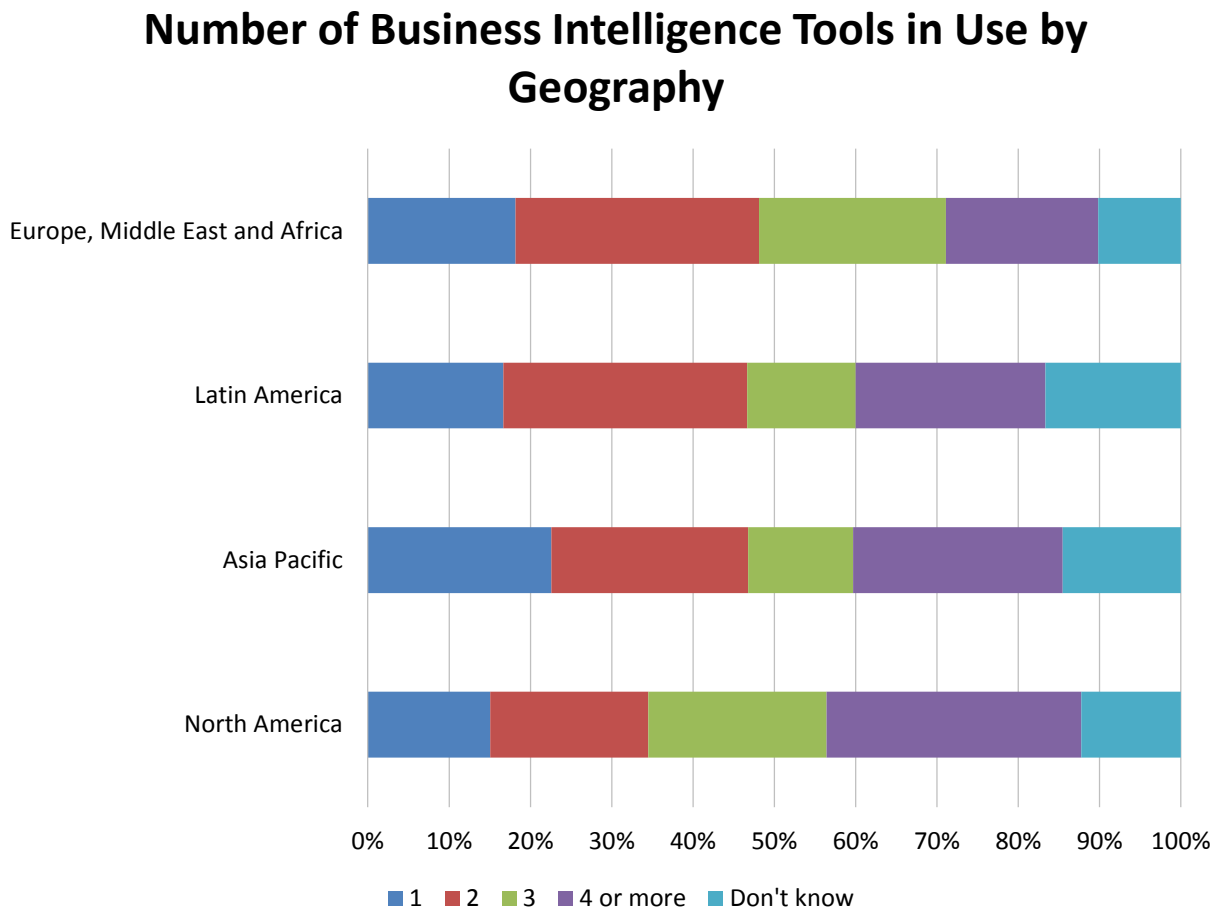


Figure 49 – Number of business intelligence tools in use by geography

Number of Business Intelligence Tools by Function

All functions might use one or multiple BI tools in 2021. Executive Management respondents are most likely (50 percent) to report one or two BI tools in use, and R&D is the least likely to use only one (fig. 50). The most likely users of four or more BI tools include IT (33 percent), BICC (28 percent), and R&D (26 percent). Executive Management and IT respondents are the most aware of the number of tools in use; R&D and Finance are more likely to "not know" the number of tools in use. While function can dictate the number of BI tools, there are nonetheless wide variations in tool use within roles.

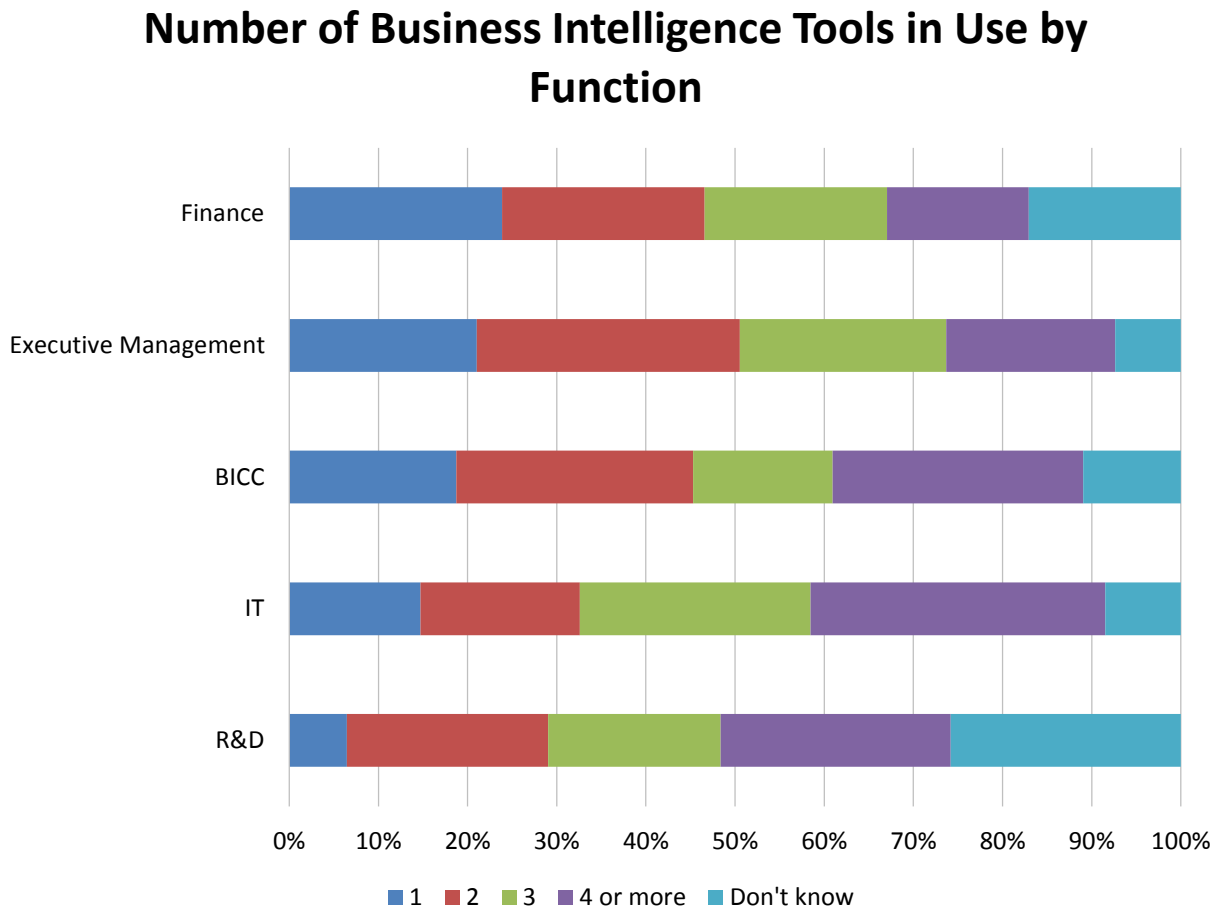


Figure 50 – Number of business intelligence tools in use by function

Number of Business Intelligence Tools by Vertical Industry

Measured by industry, between 29-45 percent of any vertical industry uses only one or two BI tools (fig. 51). In 2021, Consumer Services (35 percent) and Financial Services (34 percent) are most likely to use four or more tools, while Government respondents are least likely (11 percent) to use four or more. Awareness of the number of tools in use is lowest in Higher Education and Government. While BI tool use varies by industry, there can be wide variations in numbers within specific industries.

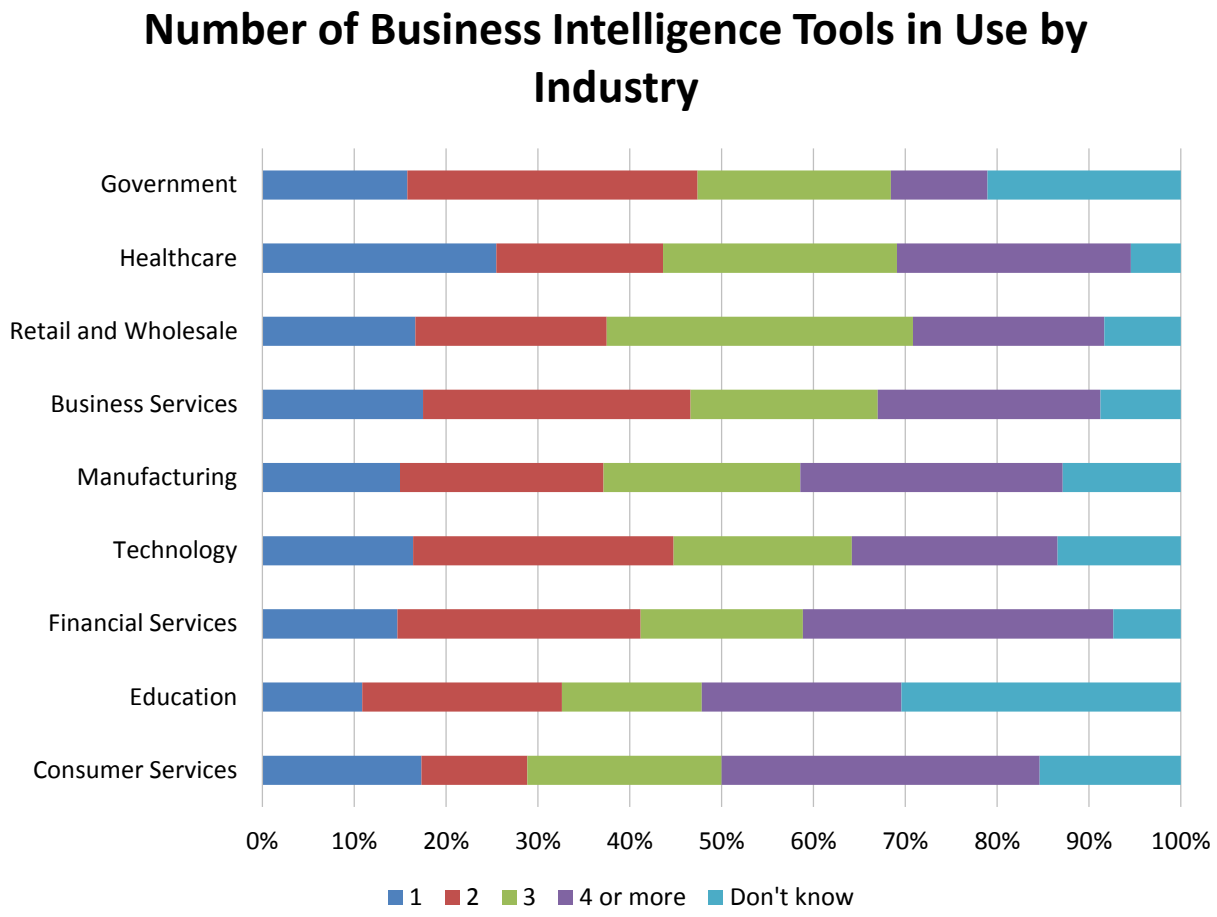


Figure 51 – Numbers of business intelligence tools in use by industry

Number of Business Intelligence Tools by Organization Size

Increasing organizational headcount historically correlates to greater numbers of business intelligence tools in use, and this is clearly true again in 2021 (fig. 52). In very large organizations, only a little more than 3 percent use only one BI tool, while 50 percent of the same very large organizations report four or more BI tools in use. Very large organizations are unsurprisingly less aware (19 percent) of the number of tools in use compared to smaller peers (13 percent in mid-size down to 6 percent in small organizations). As organization size decreases, the number of organizations using one BI tool increases, while the number using four or more tools most often decreases.

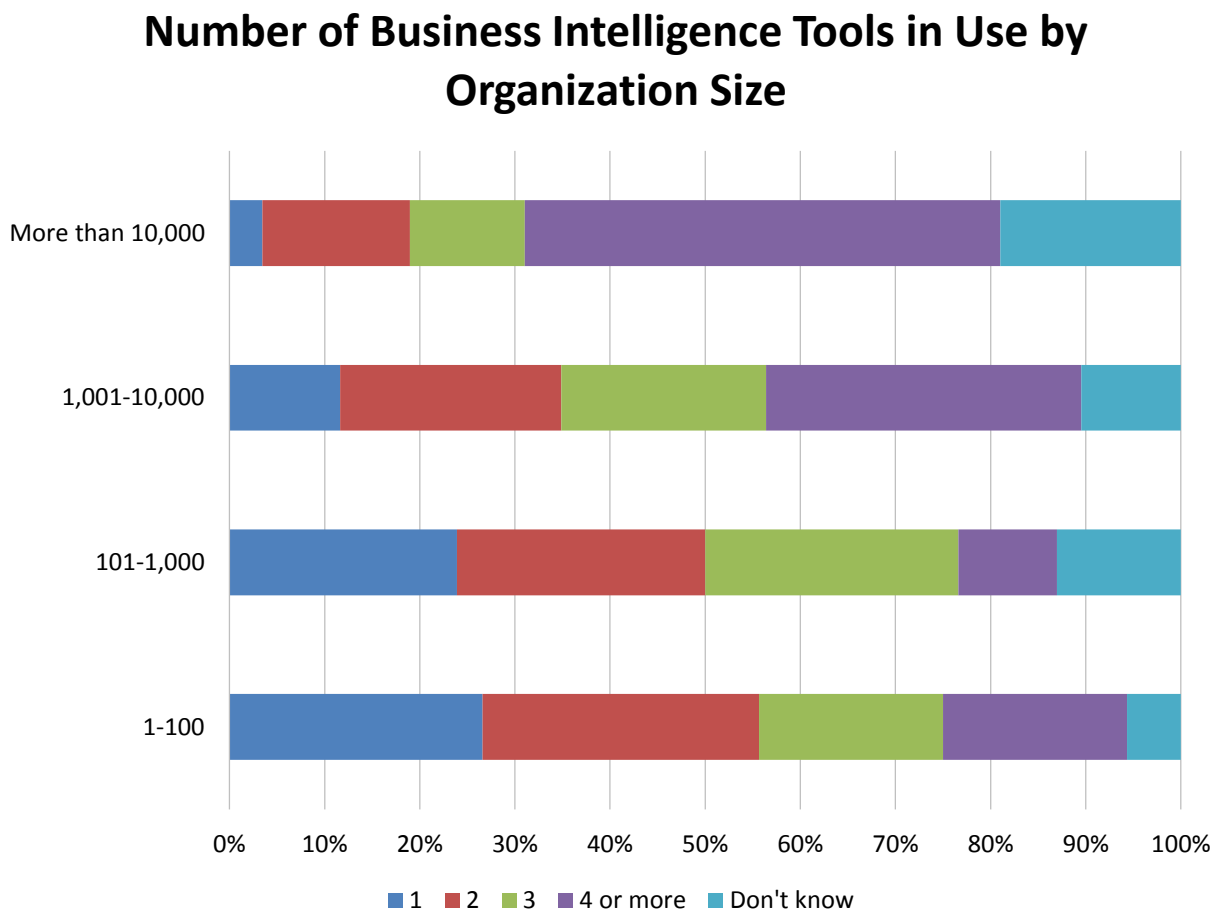


Figure 52 – Number of business intelligence tools in use by organization size

Technologies and Initiatives Strategic to Business Intelligence

Familiar BI technologies—reporting, dashboards, data integration, data warehousing, and data preparation—top the list of technologies and initiatives strategic to business intelligence (of 44 topics under our study) in 2021 (fig. 53). Second-tier initiatives (some with rising importance) include enterprise planning, governance, data operations, and cloud. The lowest priorities in 2021 include voice and video analytics, complex event processing, edge computing, and Internet of Things.

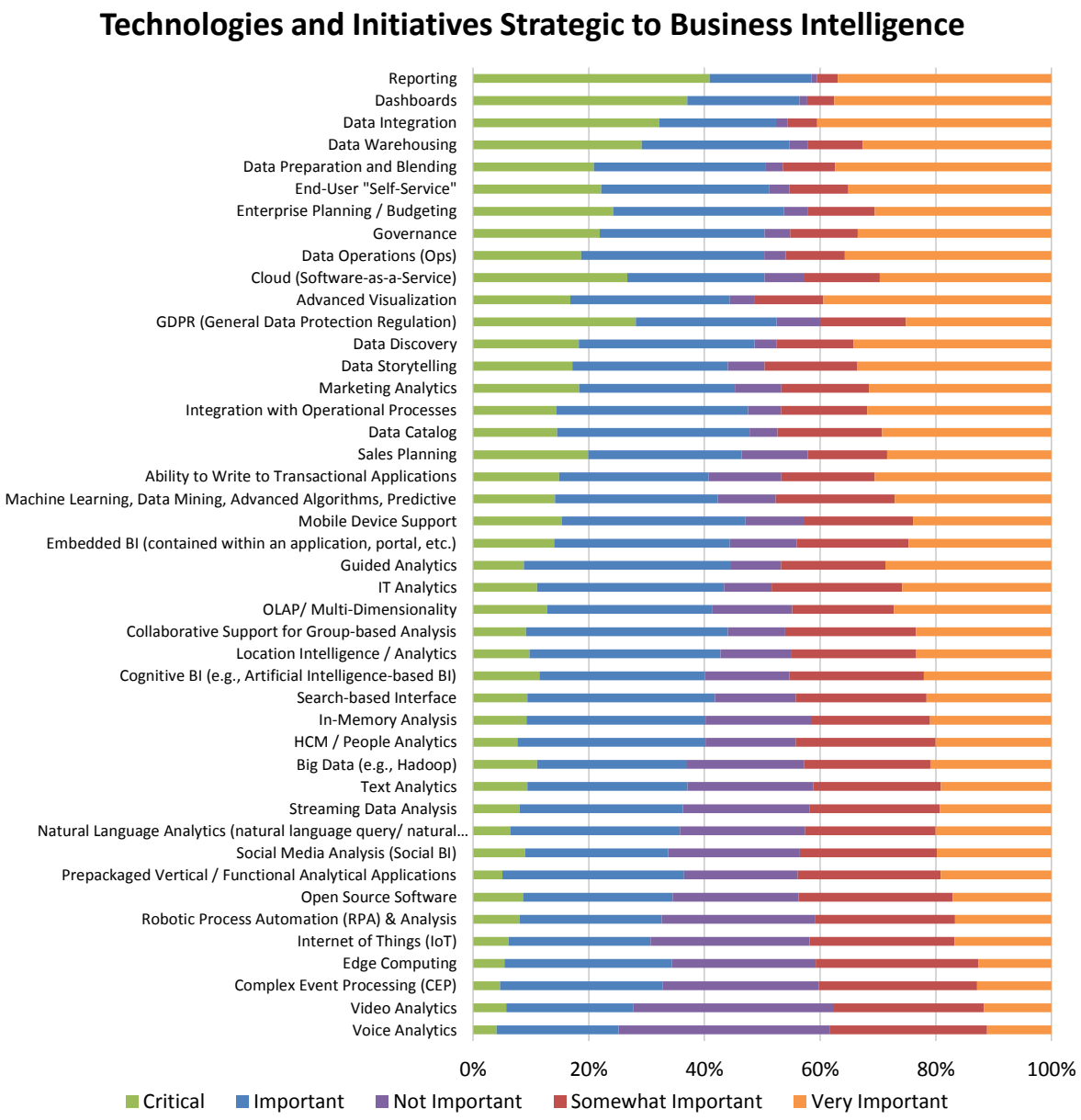


Figure 53 – Technologies and initiatives strategic to business intelligence

Technology Priorities 2015-2021

Over time, most technology priorities show positive momentum, though only a handful stand at long-term peak importance in 2021 (fig. 54). Enterprise planning/budgeting, governance, cloud, and GDPR are among the highly ranked priorities at all-time highs this year. Lower-ranked ability to write to transactional systems and cognitive BI round out the six initiatives reported at peak momentum this year, while all others are closer to their average and below previous highs. Even so, many priorities remain tightly clustered over time, including top picks reporting, dashboards, and data integration. Only these three top picks kept > 4.0 ("very important") status throughout the last seven years of our study. Among the higher priorities that lost momentum in 2021, data preparation, end-user self-service, and machine learning decline somewhat obviously.

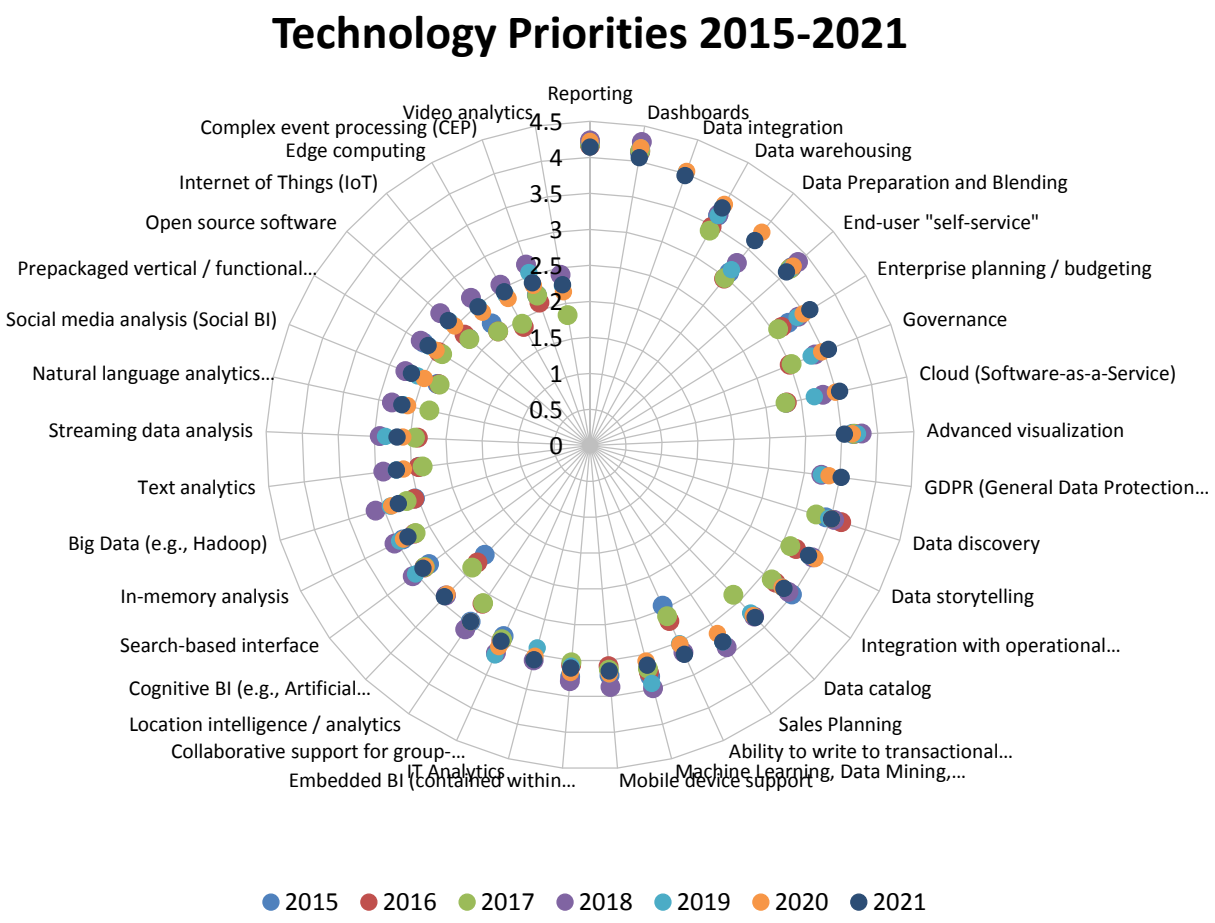


Figure 54 – Technology priorities 2015-2021

Technologies and Initiatives Strategic to Business Intelligence by Geography

By region, North American respondents lead or share near-high interest in multiple top priorities including reporting, dashboards, end-user self-service, and enterprise planning/budgeting (fig. 55). EMEA respondents report the highest scores for technologies and initiatives including governance and GDPR. Latin American respondents give the highest overall scores in many categories of priorities including cloud and several that are lower ranked. Asia-Pacific respondents give the highest scores to mobile device support, search-based interface, and several lower-ranked priorities.

Figure 55 – Technologies and initiatives strategic to business intelligence objectives by geography

Technologies and Initiatives Strategic to Business Intelligence by Function

As we might expect, functional attitudes toward BI technologies and initiatives can relate to specific daily roles and responsibilities (fig. 56). However, interest in many or most technologies and initiatives clusters well across multiple functions in our compressed view. Among some standout findings, we observe that Marketing/Sales show higher-than-average interest in data storytelling, guided analytics, and social media analysis, as well as bespoke marketing analytics and sales planning. Enterprise planning is most often the province of Finance. BICC respondents give higher scores to advanced visualization, GDPR, and data discovery.

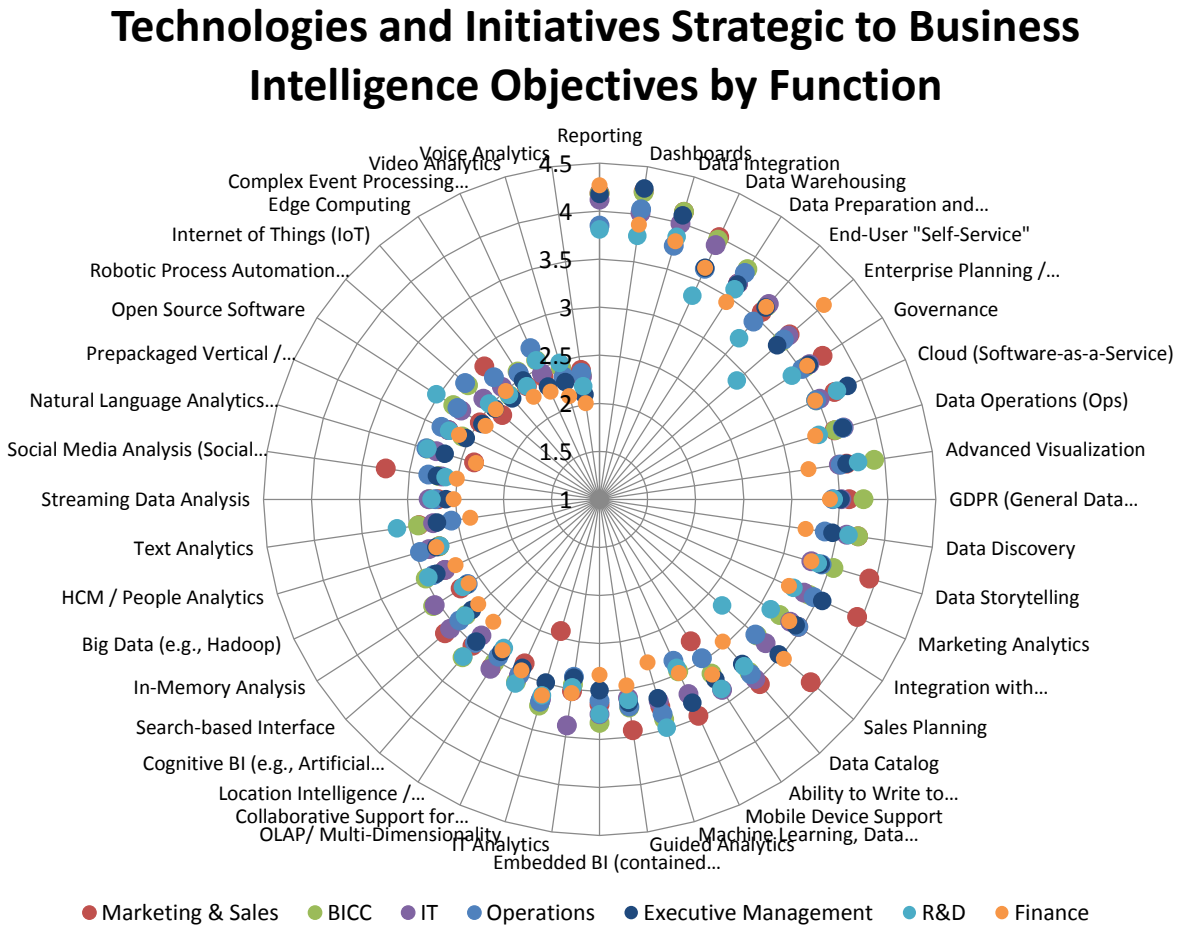


Figure 56 – Technologies and initiatives strategic to business intelligence by function

Technologies and Initiatives Strategic to Business Intelligence by Vertical Industry

Vertical industries describe a range of interest in different business intelligence initiatives and priorities (fig. 57). Some technologies cluster well across industries (in our somewhat compressed view), while others show outliers. Among many interesting examples this year, Healthcare respondents give standout scores to categories including data preparation, governance, data operations, and several more, but show little interest in sales planning. Technology organizations show outsized interest in cloud. Retail/Wholesale pays the most attention to sales planning, machine learning, location intelligence, search-based interface, in memory analysis, and social media analysis. Like the Retail/Wholesale vertical, Manufacturing is most interested in sales planning. Education respondents are often least interested in BI technologies and initiatives by industry.

Figure 57 – Technologies and initiatives strategic to business intelligence by industry

Technologies and Initiatives Strategic to Business Intelligence by Organization Size

Business intelligence priorities vary by organization size/ Very large organizations (> 10,000 employees) lead interest in nearly all technologies and initiatives in 2021 (fig. 58). Some priorities nonetheless cluster, particularly the "big three" of reporting, dashboards, and data integration, along with ubiquitous sales planning. Among the many areas where very large organizations are disproportionately engaged compared to smaller peers, data warehousing, governance, GDPR, and machine learning are standouts among the top half of selections. As we repeatedly find, small organizations (1-100 employees) are about as interested in cloud as any larger peer.

Figure 58 – Technologies and initiatives strategic to business intelligence by organization size

Business Intelligence and the State of Data

In 2021, we asked organizations to assess their maturity for a mix of capabilities related to fact-based decision-making. These polling results are part of Dresner Advisory Services' Hyper-Decisive® Maturity Model, a tool and framework to help organizations apply data-driven decisions that are better aligned with strategic goals.

Figs. 59-63 relate to respondents' achievement/agreement with the statement, "Data is treated as truth with common application of data, filters, rules, and semantics." In 2021, close to half of respondents (47 percent) relate their organizations' adherence to this statement as "above average," and another 31 percent give themselves the "highest" score for this ability (fig. 59). Less than one-quarter of respondents say their performance is only "average" or "below average."

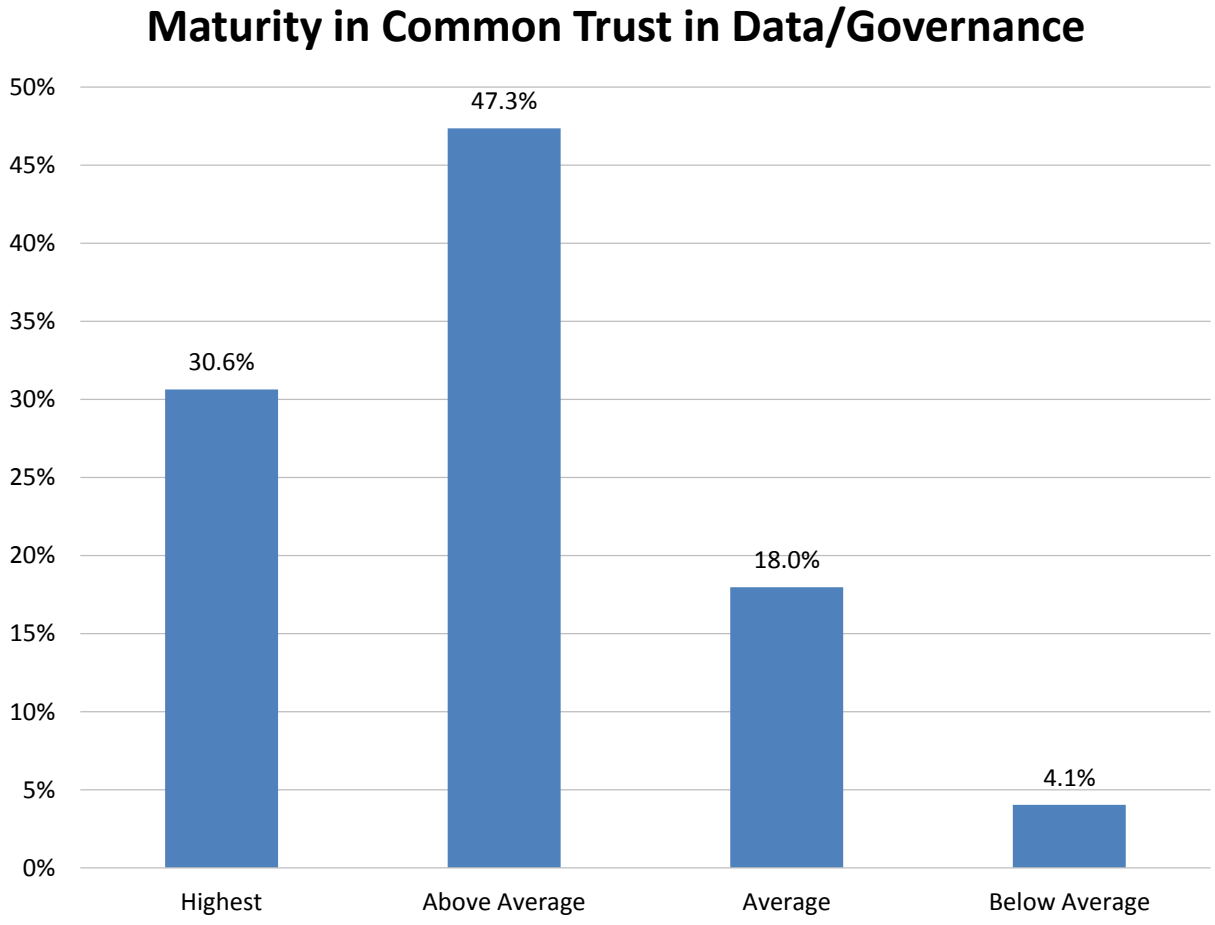


Figure 59 – Maturity in common trust in data/governance

Common Trust in Data by Geography

Measured by geography, we observe that all regions share a similar high estimation of maturity and common trust in data/governance (fig. 60). At least 76 percent in any region say their results are at least "above average." Latin American respondents are most confident in data, with a weighted mean score of 3.3, and they have the most "highest" assessments and the fewest "below-average" scores. Asia-Pacific respondents are close behind at 3.2, while North America and EMEA both post weighted-mean scores of 3.0.

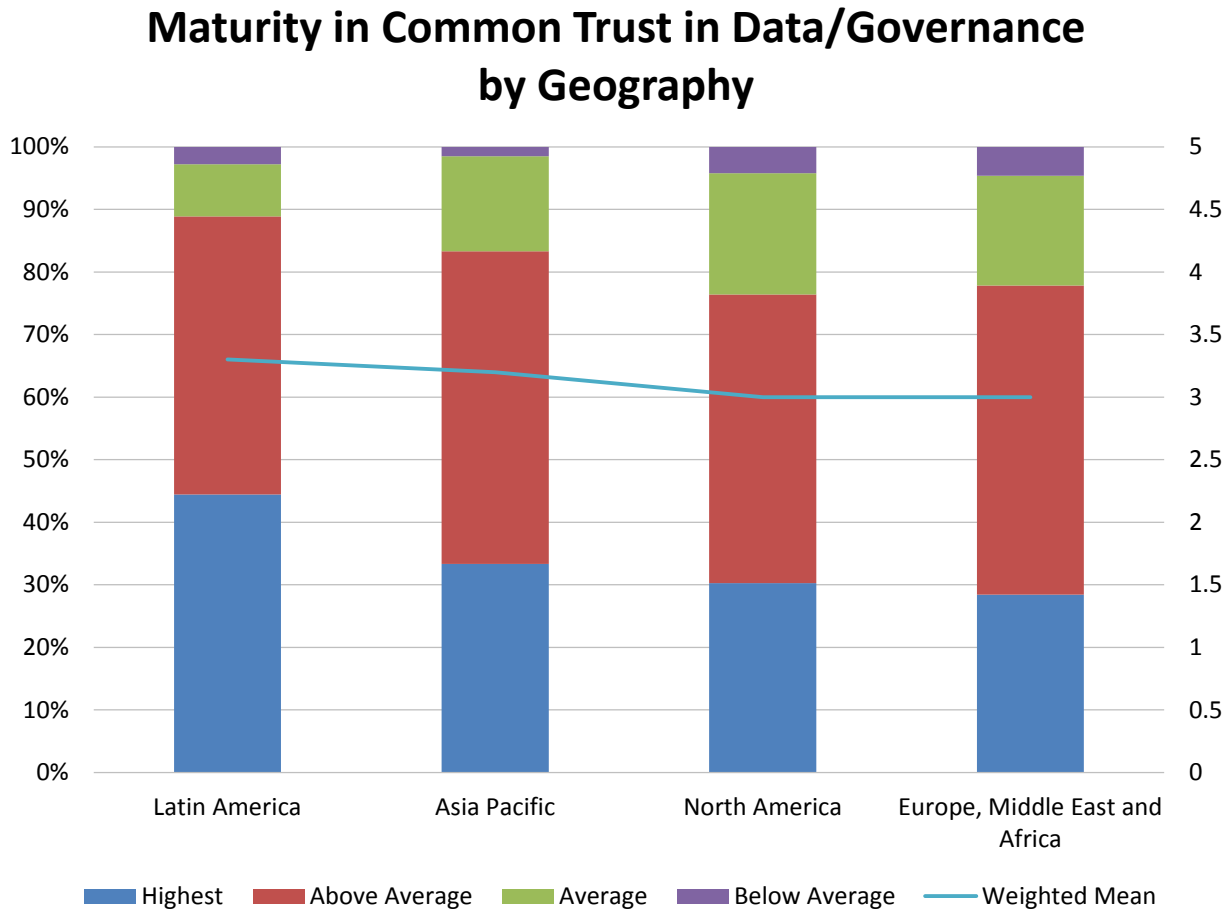


Figure 60 – Maturity in common trust in data/- governance by geography

Common Trust in Data by Function

Viewed by function, respondents in Executive Management are most confident in maturity and common trust in data/governance, with a weighted-mean score of 3.3 and 86 percent in the combined "highest" and "above-average" category (fig. 61). All remaining functions report majorities of at least "above-average" scores and weighted-mean maturity of about 3.0, with the exception of Marketing/Sales, where the average falls to 2.9. "Below-average" scores account for just 2 to 6 percent of respondents in any function.

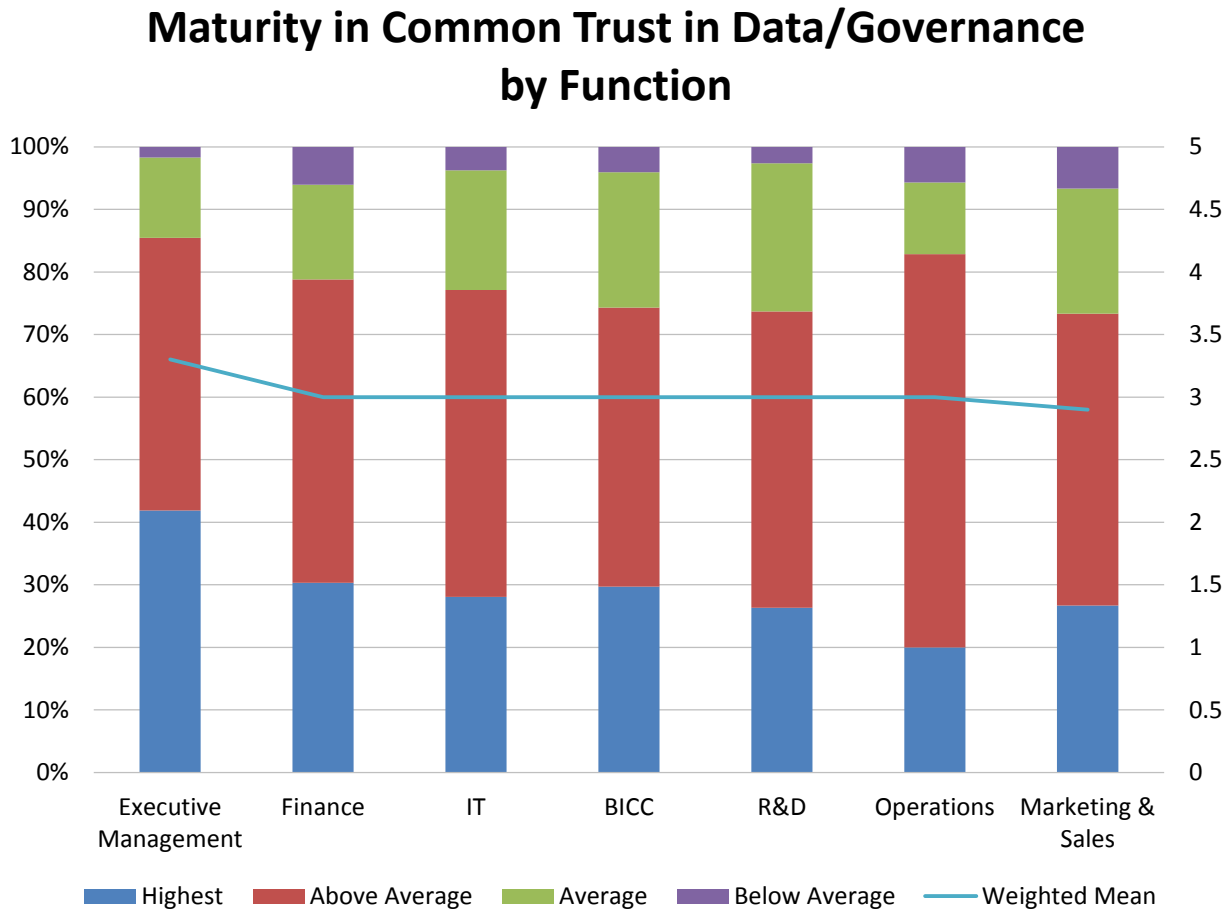


Figure 61 – Maturity in common trust in data/governance by function

Common Trust in Data by Industry

In 2021, all industries rate their maturity and common trust in data/governance in a narrow weighted-mean range between 2.9 and 3.2, and majorities indicate at least "above-average" confidence (fig. 62). Financial Services and Technology report the most "highest" scores, while Healthcare and Technology organizations share the most scores of at least "above average." "Below-average" scores account for just 2 to 5 percent of respondents in any industry. The consistency of these scores at least in part gives lie to some old assumptions about first mover and leader industries in this category.

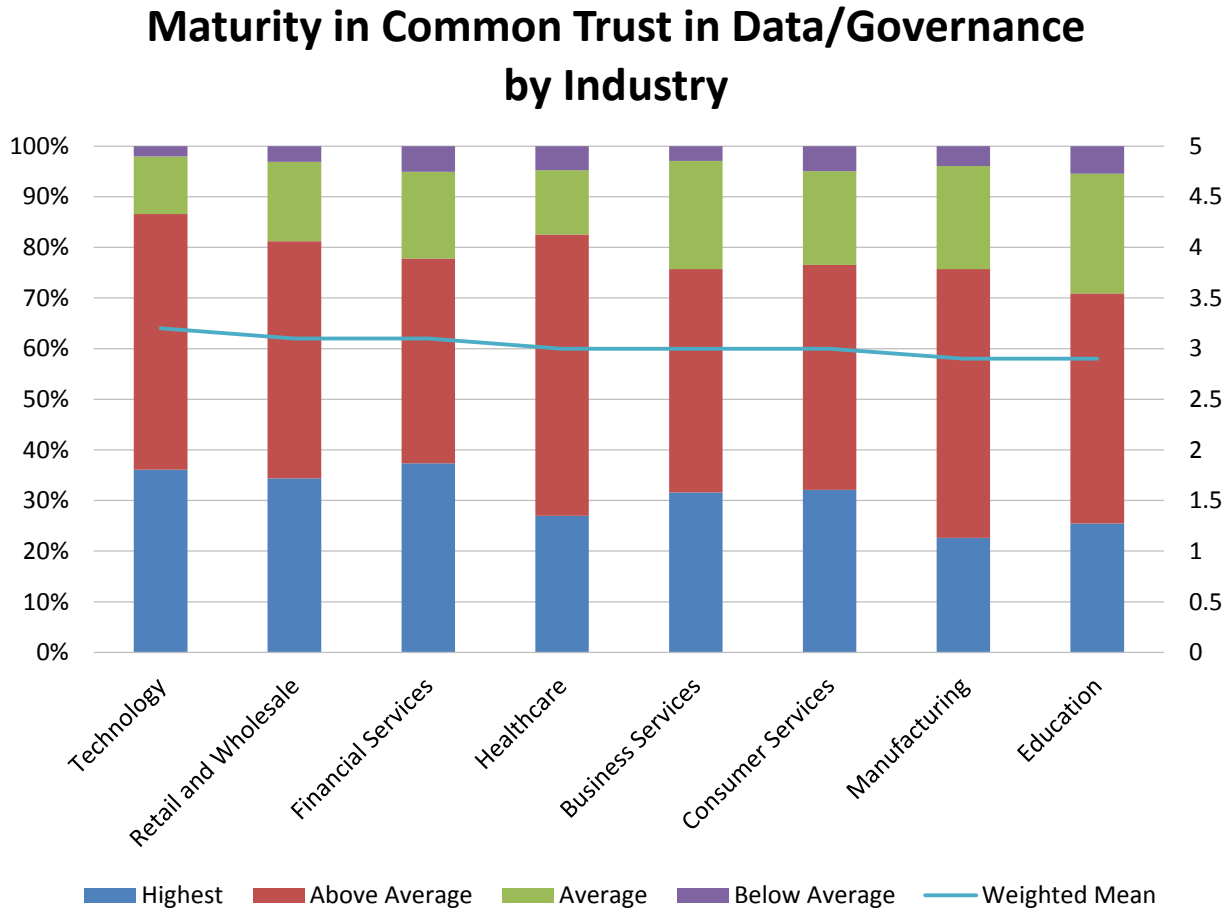


Figure 62 – Maturity in common trust in data/governance by industry

Common Trust in Data by Organization Size

Measured by organization size, small organizations (1-100 employees) are most confident in maturity and common trust in data/governance in 2021 (fig. 63). All other organizations give identical weighted-mean scores of 3.0, though very large organizations (>10,000 employees) are slightly least likely of all to be at least "above average." We expect this result is due in part to fewer distributed enterprise applications and repositories and more closely located human resources in smaller organizations. The narrow range of weighted-mean scores, however, indicates that maturity in common trust in data/governance is not widely differentiated by organization size.

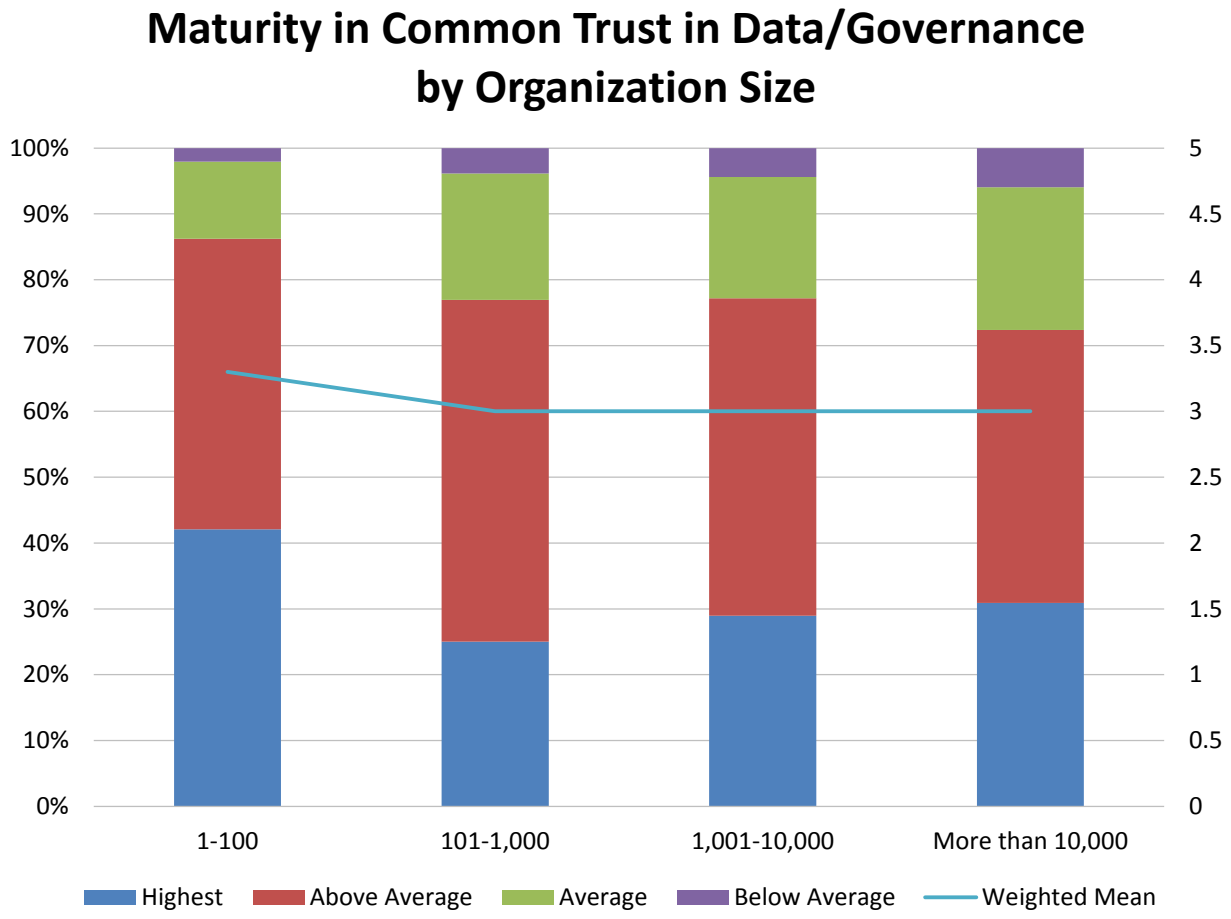


Figure 63 – Maturity in common trust in data/governance by organization size

Insight Creation and Execution

Figs. 64-68 relate to respondents' achievement/agreement with the statement, "Relevant insights are created reliably and consistently across the enterprise with closed loop processes ensuring timely concerted action." In 2021, about 57 percent of organizations relate their adherence to this statement as "above average," and another 24 percent give themselves the "highest" score for this ability (fig. 64). For the first time, fewer than 20 percent of respondents say their performance is only "average" or "below average."

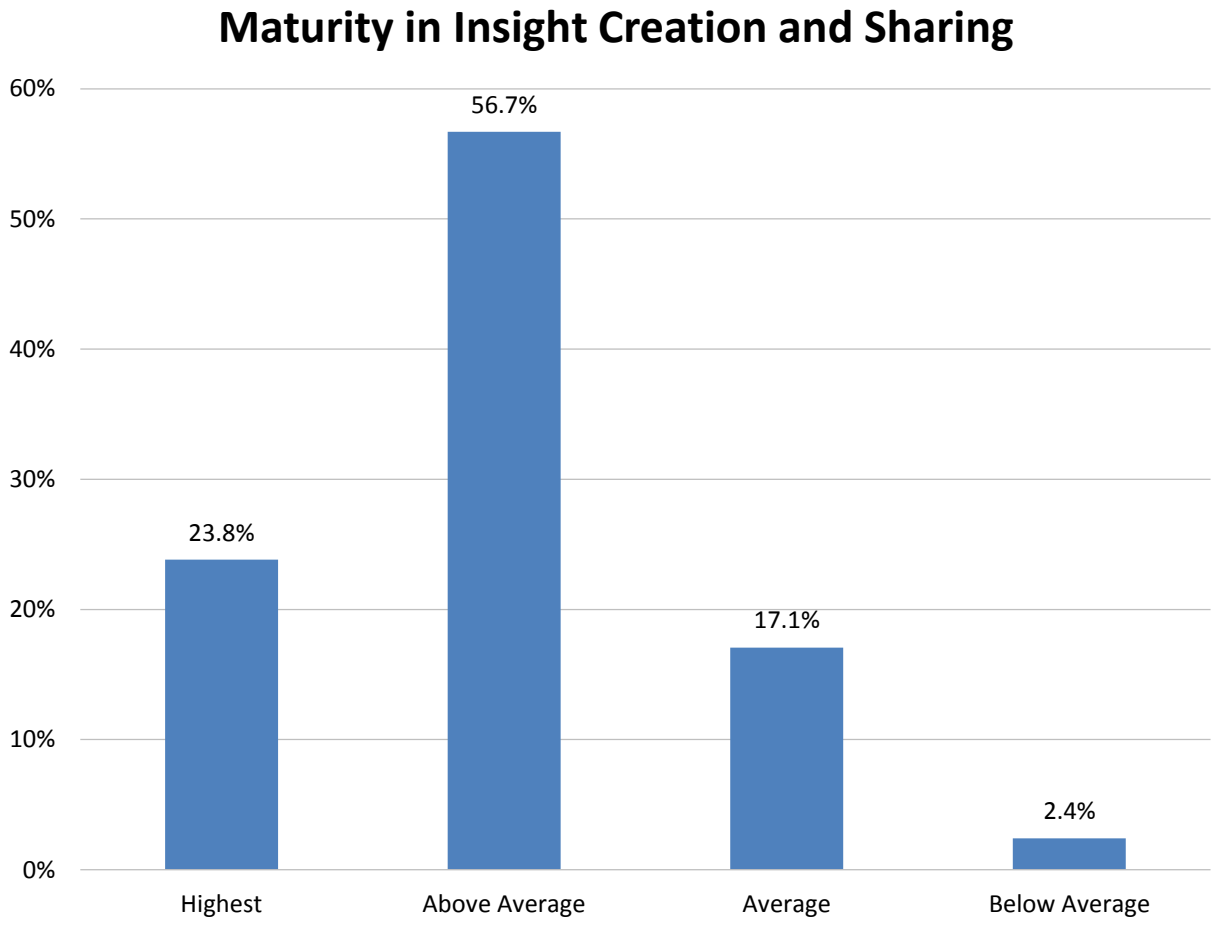


Figure 64 – Maturity in insight creation and execution

Insight Creation and Execution by Geography

Measured by geography, we observe a consistent estimation of maturity in insight creation and execution, with a small drop-off noted among EMEA respondents (fig. 65). At least three-quarters in any region say their results are "highest" or "above average," and weighted-mean scores fall in a range of 2.9 to 3.1. This year, Latin American respondents give the slightly most "highest" scores (30 percent), while North American respondents post the most combined "highest" and "above-average" scores (83 percent). Only 6 percent or far fewer report "below-average" results, indicating that self-assessment of maturity in insight creation and execution only weakly varies by geographic region.

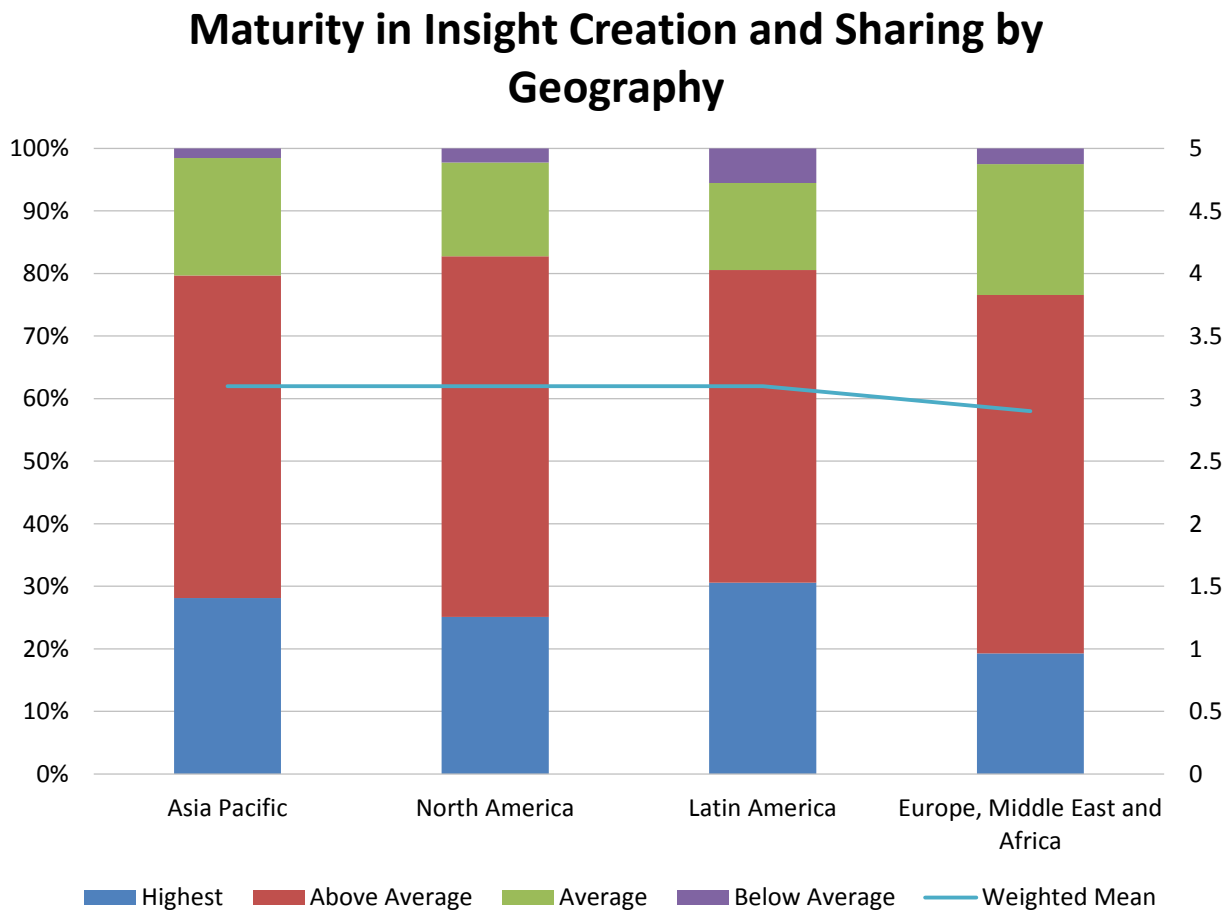


Figure 65 – Maturity in insight creation and execution by geography

Insight Creation and Execution by Function

Measured by function, respondents across all functions give similar weighted-mean scores (between 2.8 and 3.1) to maturity in insight creation and execution (fig. 66). Respondents in Executive Management and BICC give the most "highest" scores, possibly indicating select audiences of top-level insight creation. All functions, with the exception of R&D, give similar scores of at least "above-average" maturity, indicating wide departmental competency.

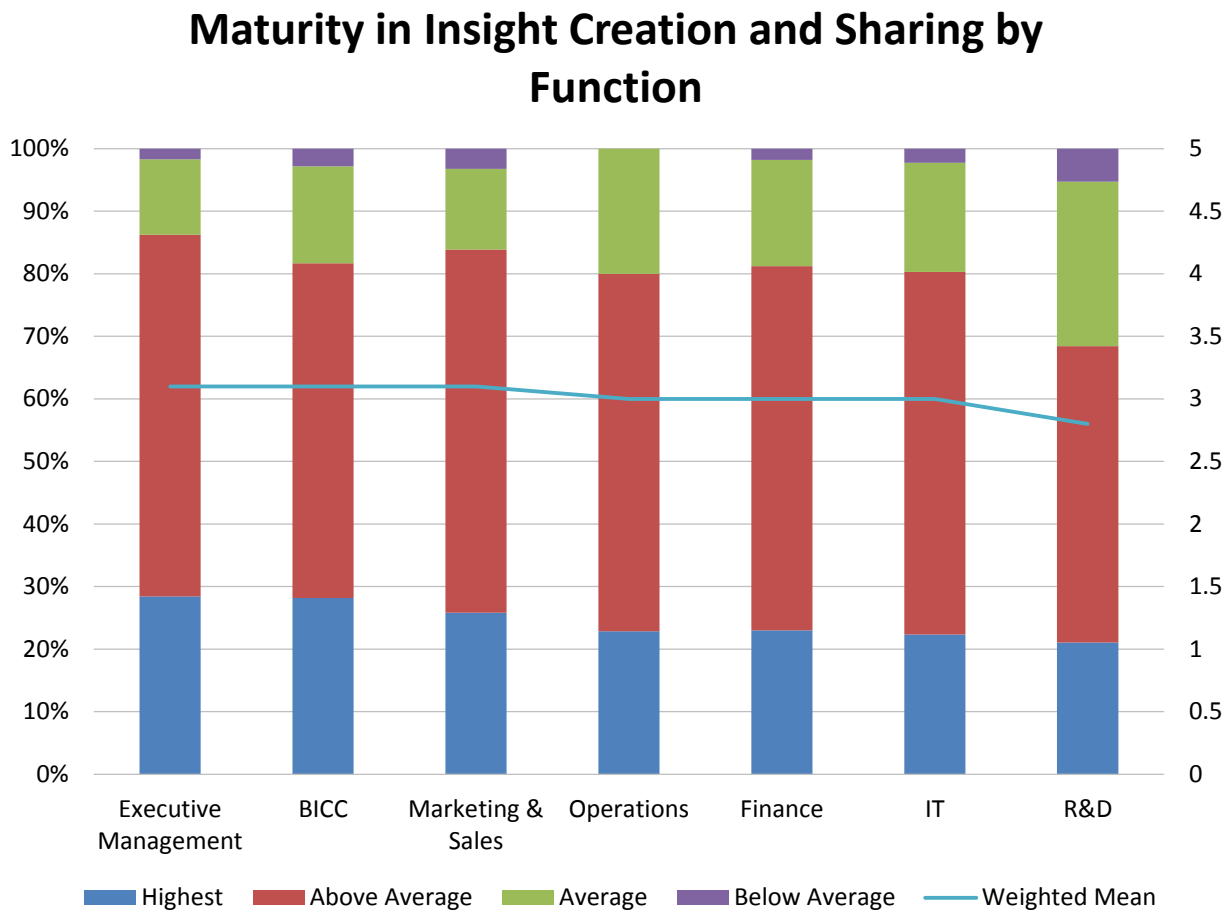


Figure 66 – Maturity in insight creation and execution by function

Insight Creation and Execution by Industry

Measured by industry, respondents in any given vertical give similar weighted-mean scores (between 2.8 and 3.2) to maturity in insight creation and execution (fig. 67). Additionally, with the exception of Manufacturing and Education, at least 80 percent or far more respondents in any industry score themselves "highest" or "above average" at insight creation maturity. Respondents in Retail/Wholesale, Technology, and Consumer Services give the most "highest" scores. "Below-average" scores account for just zero to 5 percent of respondents in any industry.

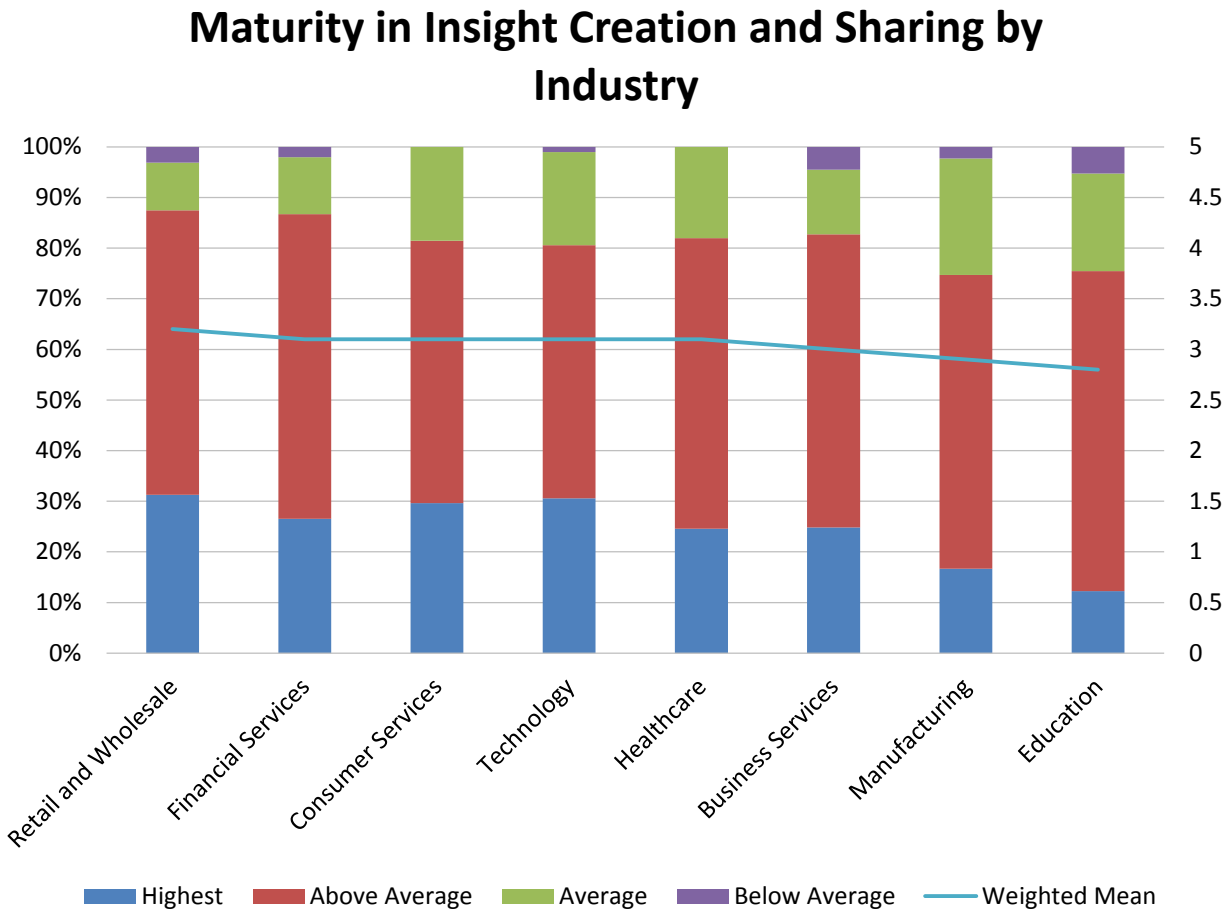


Figure 67 – Maturity in insight creation and execution by industry

Insight Creation and Execution by Organization Size

With weighted-mean scores between 3.0 and 3.1, all organizations of different sizes report similar "average" levels of maturity in insight creation and execution (fig. 68). Small organizations (1-100 employees) and very large organizations (>10,000 employees) most often put themselves into the “highest” quadrant of importance. At least 76 percent of organizations count themselves in the “highest” or “above-average” categories. “Below-average” scores account for just zero to 5 percent of respondents in any sized organization.

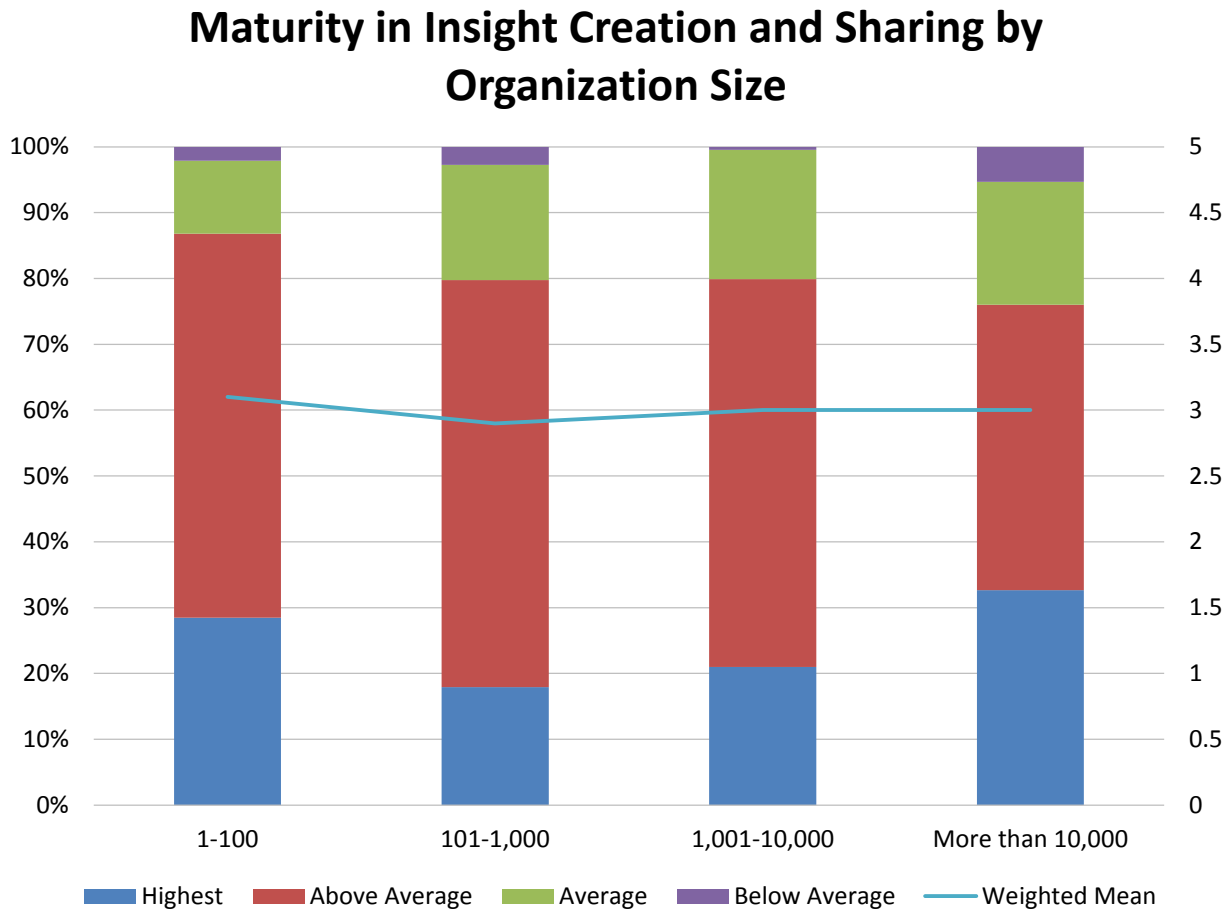


Figure 68 – Maturity in insight creation and execution by organization size

Success with Business Intelligence

Our core measure of "success with business intelligence" improves somewhat in 2021, a second year of rebound from gradual declines during the years 2016-2019 (fig. 69). Thirty-seven percent of organizations report being "completely successful" with business intelligence in 2021 compared to 32 percent in 2020 and 28 percent in 2019. Eighty-nine percent report either “completely successful” or “somewhat successful” results in 2021, equaling a high-water mark in 2015-2016. Weighted-mean score in 2021 is also identical to the 2017 high. Amid a mix of events including the COVID-19 pandemic and high expectations, we see the last two years of performance as a promising sign of improving BI competency and maturity.

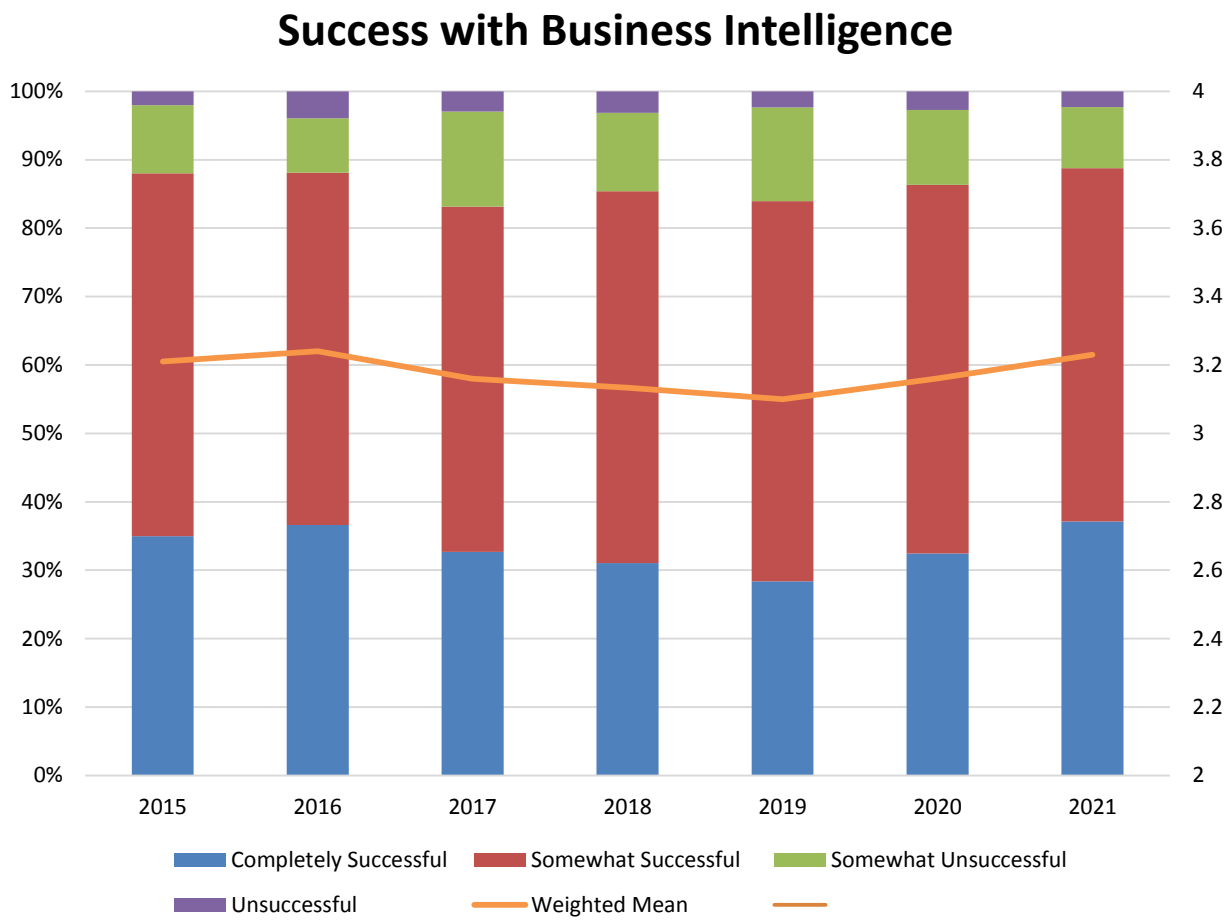


Figure 69 – Success with business intelligence

How Successful Organizations Measure Success with Business Intelligence

Beginning in 2017, we asked respondents to quantify in more detail how they measure the success of business intelligence initiatives (fig. 70). The top result (as in all previous years) is "user feedback/satisfaction" (79 percent), followed by "customer feedback/satisfaction" (46 percent, up from 40 percent in 2020). "System/application activity" is the next most-cited measure, followed by “return on investment” and “number of deployed users.” By a large margin, respondents tell us they engage with users and measure their satisfaction in qualitative ways rather than focusing on system activity or raw numbers of users.

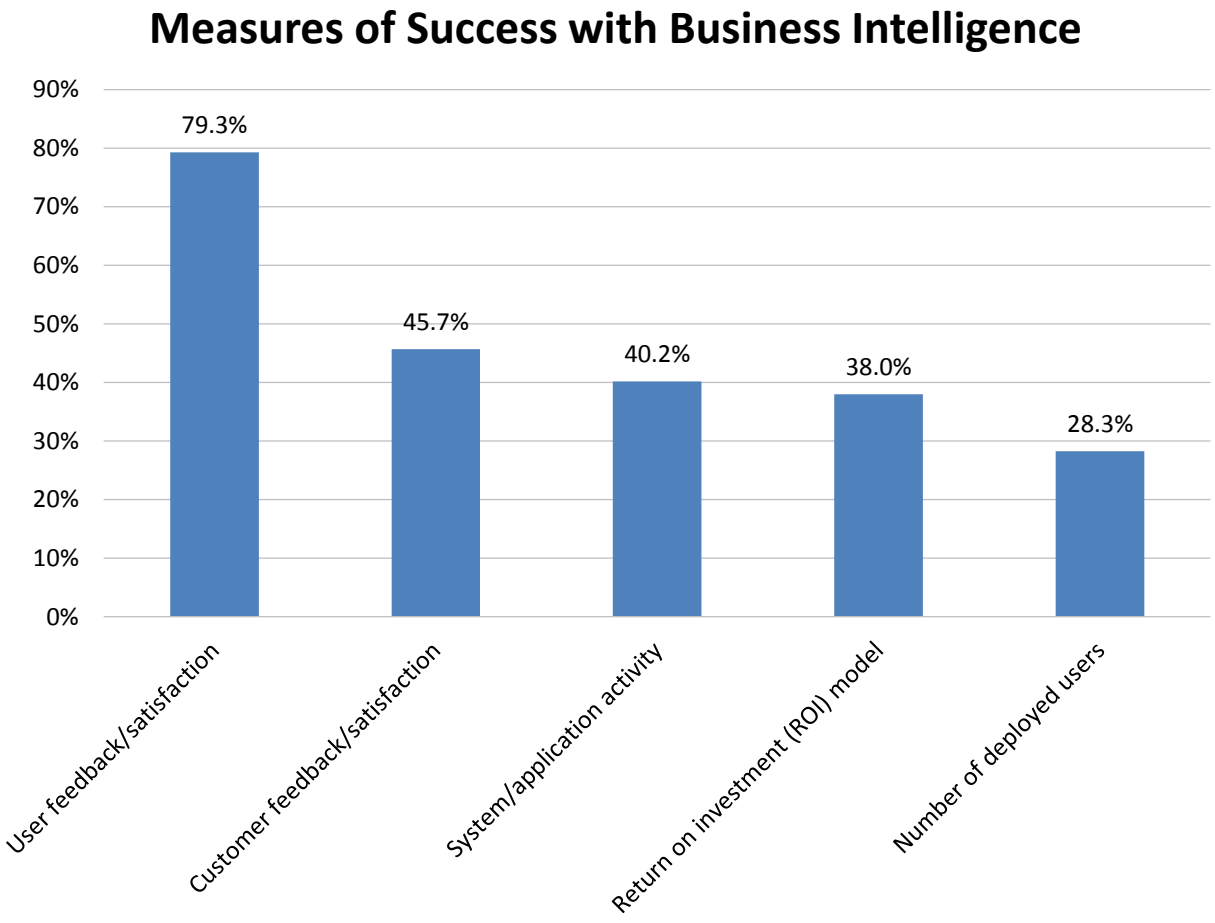


Figure 70 – Measures of success with business intelligence

Contributors to Success with Business Intelligence

We asked respondents to choose from a selection of contributors to success with business intelligence (fig. 71). This year, the most-cited contributors are: "support from senior management or other BI champions," "good communication/collaboration between those developing/supporting BI solution and those using it," and "a culture that understands and values fact-based decision-making." These findings are nearly identical to 2020 and suggest thoughtful groundwork in the form of planning, executive sponsorship, and business transformation that values a data-centric organization and includes user involvement and feedback. It is interesting that these contributors rank ahead of "reliable, trustworthy data," and well ahead of issues specific to tools and technology. Though a minor contributor today, we are monitoring the topic of data literacy to contribute greater contributions to success with BI.

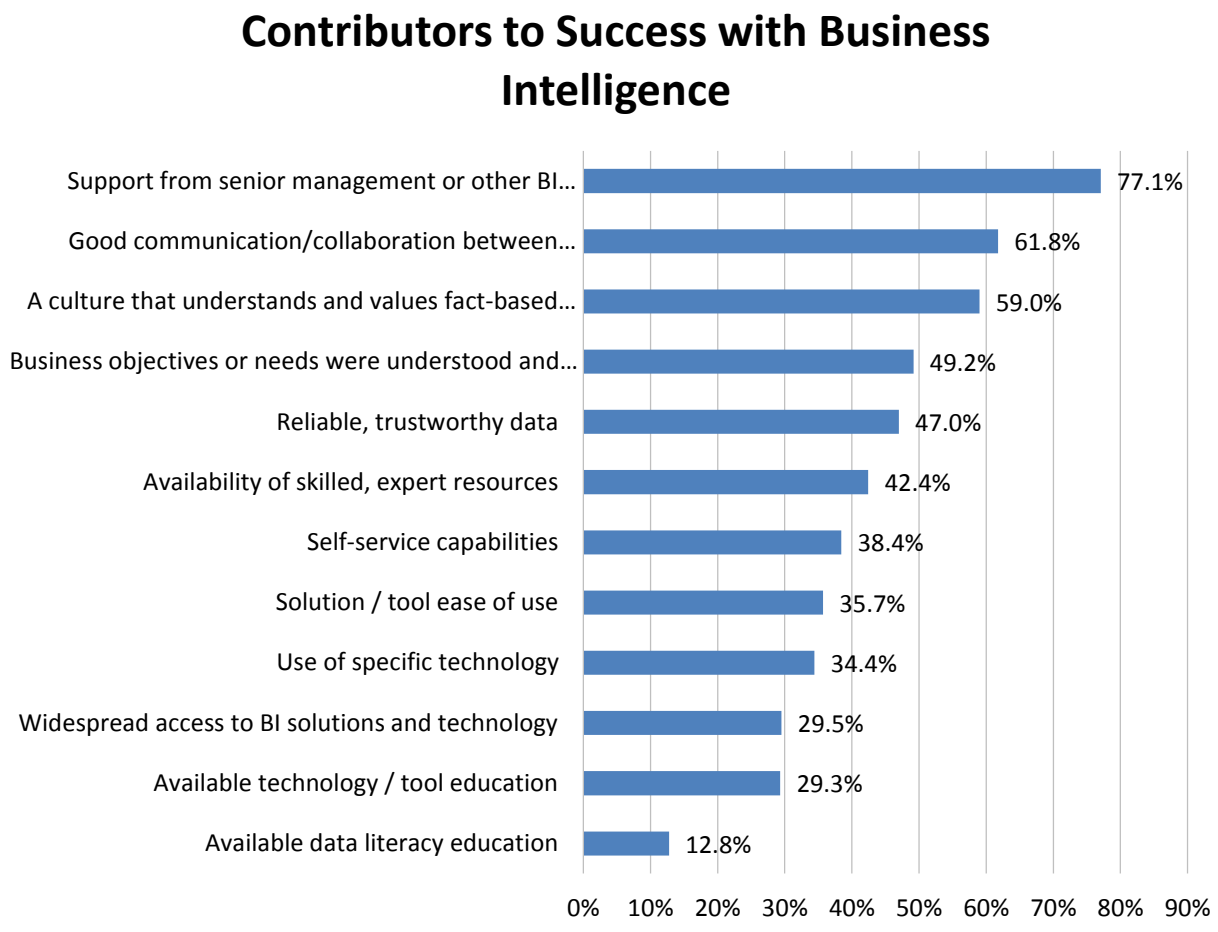


Figure 71 – Contributors to success with business intelligence

Obstacles to Success with Business Intelligence

In 2021 we also asked respondents to choose from a selection of obstacles to success with business intelligence (fig. 72). This year, the most-cited contributors are almost direct opposites of the contributors listed in fig. 69 (previous page) and include: “a culture that doesn’t fully understand or value fact-based decision-making,” “lack of support from senior management or other BI champions,” and “poor communication/collaboration between those developing/supporting BI solutions and those using it.” For a second year, the contrary answers to these two separate questions align neatly. We also note that while technology and tool issues are not considered major obstacles to BI success, organizations see the “lack of data literacy education” is more of an obstacle to success than it is a contributor (fig. 71, previous page).

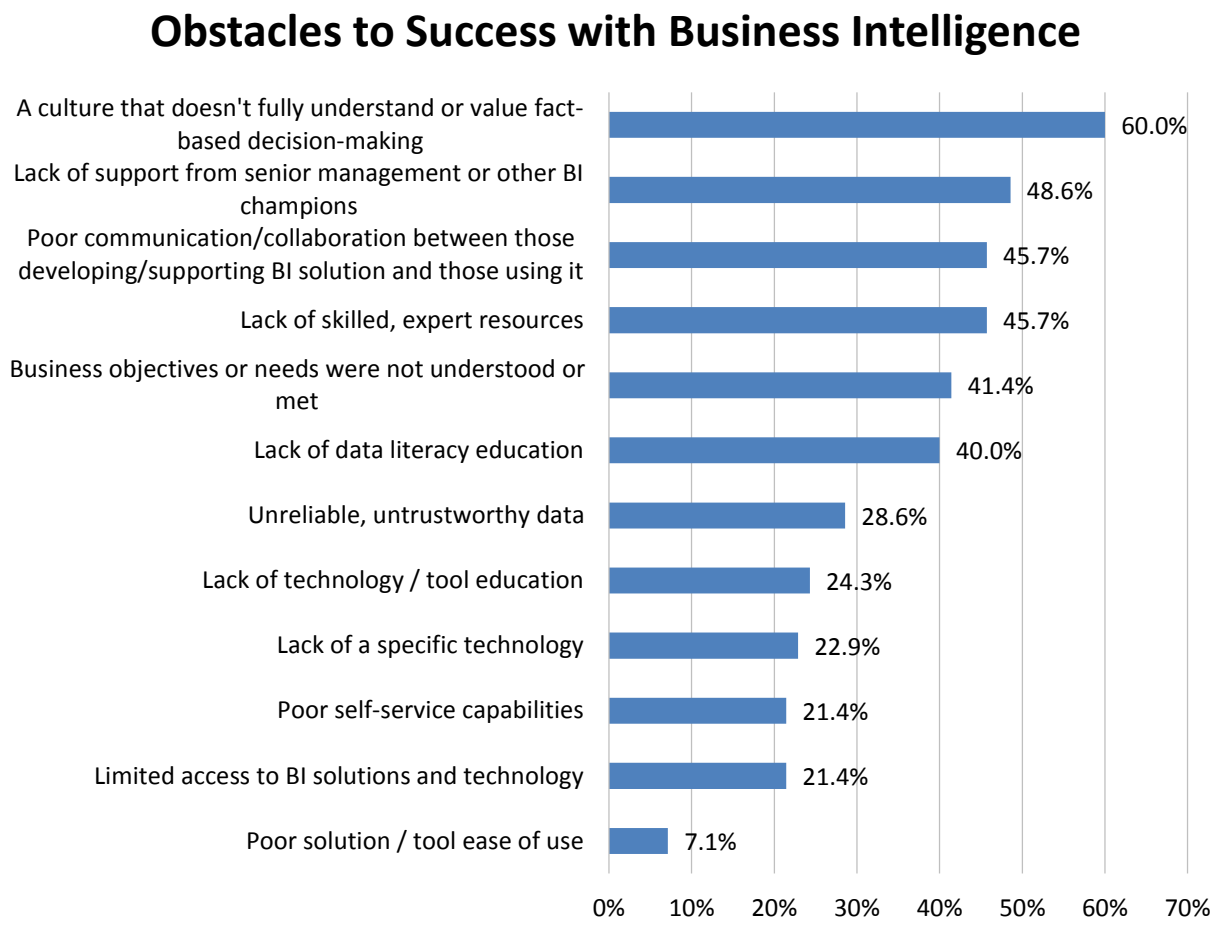


Figure 72 – Obstacles to success with business intelligence

Success with Business Intelligence by Organization Size

Perceived success with business intelligence varies somewhat inconsistently by organization size (fig. 73). Small organizations (1-100 employees) are most likely (43 percent) to claim "completely successful" BI success, compared to very large organizations (> 10,000 employees) (39 percent), large (1,001-10,000 employees) (36 percent), and mid-sized (101-1,000 employees) organizations (32 percent). Very large organizations (92 percent) and large organizations (93 percent) are more likely to report combined "completely successful" and "somewhat successful" results. A high 17 percent of mid-sized organizations say they are "somewhat unsuccessful" or "unsuccessful" at BI.

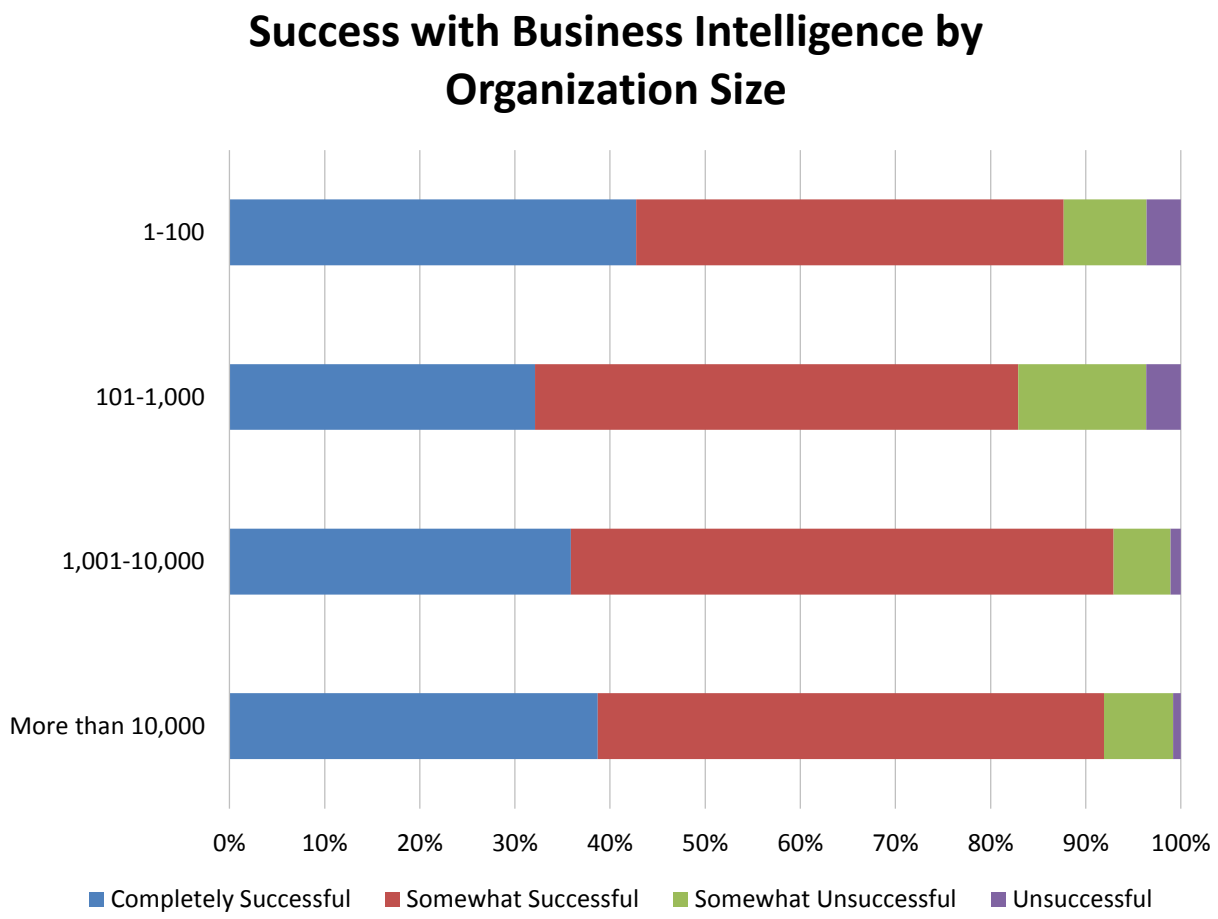


Figure 73 – Success with business intelligence by organization size

Success with Business Intelligence by BI Objectives

Organizations that are successful with business intelligence are more likely to focus on a full range of objectives in 2021 (fig. 74). In those organizations that are "completely successful" with BI, all objectives except "compliance/risk management" are at or close to an adjusted mean value of 4.0 ("very important"). Thus, a holistic embrace of BI objectives reflects success, and "better decision-making," followed by "improved operational efficiency" and "increased competitive advantage," are the foremost guideposts. Organizations that consider themselves unsuccessful are less emphatic in all areas and possibly more likely to see more "soft" than "hard" benefits of performance.

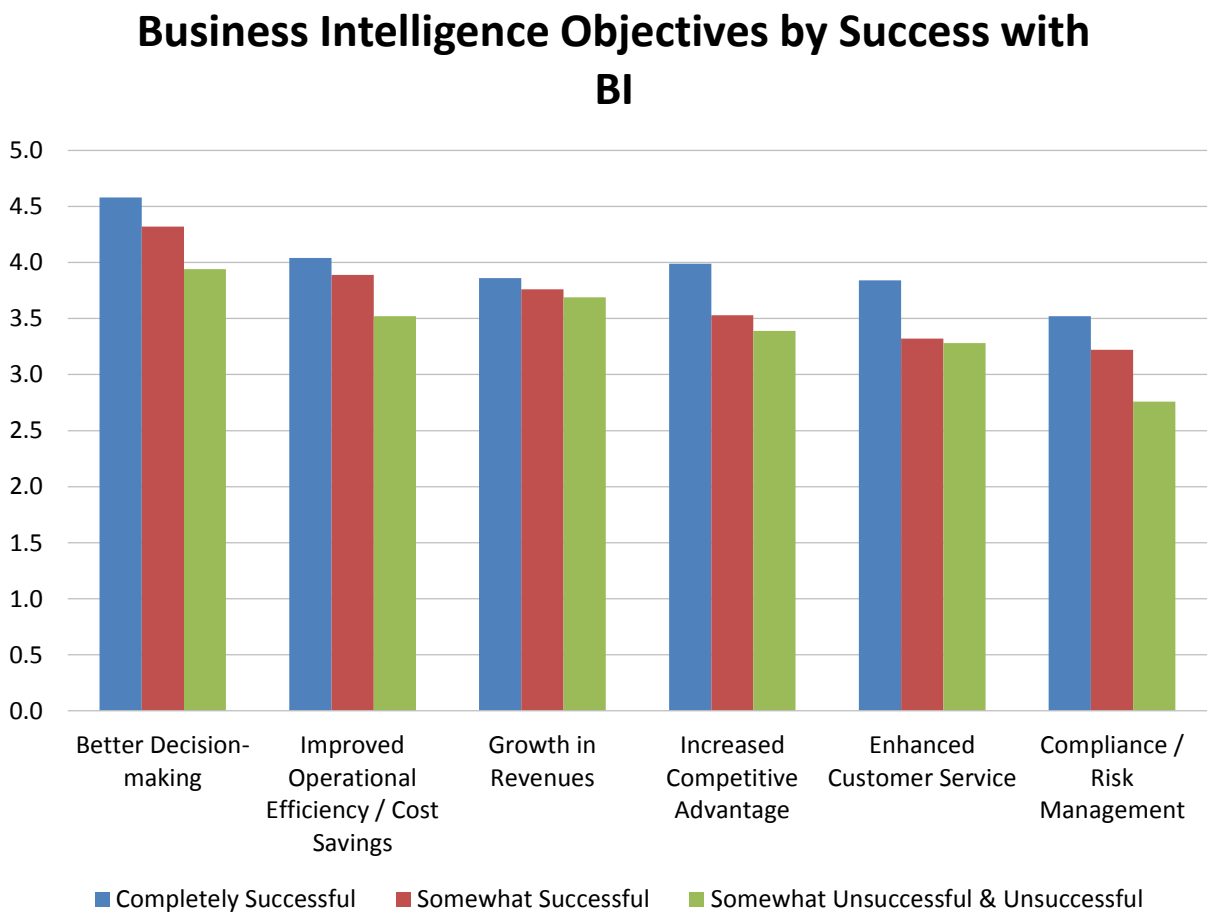


Figure 74 – Business intelligence objectives by success with BI

Success with Business Intelligence by Targeted Users

In 2021, we see some evidence that downstream attention to non-traditional targeted users brings success to organizations (fig. 75). Most notably, “somewhat unsuccessful and unsuccessful” organizations place proportionately less emphasis on managers and individual contributors and focus most on executives, compared to “somewhat successful” and “successful” peers. In every case, “completely successful” organizations place the most emphasis on every role.

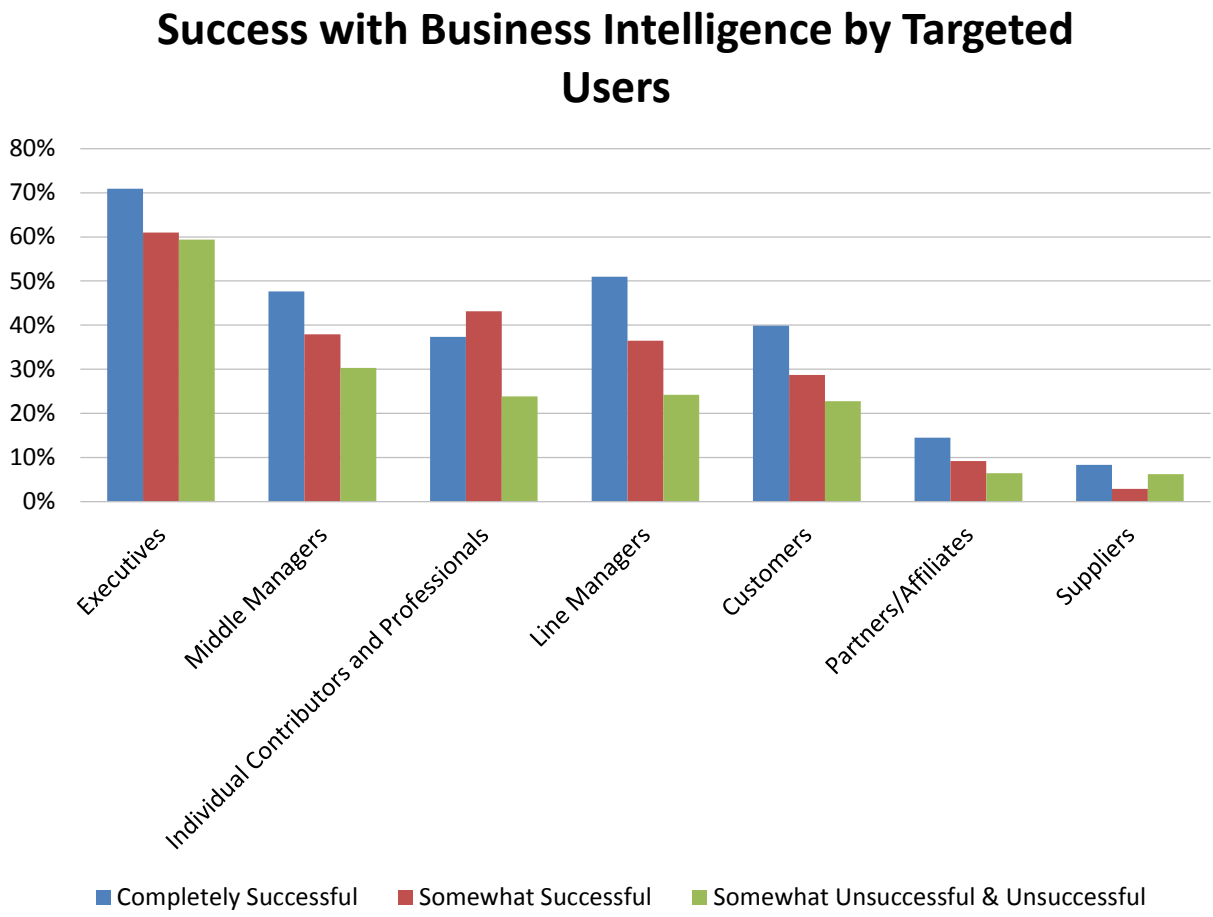


Figure 75 – Success with business intelligence by targeted users

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 than do lower-performing peers (fig. 76). The diversity of attention in high-performing organizations is remarkably broad and ranges from the most basic (reporting, dashboards) to the more obscure priorities (streaming data, IoT, video analytics, and voice analytics, etc.). Standout areas of investment for "completely successful" BI organizations include "dashboards," "data warehousing," "advanced visualization," "data discovery," and many more. By comparison, "somewhat unsuccessful" and "unsuccessful" organizations under-invest in several areas, notably "advanced visualization" and "data operations."

Figure 76 – Technologies and initiatives strategic to business intelligence by success with BI

Success with Business Intelligence and Number of BI Tools

In 2021, about 21 percent of organizations that are “completely successful” with business intelligence use just one BI tool, and about half use one or two BI tools (fig. 77). “Somewhat successful” BI organizations are more likely to use four or more BI tools and are less likely to use one or two. Organizations that are “somewhat unsuccessful" or “unsuccessful” with BI are least likely to use one, or “one or two” BI tools. Lack of BI success also leads to larger “don’t know" populations of respondents.

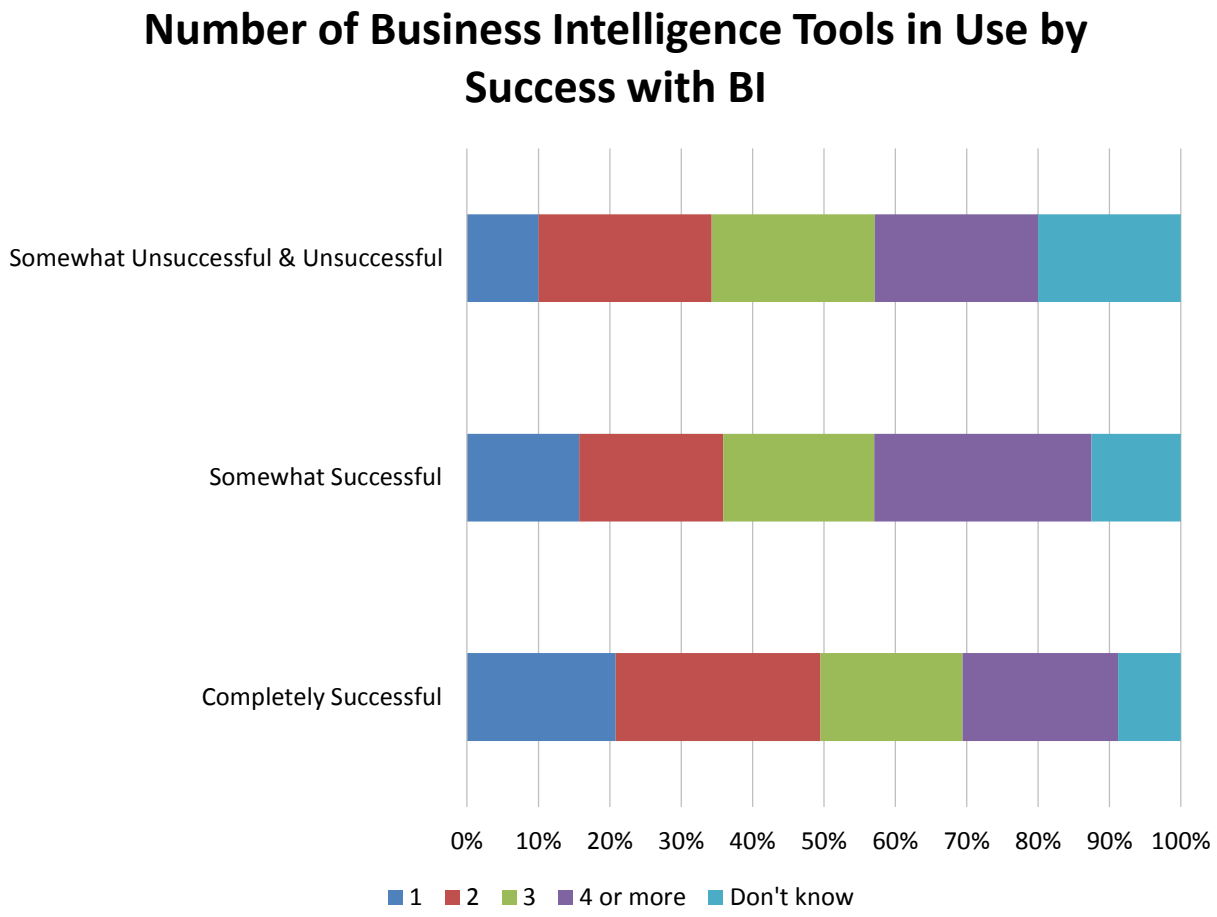


Figure 77 – Number of business intelligence tools in use by success with BI

Success with Business Intelligence and Common Trust in Data

Fig. 78 measures success with BI against respondents' agreement with the statement, "Data is treated as truth with common application of data, filters, rules, and semantics." In 2021, success with BI closely correlates with maturity in common trust in data/governance. Forty-eight percent of "completely successful" organizations "completely agree" with the statement. This "highest" score declines to 22 percent among "somewhat successful" organizations and 16 percent of "somewhat unsuccessful" or "unsuccessful" organizations. Combined "highest" and "above-average" BI success also declines in linear fashion with diminishing maturity in common trust in data/governance.

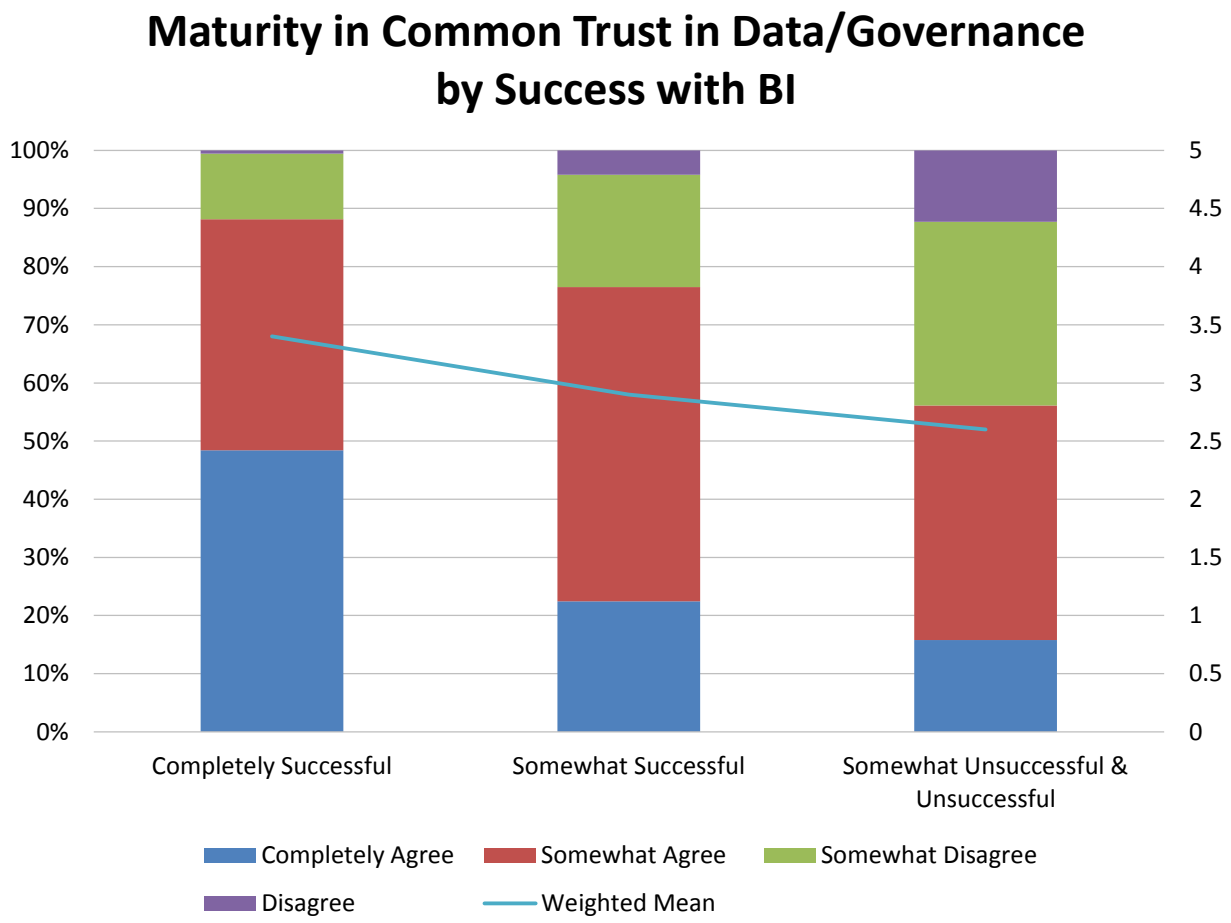


Figure 78 – Maturity in common trust in data/governance by success with BI

Success with Business Intelligence and Insight Creation and Execution

Fig. 79 measures success with BI against respondents' agreement with the statement, "Relevant insights are created reliably and consistently across the enterprise with closed loop processes ensuring timely concerted action." In 2021, success with BI is closely correlated with maturity in insight creation and execution. About 40 percent of "completely successful" organizations give themselves the "highest" maturity self-assessment. This "highest" score declines to 13 percent among "somewhat successful" organizations and below 11 percent of "somewhat unsuccessful" or "unsuccessful" organizations. Combined "highest" and "above-average" BI success also declines with diminishing maturity in insight creation and execution.

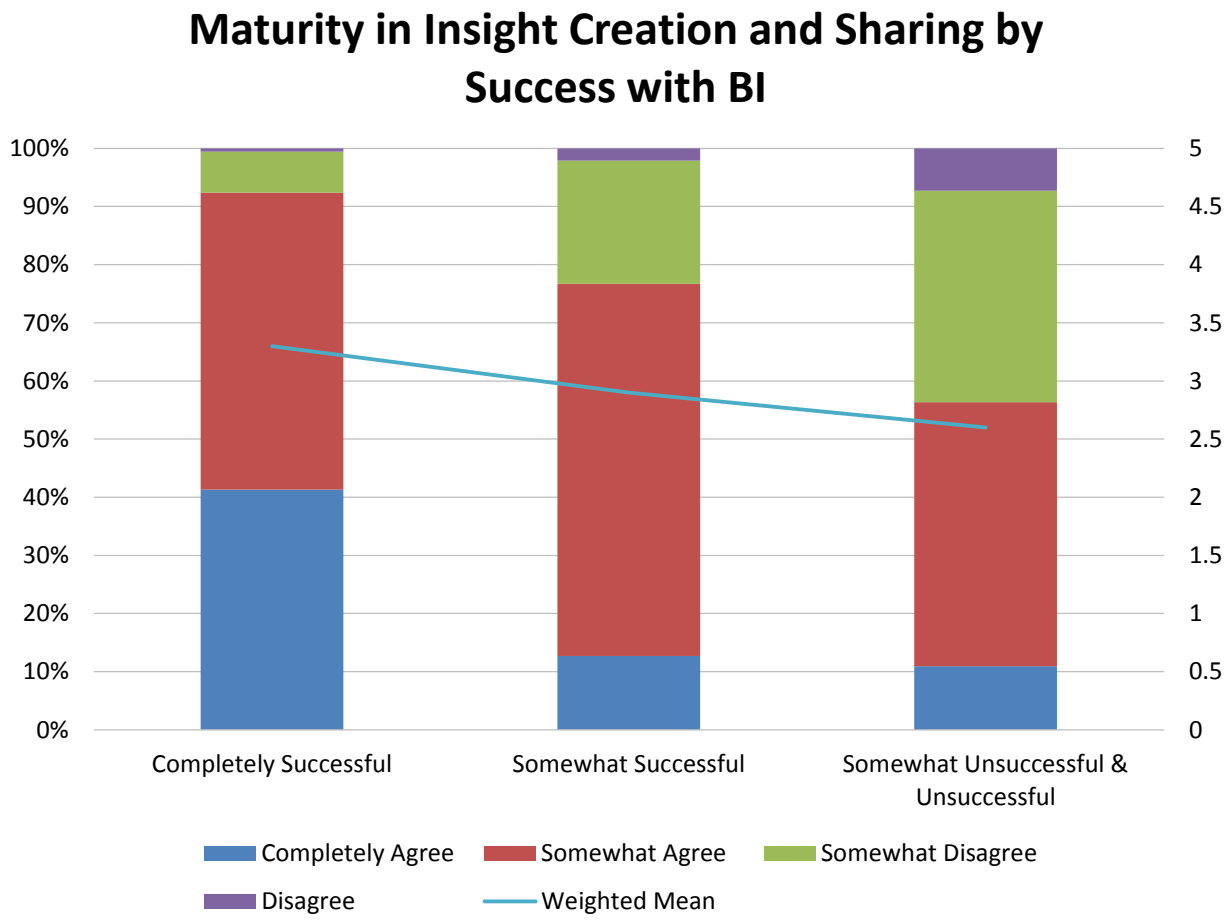


Figure 79 – Maturity in insight creation and execution by success with BI

Success with Business Intelligence and Penetration of Users

Figure 80 compares penetration of business intelligence today with success with BI. In 2021, this yields a sometimes powerful and sometimes fragmented correlation. One stark and undeniable positive finding occurs at the very highest level, where 65 percent of organizations with 81 percent or higher penetration are "completely successful" with BI. Even more impressive, 95 percent of this highest-penetration group is at least "somewhat successful" with BI. Another standout indicator arrives at the lowest level of < 10 percent, where success with BI is 55 percent likely to be "somewhat unsuccessful and unsuccessful." Between these bookend findings, correlation between BI success and penetration is more difficult to establish. We would normally observe that BI expertise is distributed differently from one organization to the next, where some focus by role or department and others more broadly enable. In any case, 2021 offers powerful guideposts but no real incremental linkage between BI success and the multiple levels of BI penetration.

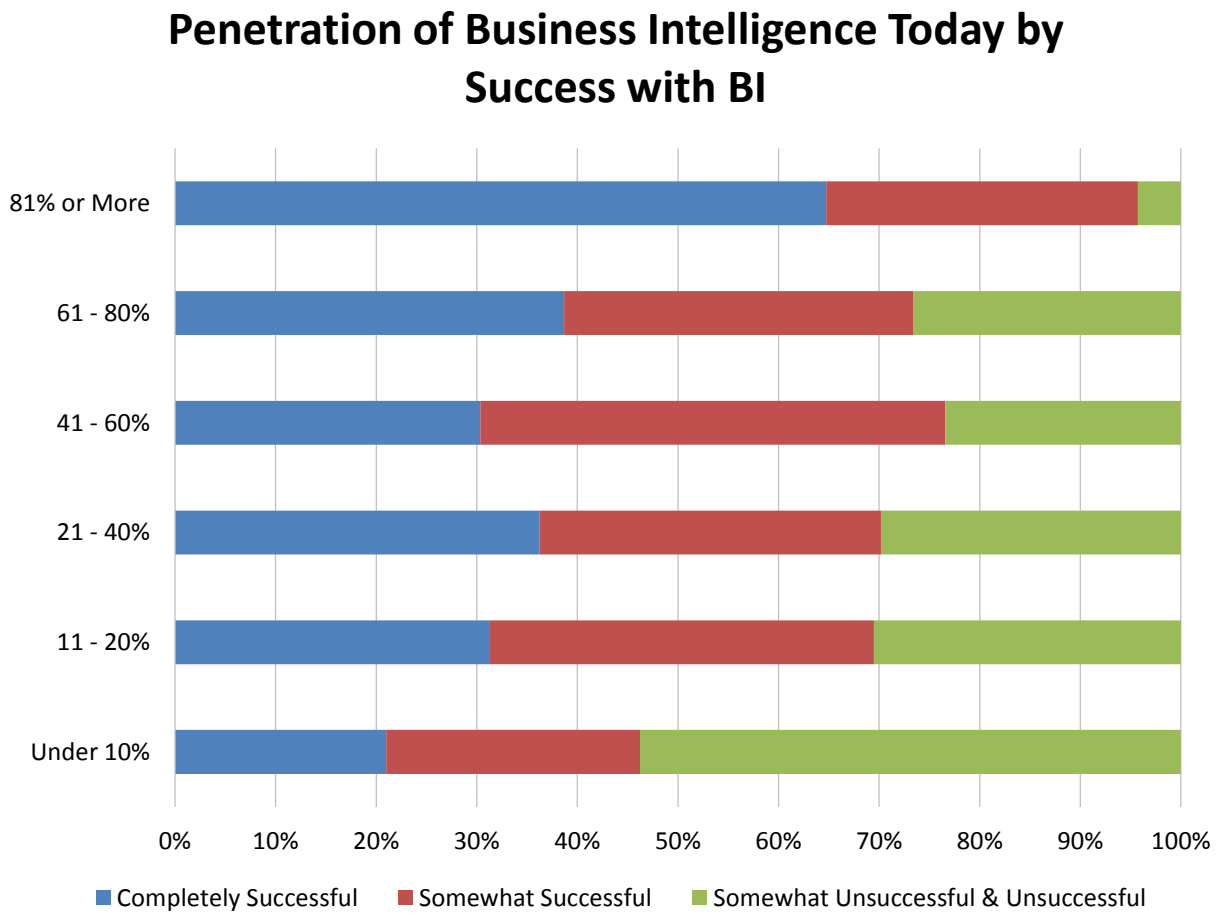


Figure 80 – Penetration of business intelligence today by success with BI

Business Intelligence Achievements by Success with BI

As we would expect, high-achieving organizations are far more likely to be successful at multiple BI objectives (fig. 81). In 2021, "completely successful" organizations execute best at every objective starting with “better decision-making” (weighted mean 4.7) and “improved operational efficiency/cost savings” (4.0). These are the only measures at or above 4.0 or “very important.” Levels of BI success thereafter decline 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.

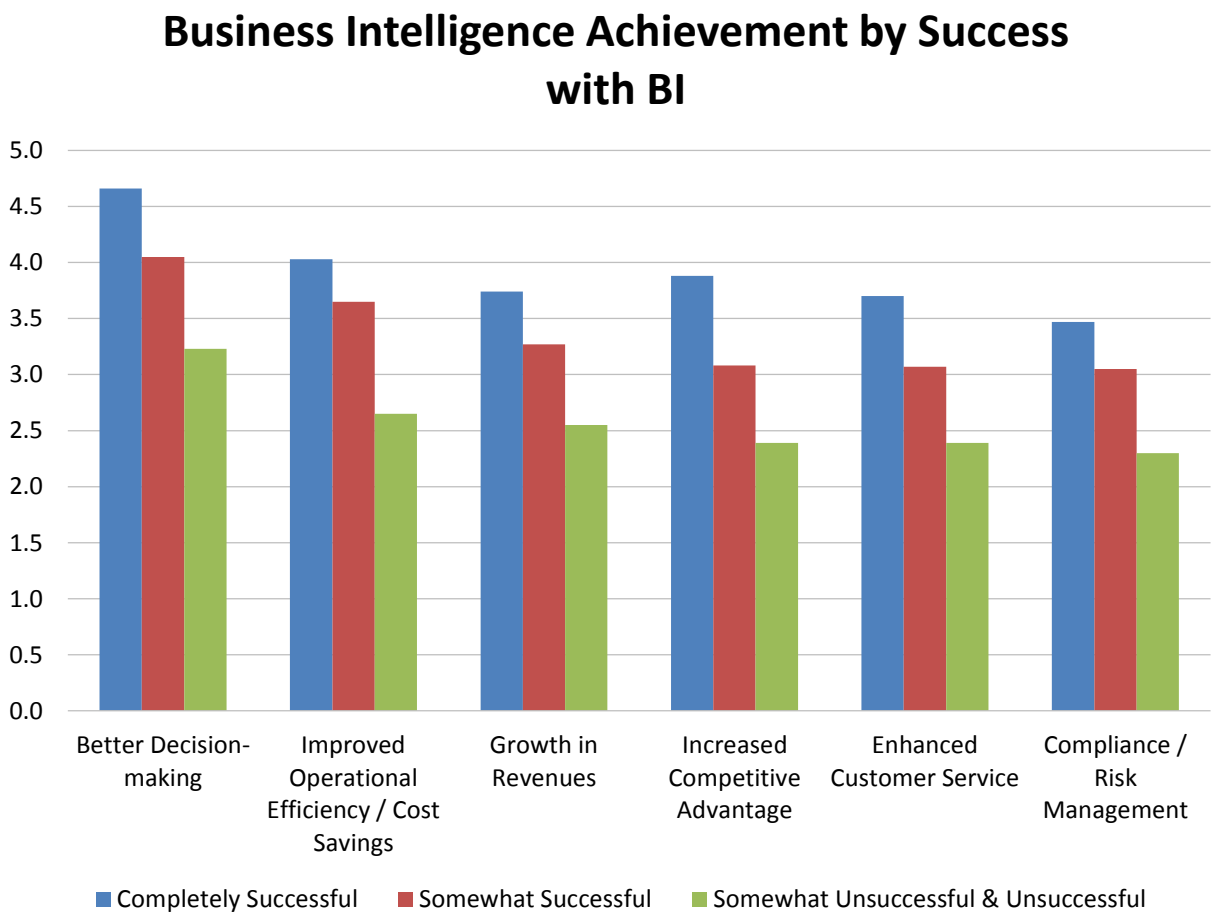


Figure 81 – Business intelligence achievement by success with BI

Budget Plans for Business Intelligence

We asked organizations (regardless of success with BI) whether they will increase, decrease, or maintain existing business intelligence budgets (fig. 82). In 2021, about 46 percent of respondent organizations plan to increase BI investment above 2020 levels. Another 46 percent will maintain current budgeting, and about 8 percent will decrease budgeting. (We do not know the extent to which BI expansion might consist of departmental spending or the adoption of BI subscription services.)

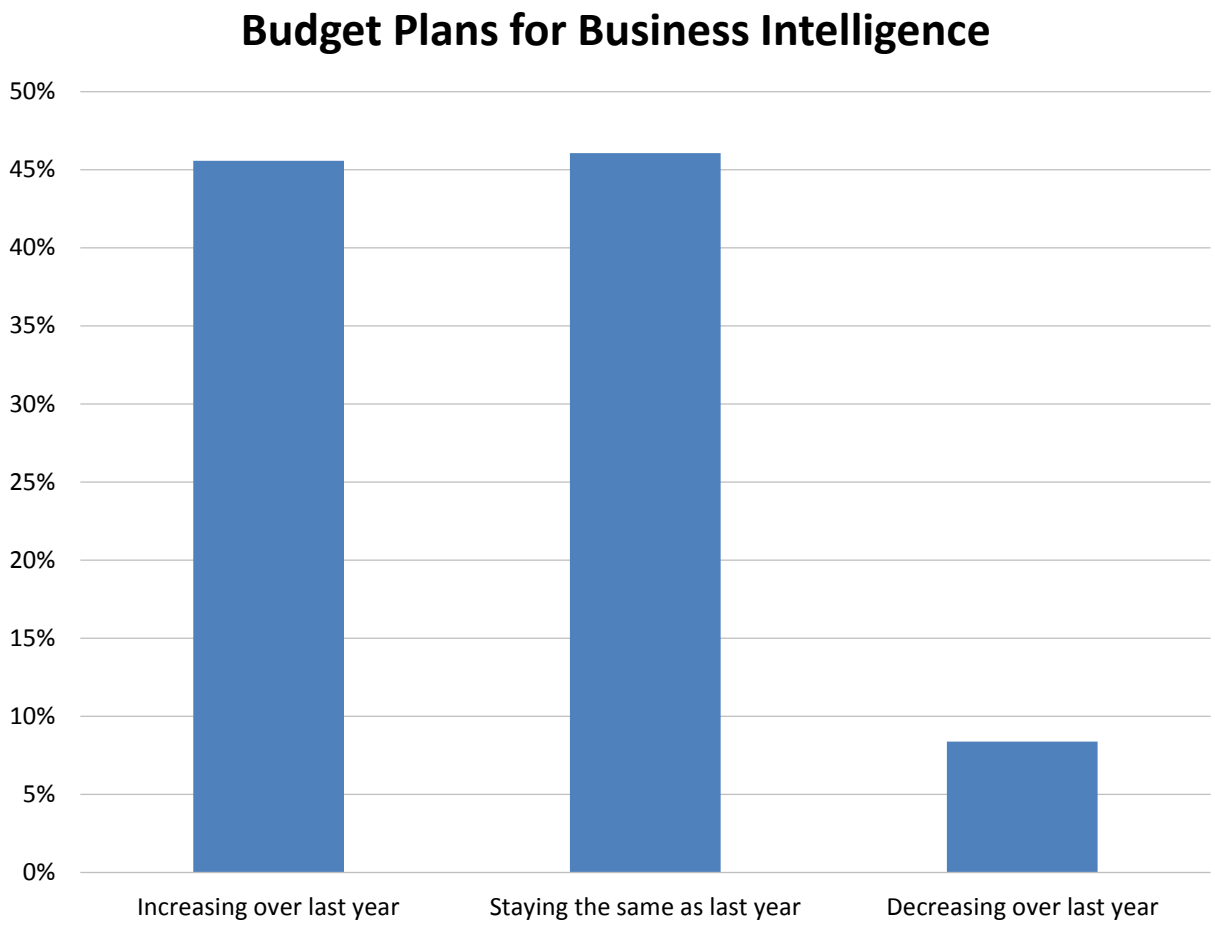


Figure 82 – Budget plans for business intelligence

Budget Plans for Business Intelligence 2017-2021

By percentage, budget changes for business intelligence across the latest five years of data are somewhat consistent but display some recent weakness (fig. 83). In both 2021 and 2020, about 5 percent fewer organizations are increasing BI budgets, and 2021 marks a low in the time frame of the chart. In 2021, the drop in increases is offset by the 6 percent of organizations that froze budgets (compared to 2020) rather than increasing or decreasing them. Not factored here and a likely contributor to this finding is the COVID-19 pandemic. Other Dresner research finds an increase in unchanged budgets and project timelines during 2020 and 2021.

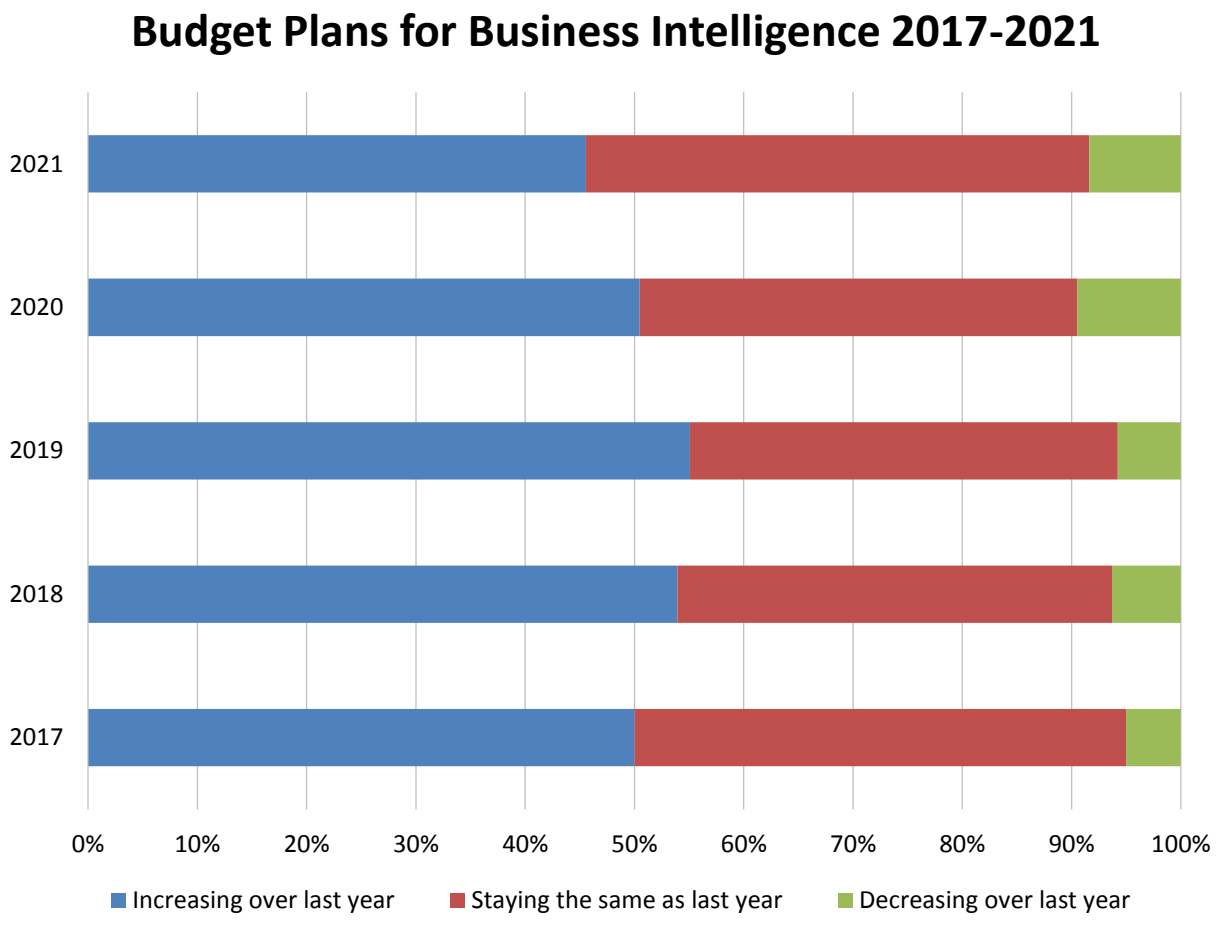


Figure 83 – Budget plans for business intelligence 2017-2021

Budget Plans for Business Intelligence by Geography

North America and EMEA are somewhat stronger investment markets for BI in 2021 based on budget plans (fig. 84). Between 41-47 percent of organizations in all geographic regions plan to increase BI spending in 2021. The high number of increases is in North America, followed by EMEA (44 percent), Asia Pacific (44 percent), and Latin America (41 percent). Organizations in Asia Pacific are the most likely to decrease BI budgets (14 percent), followed by Latin America (12 percent), North America (8 percent), and EMEA (7 percent).

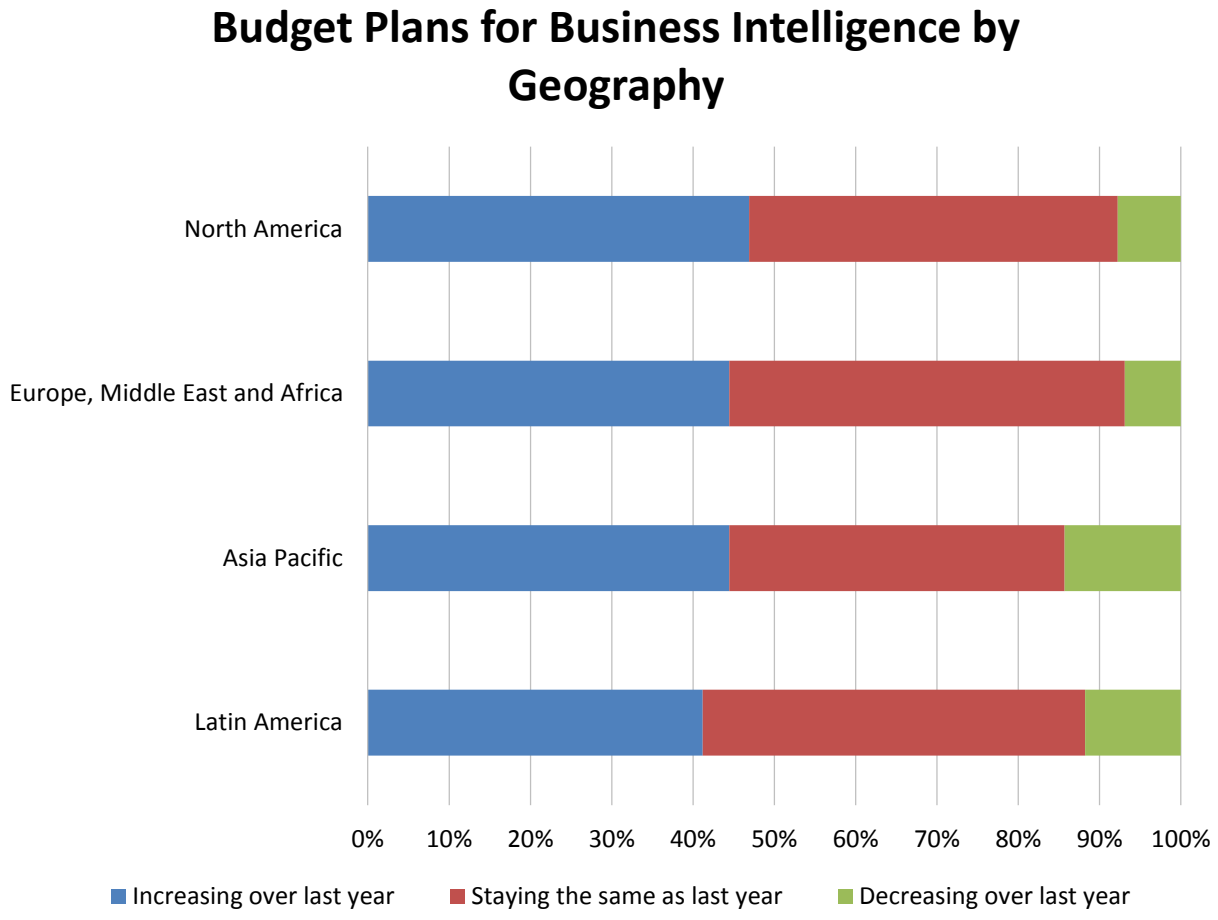


Figure 84 – Budget plans for business intelligence by geography

Budget Plans for Business Intelligence by Function

In 2021, about 57 percent of BICC respondents say they will increase BI spending compared to last year (fig. 85). We consider this a sign of ongoing departmental enablement of BI. Executive Management and IT are the only other functions where at least half of respondents expect BI budget growth in 2021. Interestingly, Operations is least likely to increase BI budgets in 2021 (31 percent) and most likely to decrease BI budgets this year (12 percent). Ten percent of IT and Marketing/Sales expect BI budget decreases. All other functions are less than 10 percent likely to decrease BI budgets.

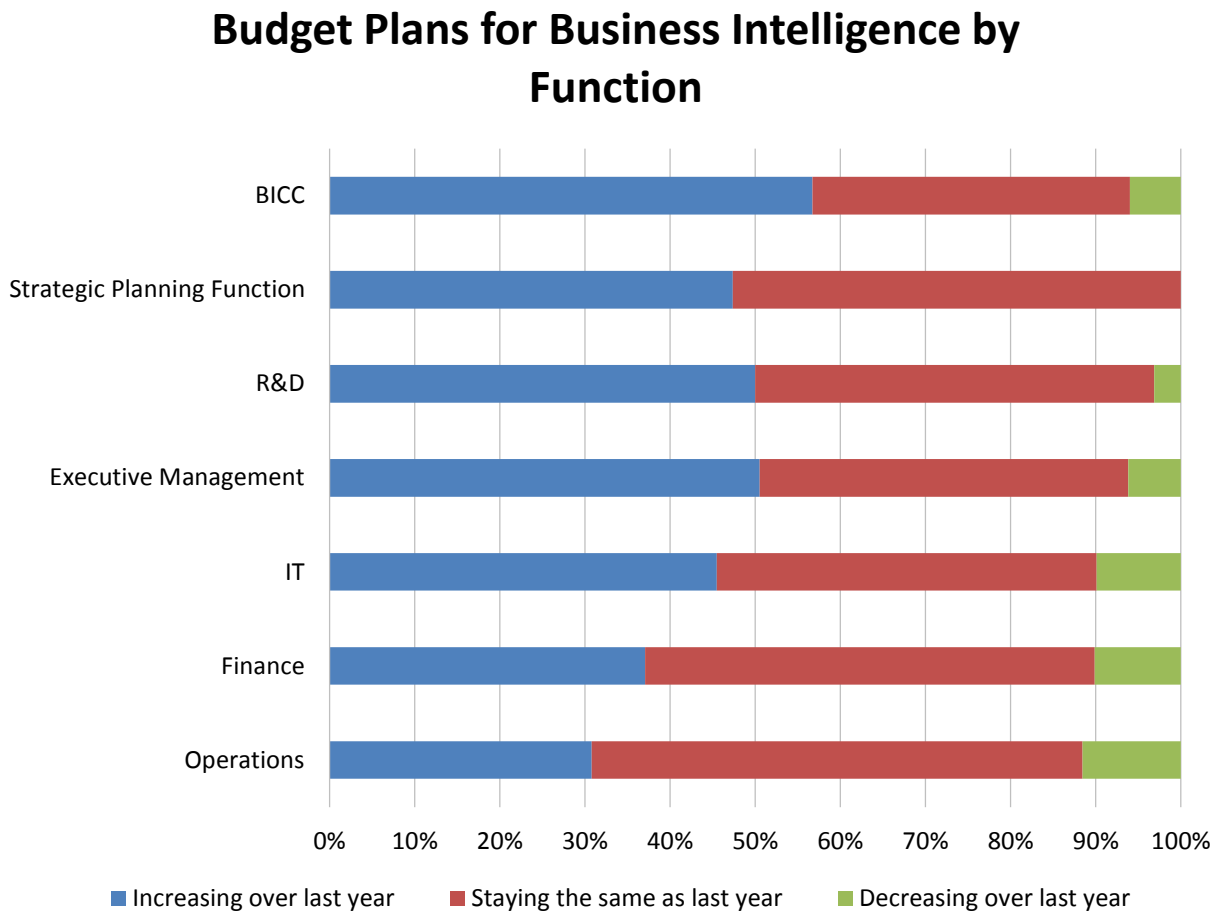


Figure 85 – Budget plans for business intelligence by function

Budget Plans for Business Intelligence by Vertical Industry

In 2021, Retail/Wholesale and Financial Services organizations are most likely (56-57 percent) to increase budgets for business intelligence (fig. 86). Respondents in Technology are the next most supportive, with 50 percent likely to increase budgets; all other industries are less than 50 percent likely to increase budgets. Even so, budget decreases are not dramatically increased in 2021, and only 12 percent of organizations in any industry plan decreases. Again, though not shown here, a likely contributor to this finding is the COVID pandemic.

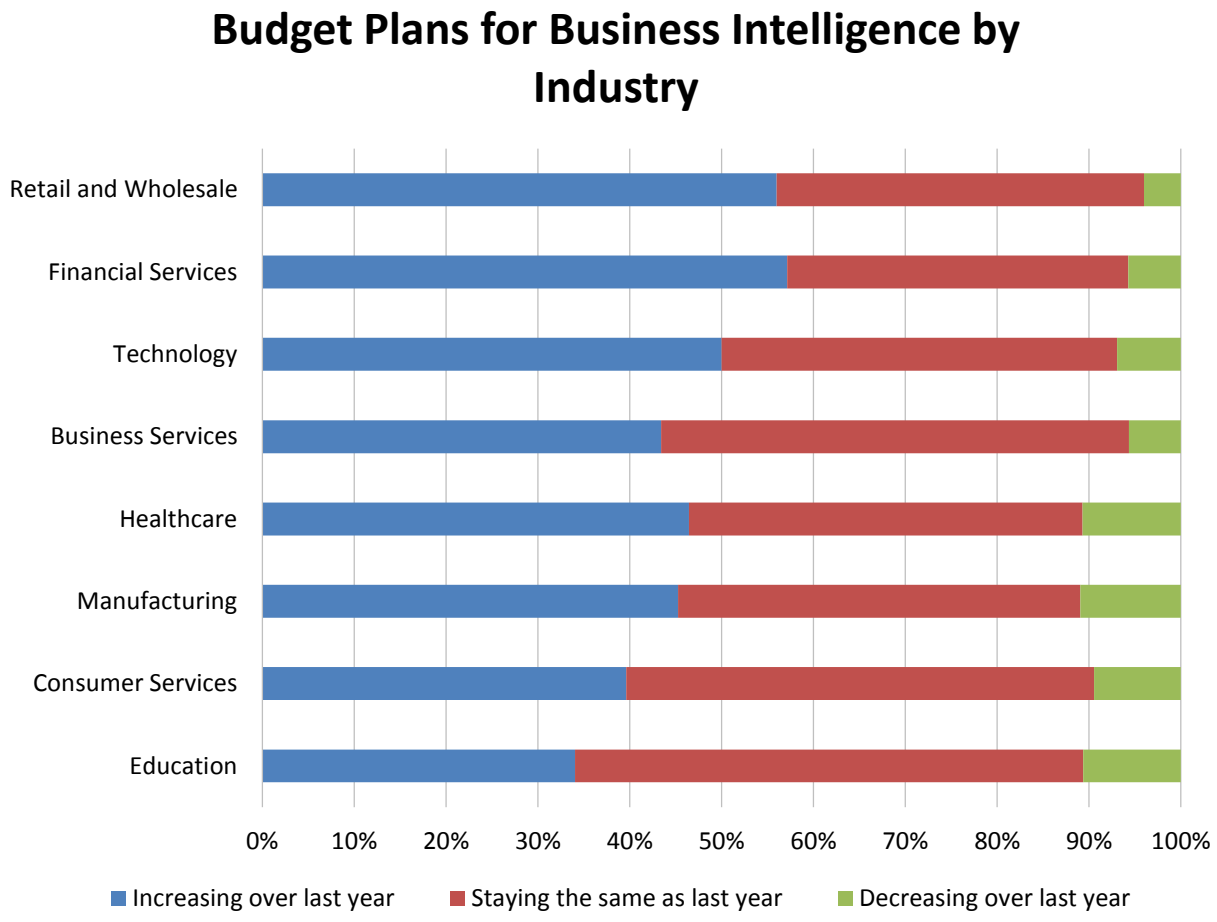


Figure 86 – Budget plans for business intelligence by industry

Budget Plans for Business Intelligence by Organization Size

In 2021, increases in BI spending become somewhat more likely as global headcount increases (fig. 87). Very large organizations (>10,000 employees) are about 49 percent likely to increase spending, compared to 56 percent of large organizations (1,001-10,000 employees), 52 percent of mid-sized organizations (101-1,000 employees), and 43 percent of small organizations (1-100 employees). About 12 percent of both very large and small organizations plan to decrease BI budgets, compared to 6 percent of large and 10 percent of mid-sized organizations.

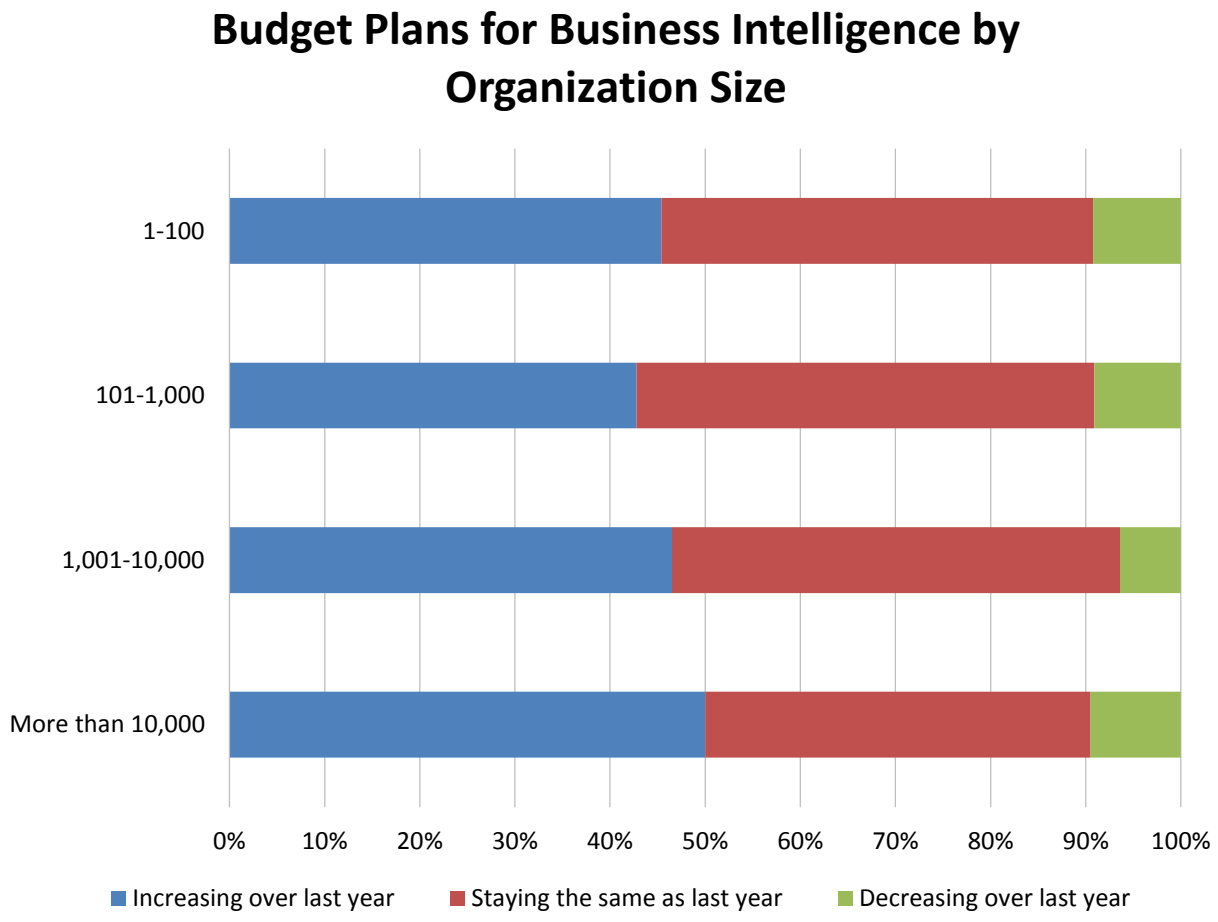


Figure 87 – Budget plans for business intelligence by organization size

Budget Plans for Business Intelligence by Penetration of BI Solutions

In 2021, BI budget plans correlate with existing BI penetration (fig. 88). At multiple levels of the spectrum, organizations that have lower BI penetration are more likely to decrease BI budgets, and more-penetrated peers are more likely to increase BI budgets. For example, organizations that increase budgets are less likely than organizations decreasing budgets to have sub-10 percent BI penetration (20 percent versus 33 percent) and more likely to have > 81 percent of penetration (12 percent versus 9 percent). It is tempting to connect this relationship to one or many factors that might include strategy, areas of focus, investments in tools and training, governance, and data literacy.

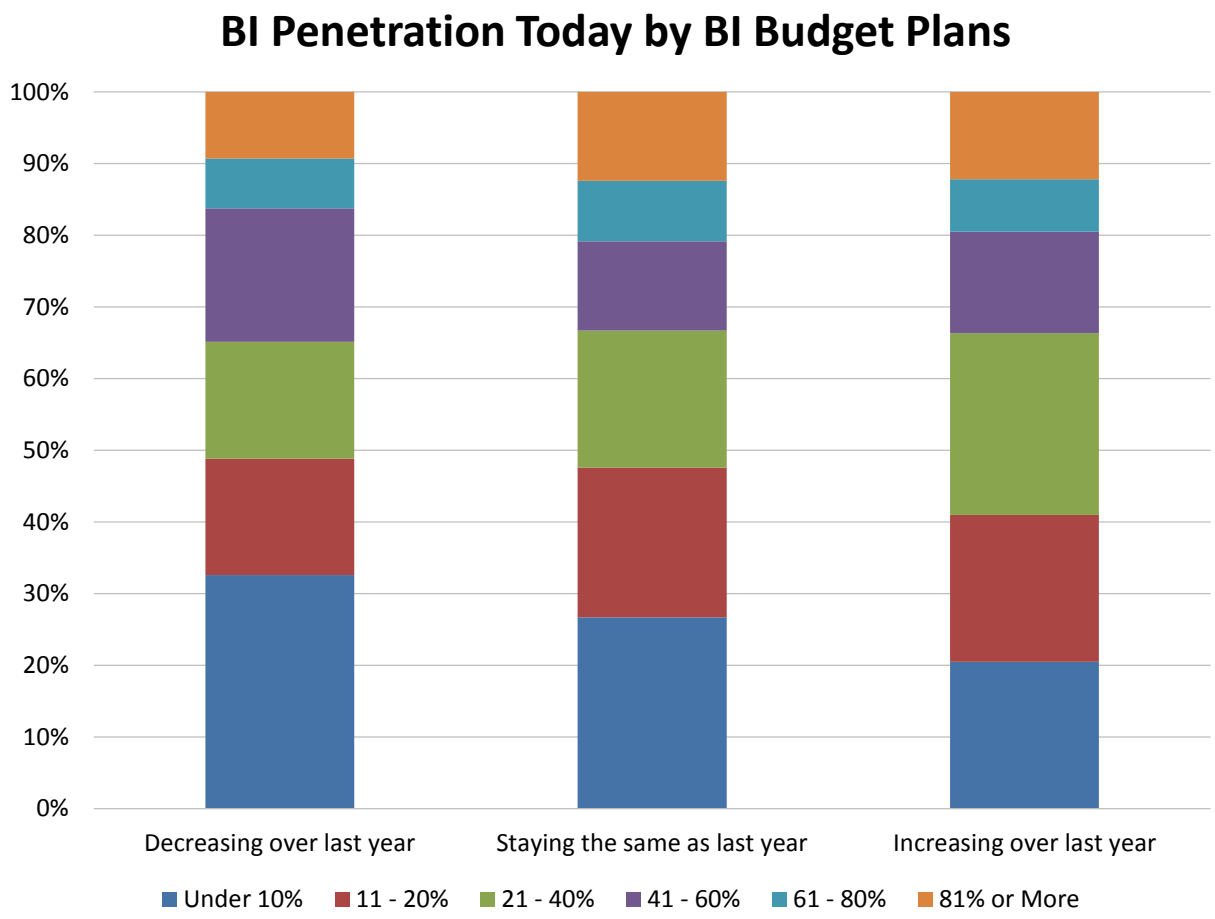


Figure 88 – Budget plans for business intelligence by BI penetration

Budget Plans for Business Intelligence by Success with BI

Organizations that are more successful with business intelligence are incrementally more likely to increase or maintain the same levels of BI spending in 2021 compared to last year (fig. 89). Fifty percent of "completely successful" organizations will increase budgets this year, compared to 44 percent of "somewhat successful" and 36 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 17 percent likely to decrease budgets compared to 9 percent of “somewhat successful” and 5 percent of “completely successful” BI organizations.

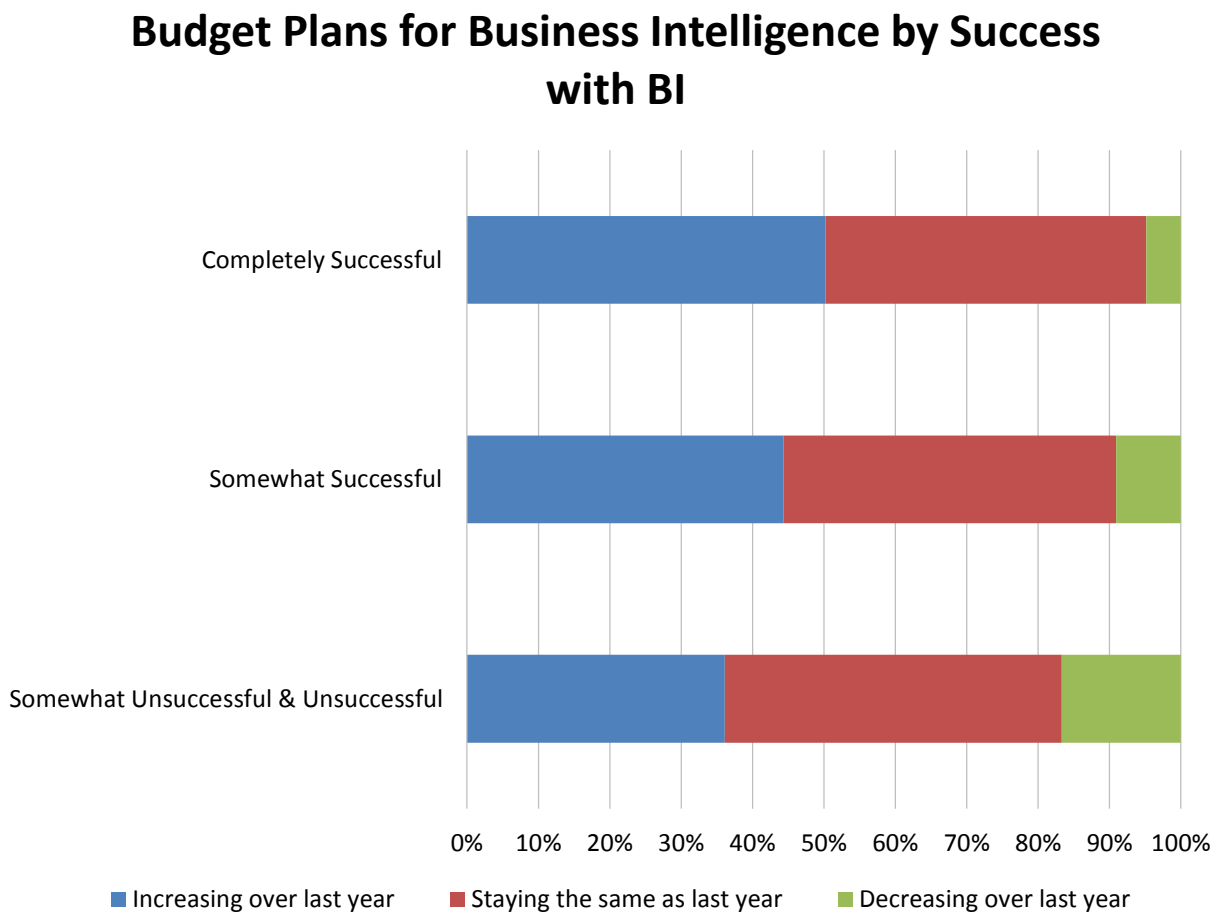


Figure 89 – Budget plans for business intelligence by success with BI

Business Intelligence Achievements by BI Budget Plans

Generally, we would expect high-achieving organizations to be the most likely to increase spending on BI achievements "across the board," and this is indeed the case in 2021 (fig. 90). This year, organizations with higher levels of achievement against individual BI objectives are more likely than not to increase budgets for every specified objective listed in markedly consistent increments. While no specific objective stands out over another, we see only slightly more decreases associated with “enhanced customer service” than for all other objectives by rank. Generally, we find that achievements would naturally increase the likelihood of increased investment.

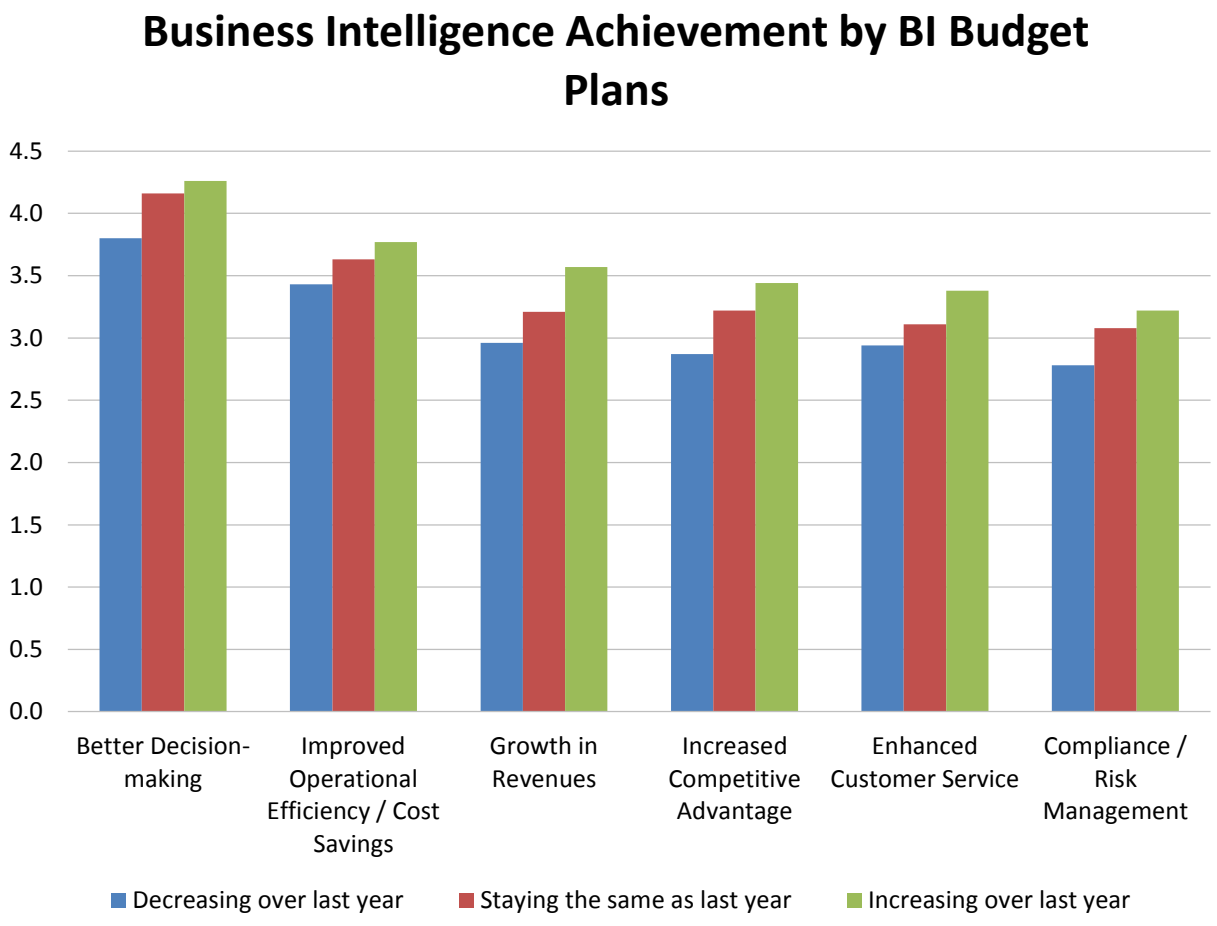


Figure 90 – Business intelligence achievements by BI budget plans

Technologies and Initiatives Strategic to Business Intelligence by BI Budget Plans

The percentage of organizations increasing BI budgets logically increases proportionately as they view individual initiatives as more critical (fig. 91). For example, organizations increasing budgets see reporting more critically than those decreasing spending. We also see relatively fewer organizations decreasing versus increasing budgets in certain areas that include advanced visualization and governance. As obvious as this relationship is, we also observe that initiatives beginning with "data preparation" and "end-user self-service" start to fall below the level of "very important" among organizations increasing BI budgets. One needs to look all the way down the list to HCM, big data, and text analytics to see interest fall below 3.0 or the level of "important." Those increasing spending in 2021 favor the great majority of all but the lowest-ranked technologies and initiatives.

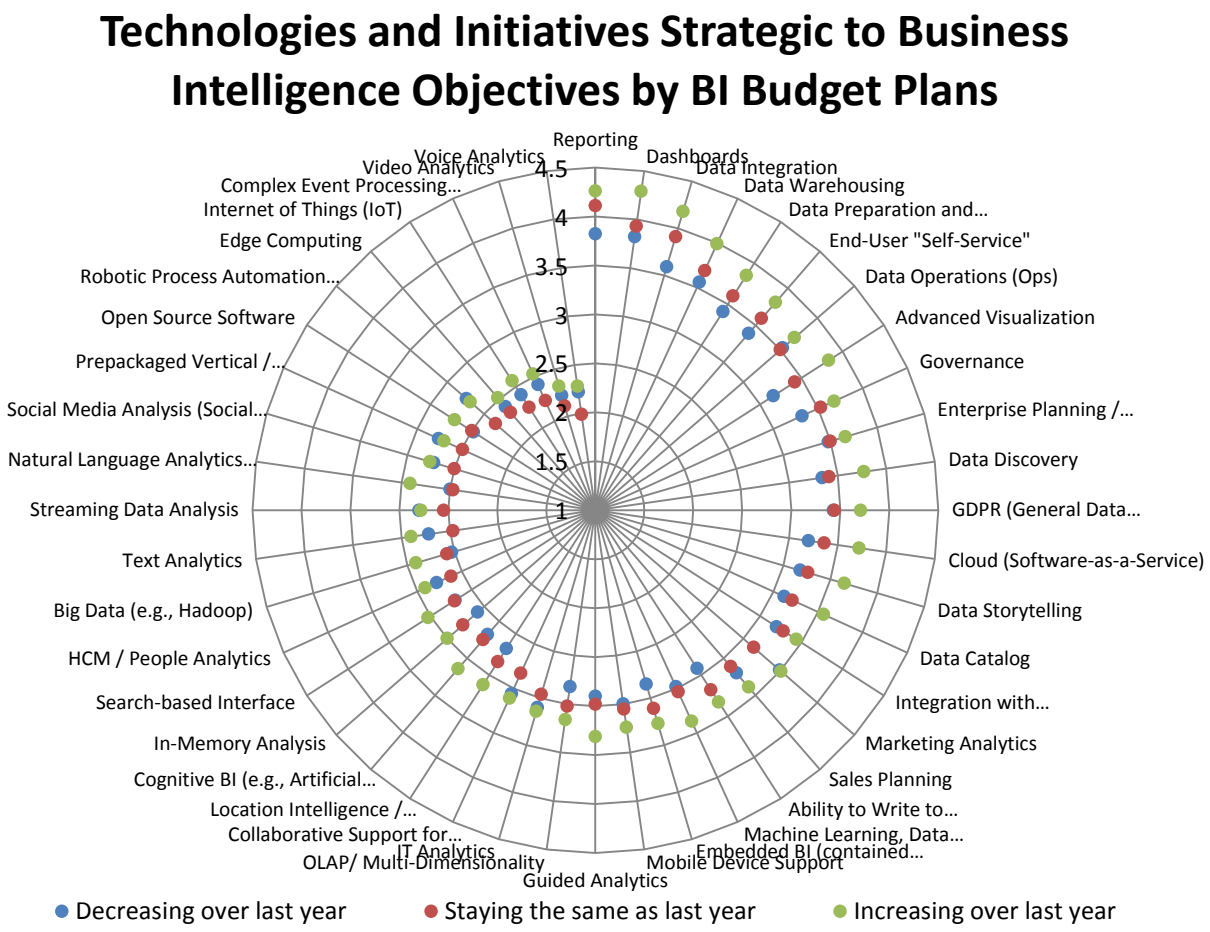


Figure 91 – Technologies and initiatives strategic to business intelligence by BI budget plans

Business Intelligence Product Longevity and Replacement

Longevity of Business Intelligence Products

In 2021, respondents indicate that about 75 percent of their current business intelligence tools are in place five years or less, and the remaining 25 percent are in place six years or more (fig. 92). Additionally, we can say that longevity shifts year over year, increases among tools held for three to five years, and decreases for tools held six to 10 years. This suggests both strong "green field" and replacement markets for business intelligence tools. We cannot say how much of this finding reflects cloud-based versus on-premises installations, though we know that cloud-based tools and services represent the bulk of newer implementations.

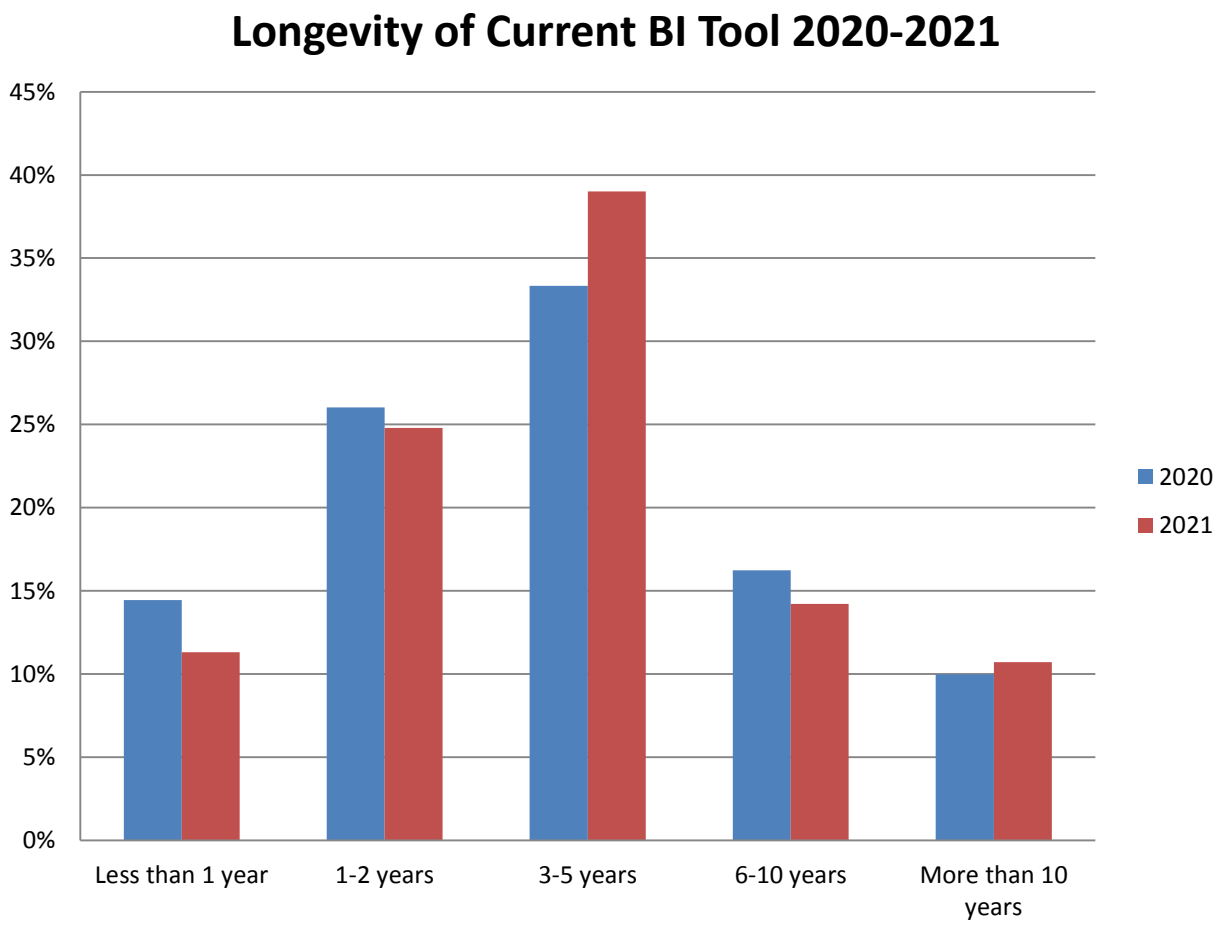


Figure 92 – Longevity of current BI tool 2020-2021

Current Business Intelligence Products Replaced by Another

Beginning in 2018, we asked respondents whether their current BI product replaced another BI product (fig. 93). In 2021, the net new product replacement rate of 27 percent is largely identical to what we found in 2020. Again, this year, about 72 percent of respondents say replacement of another product was not the outcome of BI tool or service acquisition, compared to 76 percent in 2018. This scenario 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. Over four years, the replacement rate is growing, but by only about 1 percent per year.

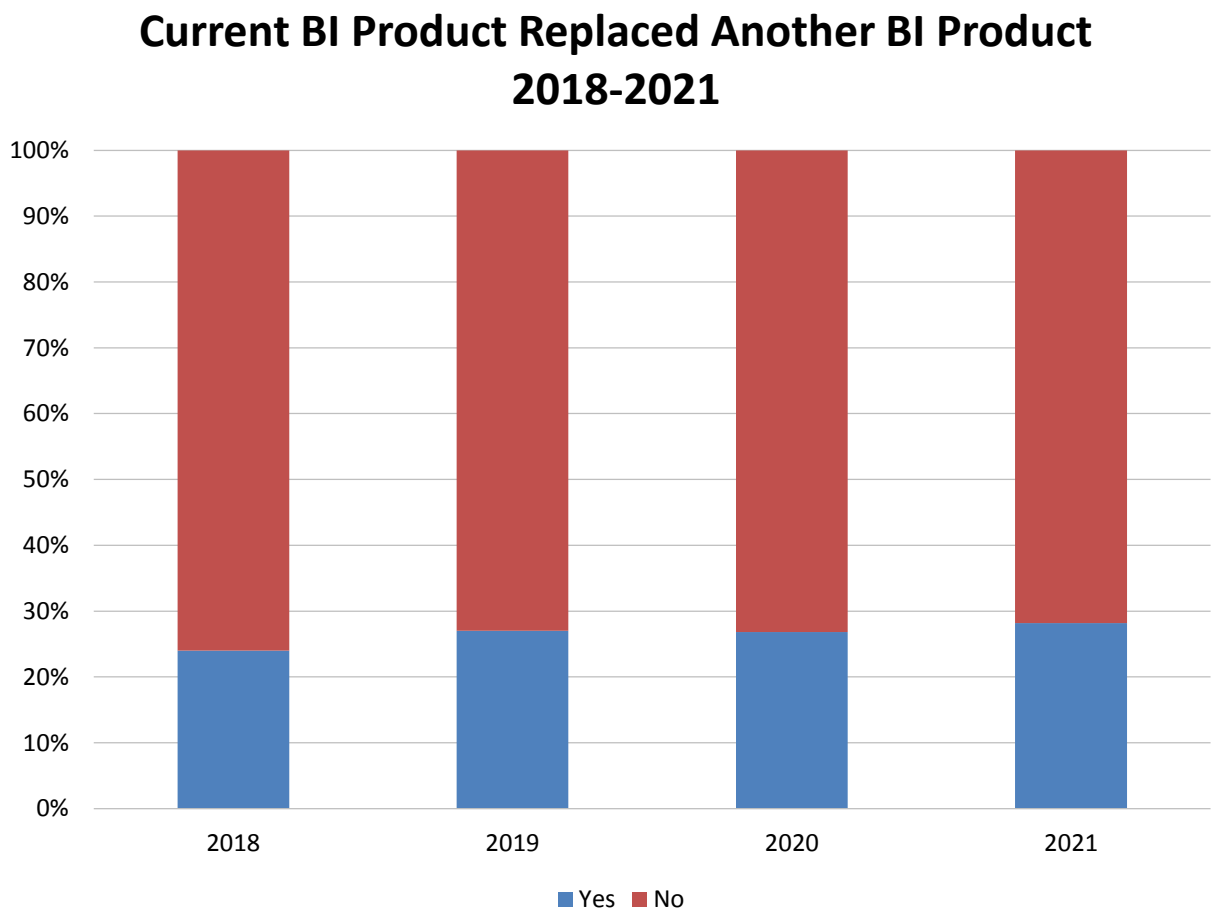


Figure 93 – Current BI product replaced by another BI product 2018-2021

Reasons BI Products Are Replaced

Of the 27 percent of respondent organizations that indicate their current BI product replaced another (previous chart), the primary reasons cited for doing so are functionality (73 percent) and modernization (68 percent) (fig. 94). Product reliability is less of a concern, cited as the primary reason for less than 46 percent of product replacement. Notably, cost ranks lowest as the likely primary reason (21 percent) for replacing an existing BI product, and corporate standards are the primary reason for 27 percent of product replacements. Although two years of data is a short period to draw conclusions, it is obvious that respondents shifted rationale for product replacement in 2021, especially toward modernization and reliability.

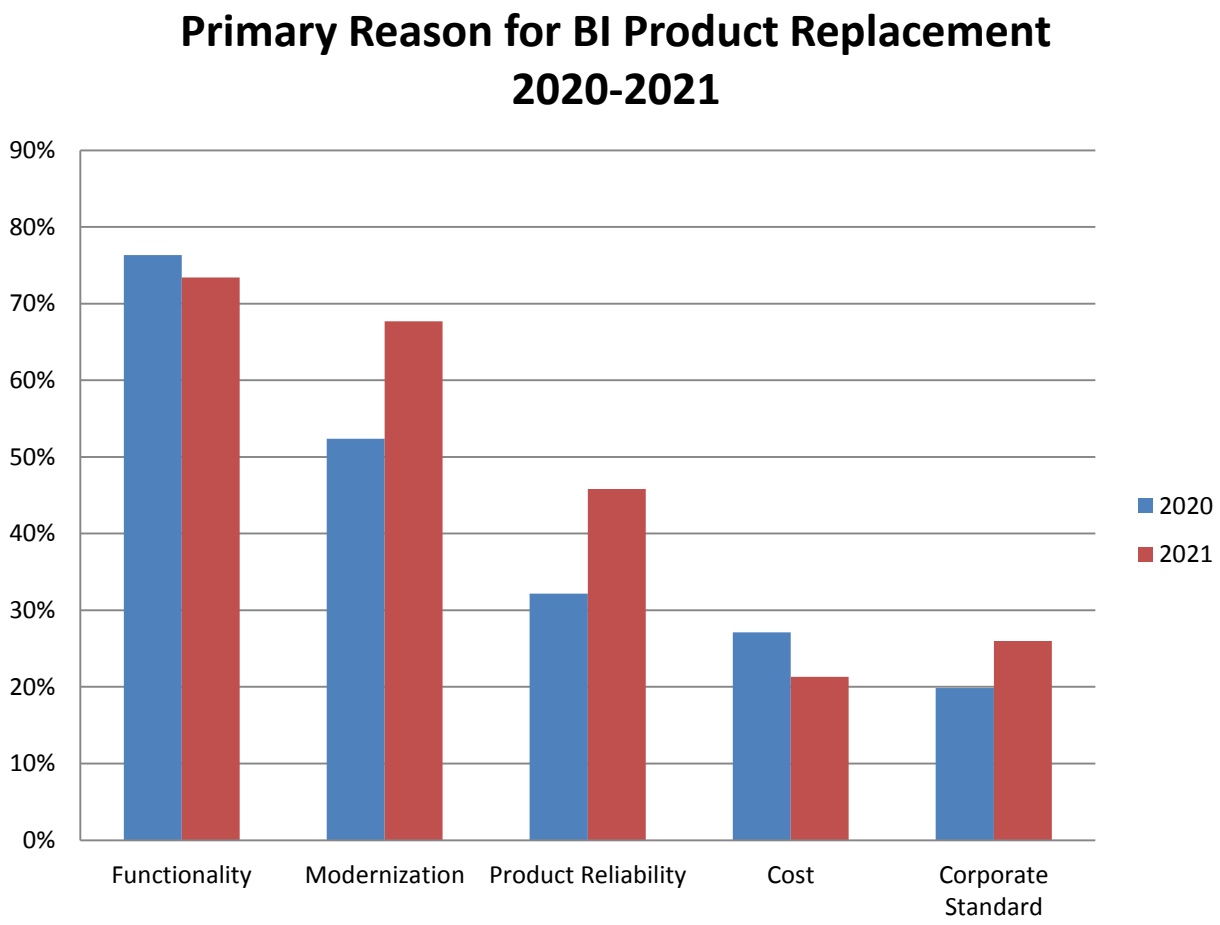


Figure 94 – Priamry reason for BI product replacement 2020-2021

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.

Industry Performance

Sales/Acquisition Experience

Year over year (2020-2021), we observe only slightly changed performance in measures of industry sales and acquisition (fig. 95). This continues a 2019 falloff from peak levels reached during 2017-2018. Expressed another way, sales and acquisition performance is positive (in the range of "good" to "very good") and fairly consistent during the years 2014-2020, including a peak period in 2017-2018. The best experiential performers in 2021 are traditionally the strongest: "product knowledge" and "professionalism." A slight 2021 dip is observed in some areas, most notably "contractual terms and obligations," "flexibility/accommodation," and "follow up after the sale."

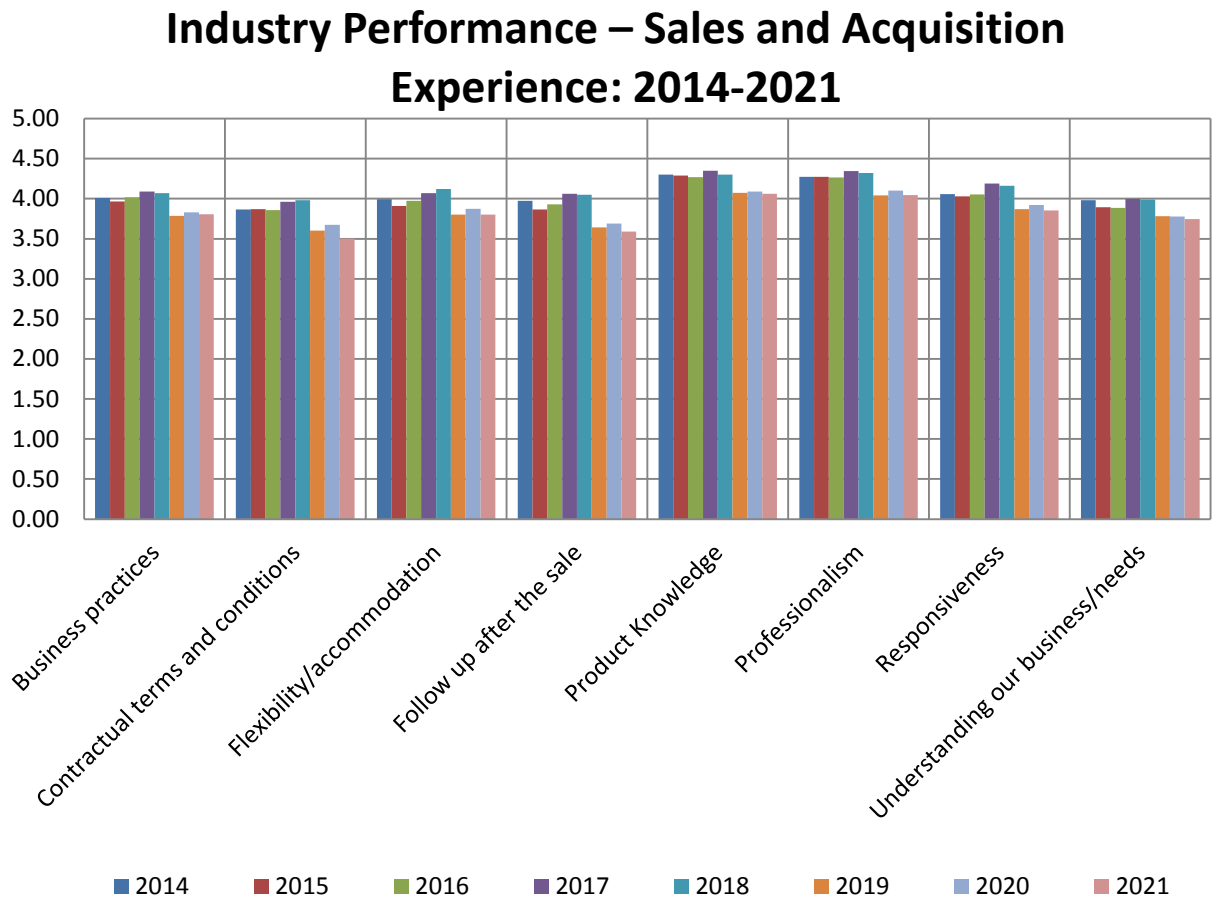


Figure 95 – Industry performance — sales and acquisition experience: 2014-2021

Value

End users report a 2021 decline in scores for “value” compared to 2020 (from 4.21 to 4.17) that follows a slight increase seen during the years 2019-2020 (fig. 96). Admittedly, the scale for this score is somewhat compressed to show what are only minor differences in these time spans. Viewed over eight years of data, industry value performance remains on an uptrend with a trend line that remains above 4.0 (representing "very good" performance) throughout.

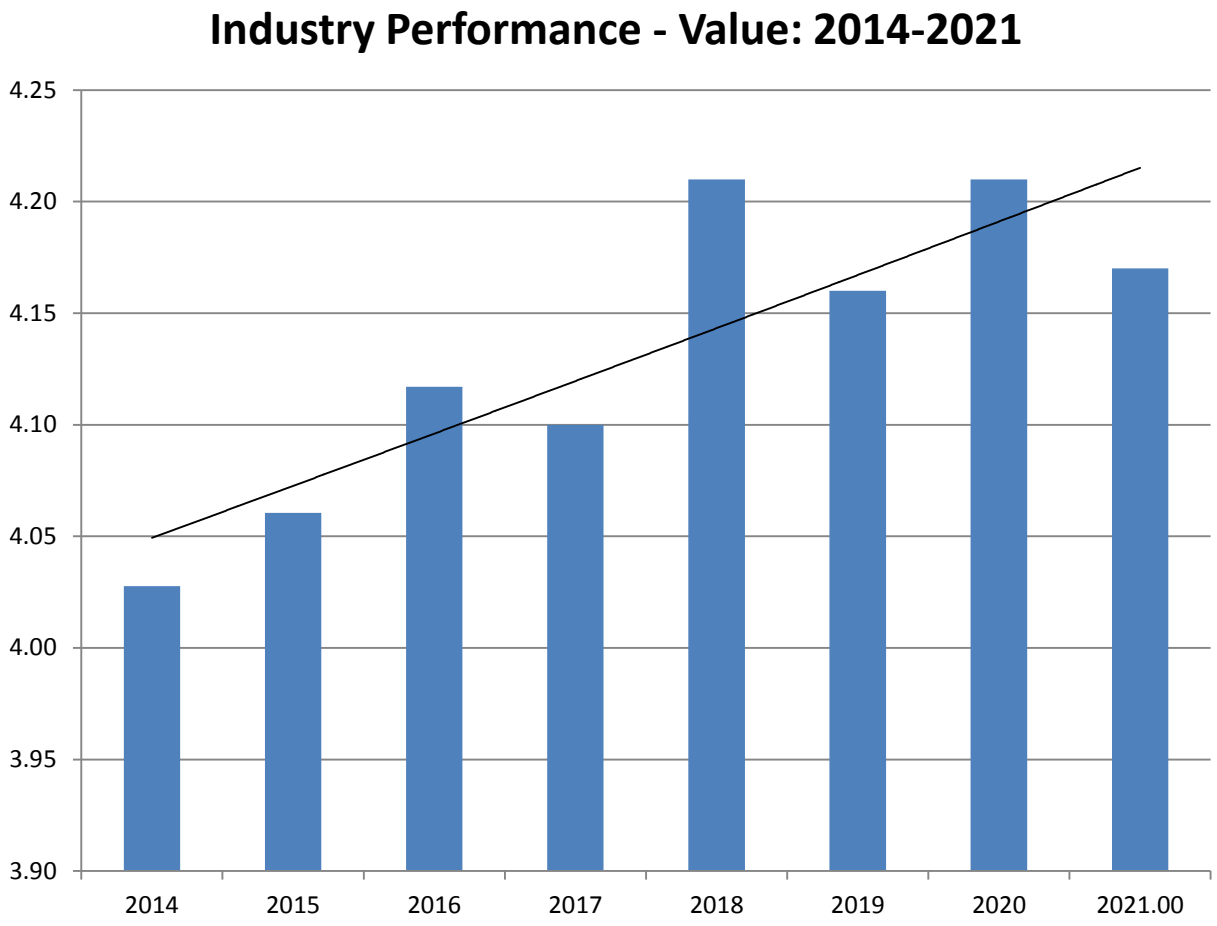


Figure 96 – Industry performance — value 2014-2021

Quality and Usefulness of Product

In 2021, all measures of industry quality and usefulness sit below all-time highs reached mostly during the years 2017-2018 (fig. 97). Areas that score relatively well compared to previous studies include “scalability,” “reliability of technology,” “overall usability,” and “online training, forums and documentation.” Areas that score relatively poorly compared to earlier studies include “customization and extensibility,” “ease of installation,” “ease of upgrade,” and “integration of components within product.” We note that quality and usefulness scores can be affected by many external factors including new releases and combined and acquired product rollouts.

Figure 97 – Industry performance — quality and usefulness of products: 2014-2021

Technical Support

In 2021, all measures of industry technical support mostly sit at all-time low scores that first appeared in a 2019 decline (fig. 98). Compared to minor volatility during the years 2014-2018, the least three years of decline appear more dramatic and "across the board." New low scores are reported for “continuity of personnel,” “professionalism,” “responsiveness,” and “time to resolve problems.” Also alarming, all scores except “product knowledge” are now below a score of 4.0, or below traditional "very good" performance. While the COVID-19 pandemic may have exacerbated this, as we advised last year, industry respondents should review resources and investments and monitor responsiveness in support of customer technical issues.

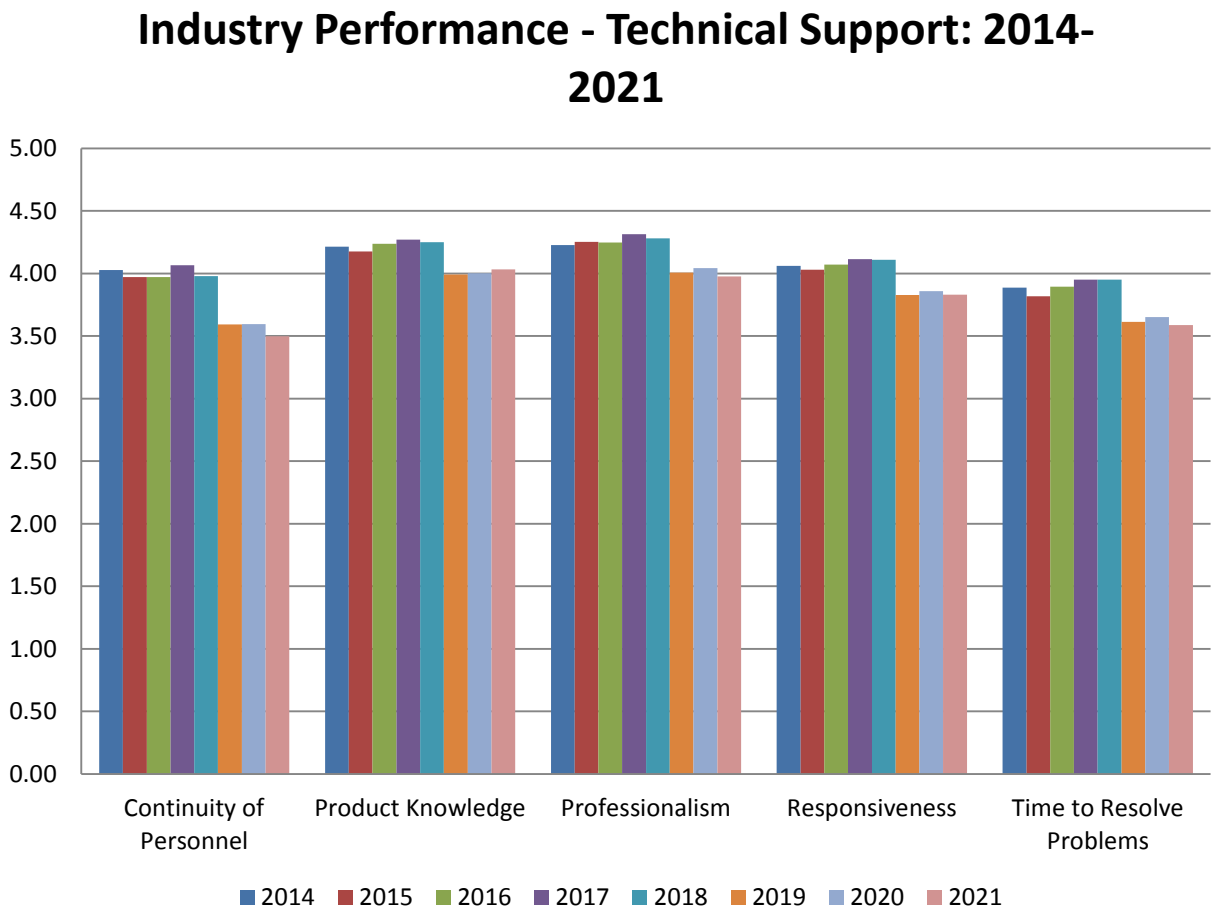


Figure 98 – Industry performance — technical support: 2014-2021

Consulting

In 2021, BI consulting is the weakest-scoring area of vendor and market performance (fig. 99). Across eight years of data, consulting performance slowly improves during the period 2014-2017, declines noticeably in 2018, and experiences a steep drop in 2019. This situation improves in 2020 only to decline slightly again in 2021. Almost every attribute we measure reaches an all-time high in 2017 but then capitulates to near all-time low measurements. We cannot immediately assign a reason to this across-the-board decline in vendor consulting satisfaction, though the COVID-19 pandemic as well as the usual resource turnover may well factor into scores. As we saw in 2019 and 2020, the weakest areas of vendor consulting include "continuity" and "value" (from historic highs of "very good" to the current state of a bit better than “good”).

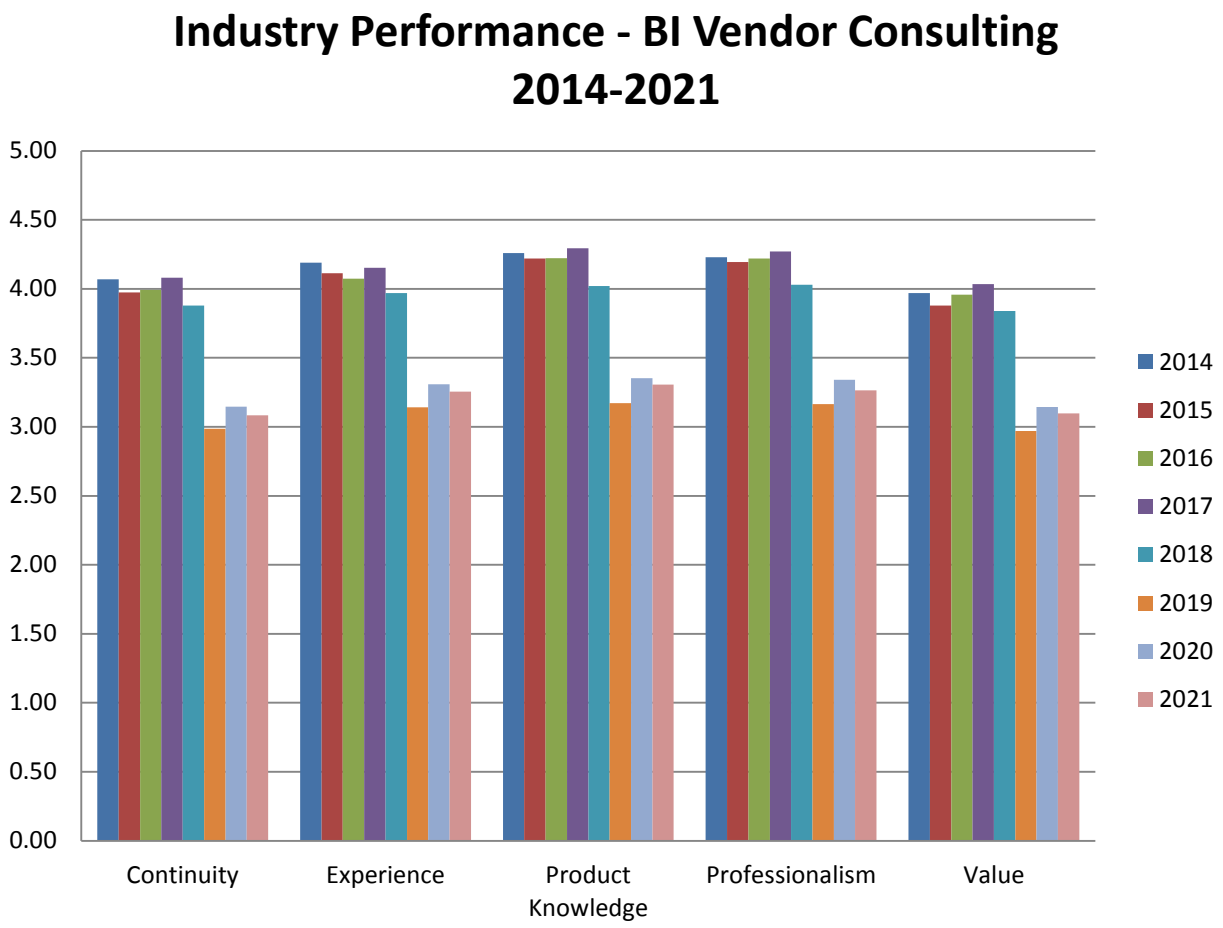


Figure 99 – Industry performance — BI vendor consulting: 2014-2021

Integrity

Vendor integrity—measured as honesty and truthfulness in all dealings—also declines from 4.3 to 4.18 in 2021, more than reversing a slight rebound seen in 2020 (fig. 100). Integrity scores show slow steady growth during the years 2014-2018 to a high of 4.39, followed by three years of weaker performance and an all-time low in 2021. While the scores in this view are rather compressed and remain optimistically above a weighted-mean value of 4.0 or "very good," an earlier positive trend line tipped to the negative.

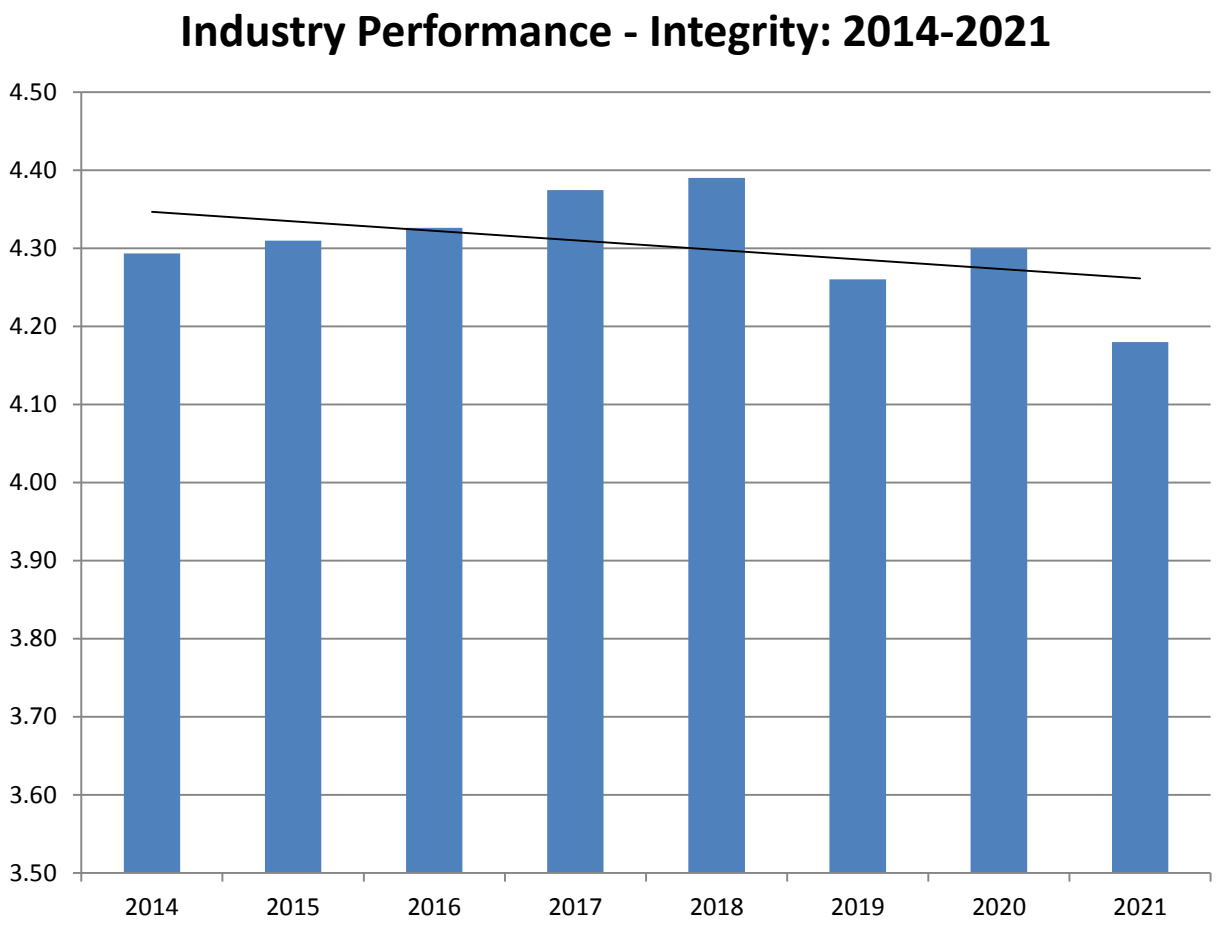


Figure 100 – Industry performance — integrity: 2014-2020

Recommended

On a more positive note, 2021 industry performance—as measured by the willingness of customers willing to recommend their vendor—improves slightly in 2021 and remains on a positive trend line (fig. 101). A 2021 score of 4.83 narrowly makes for an all-time high and a reassuring measure for the vendors sampled. The eight-year positive trend of well above "very likely," is very close to our highest allowable score of 5.0, leaving little room for improvement.

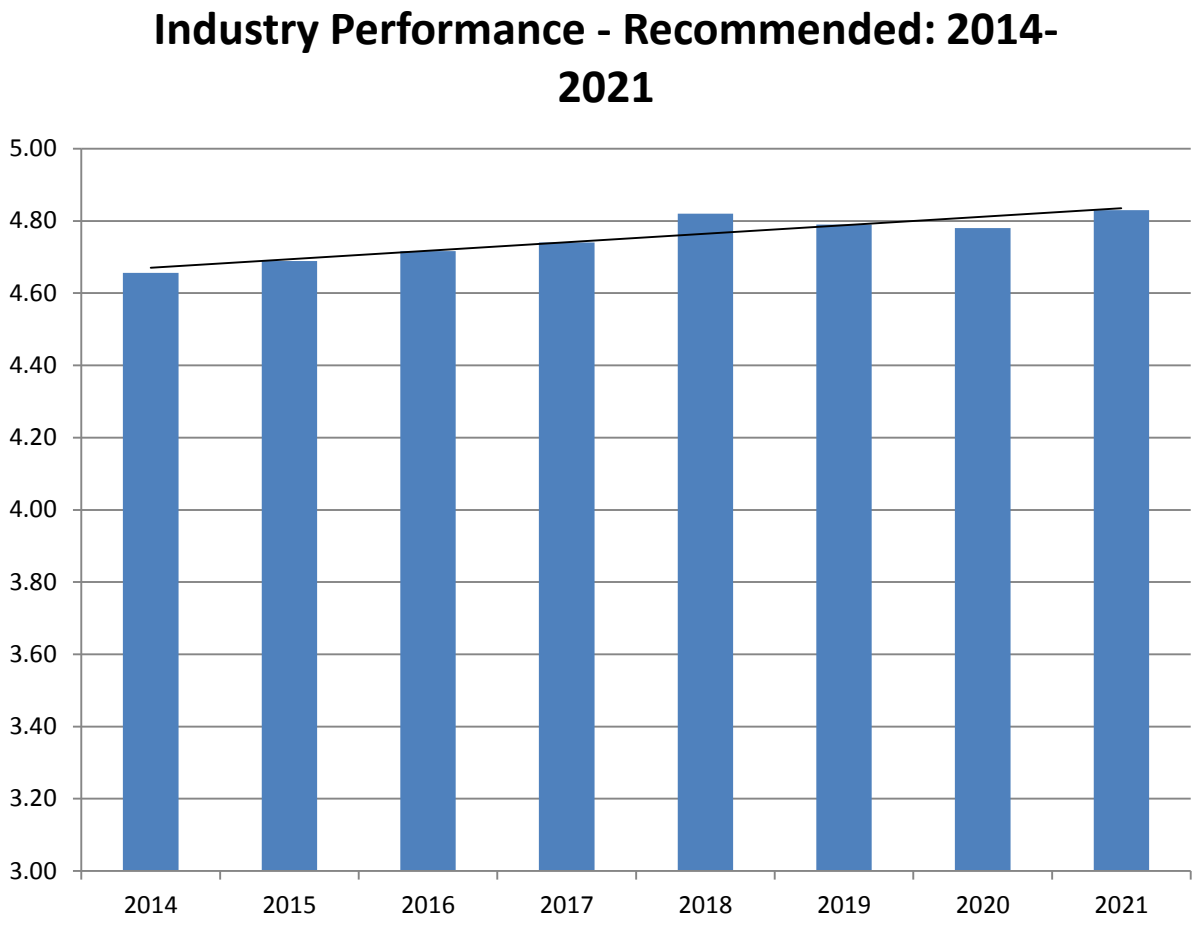


Figure 101 – Industry performance — recommended: 2014-2020

Performance Improvements

Another view of vendor performance is overall scores, which show a series of small steady gains during the years 2014-2018, which mostly flatten out in the last three years (fig. 102). In the long term, the number of respondents that say overall performance "improved" is remarkably consistent, between 40 and 45 percent. Even so, the last few years show the aforementioned flattening, and more "stayed the same" scores, with thankfully fewer "declined" scores. In the wake of the slowly abating COVID pandemic, a historically low 3 percent of respondents say overall industry performance declined in 2020 or 2021.

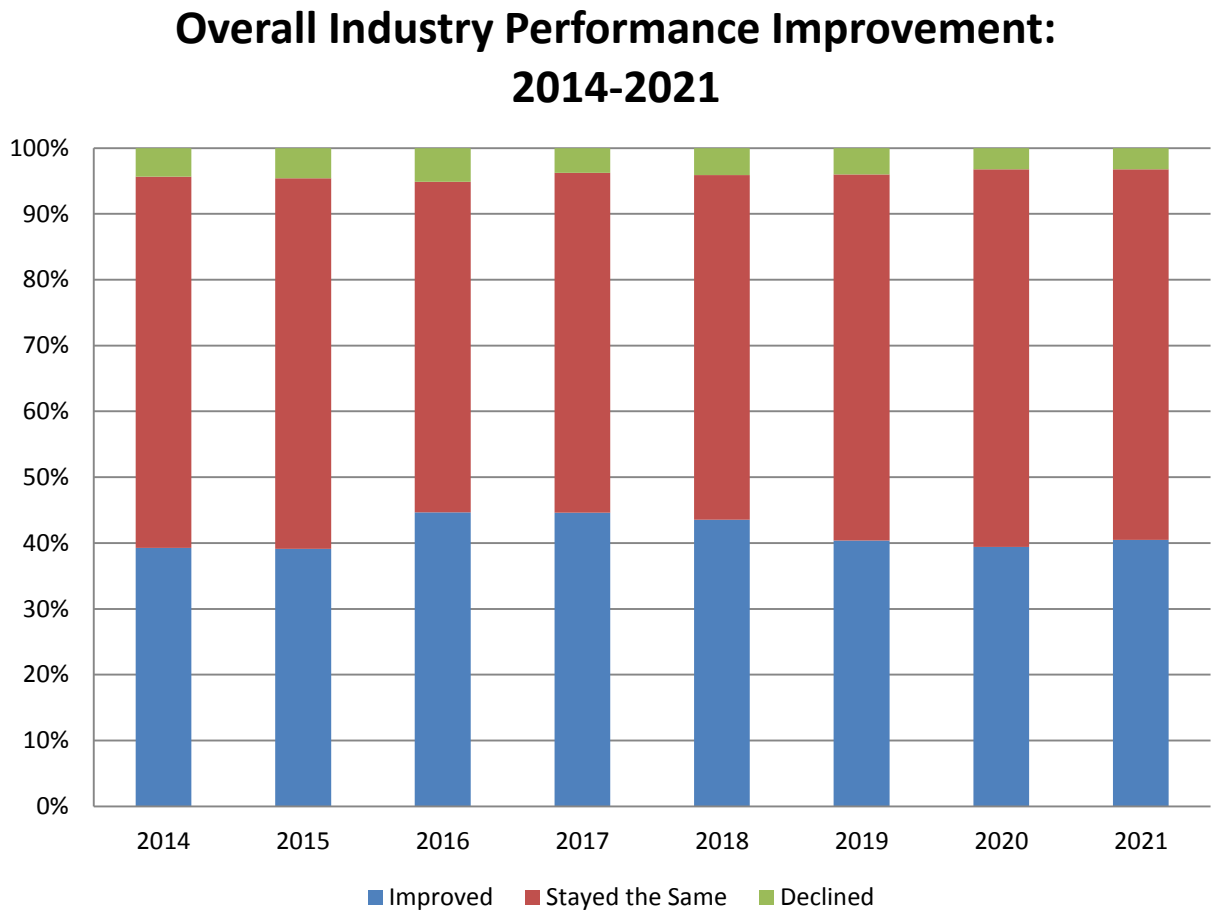


Figure 102 - Overall industry performance improvement: 2014-2021

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. 103). 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.

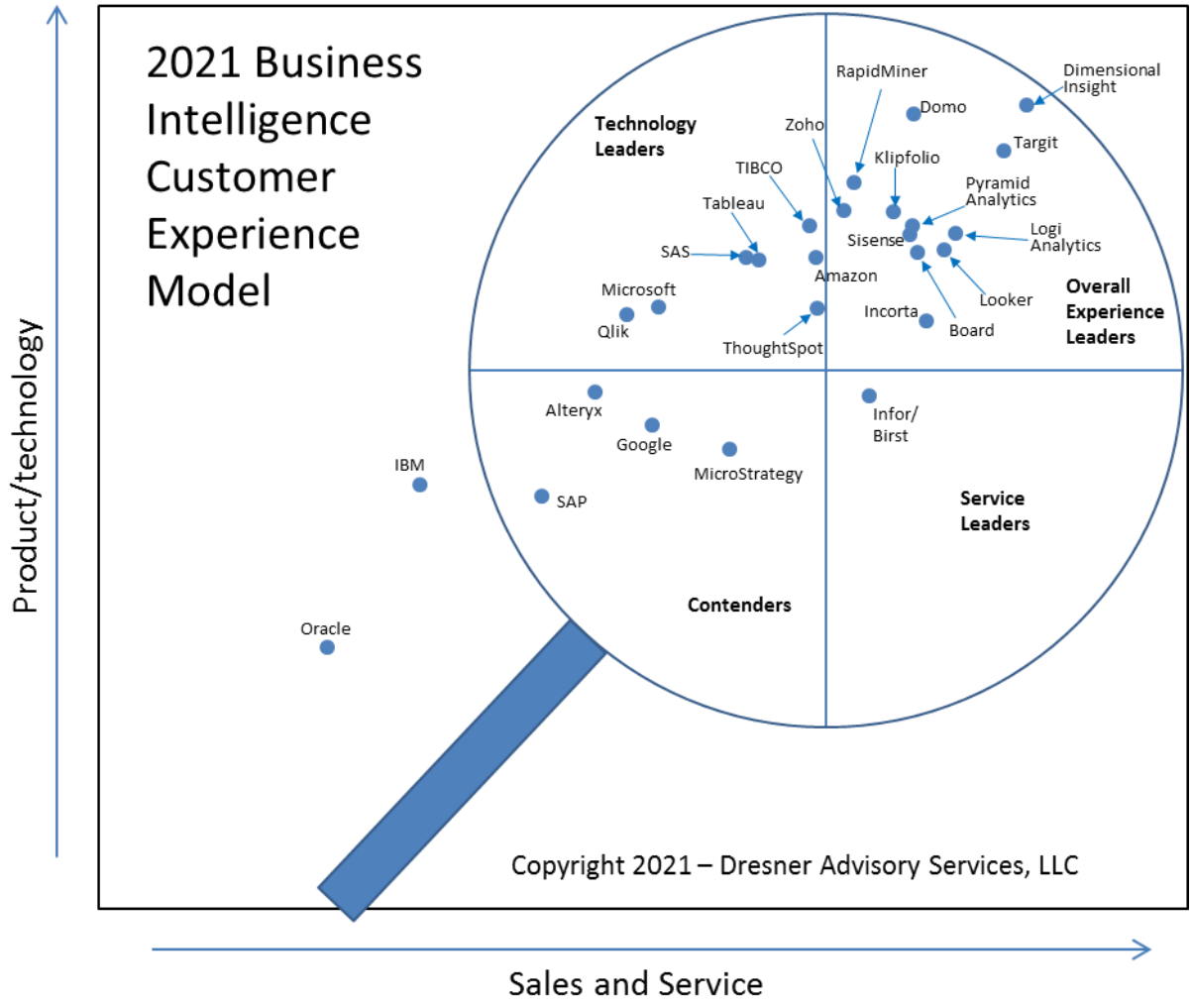


Figure 103 – Customer experience model

Vendor Credibility Model

The vendor credibility model considers how customers "feel" about their vendor (fig. 104). 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.

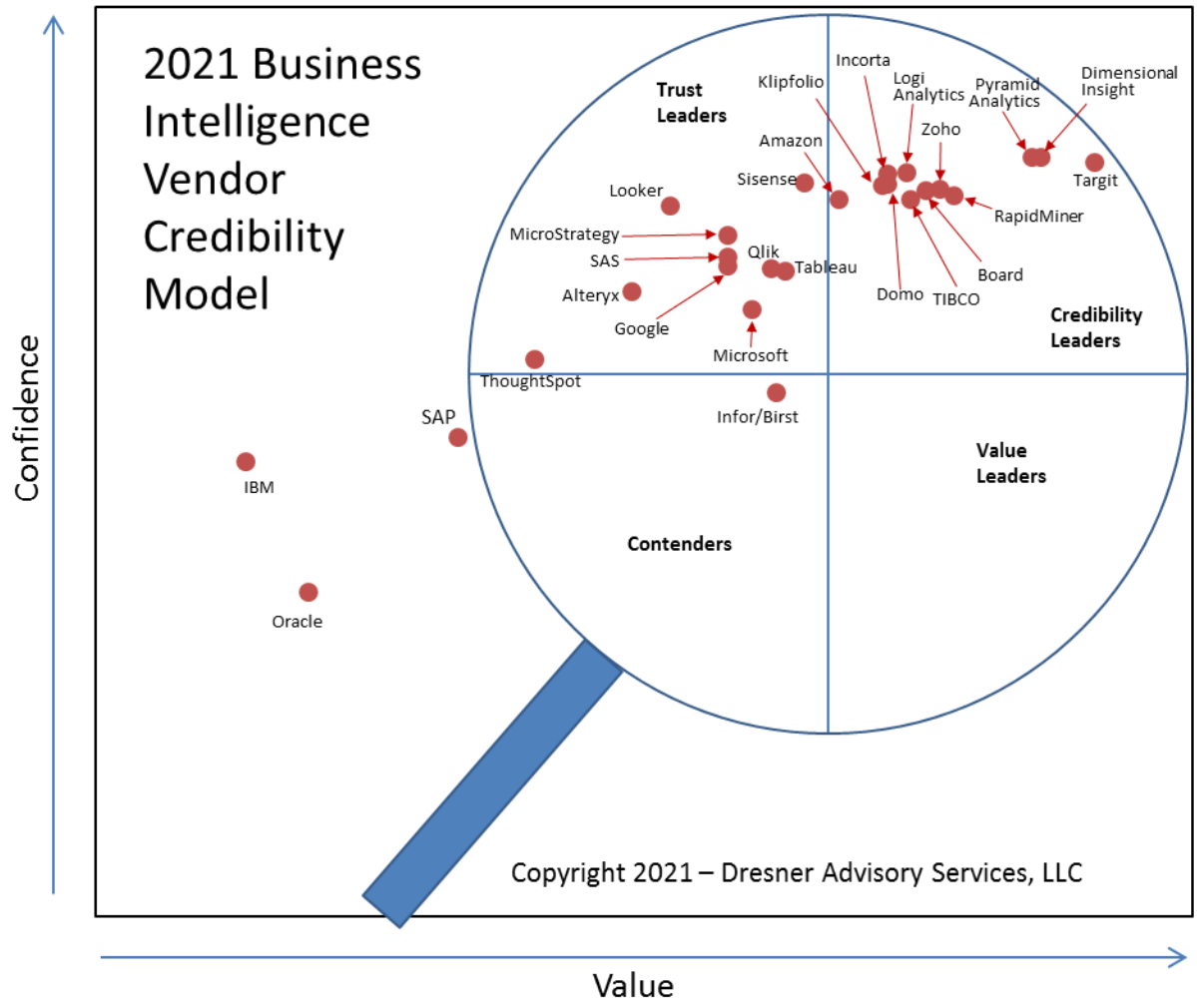


Figure 104 – Vendor credibility model

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)*

Alteryx Detailed Score

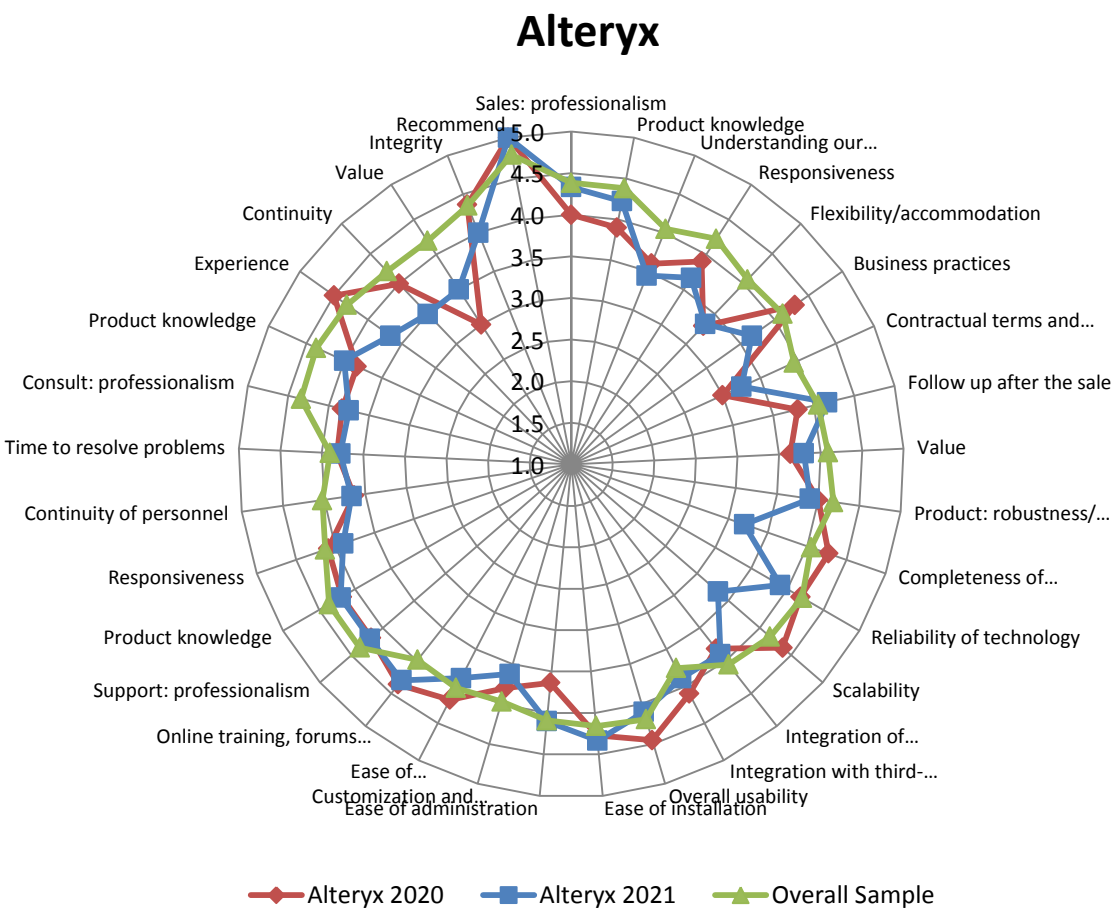


Figure 105 - Alteryx detailed score

For 2021, Alteryx has some improvements in Sales and Value but remains generally below the overall sample for most other measures. It is a Contender in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model and maintains a perfect recommend score.

Amazon Detailed Score

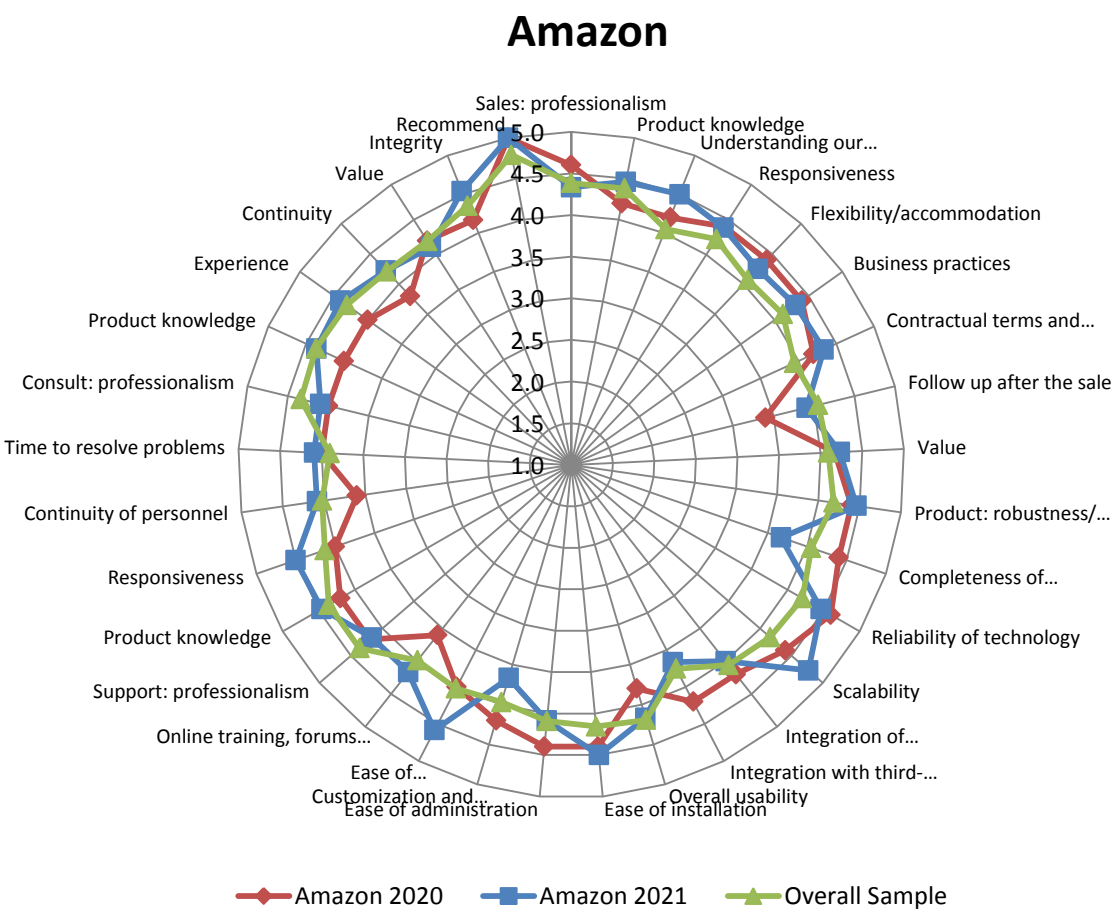


Figure 106 – Amazon detailed score

For 2021, Amazon has substantial improvements across most measures, especially for product, technical support, consulting, and integrity. It is generally above or in line with the overall sample and considered a Technology Leader in the Customer Experience and an Overall Leader in the Vendor Credibility model. It is considered best in class for reliability of technology and maintains a perfect recommend score.

Board Detailed Score

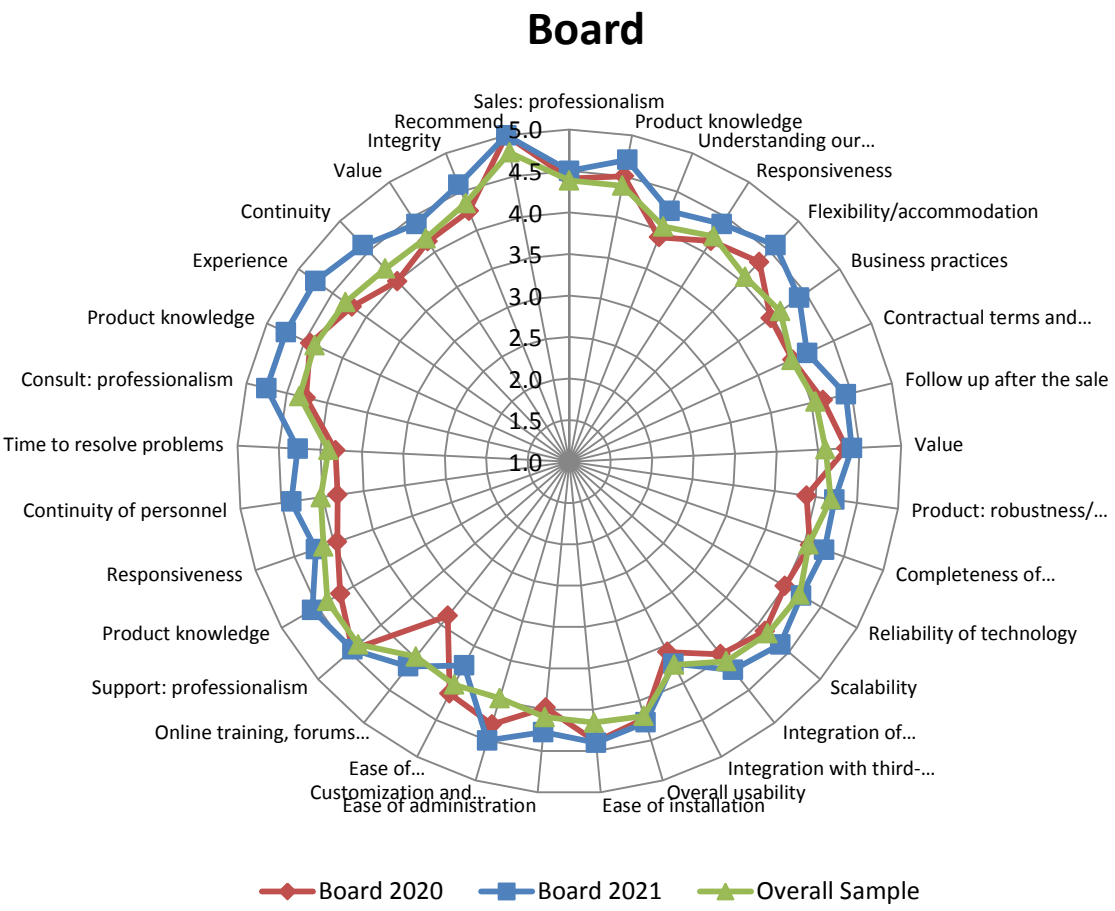


Figure 107 – Board detailed score

With scores generally above the overall sample, Board has key improvements across virtually all measures in 2021. It is considered an Overall Leader in both the Customer Experience and Vendor Credibility models. It maintains a perfect recommend score.

Dimensional Insight Detailed Score

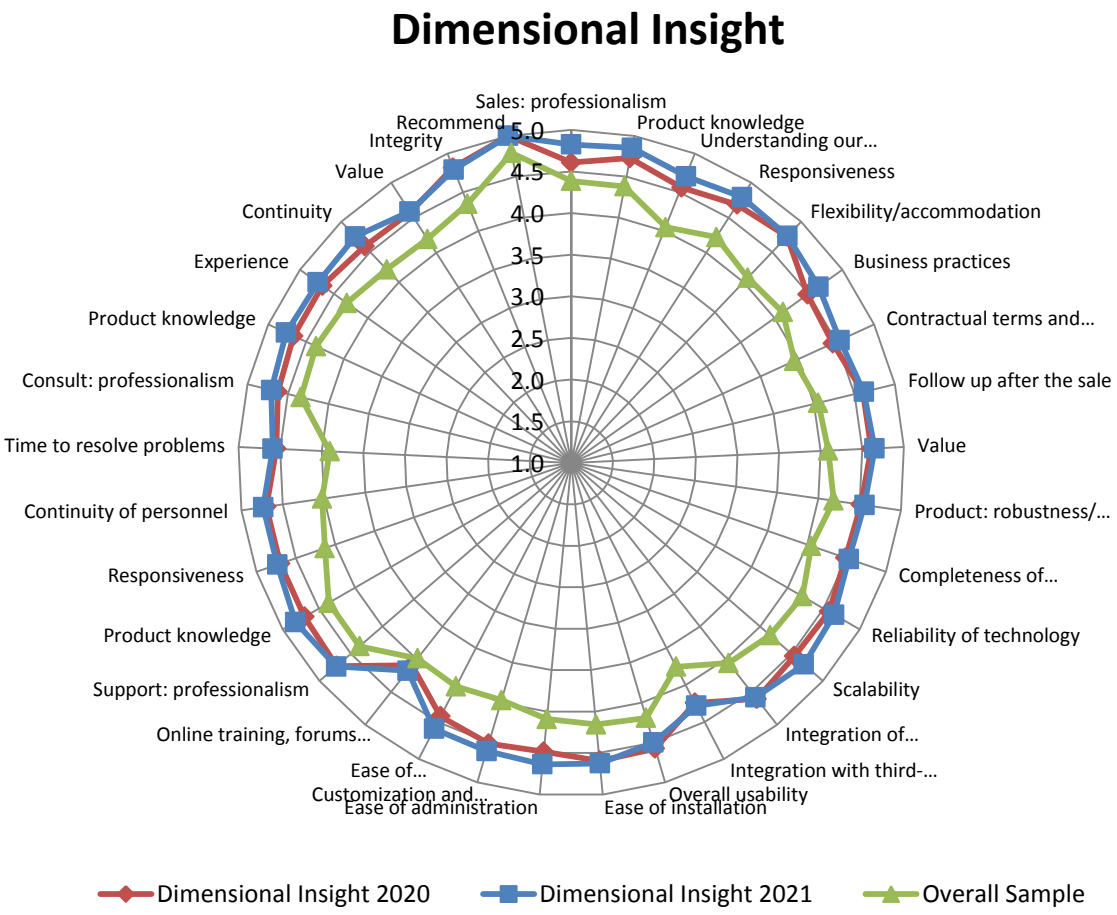


Figure 108 – Dimensional Insight detailed score

In 2021 Dimensional Insight's scores remain well above the overall sample and generally improved over 2020. It continues to be an overall leader in both Customer Experience and Vendor Credibility models. It is considered best in class for most sales measures, product completeness of functionality, reliability of technology, integration of components within its product, ease of administration, customization and extensibility, and support time to resolve problems. It maintains a perfect recommend score.

Domo Detailed Score

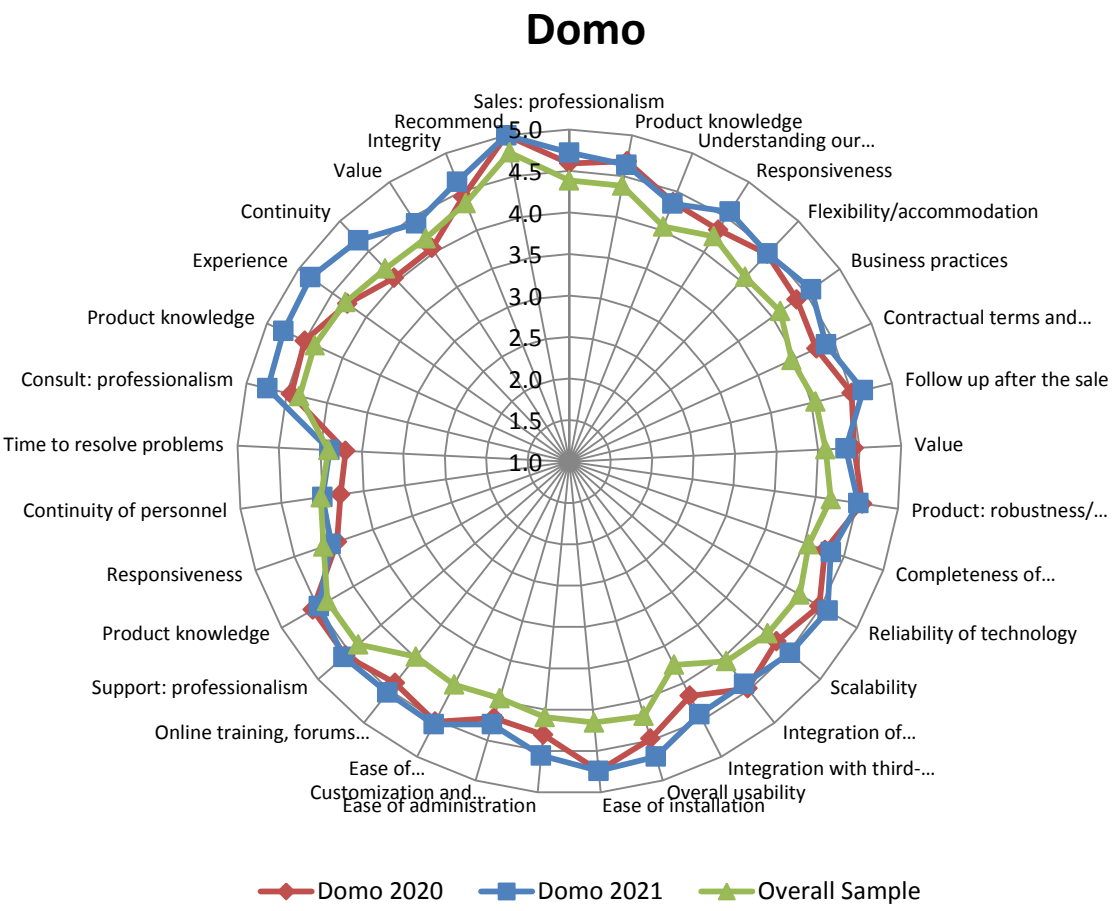


Figure 109 – Domo detailed score

With scores above the overall sample, Domo has improvements across virtually all categories of measurement including sales, product, technical support, consulting, and integrity. It is an overall leader in both the Customer Experience and Vendor Credibility models and is best in class for integration with third-party technologies and ease of installation. It maintains a perfect recommend score.

Google Detailed Score

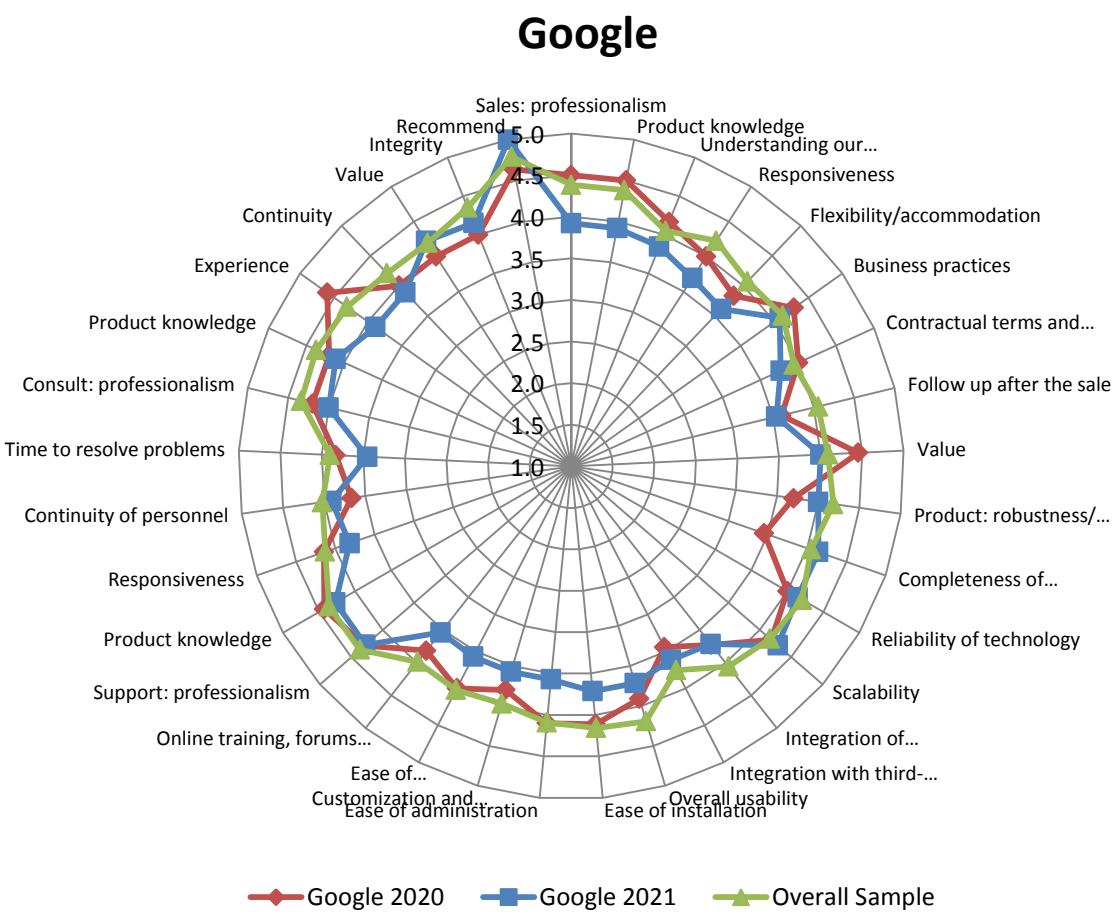


Figure 110 – Google detailed score

For 2021, Google is generally below the overall sample but has some key improvements in product, integrity, and recommend. It is considered a Contender in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. Also see the Looker rating. Google owns Looker.

IBM Detailed Score

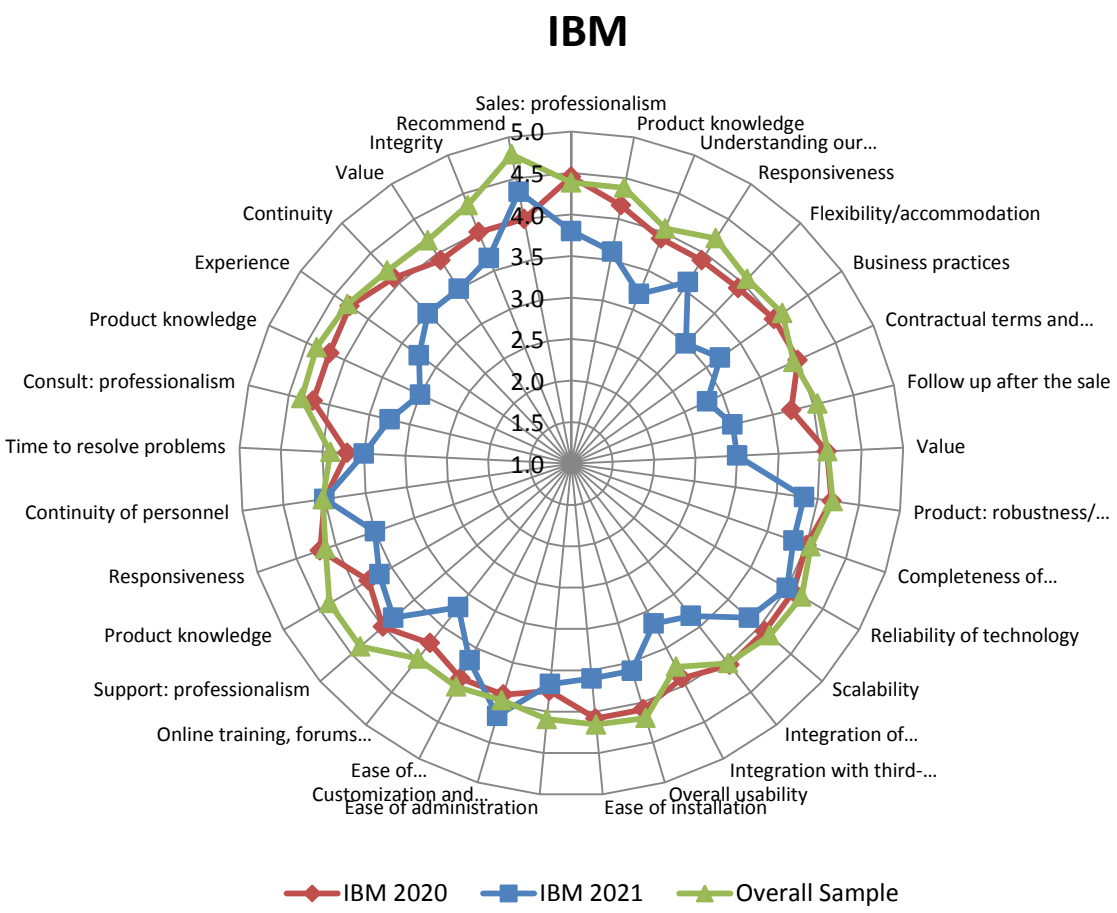


Figure 111 – IBM detailed score

In 2021, IBM has a decline across most categories of measurement. It is considered an outlier in both the Customer Experience and Vendor Credibility models.

Incorta Detailed Score

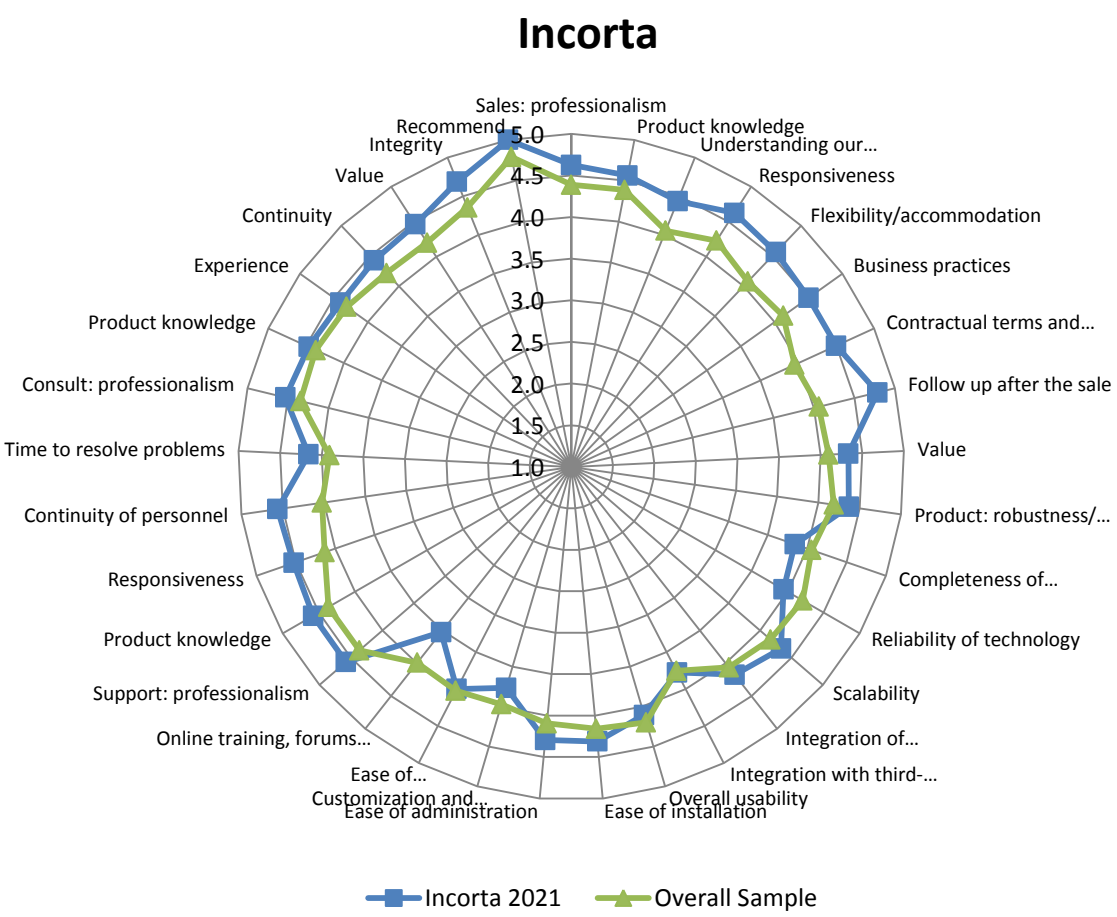


Figure 112 - Incorta detailed score

In its first year of inclusion in this report, Incorta scores generally above the overall sample and is best in class for follow up after the sale. It is considered an Overall Leader in both Customer Experience and Vendor Credibility models. It has a perfect recommend score.

Infor Detailed Score

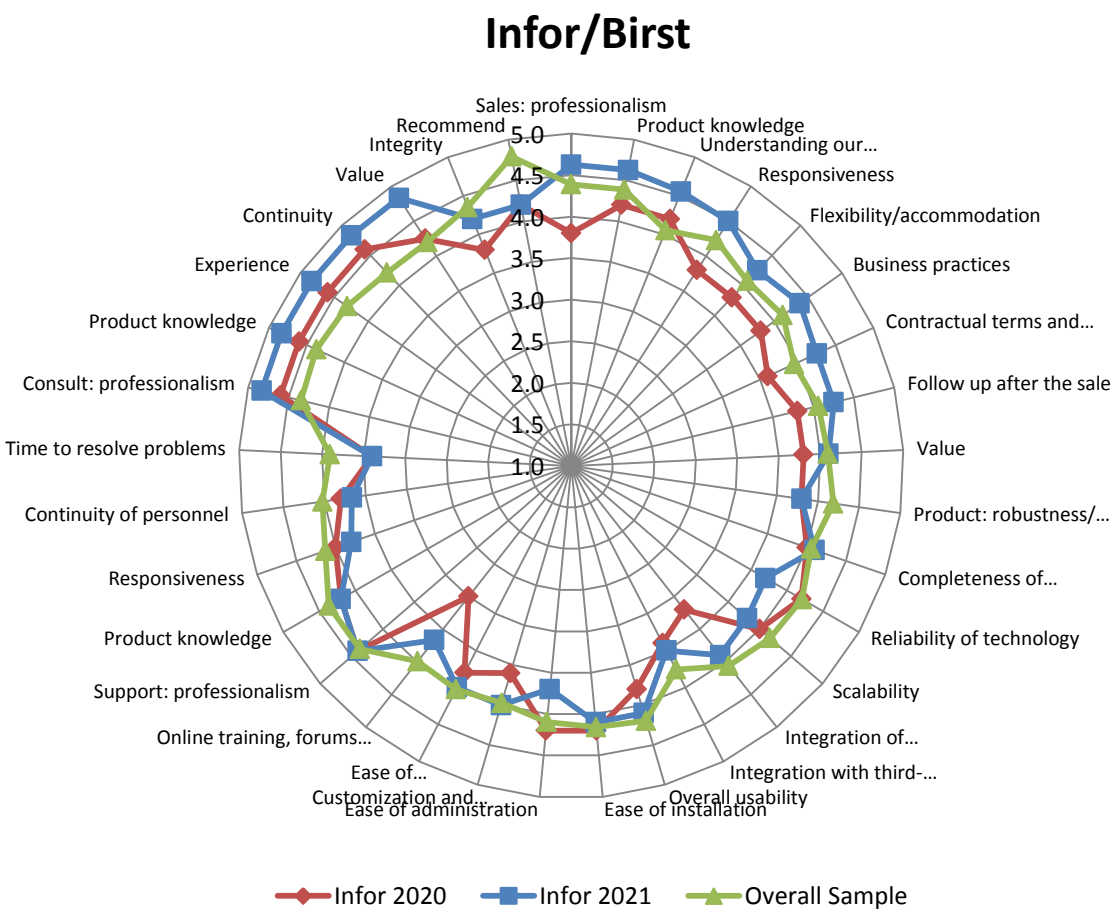


Figure 113 – Infor/Birst detailed score

In 2021, Infor/Birst's scores improved across all sales, consulting, value, integrity, and most product measures. It is considered a Service Leader in the Customer Experience Model and a Contender in the Vendor Credibility Model.

Klipfolio Detailed Score

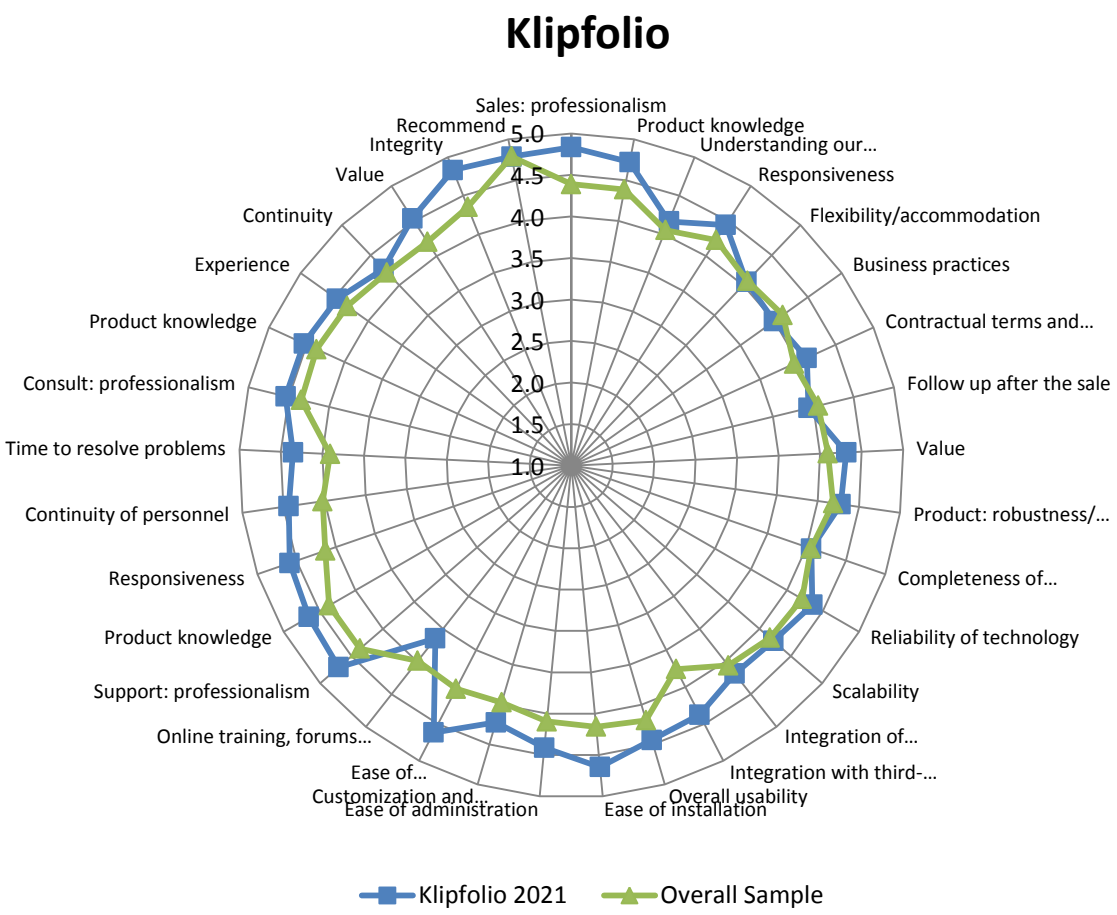


Figure 114 –Kilpfolio detailed score

In 2021, Klipfolio's scores are generally above the overall sample. It is best in class for sales professionalism and overall integrity and is considered an Overall Leader in both Customer Experience and Vendor Credibility models.

Logi Analytics Detailed Score

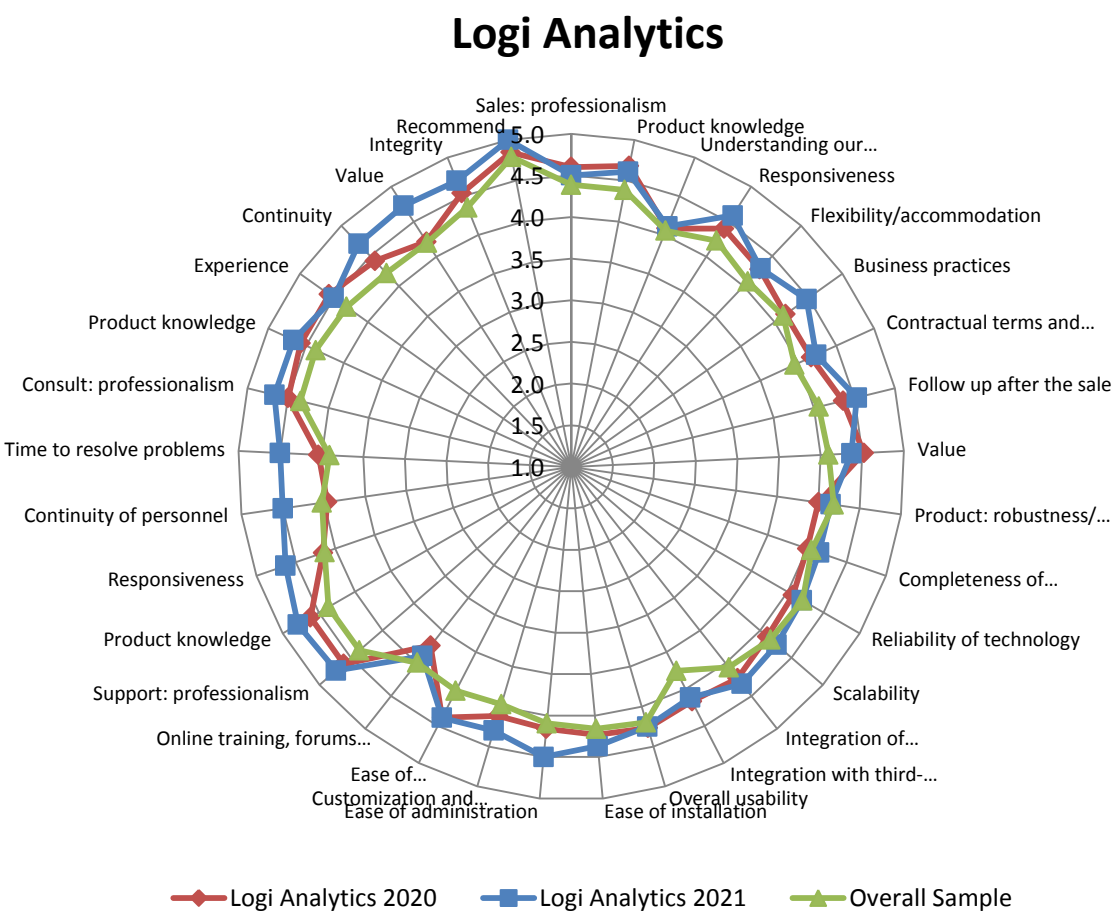


Figure 115 – Logi Analytics detailed score

With scores generally above the overall sample, Logi Analytics is an Overall Leader in both Customer Experience and Vendor Credibility models. For 2021, it has continued improvements across most categories of measurement including sales, technical support, consulting, and product. It has a perfect recommend score.

Looker Detailed Score

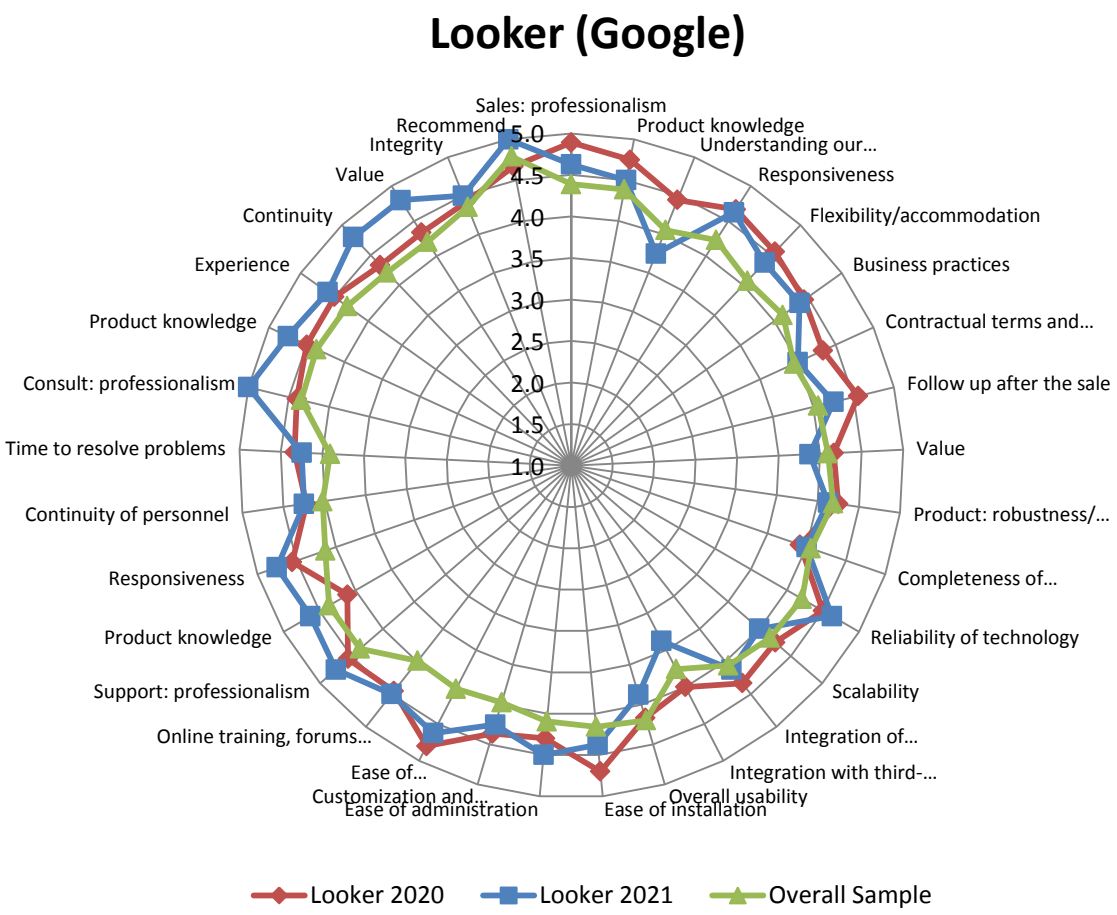


Figure 116 – Looker detailed score

In 2021 Looker (now owned by Google) has improvements in both technical support and consulting categories of measurement and is considered an Overall Leader in Customer Experience Model and a Trust Leader in the Vendor Credibility model. It is considered best in class for ease of upgrade/migration to new versions, technical support responsiveness, and consulting professionalism. It has a perfect recommend score.

Microsoft Detailed Score

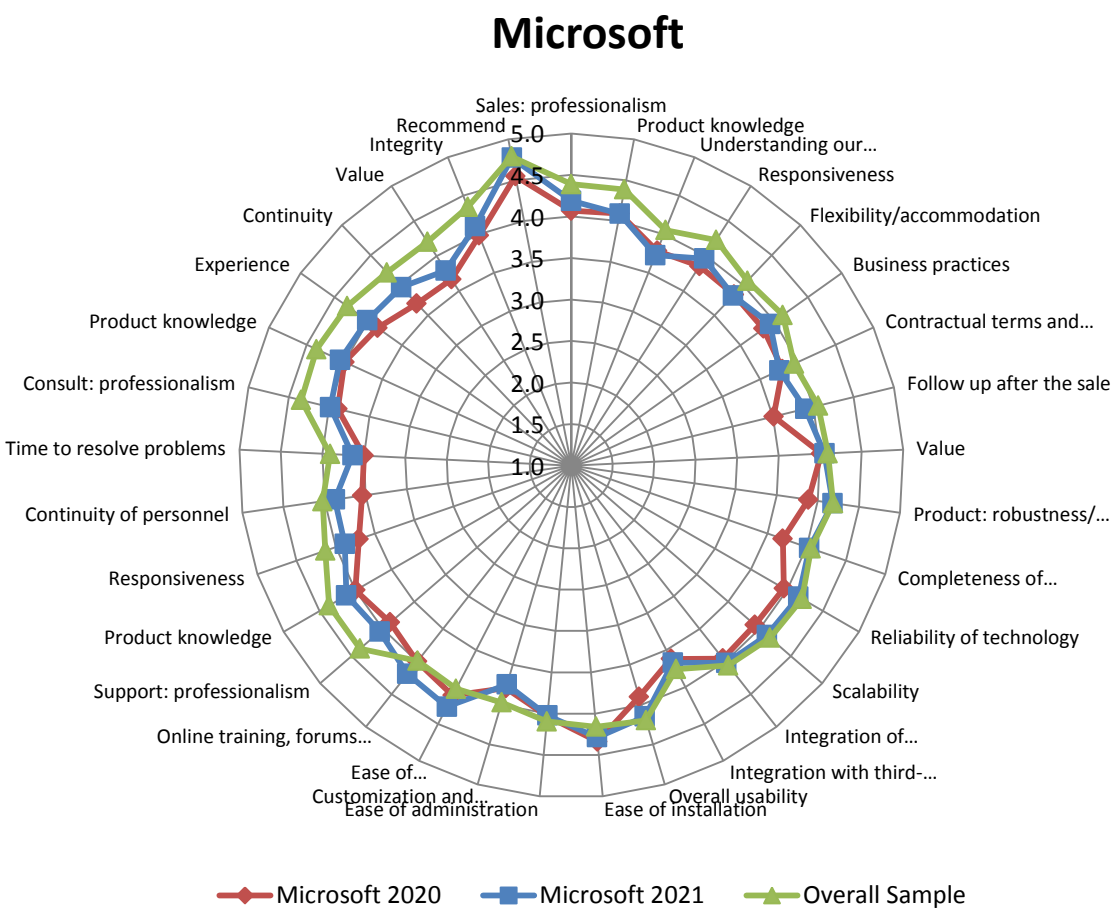


Figure 117 – Microsoft detailed score

In 2021, Microsoft has continued performance improvements across a number of categories of measurement including value, product, technical support, consulting, integrity, and recommend. It is considered a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model.

MicroStrategy Detailed Score

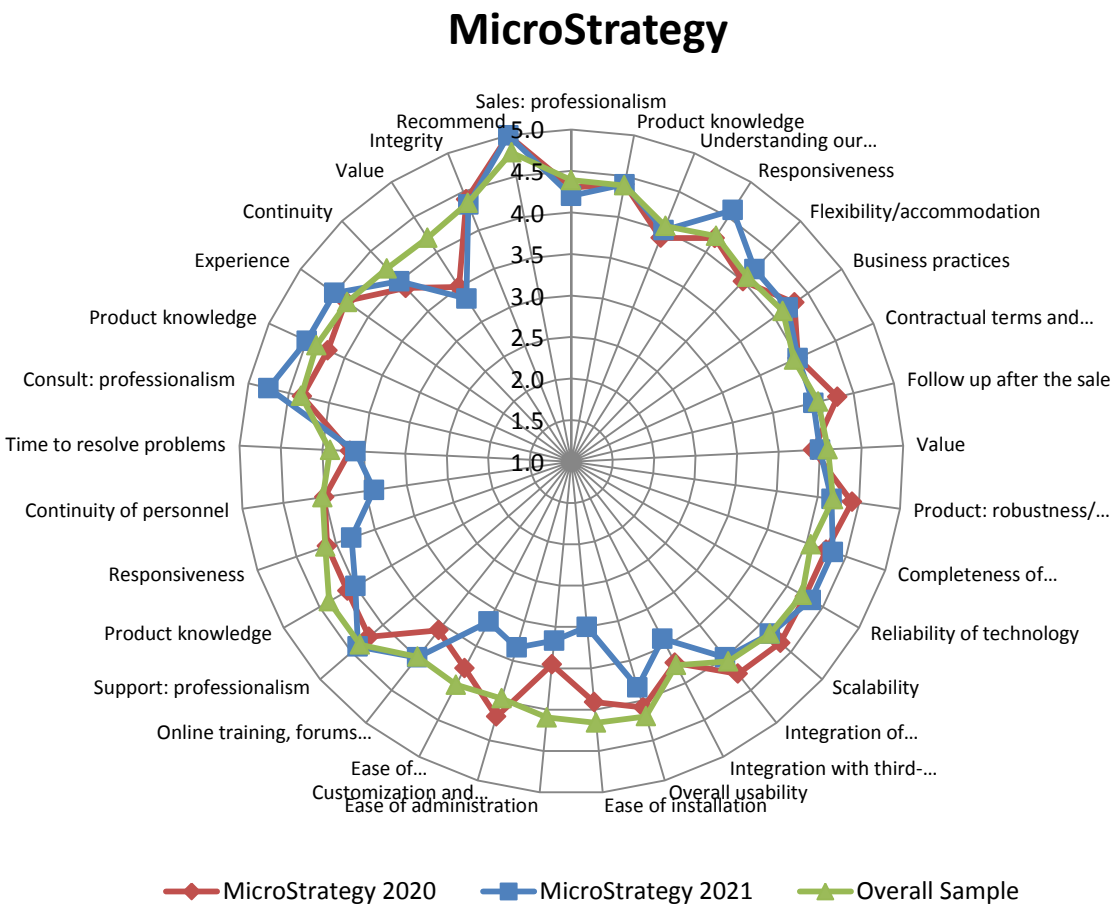


Figure 118 – MicroStrategy detailed score

In 2021, MicroStrategy continues its decline in performance across most measures and overall score. Its scores are generally in line with or below the overall sample. It is considered a Contender in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. It has a perfect recommend score.

Oracle Detailed Score

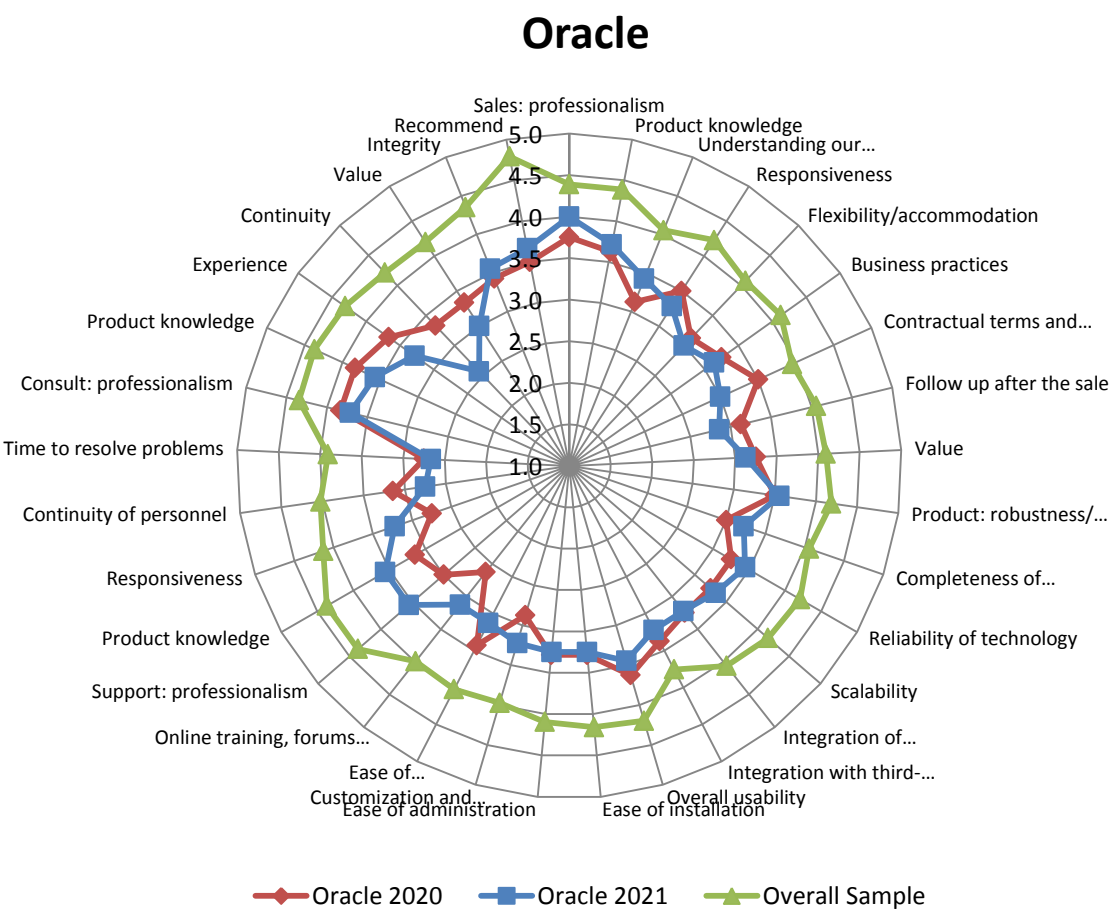


Figure 119 – Oracle detailed score

Oracle's scores remain well below the overall sample with its 2021 performance a mix of declines and limited improvements including for some sales, product, technical support, and sales measures. It remains an outlier in both Customer Experience and Vendor Credibility models.

Pyramid Analytics Detailed Score

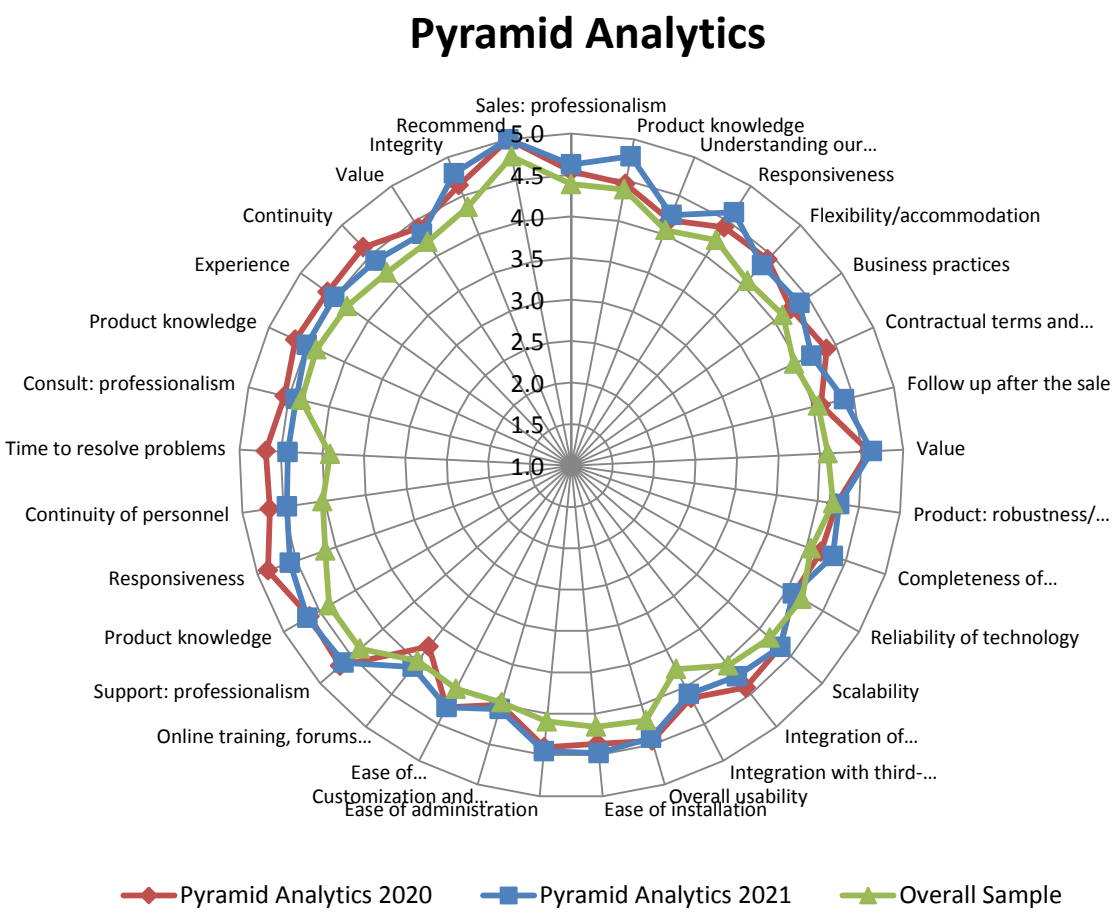


Figure 120 – Pyramid Analytics detailed score

With scores consistently above the overall sample, Pyramid Analytics is an overall leader in both Customer Experience and Vendor Credibility models. In 2021, it has performance increases in key categories of measurement including sales, value, integrity, and a majority of product measures. It maintains a perfect recommend score.

Qlik Detailed Score

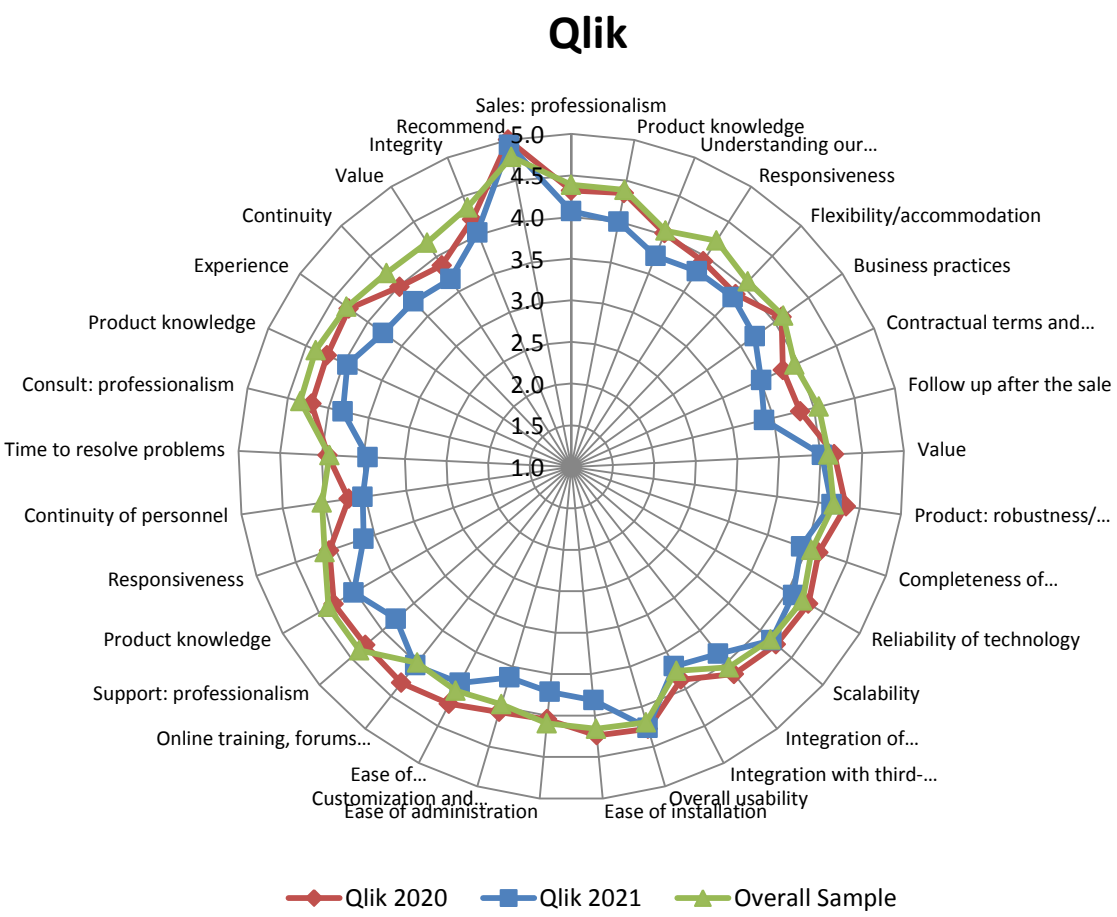


Figure 121 – Qlik detailed score

In 2021, Qlik's scores decline somewhat across all categories of measurement including sales, value, product, technical support, and consulting. It is considered a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model.

RapidMiner Detailed Score

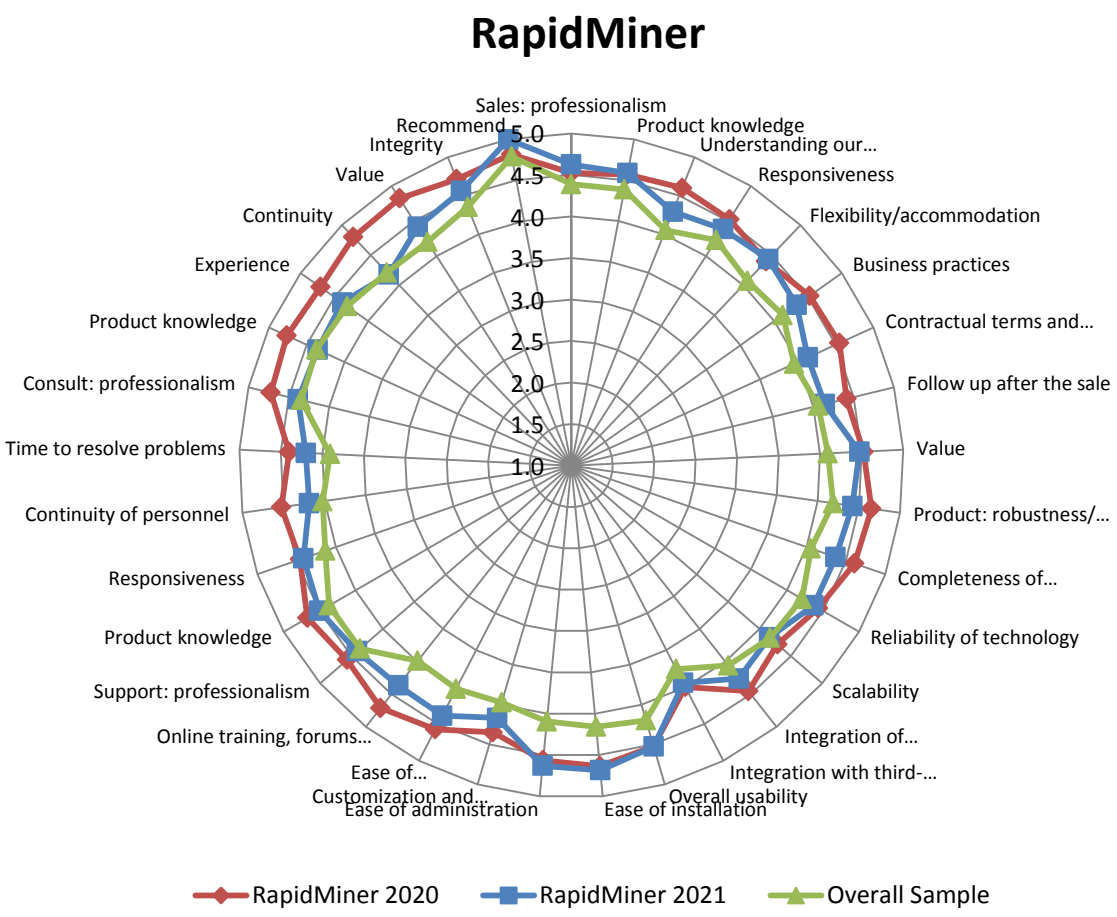


Figure 122 – RapidMiner detailed score

For 2021, RapidMiner's scores remain generally above the overall sample; but, with the exception of several product measures, most declined versus 2020. It is considered an overall leader in both Customer Experience and Vendor Credibility models and has a perfect recommend score.

SAP Detailed Score

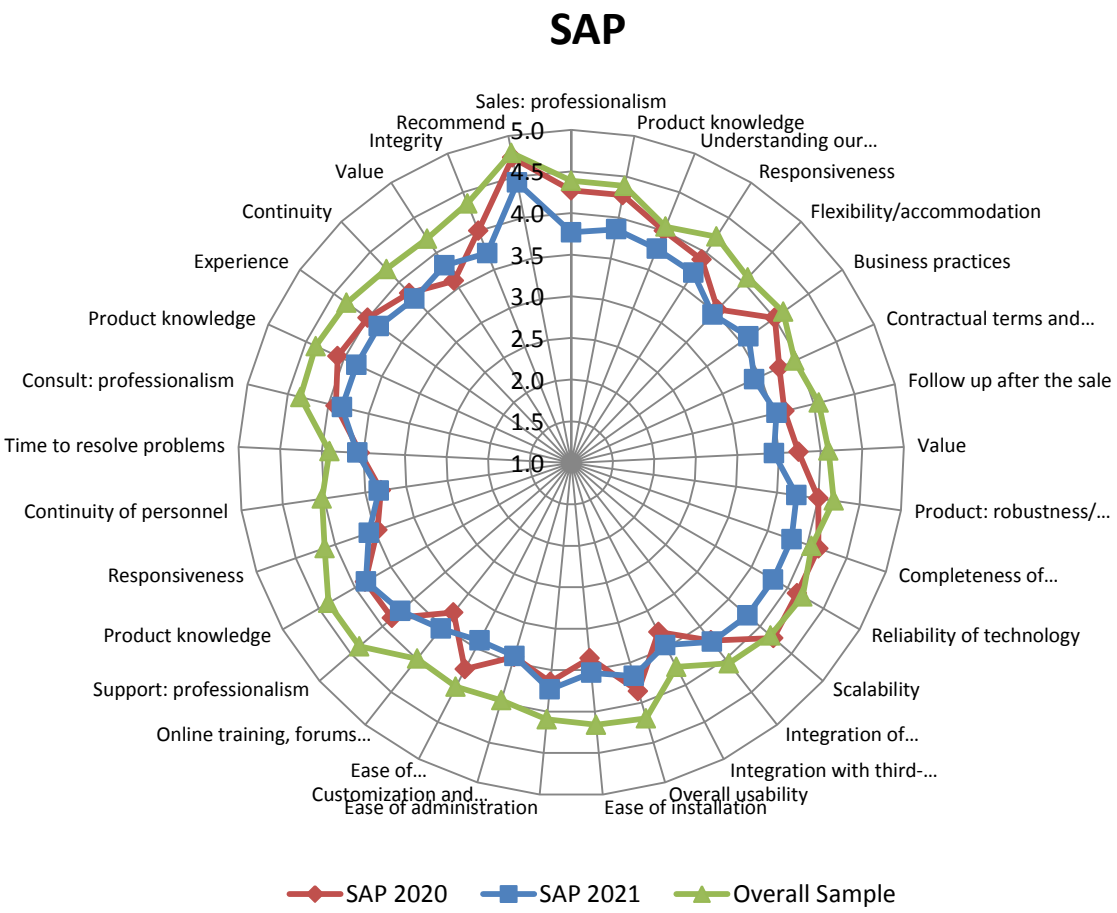


Figure 123 – SAP detailed score

For 2021, SAP continues its decline in most categories of measurement including sales, value, product /technology, and technical support. However, several product and technical support measures increased compared to last year. It is considered a Contender in the Customer Experience Model and an outlier in the Vendor Credibility Model.

SAS Detailed Score

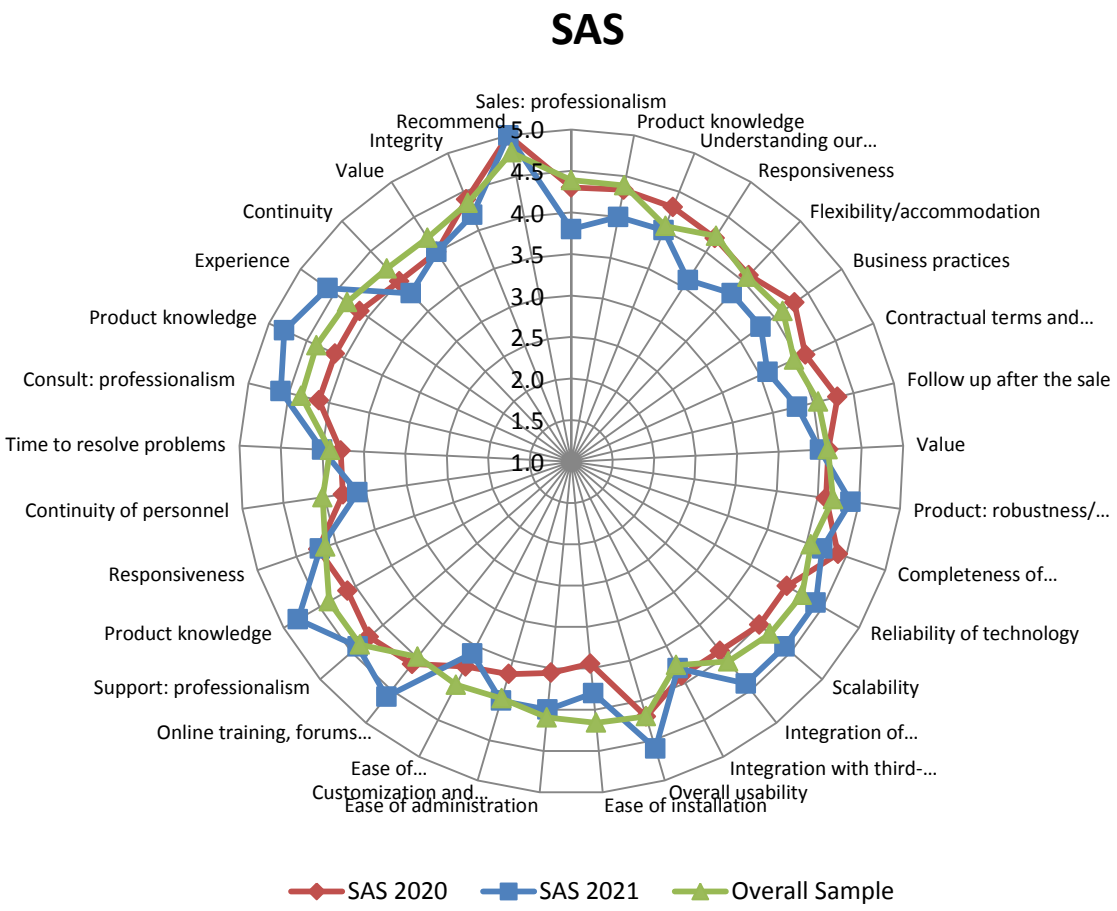


Figure 124 – SAS detailed score

In 2021, SAS sees a mix of improvements (e.g., product, consulting) and declines (e.g., sales, value, integrity). It is considered a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model and has a perfect recommend score.

Sisense Detailed Score

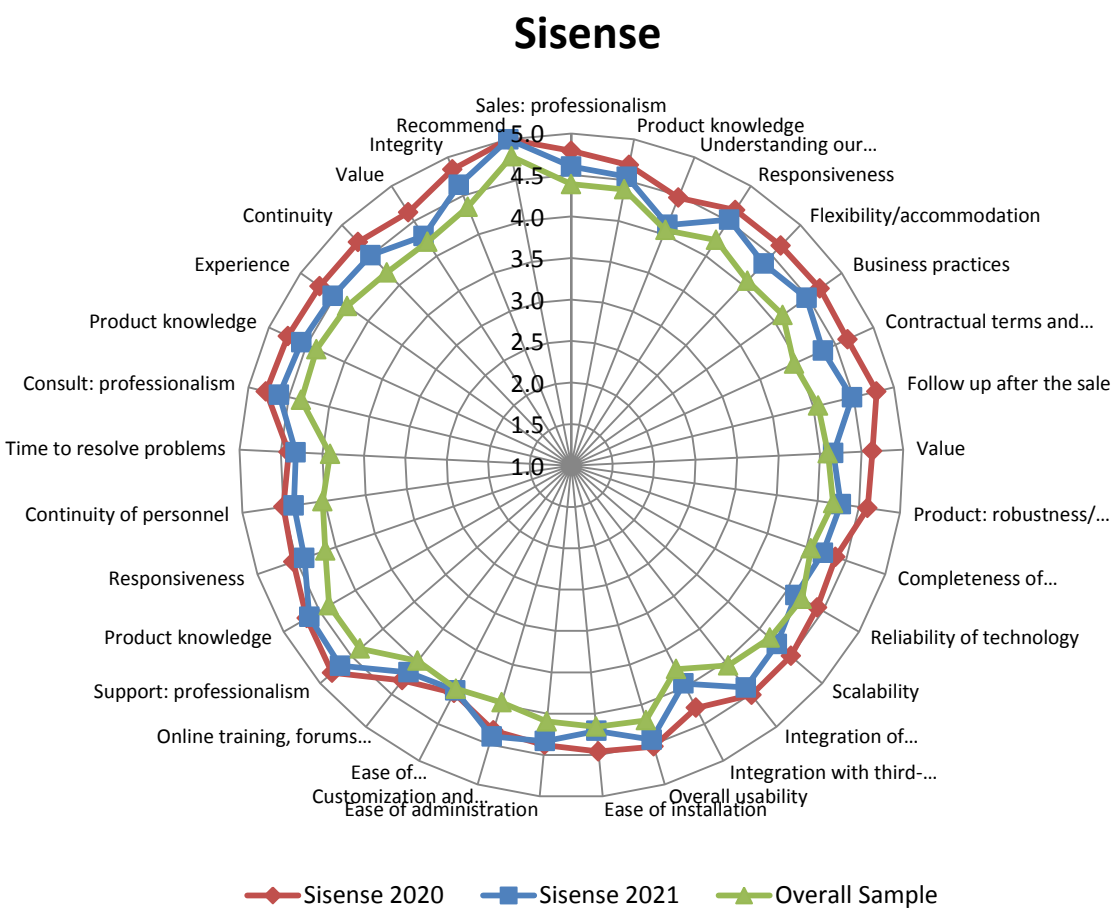


Figure 125 – Sisense detailed score

In 2021 Sisense scores are generally above the overall sample, and it remains an overall leader in both Customer Experience and Vendor Credibility models. It maintains a perfect recommend score.

Tableau Detailed Score

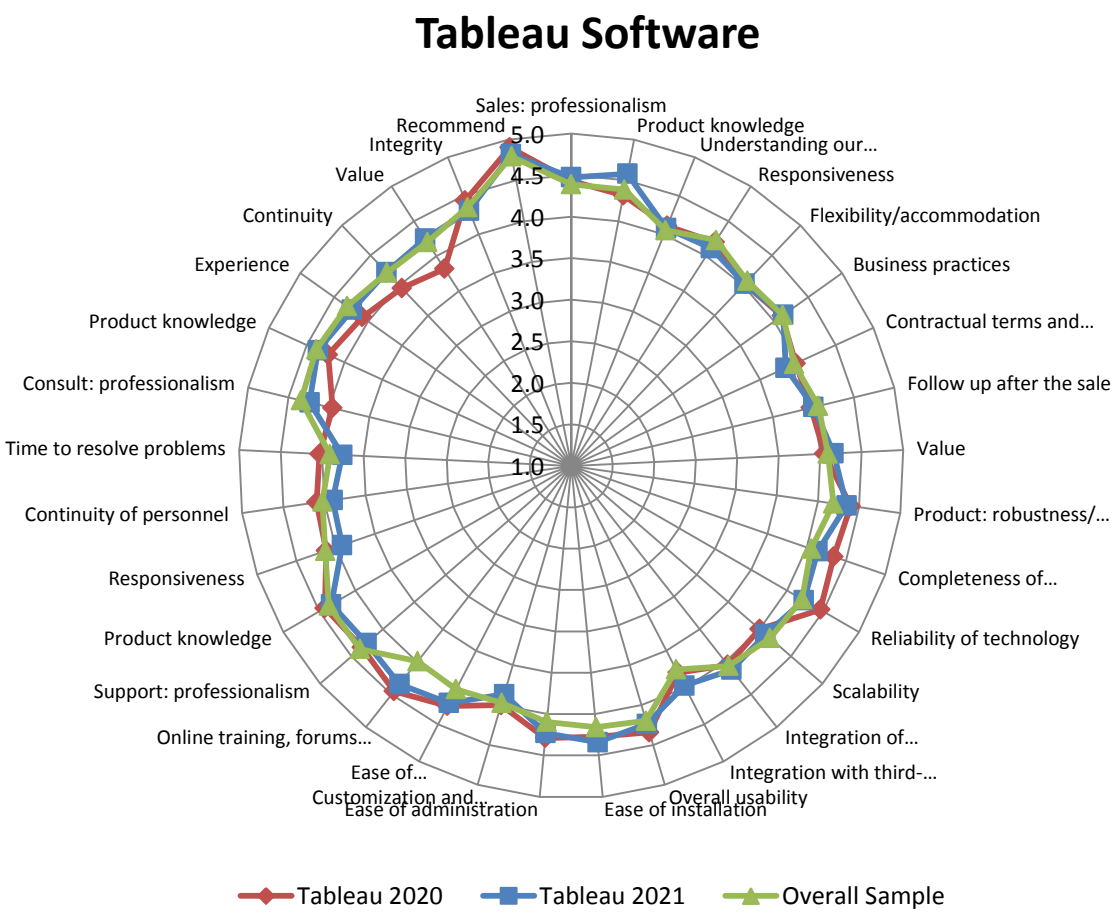


Figure 126 – Tableau detailed score

With scores generally in line with or above the overall sample, Tableau is a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. In 2021, it has improvements in several categories of measurement including sales, overall value, technical support, integrity, and recommend.

Targit Detailed Score

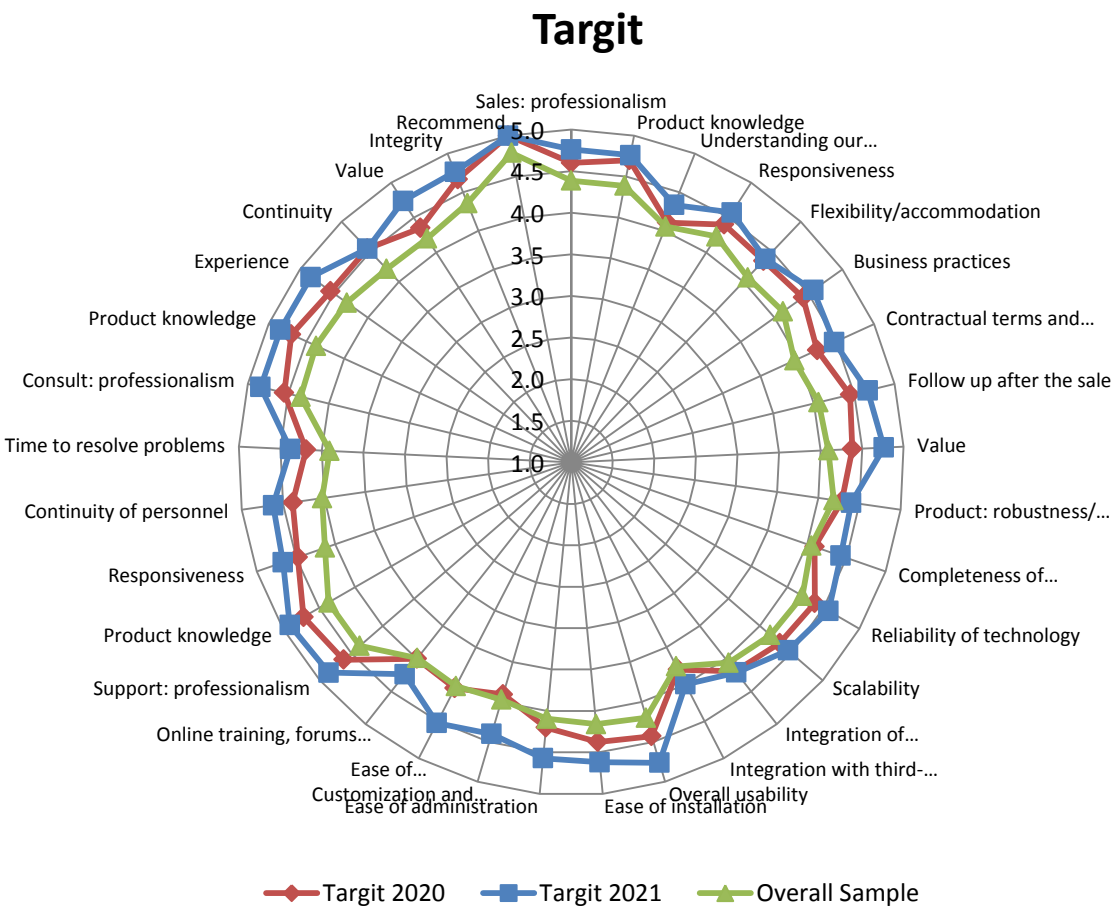


Figure 127 - Targit detailed score

In 2021, Targit improves across all measures and is well above the overall sample. It is considered an Overall Leader in both Customer Experience and Vendor Credibility models. It is considered best in class for overall value, overall product usability, technical support professionalism and product knowledge, and consulting product knowledge and experience. It maintains a perfect recommend score.

ThoughtSpot Detailed Score

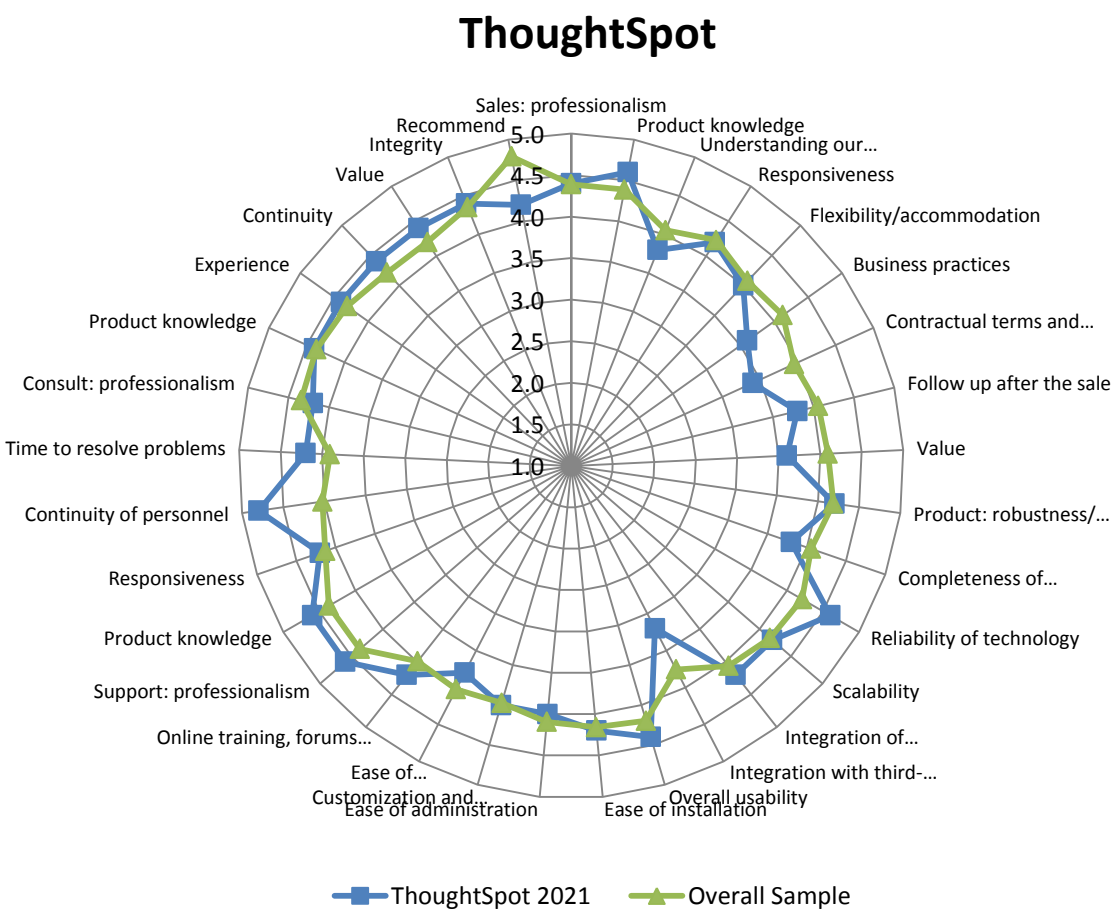


Figure 128 - ThoughtSpot detailed score

In its first year of inclusion, ThoughtSpot is generally in line with the overall sample, with the exception of several sales measures, value, and third-party integration. It is considered a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model and is considered best in class for consulting continuity of personnel.

TIBCO Software Detailed Score

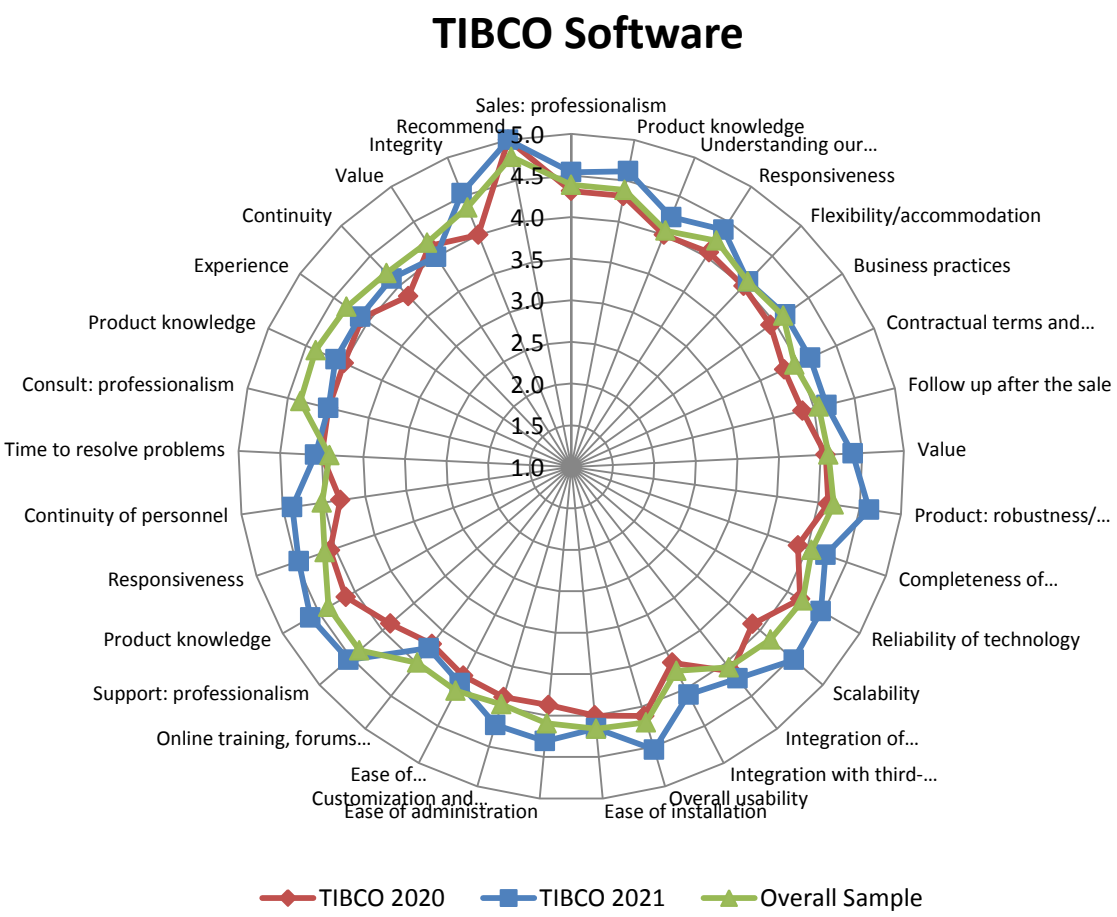


Figure 129 – TIBCO Software detailed score

In 2020, TIBCO Software acquired Information Builders, and its scores in 2021 reflect those of the combined companies. For 2021, scores improve across virtually all measures in all categories. It is generally above the overall sample and is considered a Technology Leader in the Customer Experience Model and an Overall Leader in the Vendor Credibility Model. It is considered best in class for robustness/sophistication of technology and has a perfect recommend score.

Zoho Detailed Score

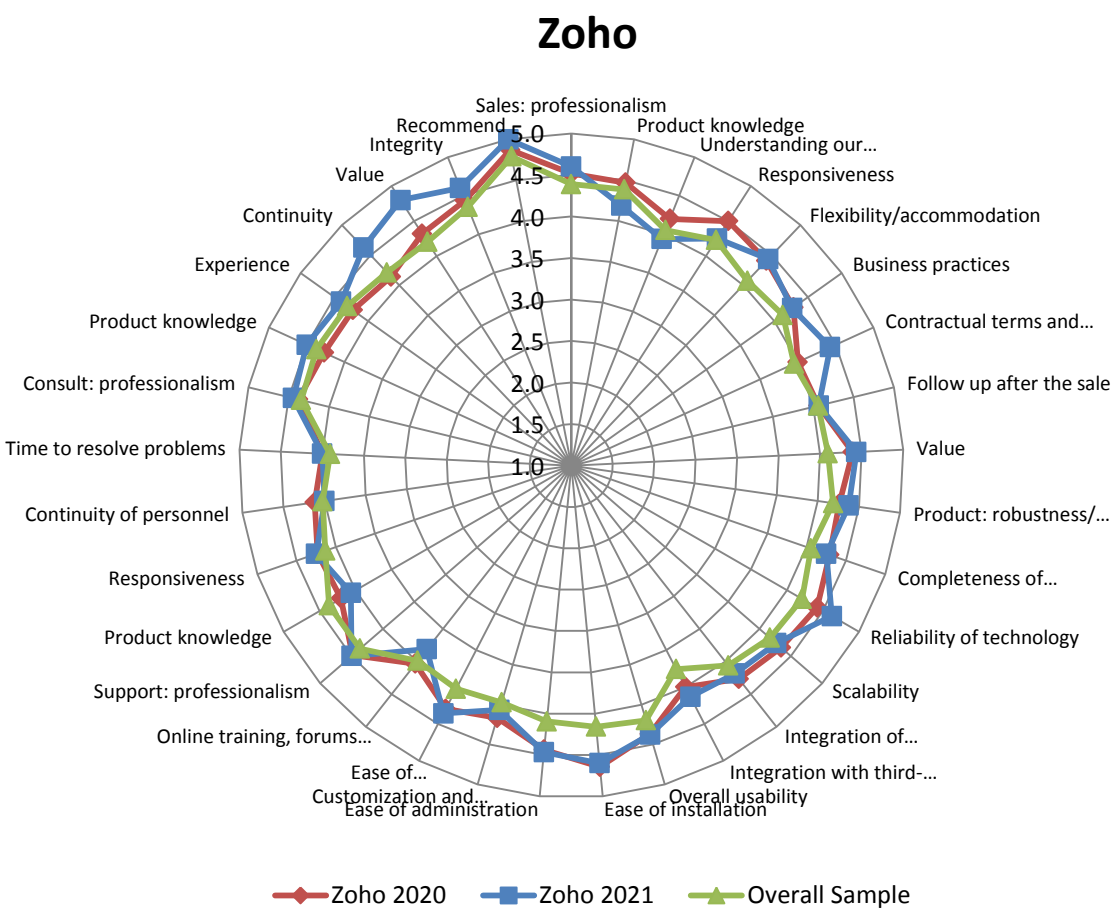


Figure 130 – Zoho detailed score

For 2021, Zoho is generally above the overall sample and has improvements for a majority of measures in multiple categories. It is considered 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
- BI Competency Center
- Big Data Analytics
- Cloud Computing and Business Intelligence
- Data Catalog
- Data Pipelines and Integration
- Data Preparation
- Data Science and Machine Learning
- Embedded Business Intelligence
- Enterprise Performance Management
- Guided Analytics
- Natural Language Analytics
- Sales Performance Management
- Small and Mid-Sized Enterprise Business Intelligence
- Small and Mid-Sized Enterprise Performance Management

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?

NB: Depending on your role, you may be asked additional questions related to that role.*

( ) 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

Please specify the function that you report to:

_____

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

( ) All the time

( ) Most of the time

( ) Some of the time

( ) Infrequently

( ) Never

Does your organization have 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**	**Don't have one**
Chief Data Officer (CDO)	( )	( )	( )	( )	( )
Chief Analytics Officer (CAO)	( )	( )	( )	( )	( )

Do you anticipate having a CDO or CAO in the future?

	No Plans	This Year	Next Year	Distant Future
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

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

( ) Extremely Effective

( ) Somewhat Effective

( ) Somewhat Ineffective

( ) Completely Ineffective

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?

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

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

[ ] Business objectives or needs were not understood or met

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

[ ] 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 technology / tool education

[ ] Poor self-service capabilities

[ ] Poor solution / tool ease of use

[ ] 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.

	10%	15%	20%	25%	30%	35%	40%	Over 40%
Internal Headcount	( )	( )	( )	( )	( )	( )	( )	( )
External Consulting Services	( )	( )	( )	( )	( )	( )	( )	( )
Software Purchases	( )	( )	( )	( )	( )	( )	( )	( )
Software Maintenance	( )	( )	( )	( )	( )	( )	( )	( )
Software Subscriptions	( )	( )	( )	( )	( )	( )	( )	( )

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

Please react to the statements below using "completely agree" to "disagree"

	Completely Agree	**Somewhat Agree**	**Somewhat Disagree**	**Disagree**
Alignment with Mission: My organization's mission is clearly defined, actionable, embraced by all levels of the organization, and is supported, informed, and reinforced by metrics.	( )	( )	( )	( )

Transparency & Accountability: General transparency & accountability are accepted as cultural tenets, with full alignment with regulations (e.g. GDPR) and public transparency and accountability beyond minimum legal requirements.	( )	( )	( )	( )
Insight Creation and Execution: Relevant insights are created reliably and consistently across the enterprise with closed loop processes ensuring timely, concerted action.	( )	( )	( )	( )
Relationships, Agreements, Politics, Conflict Resolution: There are established and effective mechanisms for resolving conflicts and identifying potential conflicts ahead of	( )	( )	( )	( )

time.				
Data Literacy: There is widespread semantic understanding across the organization with data literacy measured and managed for improvement.	( )	( )	( )	( )
Common Trust in Data/ Governance: Data is treated as truth with common application of data, filters, rules and semantics.	( )	( )	( )	( )
Completeness and Diversity of Information: All relevant sources of information are included in analyses across the organization as a matter of course - data, text, images - internal and external, with cross-linking of all data sources streamlined.	( )	( )	( )	( )
Process Automation,	( )	( )	( )	( )

Embedding: Insight automation and embedding is pervasive - enabling no distraction from core functional activity.				
Value, Entrepreneurship, and Monetization: The value of data and analytics programs is comprehensively understood and reported, with monetization inline with company policy, legal requirements, fully transparent and reported to CFO in annual reports as a strategic part of the business.	( )	( )	( )	( )

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					
Advanced Visualization	( )	( )	( )	( )	( )
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 Integration	( )	( )	( )	( )	( )
Data Preparation	( )	( )	( )	( )	( )

and Blending					
Data Storytelling	( )	( )	( )	( )	( )
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	( )	( )	( )	( )	( )
HCM / People Analytics	( )	( )	( )	( )	( )
In-Memory Analysis	( )	( )	( )	( )	( )
Integration	( )	( )	( )	( )	( )

with Operational Processes					
Internet of Things (IoT)	( )	( )	( )	( )	( )
IT Analytics	( )	( )	( )	( )	( )
Location Intelligence / Analytics	( )	( )	( )	( )	( )
Machine Learning, Data Mining, Advanced Algorithms, Predictive	( )	( )	( )	( )	( )
Marketing Analytics	( )	( )	( )	( )	( )
Mobile Device Support	( )	( )	( )	( )	( )
Natural Language Analytics (natural language query/ natural language generation)	( )	( )	( )	( )	( )
Open Source Software	( )	( )	( )	( )	( )
Prepackaged Vertical / Functional	( )	( )	( )	( )	( )

Analytical Applications					
Reporting	( )	( )	( )	( )	( )
Robotic Process Automation (RPA) & Analysis	( )	( )	( )	( )	( )
Sales Planning	( )	( )	( )	( )	( )
Search-based Interface	( )	( )	( )	( )	( )
Social Media Analysis (Social BI)	( )	( )	( )	( )	( )
Streaming Data Analysis	( )	( )	( )	( )	( )
Text Analytics	( )	( )	( )	( )	( )
Video Analytics	( )	( )	( )	( )	( )
Voice Analytics	( )	( )	( )	( )	( )

Business Intelligence Vendor Ratings

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)

( ) AnswerRocket

( ) Arcplan (Longview)

( ) Big Squid

( ) BIME (Zendesk)

( ) Board

( ) Cloudera (Arcadia Data)

( ) Cubeware

( ) Dataiku

( ) Datameer

( ) DataRobot

( ) Dimensional Insight

( ) Domo

( ) Dundas

( ) Exago

( ) FICO

( ) GoodData

( ) Google Analytics

( ) Grow

( ) H2O.ai

( ) IBM

( ) iDashboards

( ) Incorta

( ) InetSoft

( ) Infor (Birst)

( ) Information Builders (IBI)

( ) Infragistics (Reveal)

( ) Izenda

( ) Jedox

( ) Keyence

( ) Klipfolio

( ) KNIME

( ) Logi Analytics (including Zoomdata and JReport)

( ) Looker

( ) Microsoft

( ) MicroStrategy

( ) Narrative Science

( ) OmniSci

( ) OpenText (Actuate)

( ) Oracle

( ) Panorama

( ) Pentaho (Hitachi Vantara)

( ) Phocas

( ) Pyramid Analytics

( ) Qlik

( ) RapidMiner

( ) Salesforce.com

( ) SAP

( ) SAS Institute

( ) Sigma Computing

( ) Sinequa

( ) Sisense

( ) Tableau

( ) TARGIT

( ) ThoughtSpot

( ) TIBCO (Spotfire, Statistica, Alpine Data, Jaspersoft)

( ) Yellowfin

( ) Yseop

( ) 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

_____

_____

_____