May 31, 2022

Dresner Advisory Services, LLC

# Wisdom of Crowds® Business Intelligence Market Study

## 2022 Edition

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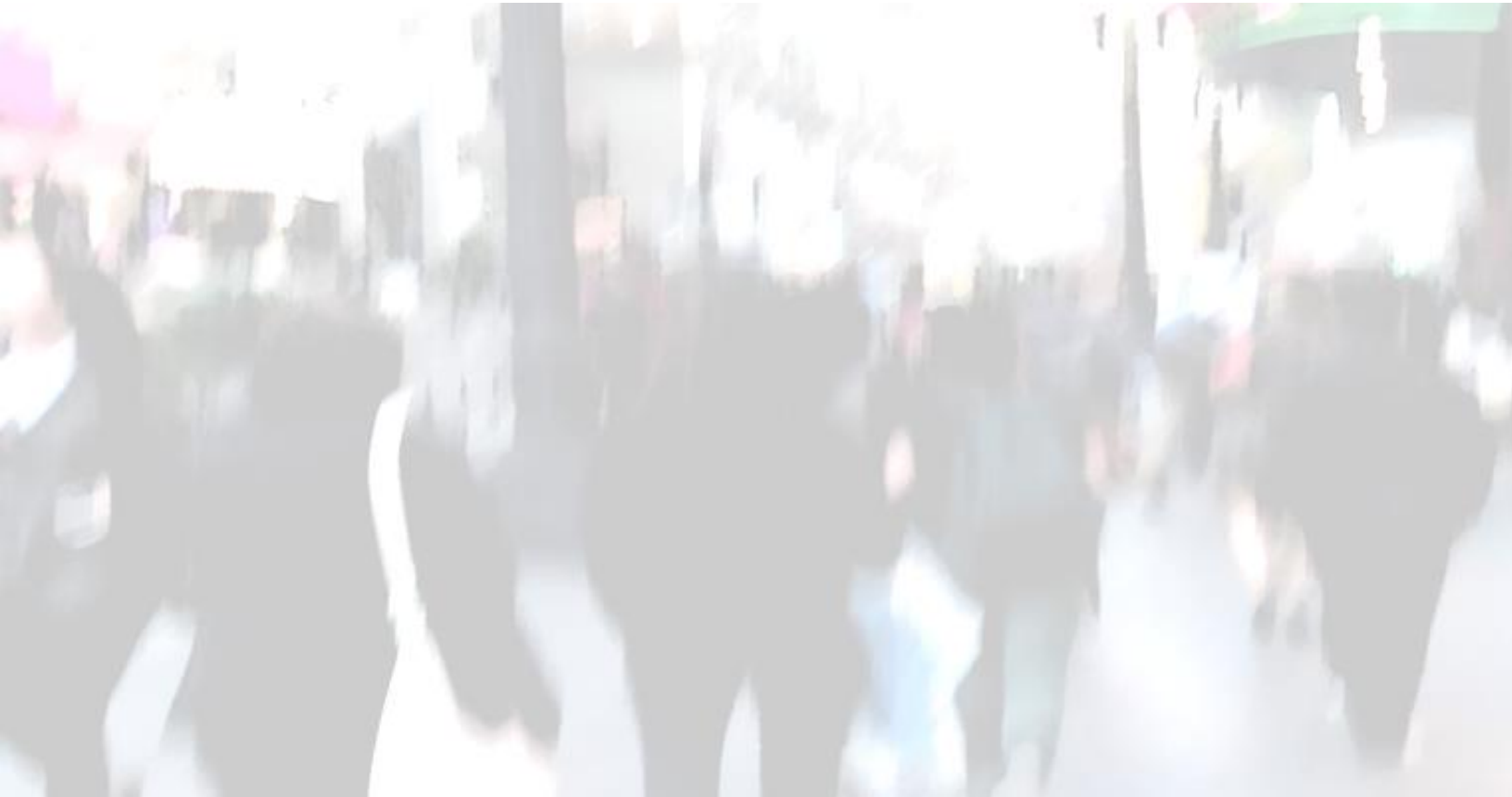

## Disclaimer

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 2022, we mark the 15th anniversary of Dresner Advisory Services and the 13th annual edition of this report – both important milestones!

We are thankful for the support and encouragement of our clients, and data & analytics communities. This allowed us to build a stellar analyst organization and create world-class market research focused exclusively upon data, analytics, business intelligence, performance management, and associated topics.

This year we will publish roughly 3,500 pages of independent and objective primary research across 20 different Flagship and thematic market reports, 50 Research Insights (thought leadership articles), and 55 Vendor Insights Reports.

This latest edition of the Wisdom of Crowds BI Flagship Market Study totals 200 pages (68 pages in 2010) with wide-ranging coverage of topics including data leadership, organization budgets, data literacy, drivers of success, objectives and achievements, BI penetration, and trends for 51 technology initiatives (9 in 2011) as well as industry analyses and extensive vendor ratings for 28 suppliers.

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

We hope you enjoy this landmark research report!

With gratitude,

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

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## Benefits of the Study

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

### Consumer Guide

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

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

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

### Supplier Tool

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

#### External Awareness

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

#### Internal Planning

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

## About Howard Dresner and Dresner Advisory Services

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

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

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

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

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

- Analytical Data Infrastructure
- Cloud Computing and Business Intelligence
- Data Engineering
- 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.

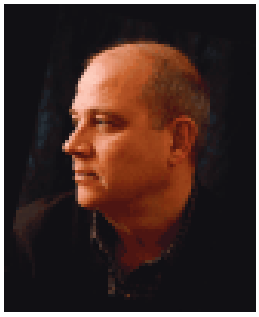
You can find more information about Dresner Advisory Services at www.dresneradvisory.com.

## 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.

## The Dresner Team

### About Elizabeth Espinoza

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

### About Kathleen Goolsby

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

### About Danielle Guinebertiere

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

### About Michelle Whitson-Lorenzi

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

## Survey Method and Data Collection

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

### Data Quality

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

# Executive Summary

## Executive Summary

- *Operations*, *executive management*, and *finance* most often drive business intelligence practices in organizations (p. 22-27).
- *Executives*, followed by *managers* and *individual contributors*, are the most targeted roles for BI. *Customer* and other targeting are increasing in younger BI practices. *Successful* BI organizations target broad audiences (p. 28-35).
- *Better decision-making* is the top *objective* for BI; *efficiency/cost* and *revenue* goals are the next most important (p. 36-42).
- Top BI *achievements* mirror top goals, but organizations realize goals slowly. *Customer* and *competitive* achievements improve in 2022 (p. 43-48).
- *Penetration* of BI within organizations is noticeably improving over time; expansion plans continue to be bullish (p. 49-59).
- A minority identify *data leadership* in place, mostly in larger organizations. The CDO / CAO role is most common. Uptake and longevity are modest but growing. Data leadership correlates to *BI success, achievements, effectiveness*, and *data literacy*. CDO / CAOs most often report to a CEO, but increasingly to a CIO. CEO authority over CDOs and CAOs is inversely related to organization size (p. 60-74).
- The average *number of BI tools* in use is steady or increasing. Success with *data literacy* and *finding analytical content* relate to BI tool use (p. 75-81).
- *Reporting, dashboards*, and *data visualization* remain the most important BI initiatives. *Open source, streaming data analysis,* and *cloud* are gaining (p. 82-87).
- Organizations have high estimations of their *common trust in data and governance* (p. 88-92) and *maturity in insight creation and sharing* (p. 93-97).
- *Success with BI* is improving and best measured via *user feedback*. Contributors include *management support* and *culture*. Lack of *resources, culture,* and *literacy* are top obstacles. BI success *correlates* to *higher penetration* (p. 98-110).
- The great majority of organizations are *increasing* or *maintaining* BI budgets. Higher budgets correlate to higher *penetration* and *achievements* (p. 111-120).
- Most BI tools are in place five years or less, and longevity is shifting. *New tools* are more common than *replacements*; *functionality* and *modernization* drive BI tool replacement (p. 121-125).
- 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, vendor recommendations*, *and overall scores* are on p. 128-135.
- Vendor ratings are on p. 136

## Study Demographics

Our 2022 survey base provides a cross-section of data across geographies, functions, organization sizes, and vertical industries. We believe that, unlike other industry research, this supports a more representative sample and better indicator of true market dynamics. We constructed cross-tab analyses using these demographics to identify and illustrate important industry trends.

### Geography

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

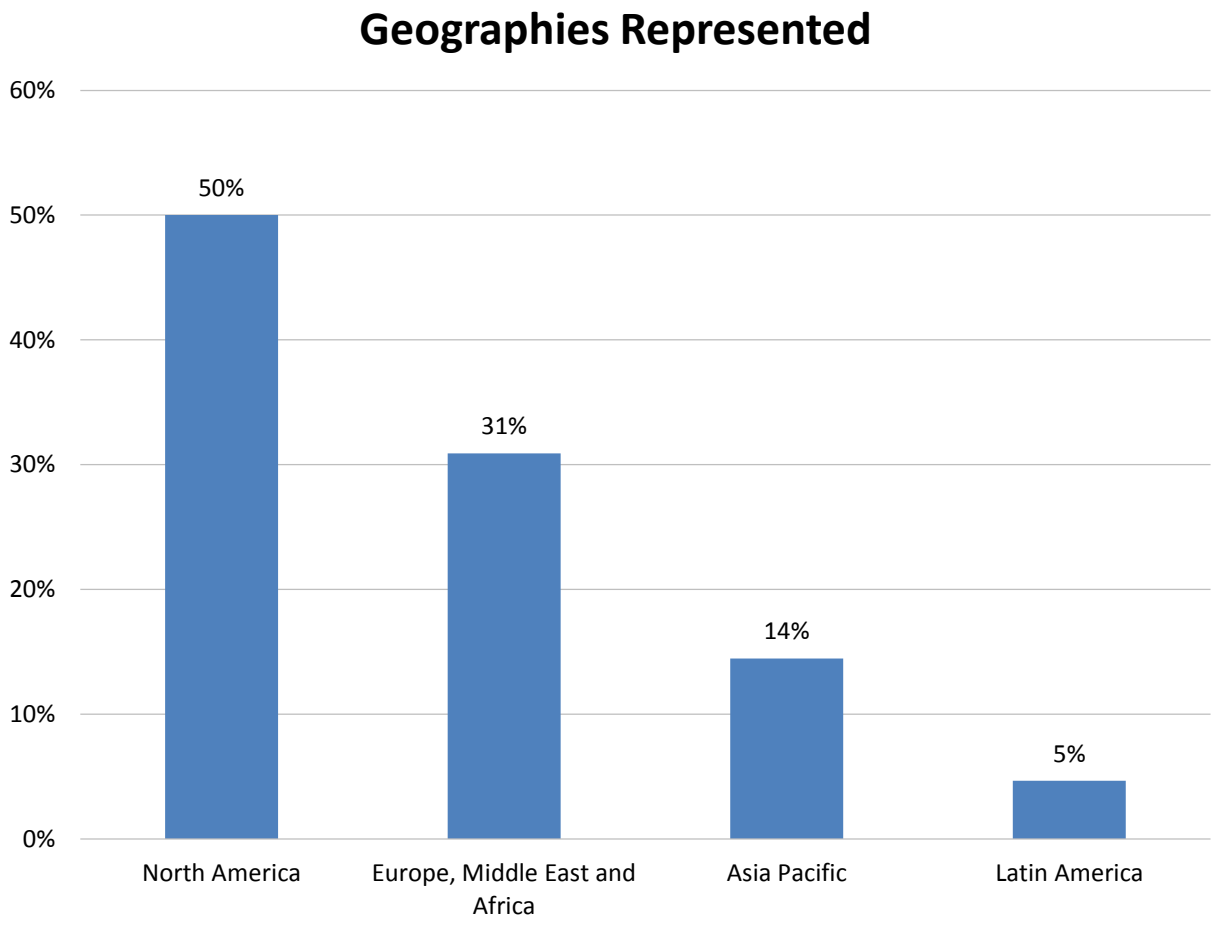



**Figure 1 – Geographies represented**

## Functions

Our 2022 sample base includes a mix of functions (fig. 2). *Information technology* accounts for the largest group (27 percent), followed by *finance* (21 percent), *executive management* (18 percent), and *BICC* (7 percent).

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

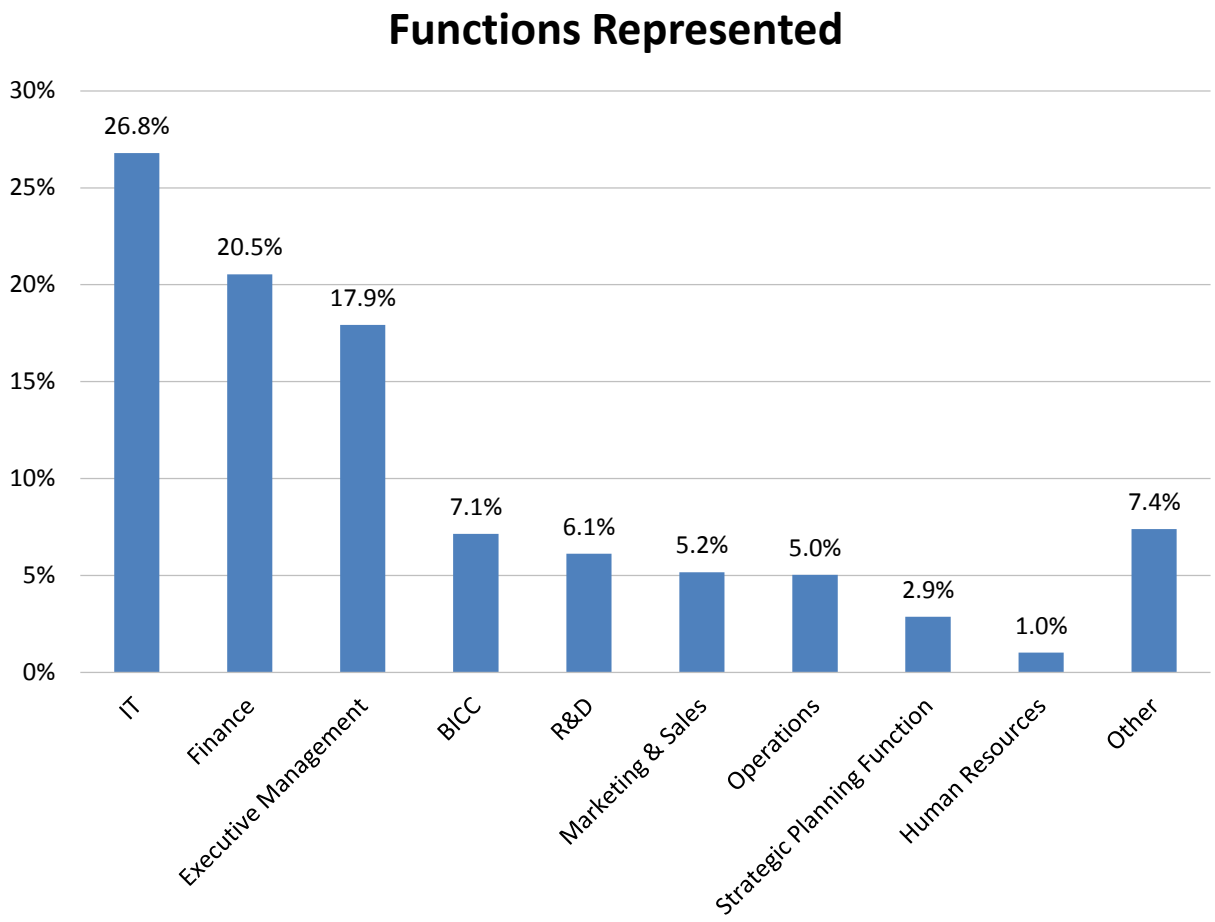



**Figure 2 – Functions represented**

## Vertical Industries

In 2022, *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.

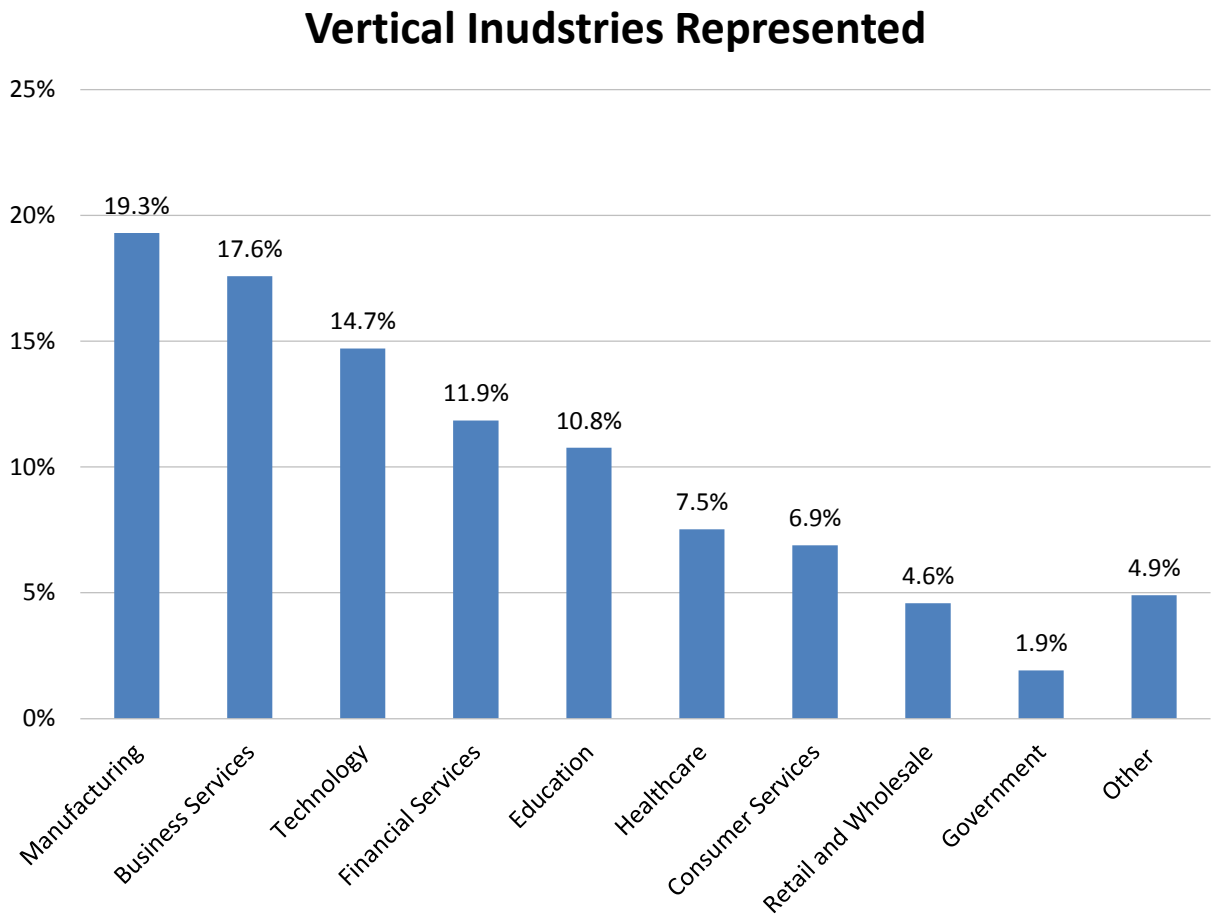



**Figure 3 – Vertical industries represented**

## Organization Size

Our sample base includes a mix of organizations of different sizes in 2022 (based on global headcount). Small organizations (1-100 employees) represent about 25 percent of respondents, mid-size organizations (101-1,000 employees) represent about 28 percent, and large organizations (>1,000 employees) account for the remaining 47 percent (fig. 4).

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

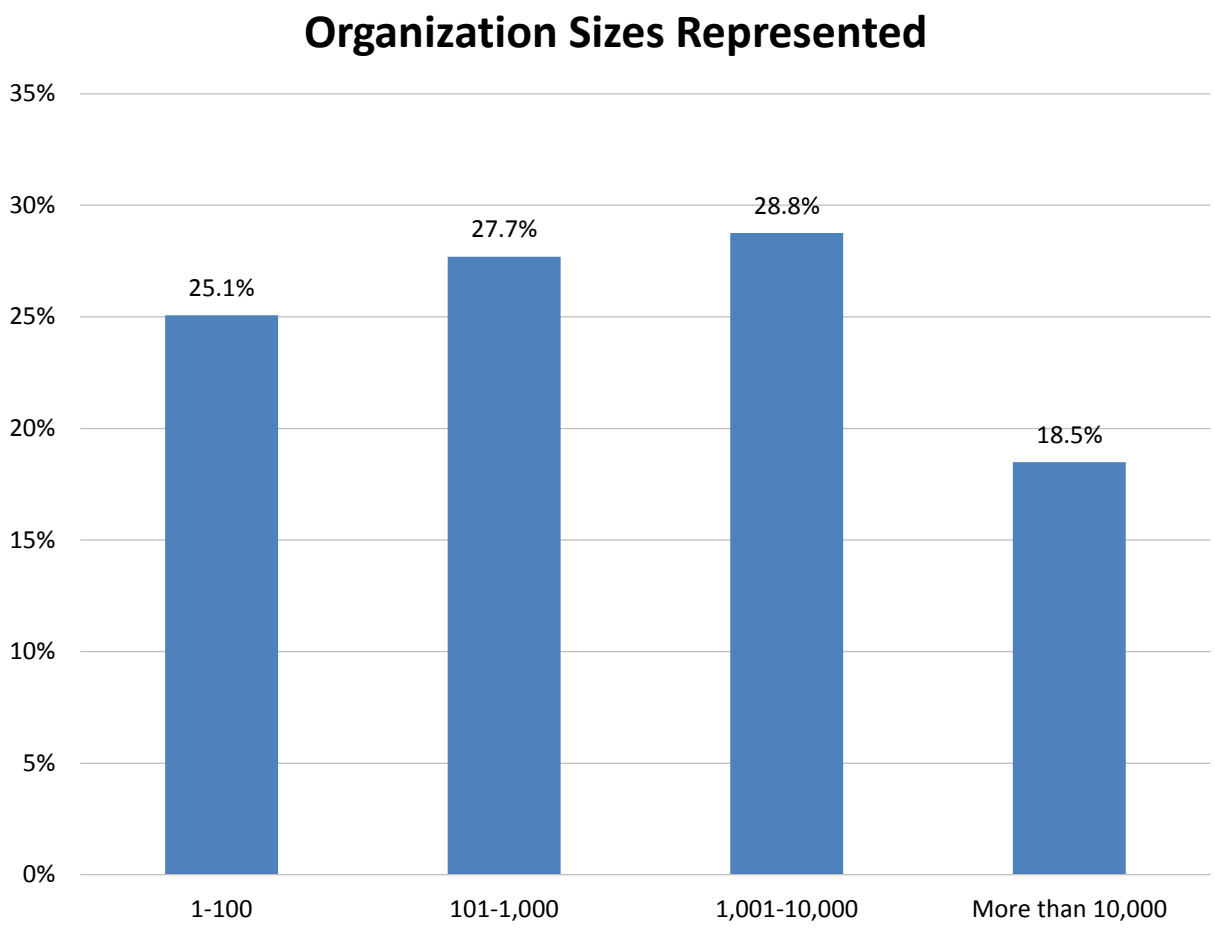



**Figure 4 – Organization sizes represented**

# Analysis and Trends

## Analysis and Trends

### Departments/Functions Driving Business Intelligence

We asked respondents which functional roles drive business intelligence "always," "often," "sometimes," "rarely," or "never" (fig. 5). The results show a diverse functional breadth of influence. In 2022, survey respondents say *operations, executive management*, and *finance* are the most influential roles. Each of these is between 62-69 percent likely to, at minimum, *often* drive BI, and 83-90 percent likely to at least *sometimes* drive BI. *Operations* and *executive management* are traditional 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 also observe that BI deployments and influence are often widely distributed in organizations.

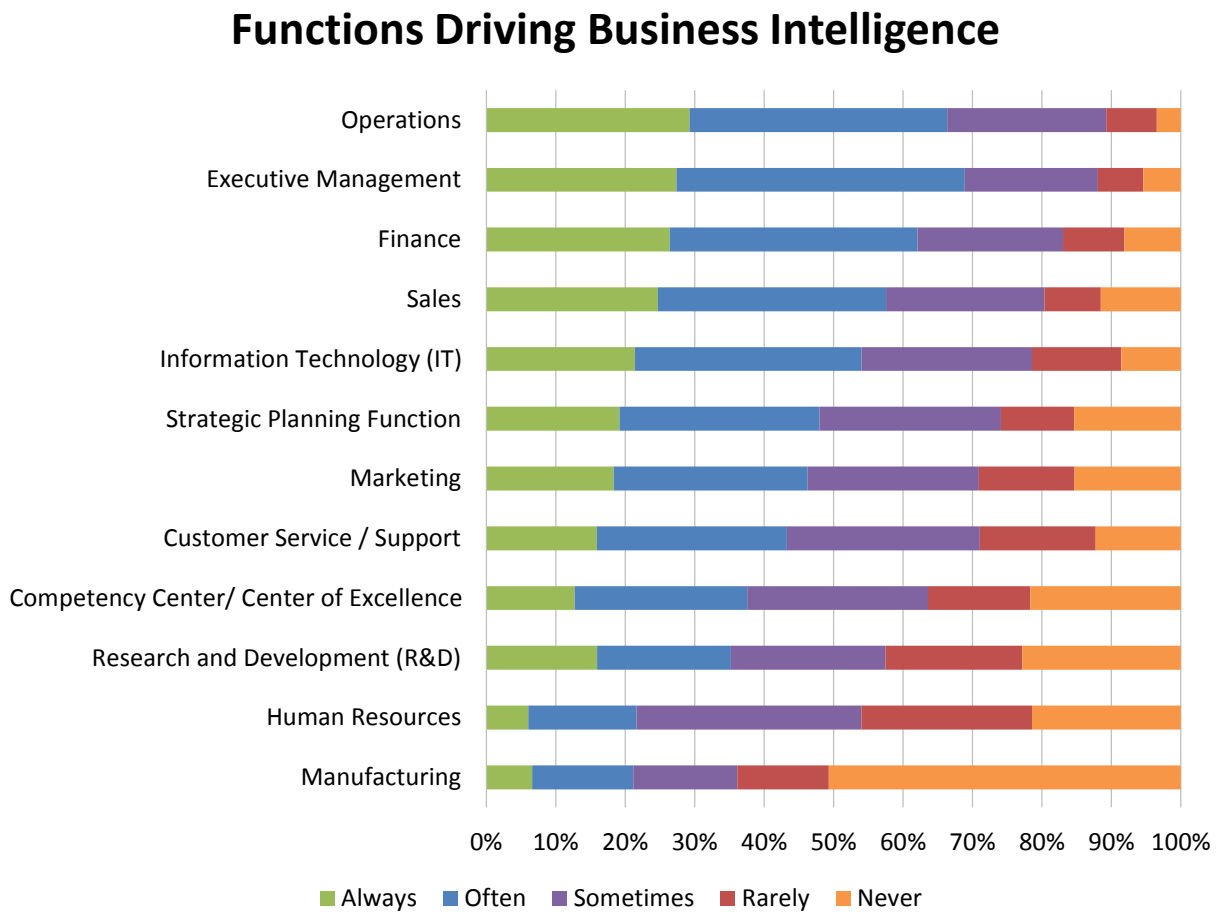



**Figure 5 – Functions driving business intelligence**

### Functions Driving Business Intelligence 2017-2022

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

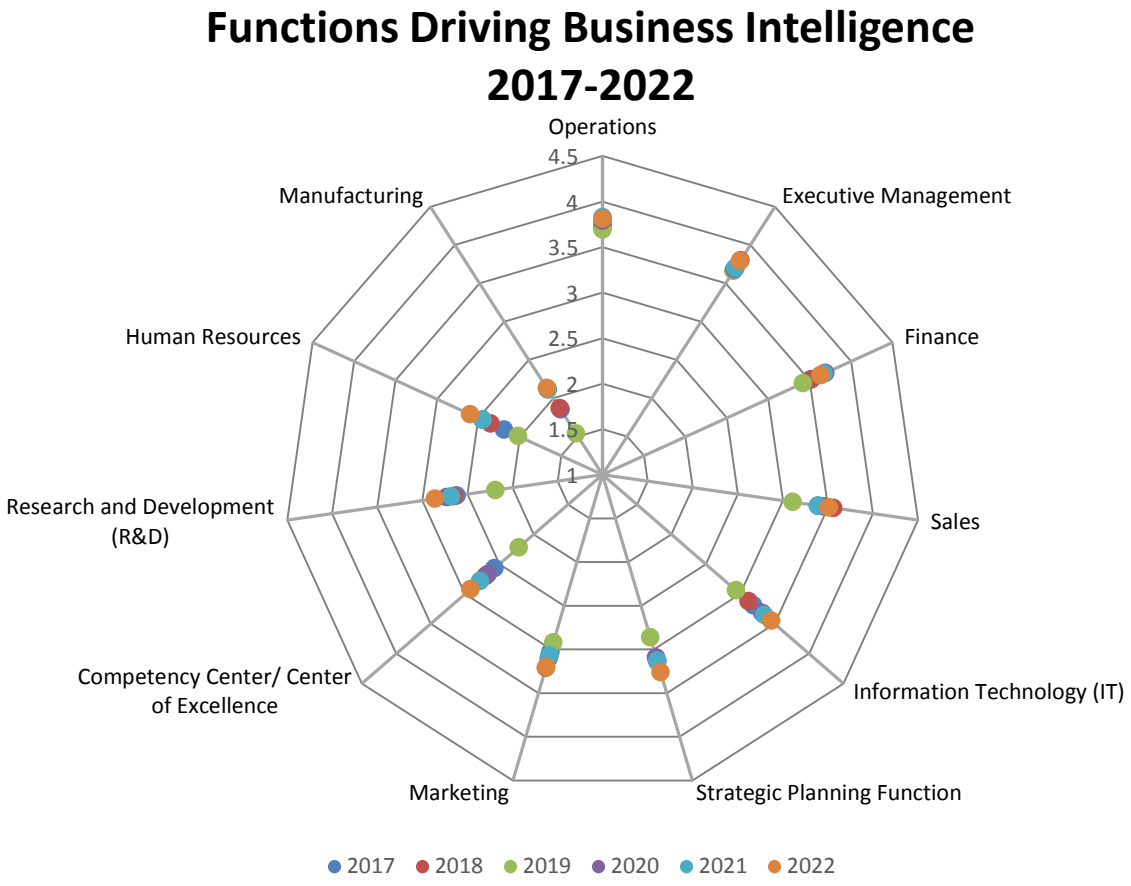



**Figure 6 – Functions driving business intelligence 2017-2022**

### Change in Functions Driving BI 2021-2022

Fig. 7 gives another instructive view of influence by function, this time measuring change in functional driver influence year over year from 2021-2022. This year's study shows that lower ranked or secondary drivers including *R&D, HR, competency center*, and *marketing* show the most relative momentum as drivers of BI. Though they trail the top drivers (*operations, executive management*) by a considerable margin in overall importance, their rise is another indicator of BI relevance and authority spreading to multiple functional areas of focus.

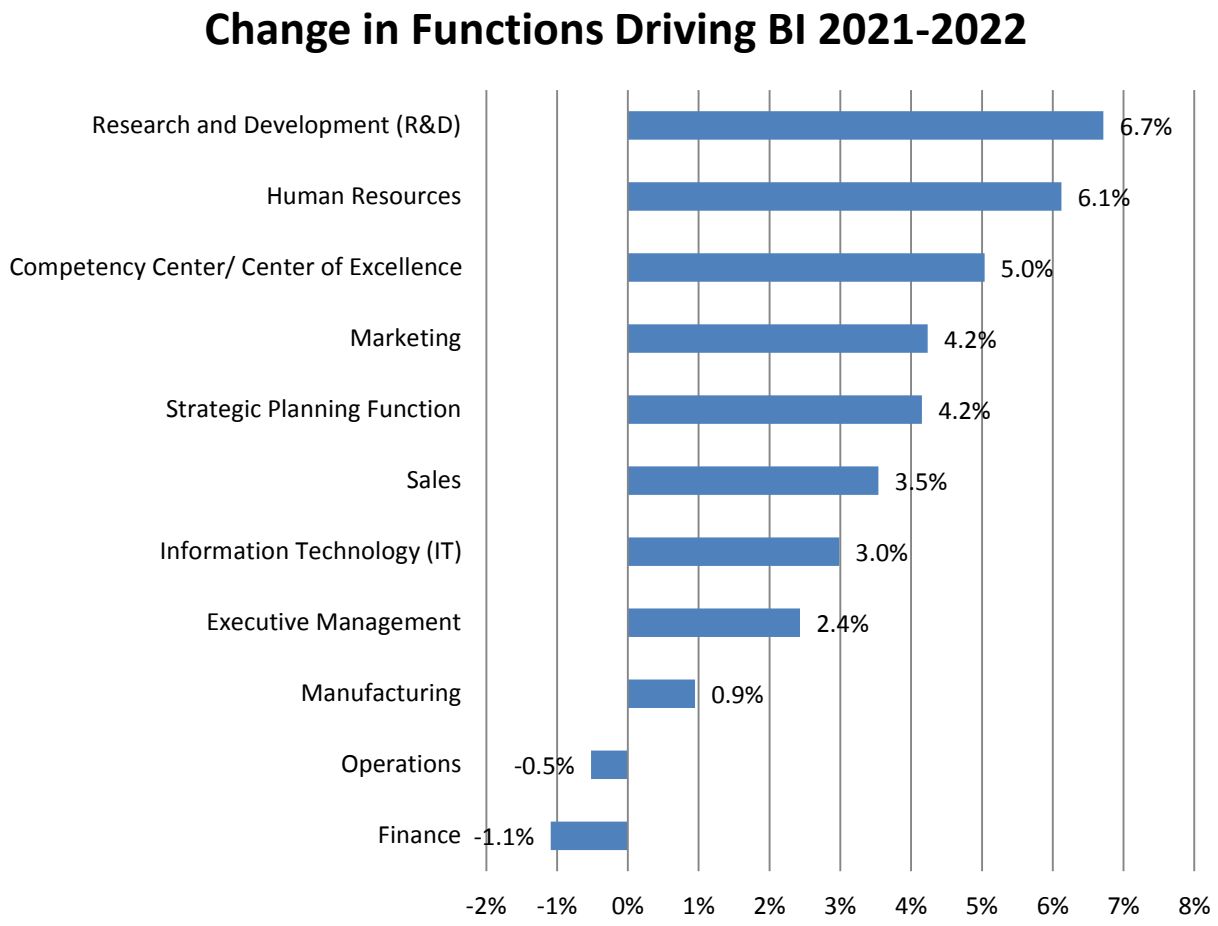



**Figure 7 – Change in functions driving BI 2021-2022**

### Functions Driving Business Intelligence by Major Geography

Functional influence of business intelligence varies by geography, though collective regional rankings mostly follow the same order as the overall sample (fig. 8). Most obviously, when all respondents are presented with the same scale of criticality, the highest scores almost always come from Asia-Pacific respondents, most often seconded by Latin America. An exception is the importance of *executive management* as BI driver, which is consistently high but most critical to North American respondents. Though they often report the lowest criticality, EMEA respondents report relative high criticality in functions including *finance, competency center*, and *manufacturing*.

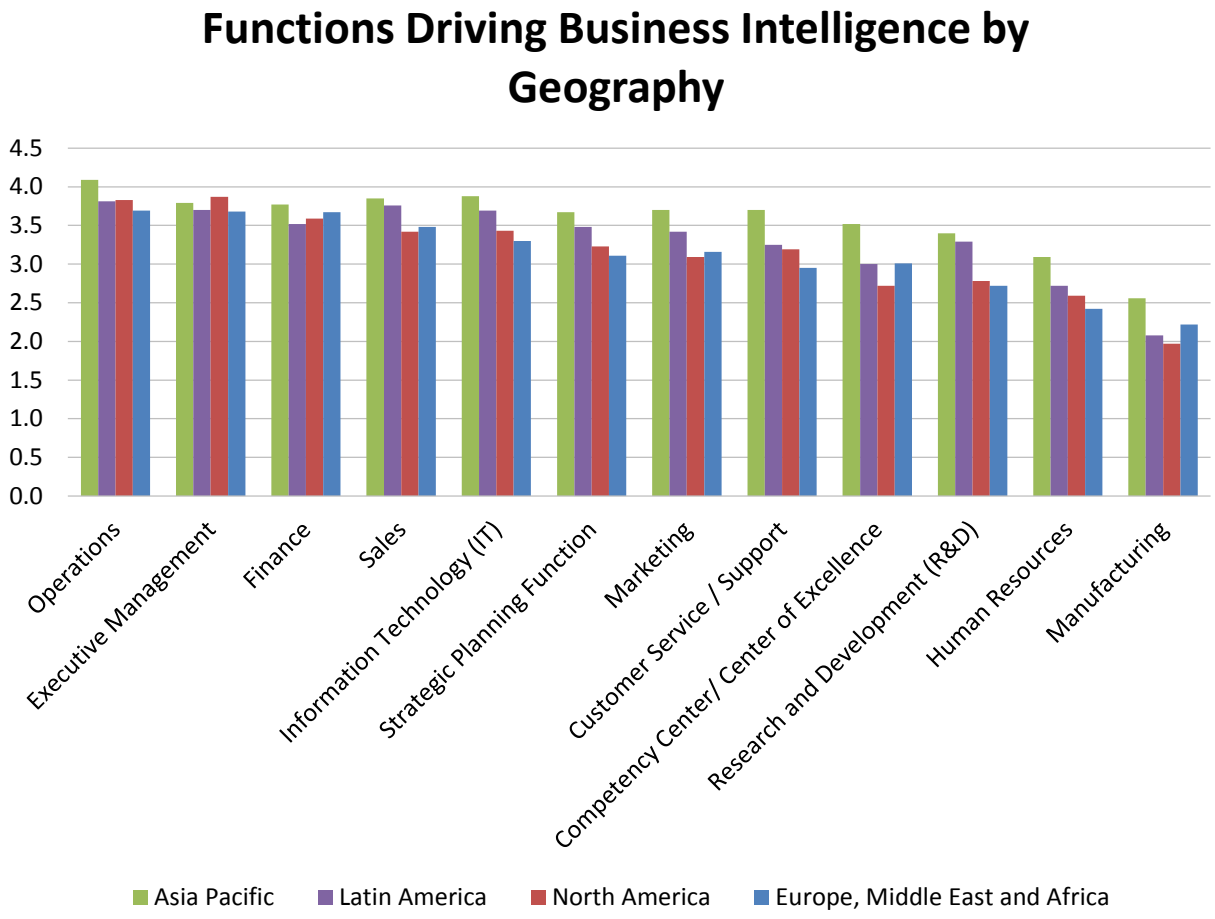



**Figure 8 – Functions driving business intelligence by geography**

### Functions Driving Business Intelligence by Industry

The influence of different functional drivers of BI varies markedly, erratically, and anecdotally across industries (fig. 9). Among many interesting findings in 2022, *operations* is the most critical driver to *healthcare, business services*, and *government* organizations. *Higher education* respondents give the highest scores overall in several areas including *executive management, finance, sales, R&D*, and *HR,* but the lowest scores to *competency center* and *R&D.* As we might expect, *financial services* and *business services* organizations are somewhat most interested in *marketing*, while *technology* and *healthcare* organizations assign the highest criticality to *customer service*.

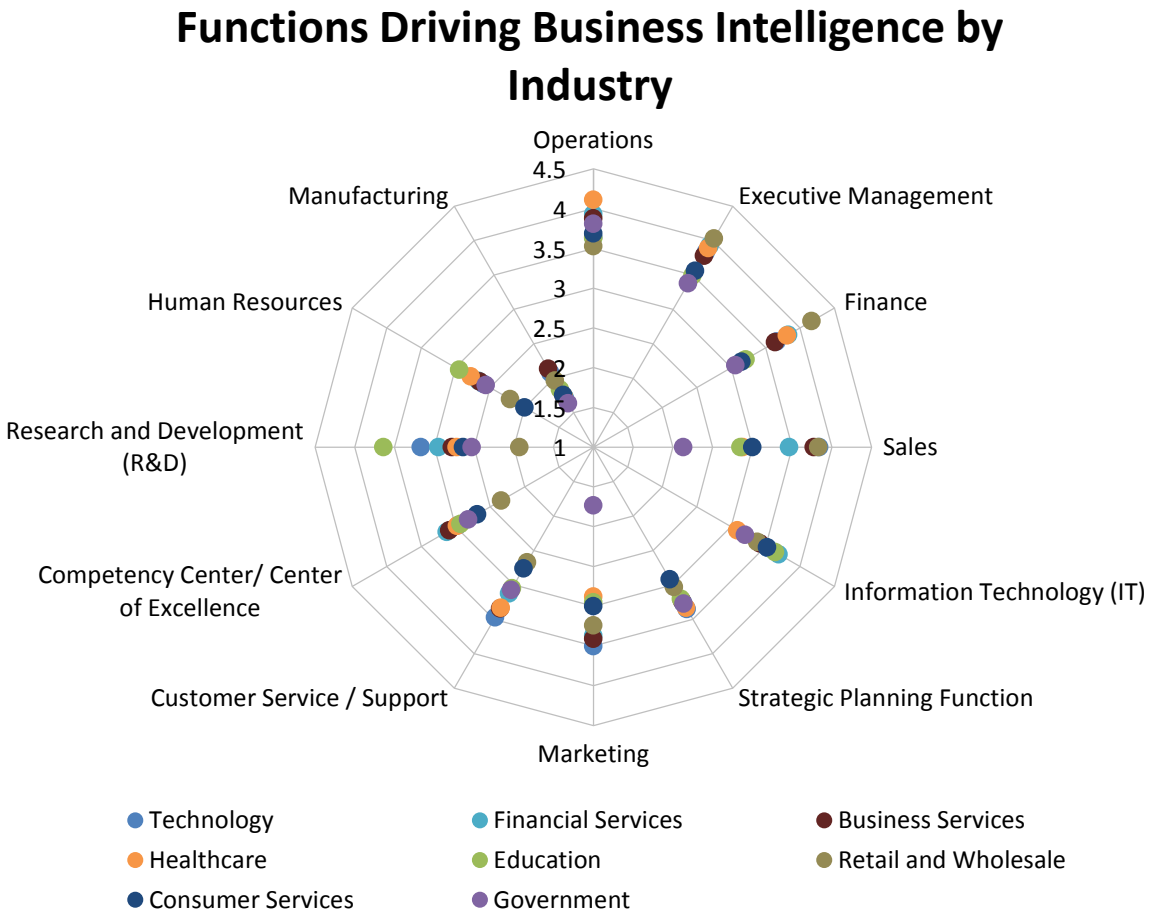



Figure 9 – Functions driving business intelligence by industry

### 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 with departmental ties. Examples of scale creating influence in organizations with more than 1,000 employees include roles in *operations, finance, IT, strategic planning, competency center*, and *R&D*. In contrast, small organizations of 1-100 employees are more equally represented by *executive management, marketing*, and *customer service*. We note that seven of eleven functional categories have at least *important* influence (weighted mean 3.0 or greater) in all organizations regardless of size.

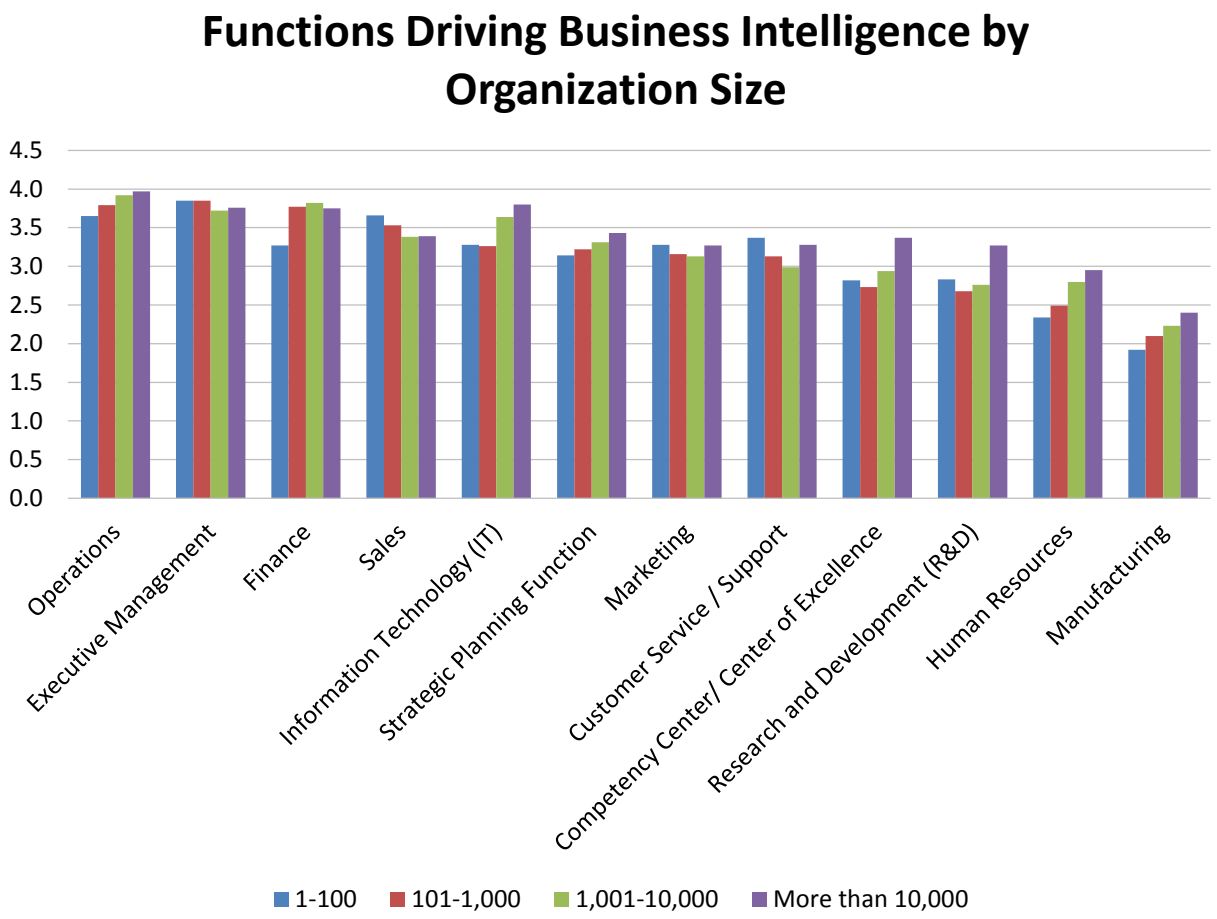



**Figure 10 – Functions driving business intelligence by organization size**

## User Roles Targeted for Business Intelligence

By a significant margin, *executives* remain the most likely primary (65 percent) and potential (96 percent) targeted users of business intelligence in 2022 (fig. 11). After this, a second tier of *middle managers, individual contributors*, and *line managers* all are between 78-82 percent likely to be primary or secondary targeted users. Notably this year (also see following chart fig. 12, p. 29), *customer* primary targeting jumped from 32 percent to 40 percent. Thereafter, primary targeting of *partners/affiliates* and *suppliers* trails off to just 12 percent and 8 percent respectively.

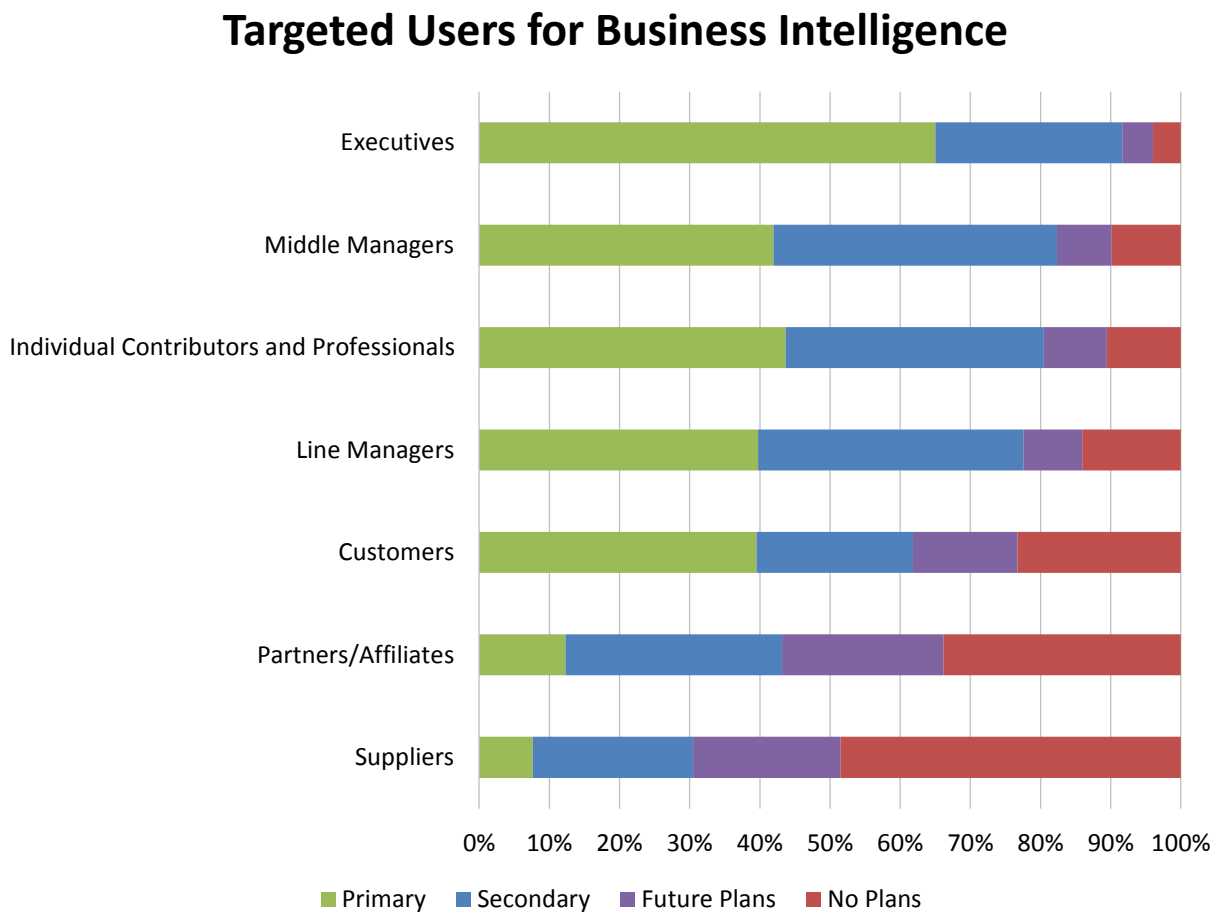



**Figure 11 – Targeted users for business intelligence**

### Targeted Users for Business Intelligence through 2019-2022

Fig. 12 shows the most recent four years of data measuring targeting of users for business intelligence. *Executive, middle manager*, and *line manager* targeting percentages mostly adhere to five-year mean values. The most obvious "winners" in terms of increased targeting are *customers* and *individual contributors and professionals* (also see following chart, fig. 13, p. 30). In much smaller numbers, *partners/affiliates* and *suppliers* also see increased targeting in 2022, a trend we expect will continue in coming years.

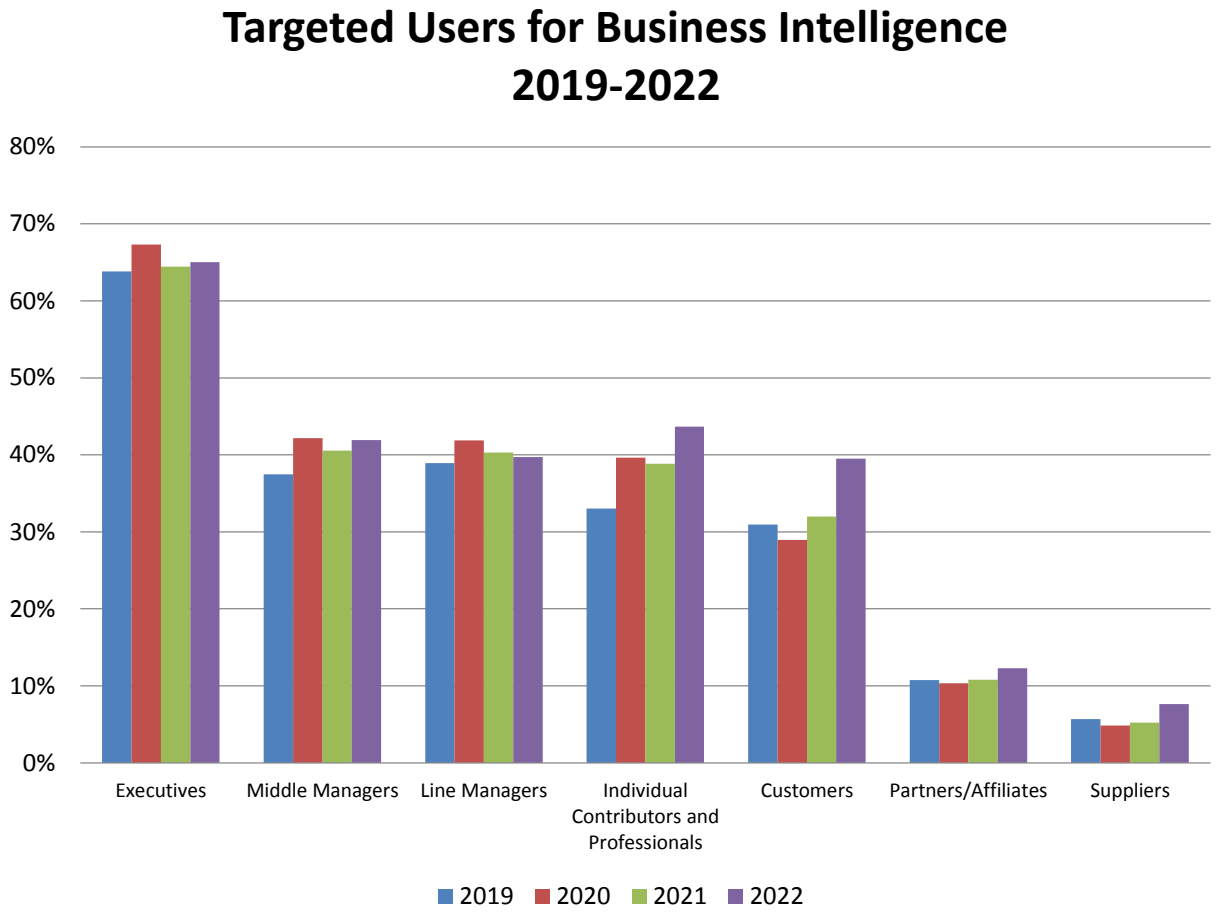



**Figure 12 – Targeted users for business intelligence 2019-2022**

### Change in Targeted Users for BI 2021-2022

Fig. 13 shows the year-over-year relative percentage change in BI targeting for each function we sampled. Here, we observe that the less-served audiences of *suppliers, customers, partners/affiliates*, and *individual contributors and professionals* all logged notable year-over-year increases, though some of these (*suppliers*, *partners/affiliates*) remain well behind in terms of BI enablement as a percentage of total addressable audience (see the previous chart). Nonetheless, suppliers and customers 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.

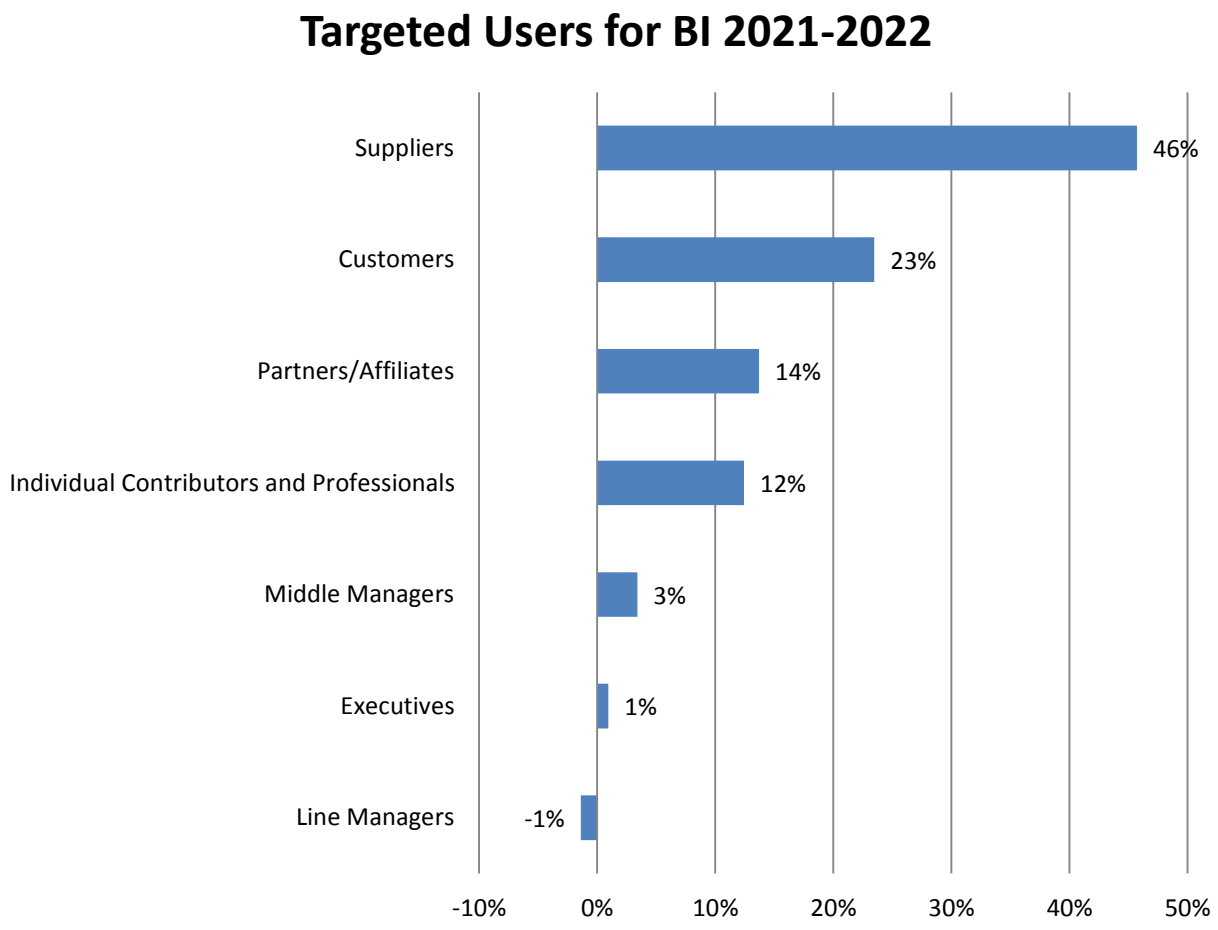



**Figure 13 – Targeted users for BI 2021-2022**

### Targeted Users for Business Intelligence by Geography

*Executives* are the most likely targets for business intelligence across all geographies, most often in Latin America (69 percent) (fig. 14). At the same time, Latin American respondents are less likely to target *middle managers, individual contributors and professionals*, and *line managers;* but they report above-average targeting of *customers, partners/affiliates*, and *suppliers*. Among other standout findings, we observe that EMEA respondents are most likely by region to target *middle managers* and *line managers*. North American respondents are more likely than others to target *individual contributors and professionals*. By a larger margin, Asia-Pacific respondents are most likely (56 percent) to target *customers*. Though in lower percentages, Asia-Pacific respondents are most likely to target *partners/affiliates* and *suppliers*.

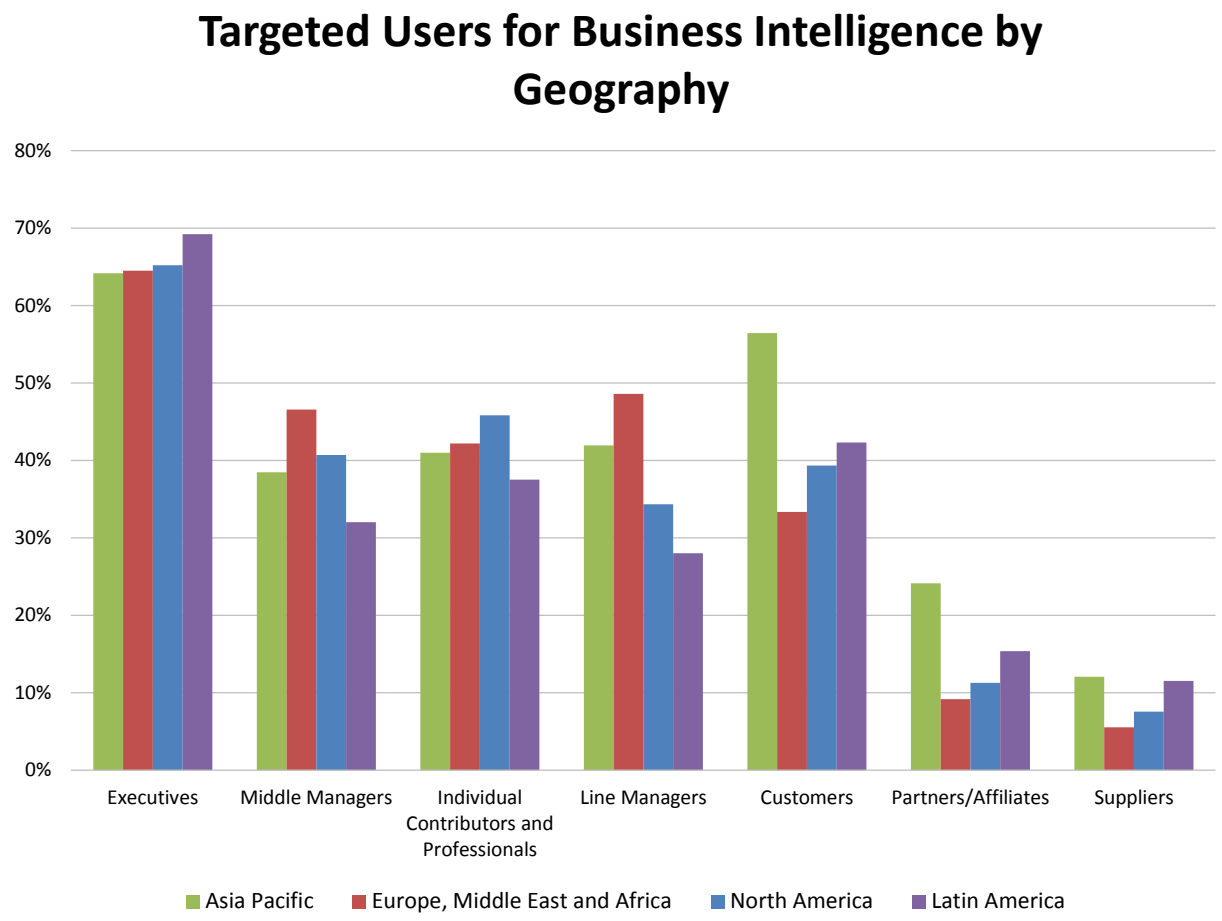



**Figure 14 – Targeted users for business intelligence by geography**

### User Targets for Business Intelligence by Organization Size

Almost without exception, organizations of any size most likely target *executives* as BI users in 2022 (fig. 15). The lone exception is the case of small organizations (1-100 employees) which, for the first time, are slightly more likely to target *customers* (nearly 60 percent) than executives. (This finding is unsurprising if only because executive headcount in small organizations is limited by definition). By the same rule of headcount, larger organizations of >100 employees are more likely by percentage to target *middle and line managers* and *individual contributors and professionals*.

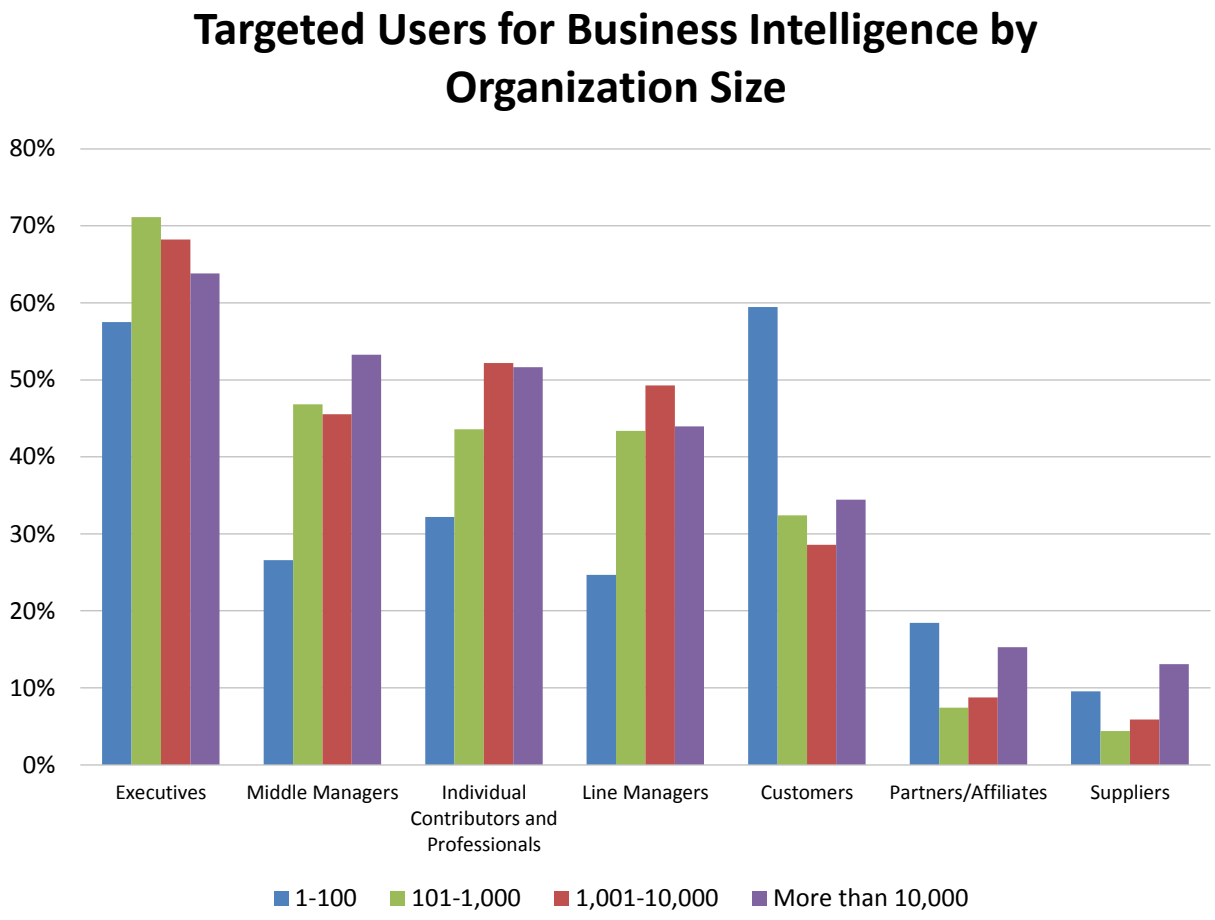



**Figure 15 – Targeted users for business intelligence by organization size**

### User Targets for Business Intelligence by Vertical Industries

In our 2022 sample, all vertical industries (led by *retail and wholesale* and *financial services*) report that they most often target *executives* for business intelligence enablement (fig. 16). Over time, *executives* are consistently the audience of top interest. Among other findings, respondents in *government* and *healthcare* are most likely to report that they target *middle managers*. Also this year, *consumer services* respondents disproportionately target *individual contributors and professionals. Line managers* are most targeted by *retail and wholesale. Customers* are most often the BI target of *healthcare, technology*, and *business services* organizations.

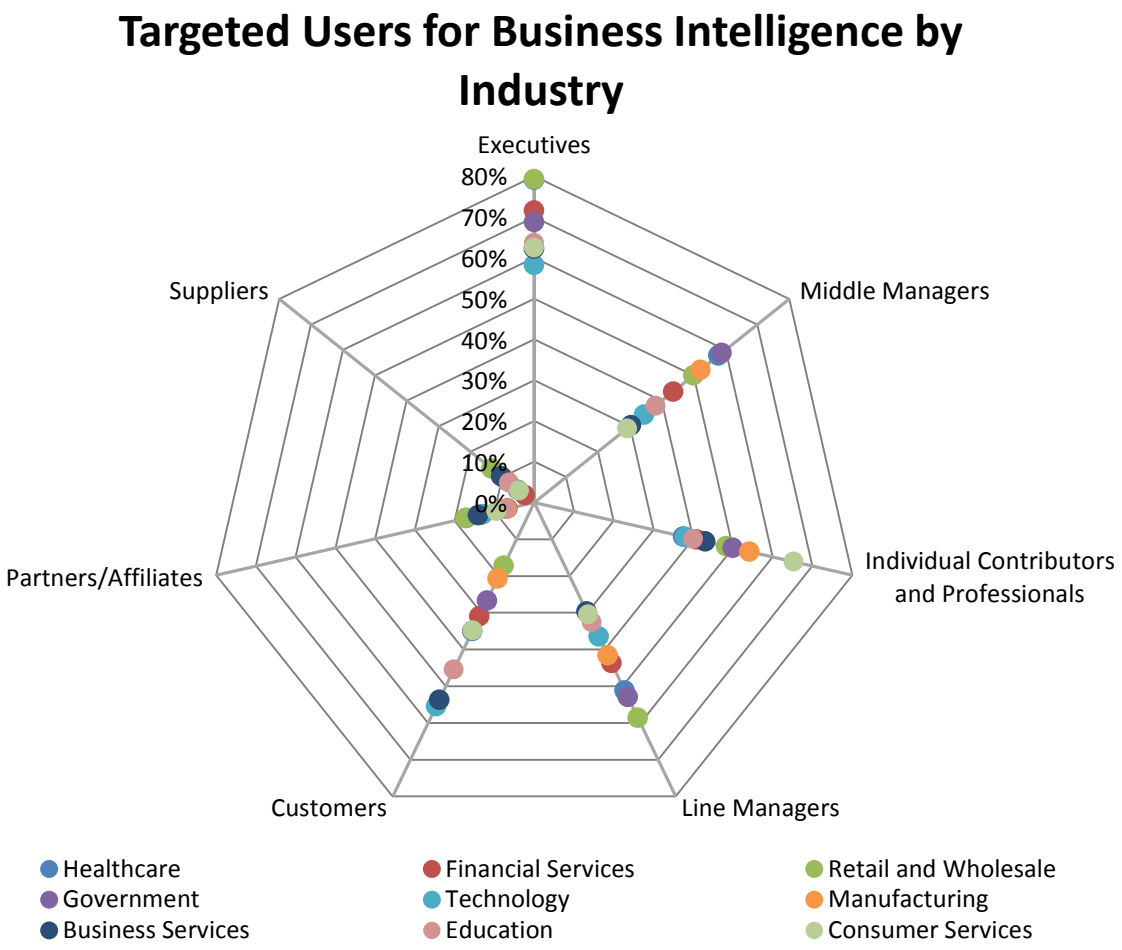



**Figure 16 – Targeted users for business intelligence by industry**

## Targeted Users for Business Intelligence by Success with Business Intelligence

Organizations that are *completely successful* with BI are most likely to enable all potential target audiences (most often *executives, individual contributors and professionals*, and *customers*) with BI (fig. 17). In a departure from the mean, this relatively high targeting of *customers* is more than twice as likely to occur at *completely successful* versus *somewhat unsuccessful* and *unsuccessful* BI organizations. To a slightly lesser extent, *completely successful* organizations are disproportionately likely to target *line managers* when compared to their least-successful peers. And in much lower percentages, *completely successful* organizations are far more likely to target *partners/affiliates* and *suppliers,* compared to their least-successful BI peers. Overall, we can say that multiple-audience targeting is a trait of successful BI organizations.

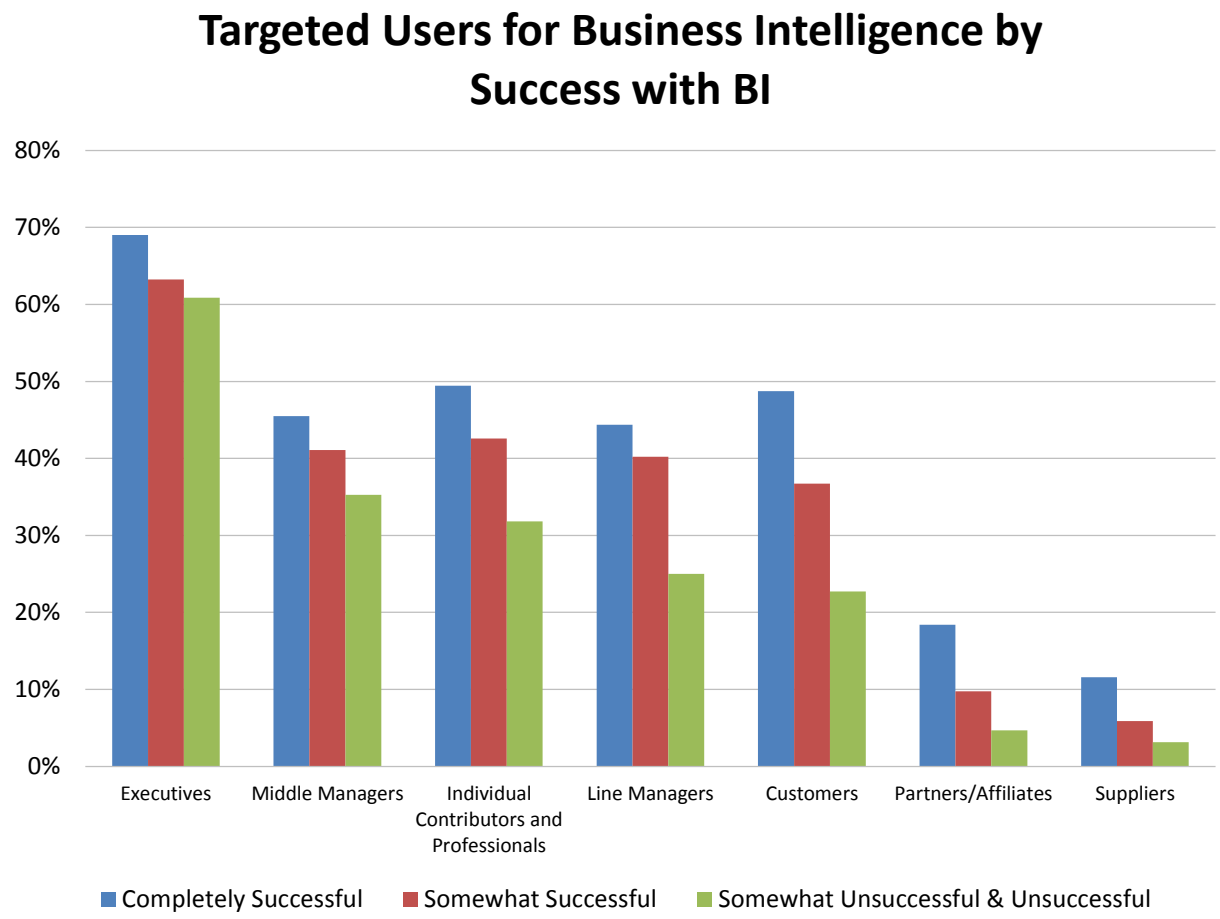



**Figure 17 – Targeted users for business intelligence by success with BI**

## Targeted Users for Business Intelligence by Company Age

When we view the targeting of functions by company age, interesting patterns emerge (fig. 18). For example, targeting of *executives* declined and flattened in "younger" organizations. Also, we quickly notice that younger organizations (*less than five years*, and *five-10 years*), are much more likely to target *customers* compared to "older" organizations. Indeed, organizations in the five-10 year range are more likely to target *customers* than *executives*, a singular departure from historic findings. From another perspective, we observe that targeting of *individual contributors and professionals* reversed a declining trend and reached an all-time high in the youngest organizations of less than five years. Generally, the two middle groups represented in the charts reported a lower rate of targeting *middle and line managers,* compared to the oldest and youngest organizations.

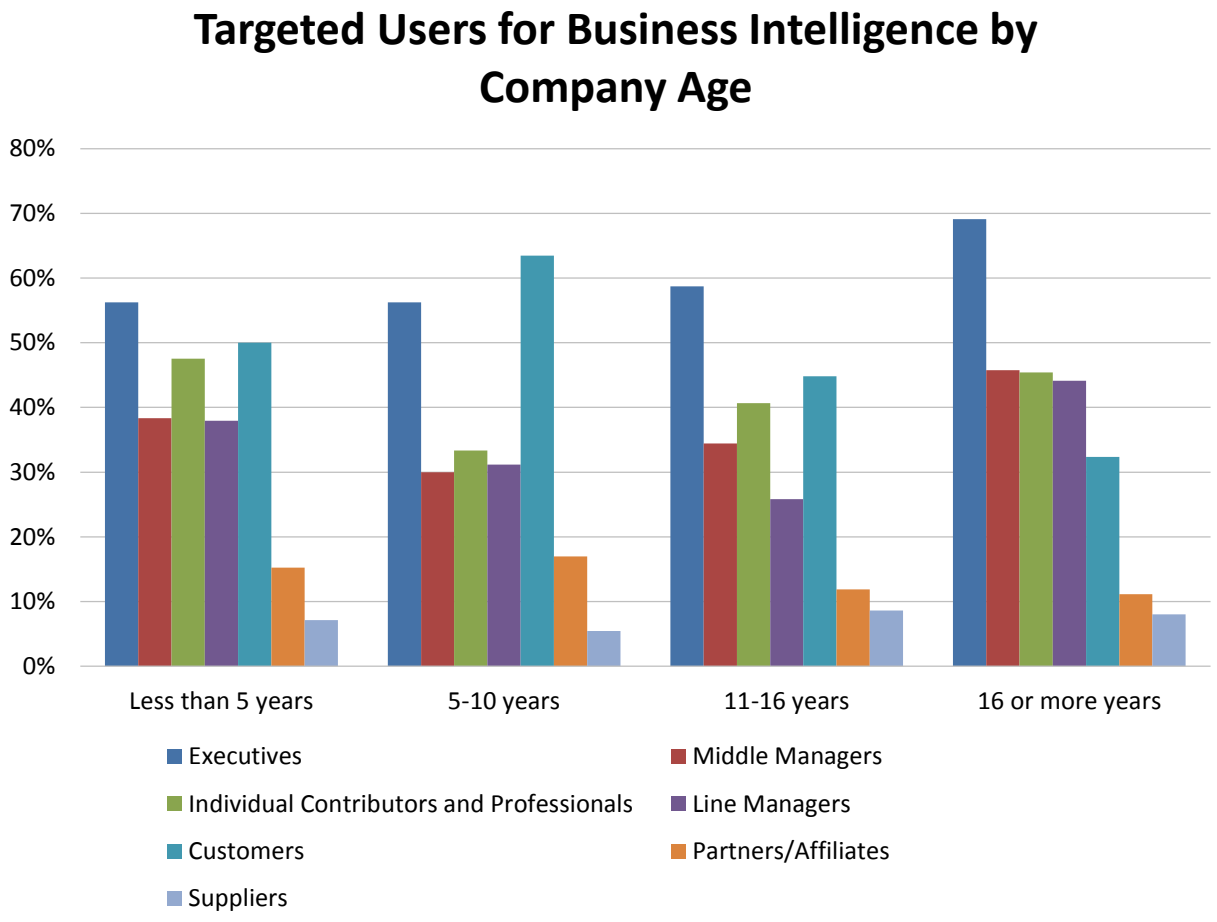



**Figure 18 – Targeted users for business intelligence by company age**

## Objectives for Business Intelligence

In 2022 (and throughout the 13 years of our study), the non-specific goal of *better decision-making* sits well atop respondents' business intelligence objectives (fig. 19). 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 *increased competitive advantage* (critical to 37 percent), *growth in revenues* (37 percent), and *improved operational efficiency / cost savings* (33 percent) is the next most important objective. Somewhat less important objectives are *enhanced customer service* and *compliance/risk management*, though all six objectives are, at minimum, *very important* to 54 percent or far higher percentages of respondents. Depending on the organization and scenario, any or all six objectives might be central to BI strategy and tactics.

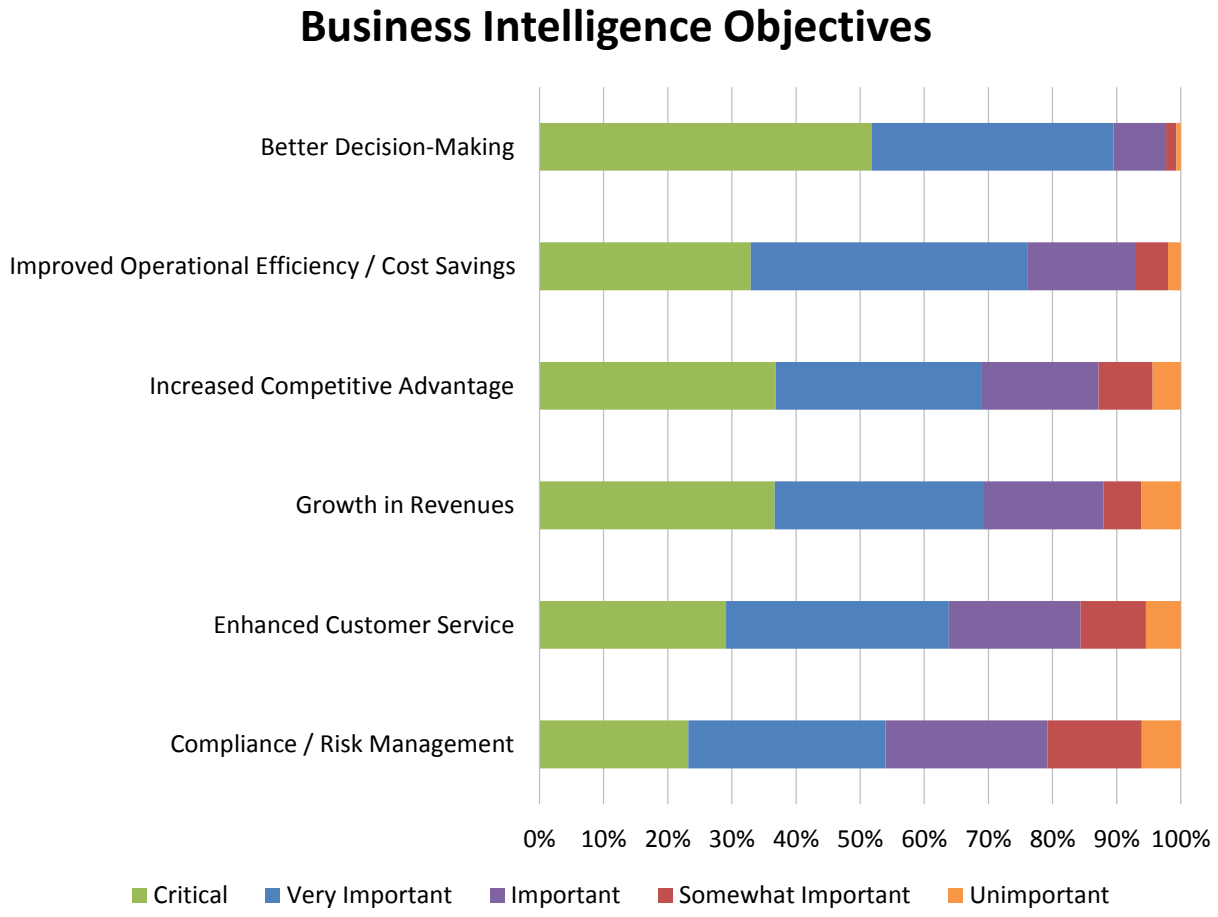



**Figure 19 – Business intelligence objectives**

### Business Intelligence Objectives 2017-2022

Across the last six years of our study, objectives for business intelligence are mostly steady by rank (fig. 20). In 2022, we observe improving year-over-year scores for every objective (see following chart for details), with some values rebounding toward or exceeding all-time highs mostly seen in 2018-2019. Among these, we see *better decision-making* the only objective that consistently holds weighted-mean value > 4.0 (*very important*). While several objectives have increased importance in 2022, we reiterate that better decision-making strongly sustains top relevance and continues even higher over time towards *critical* importance. Only *compliance/risk management* finds scores at 3.5 or lower, which is nonetheless the midway point between *important* and *very important*.

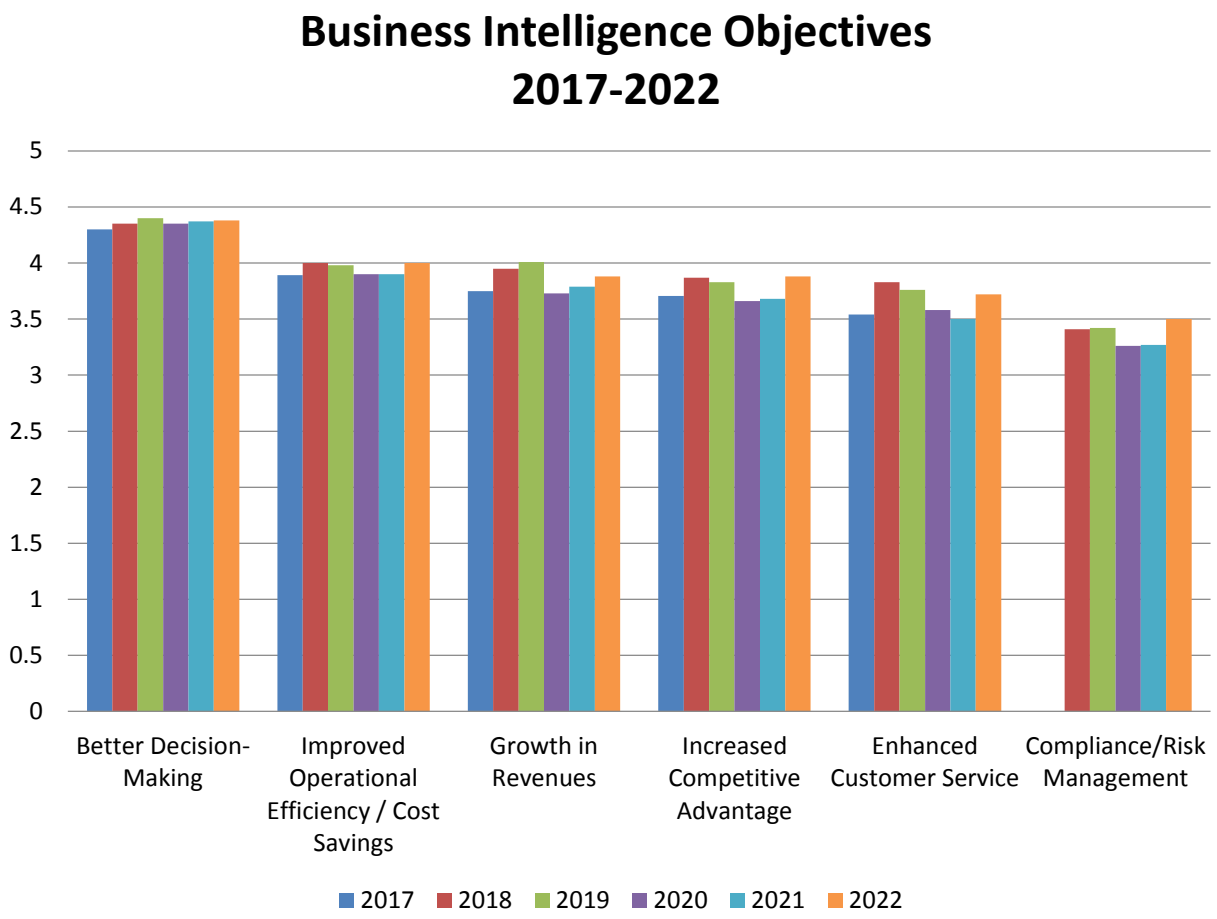



**Figure 20 – Business intelligence objectives 2017-2022**

### Percent Change in BI Objectives 2021-2022

Fig. 21 provides a detailed year-over-year view of changes in attitudes toward BI objectives. Here we observe that the top BI objective of *better decision-making,* though still most important, is flat in year-over-year sentiment, while all other measures gathered importance. The greatest percentage increase is in lower-ranked measures of *compliance/risk management* and *enhanced customer service*, which grew in importance by 7 percent and 6 percent, respectively. (We note that, unique among these measures, compliance and risk might be conditional to improvements in other quantifiable objectives.) *Increased competitive advantage* also grew noticeably by 5 percent, while *improved operational efficiency* and *growth in revenues* each grew in importance by 3 percent.

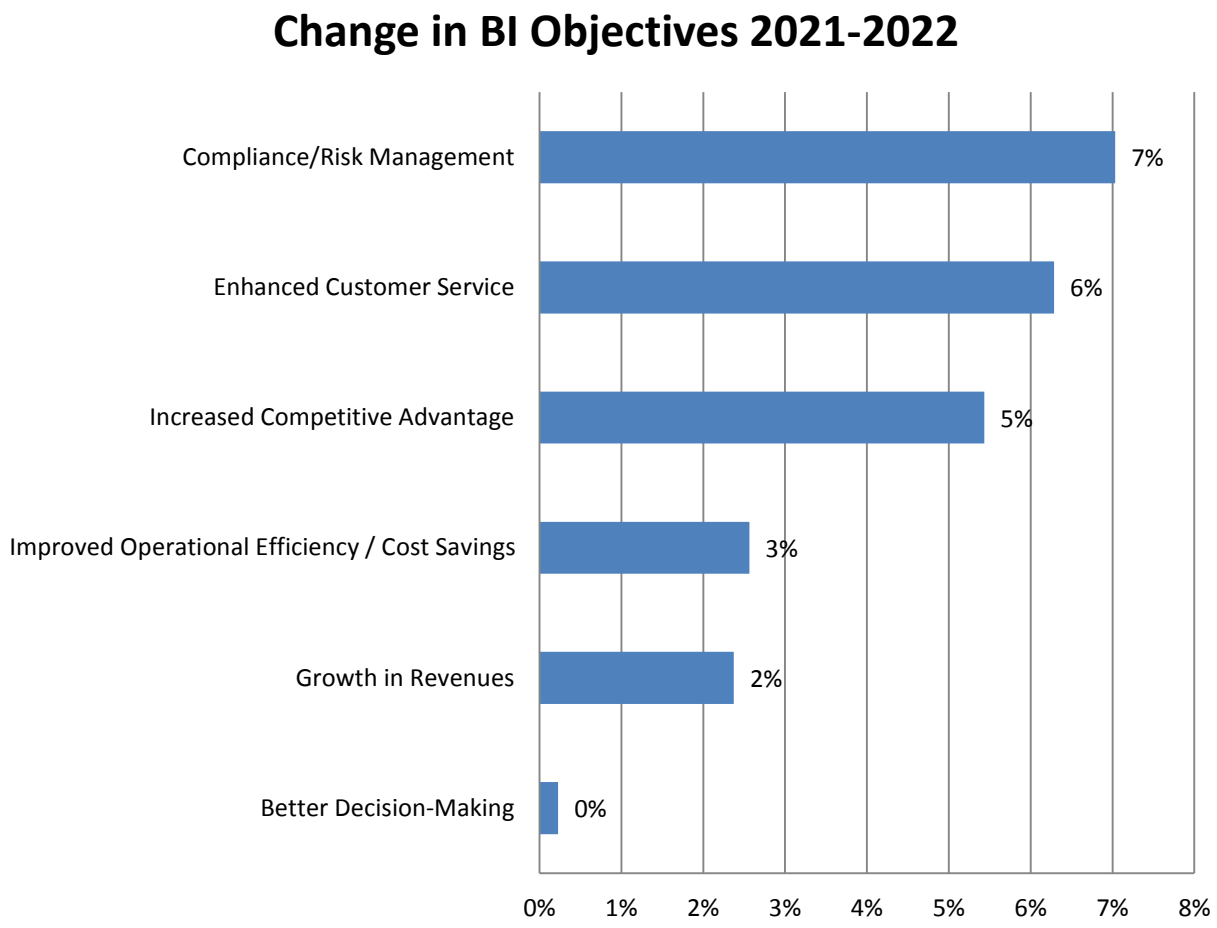



**Figure 21 – Change in BI objectives 2021-2022**

### Business Intelligence Objectives by Geography

Business intelligence objectives are similarly important across geographies with some slight differences in priority (fig. 22). *Better decision-making* is the most important BI objective (>4.0 or *very important*), across all geographical regions in 2022, especially in North America and EMEA. Among remaining measures, all have slightly higher relevance to respondents in Asia Pacific, followed by North America and then EMEA or Latin America. *Enhanced customer service*, one 2022 objective of growing relevance, is most important to respondents in Asia Pacific and least so in EMEA.

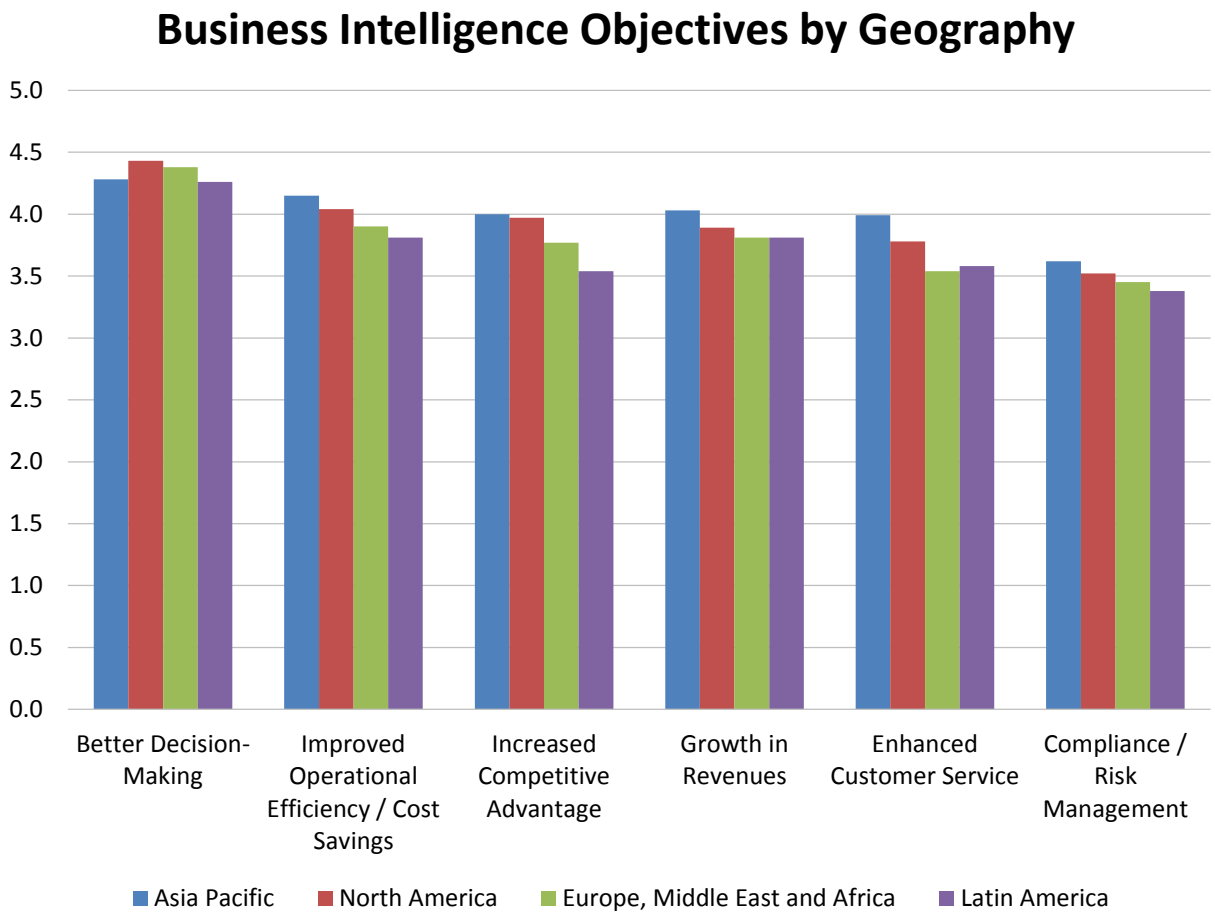



**Figure 22 – Business intelligence objectives by geography**

### Business Intelligence Objectives by Function

In 2022, all functions place the greatest emphasis on the importance of *better decision-making*, often by a significant margin over other objectives (fig. 23). Also, results for this top measure are consistently greater than *very important* and the most tightly clustered of all BI objectives. *Marketing and sales, operations, executive management*, and *BICC* respondents are all among functions scoring highest in subsequent priorities that include *improved operational efficiency / cost savings, increased competitive advantage*, and *growth in revenues*.

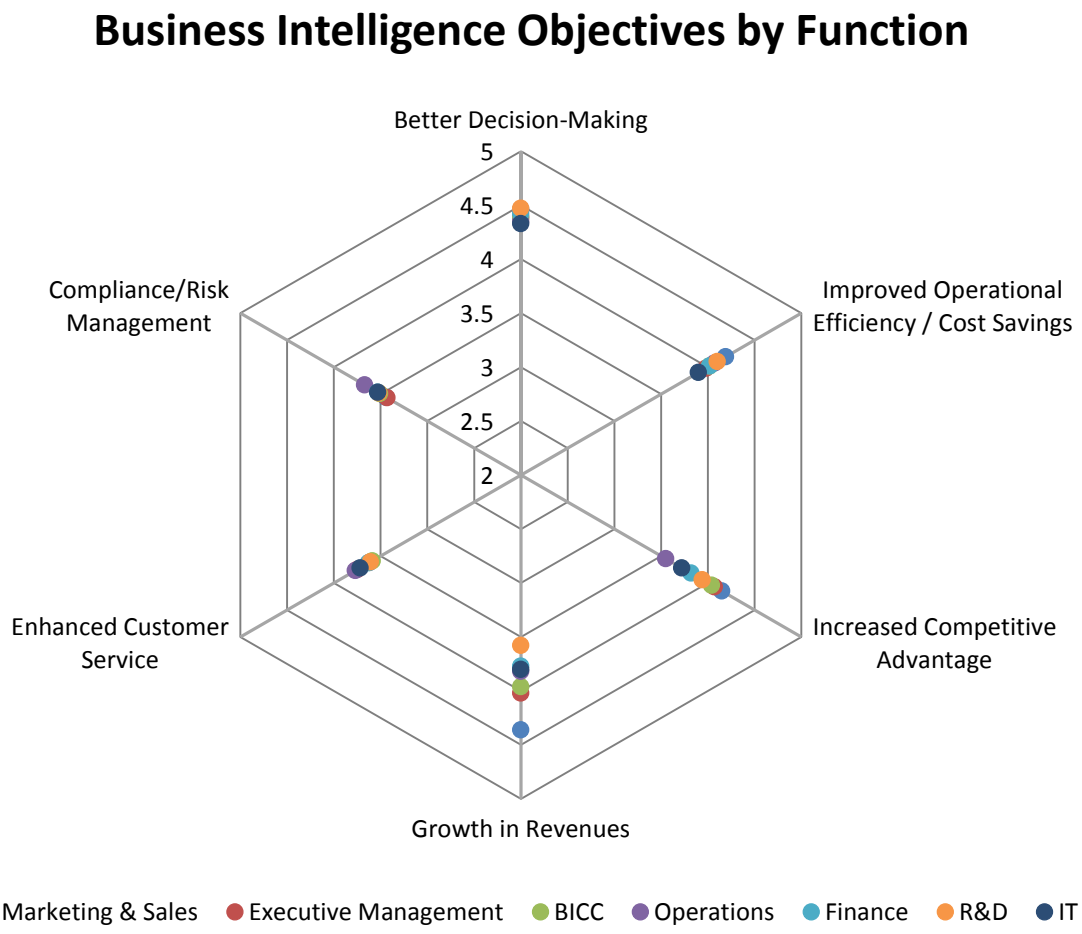



**Figure 23 – Business intelligence objectives by function**

### Business Intelligence Objectives by Vertical Industry

By industry, *better decision-making* is the top pick across all verticals, with most sentiment in the range between *very important* and *critical* (fig. 24). Other objectives find more selective interest by industry. For example, *manufacturing, healthcare*, and *government* organizations are among those giving top scores to *improved operational efficiency*. *Technology* and *healthcare* are among top-scoring industries in *increased competitive advantage*, while margin-thin *retail and wholesale* and *technology* are among industries with top scores for *growth in revenues*. Expectedly, *financial services* respondents have the most interest in *compliance/risk management*.

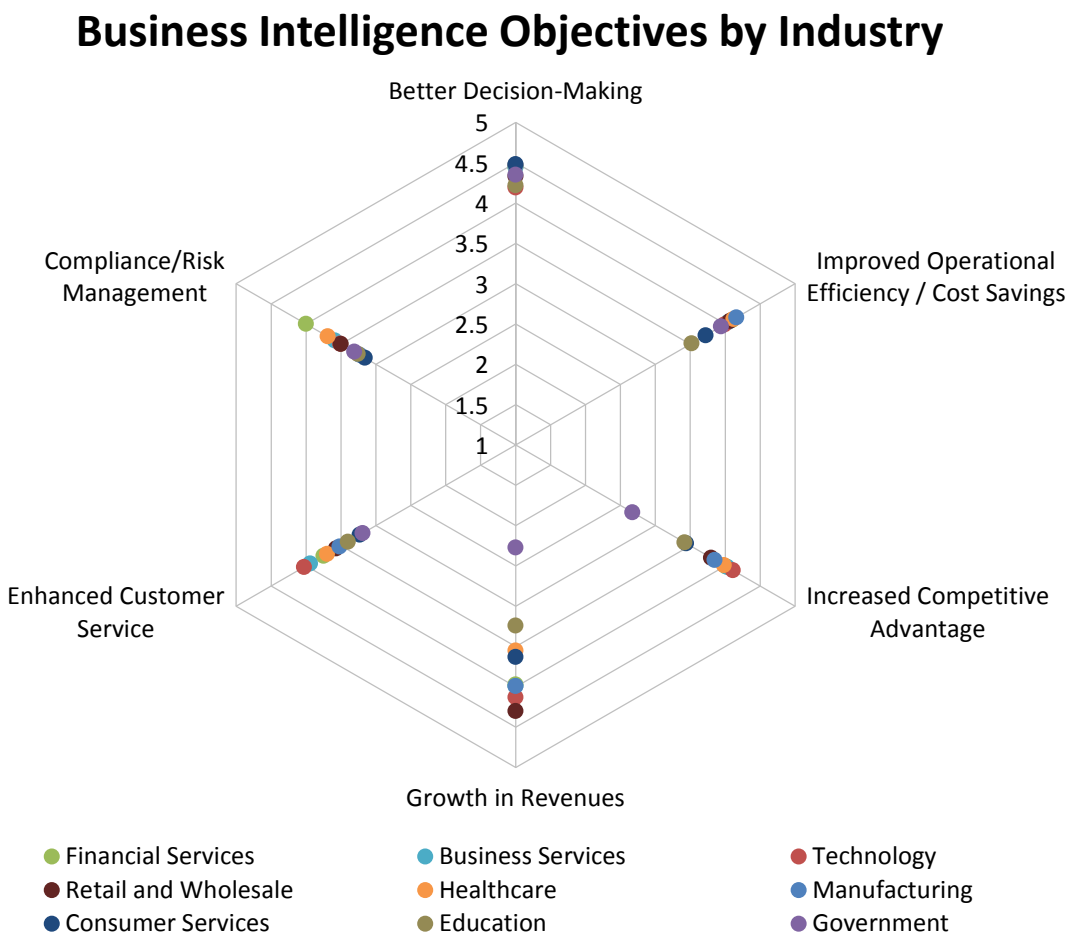



**Figure 24 – Business intelligence objectives by industry**

### 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. 25). Among these, small organization interest in 2022 is higher than all larger peers for *increased competitive advantage*, *growth in revenues*, and noticeably highest for *enhanced customer service*. Besides *better decision-making*, importance logically increases with enterprise global headcount for objectives including *improved operational efficiency* and *compliance/risk management*. Despite disparities, we note that all six objectives are at least *important* and sometimes *very important* to all organizations regardless of size.

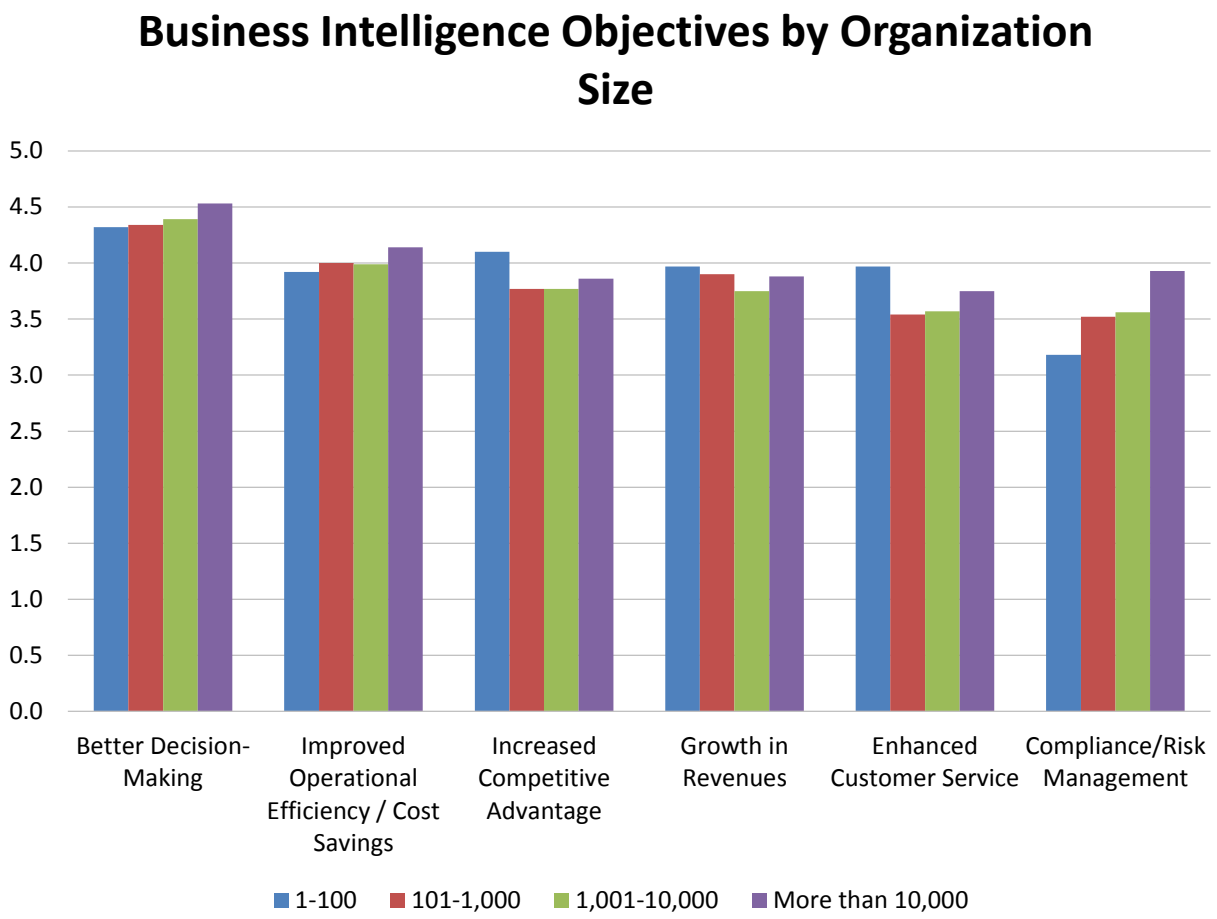



**Figure 25 – Business intelligence objectives by organization size**

## Business Intelligence Achievements

Beginning in 2017, we asked respondents to augment their view of *BI objectives* by gauging their perceived level of *BI achievements* by the same standards (fig. 26). By this measure, we find very good alignment of goals and results, since all six are identically ranked for both achievements and objectives (fig. 19, p. 36). A very positive perception is that BI objectives see at least *high achievement* or *moderate achievement* among strong to very large majorities of respondents across all six stated objectives. Nonetheless, areas of growing importance may not be improving as fast as hoped. (Also see following charts.) One conclusion might be that BI objectives are (and perhaps should be) loftier than realized gains. Over time, we expect this polling will help identify distinctions between specific organizational goals and the difficulty of modeling and managing different processes successfully.

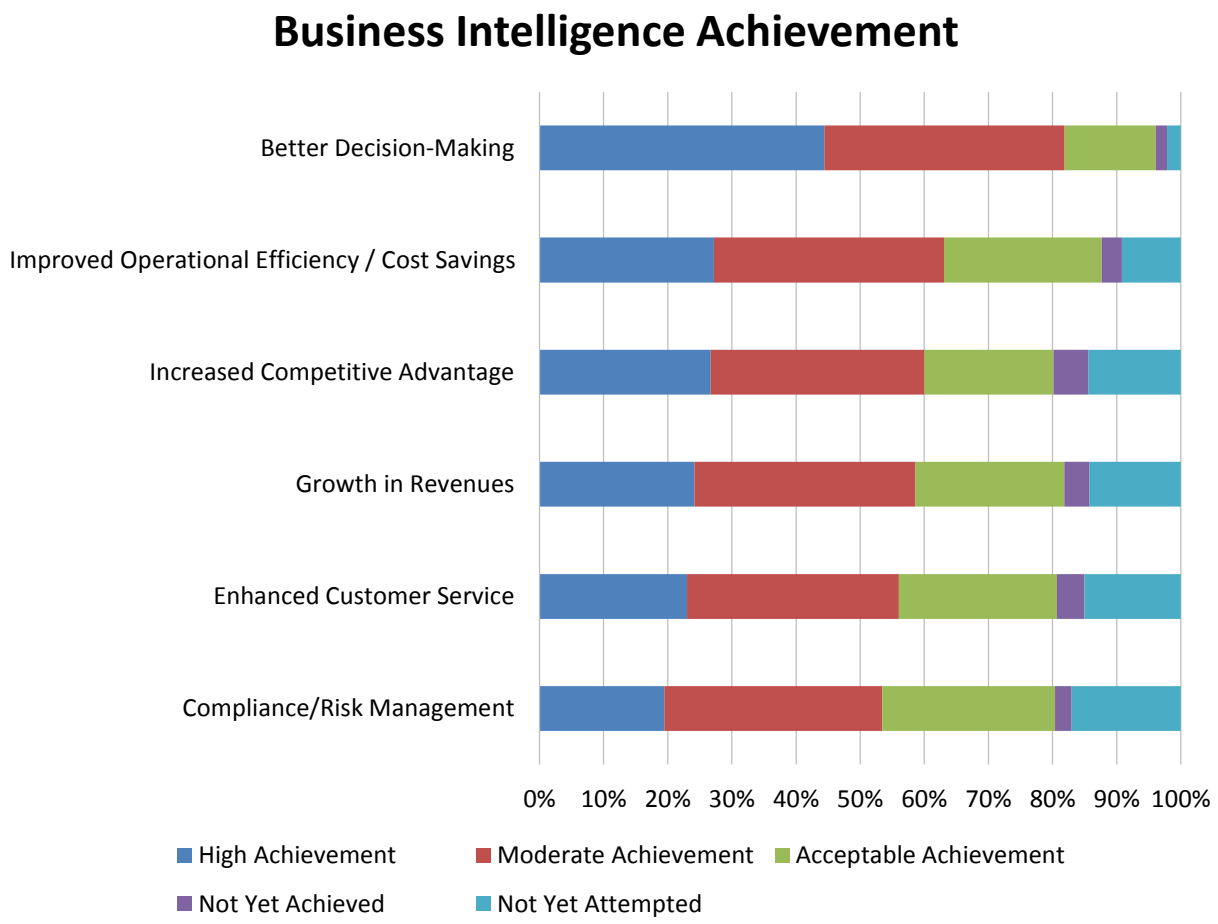



**Figure 26 – Business intelligence achievement**

## Business Intelligence Achievement 2018-2022

Fig. 27 shows organizational measures of perceived achievement over time. Much like BI objectives (fig. 20, p. 37), all measures of achievement for 2022 are flat to growing, with noticeable improvements for *growth in revenues, increased competitive advantage, enhanced customer service*, and *compliance/risk management*. Nearly all achievements rank consistently over time, and all fall into greater than *acceptable* to *moderate* or *high* achievement levels of performance.

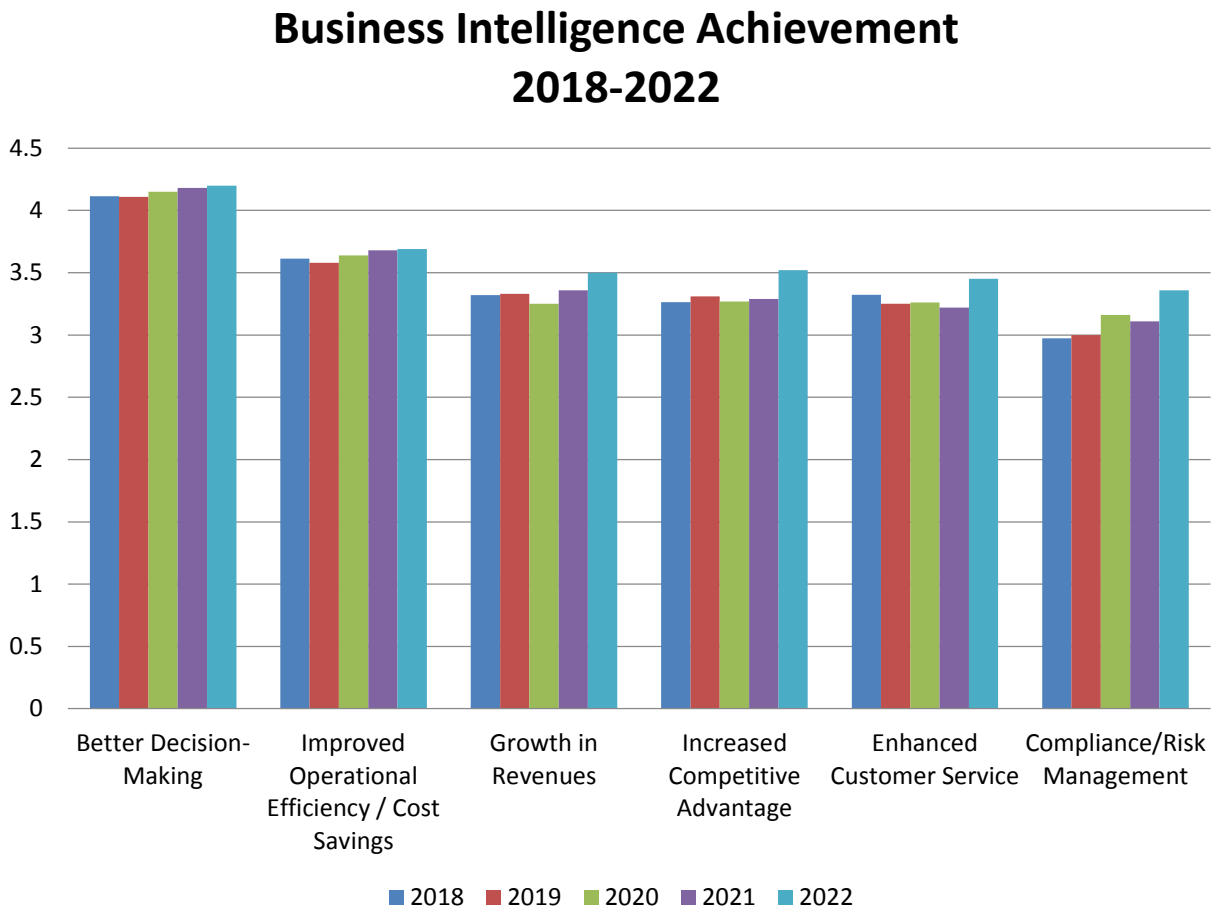



**Figure 27 – Business intelligence achievement 2018-2022**

### Change in BI Achievement 2021-2022

Fig. 28 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* and *improved operational efficiency* are both flat year over year, while all other measures (particularly *compliance/risk management, enhanced customer service*, and *increased competitive advantage*) improved noticeably. These findings are comparable and resonate well with gains in importance of BI objectives (fig. 21, p. 38).

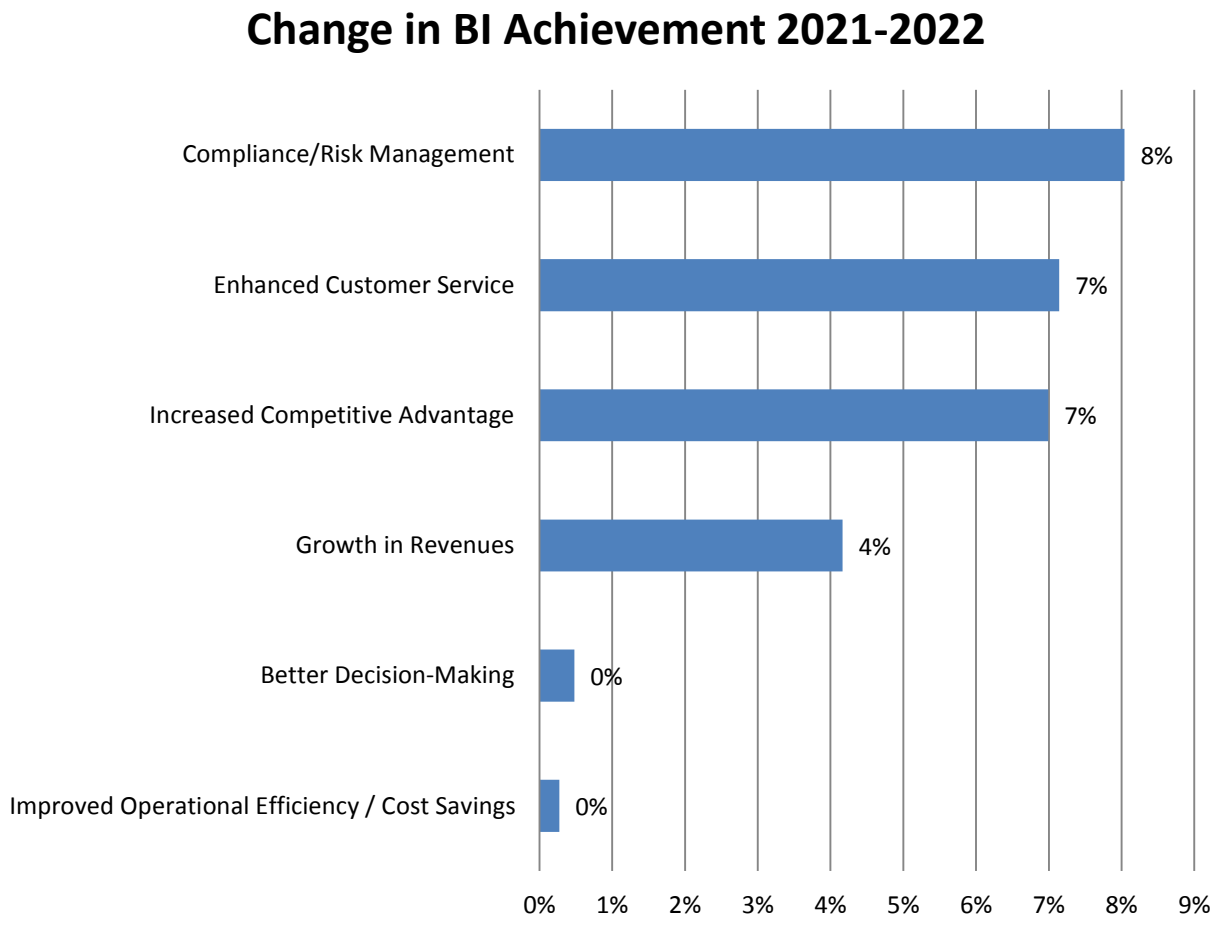



**Figure 28 – Change in BI achievement 2021-2022**

### Business Intelligence Achievements by Function

Viewed by function, all organizational roles claim the greatest achievements in *better decision-making* with high marks in the range of moderate to high success, with the best performance coming from *marketing and sales, BICC*, and *finance* (fig. 29). At a somewhat lower criticality, *finance* also leads *improved operational efficiency* but with more clustered results across roles. *Increased competitive advantage* and *growth in revenues* are among the perceptions of achievement most widely distributed by role, where *executive management* stands out with its moderate to high success scores. We also observe that *operations* respondents report below-average achievement in nearly all areas with the exception of *compliance/risk management*.

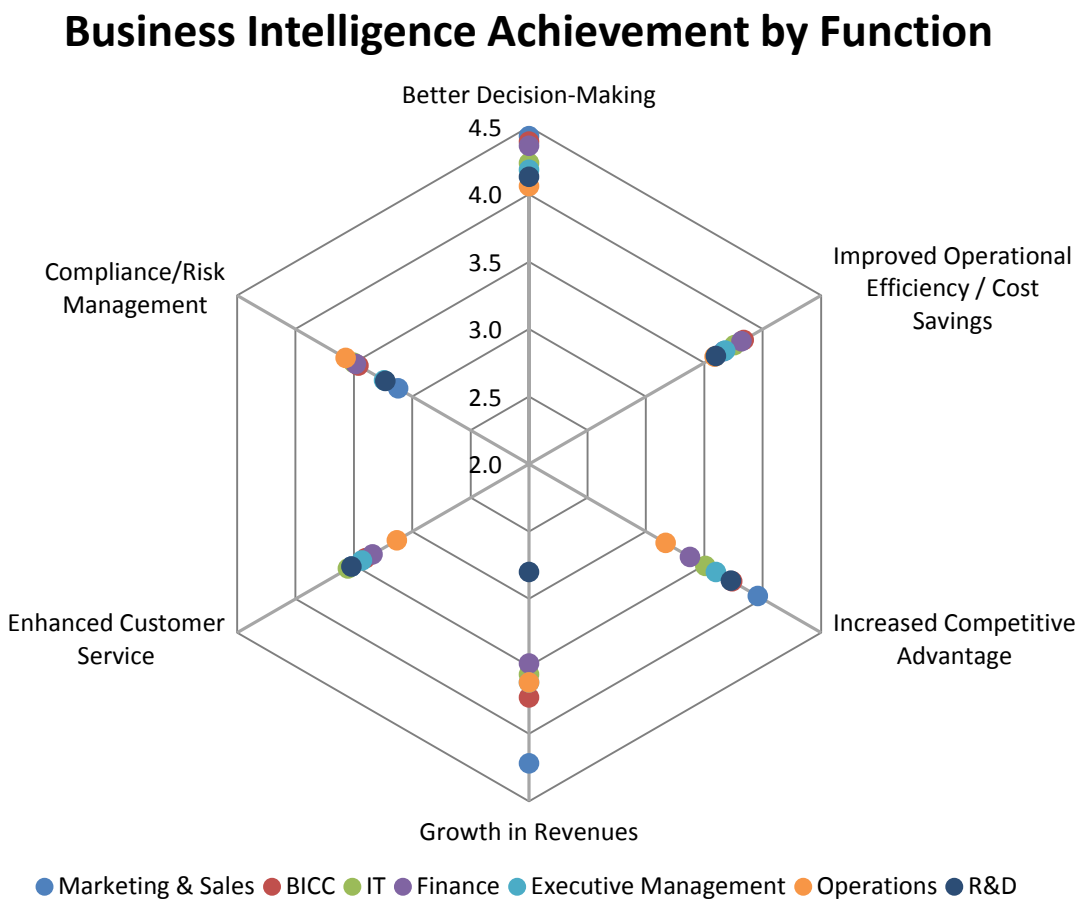



**Figure 29 – Business intelligence achievement by function**

### Business Intelligence Achievements by Industry

Viewed by industry, all respondents claim their greatest rate of *moderate* to *high* achievement in *better decision-making* (fig. 30). This year, *retail and wholesale* and *manufacturing* are the most likely to report *improved operational efficiency* as the area of second-greatest achievement. *Retail and wholesale* also points to success in *growth in revenues* but performs at a below-average level in *improved operational efficiency*, an area where *business services, financial services*, and *technology* organizations claim to excel. Among other findings, *government* and *education* respondents generally report the lowest levels of achievement with BI.

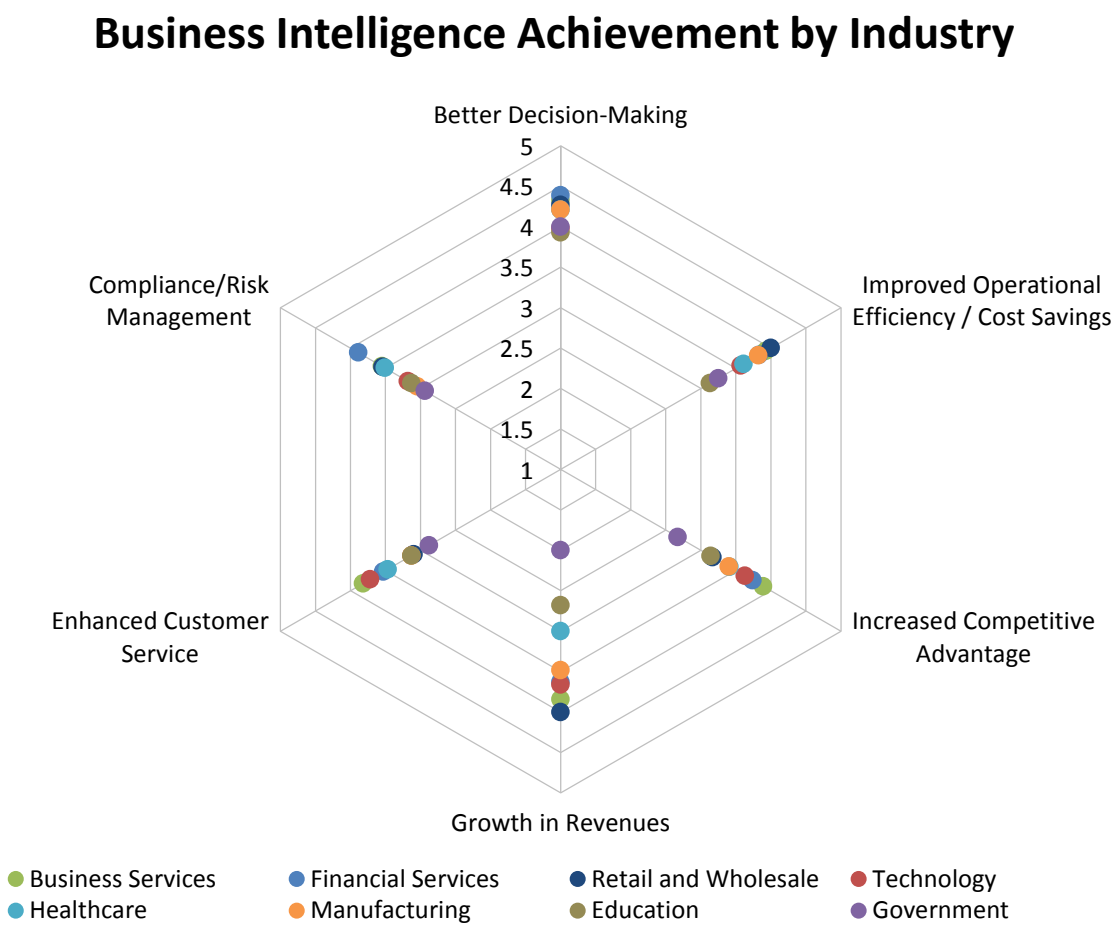



**Figure 30 – Business intelligence achievement by industry**

### Business Intelligence Achievements by Organization Size

Achievement with business intelligence tends to increase with organization headcount, though small organizations (1-100 employees) report standout results in certain areas (fig. 31). Respondents at all organizations clearly identify *better decision-making* as their most realized BI achievement. Somewhat predictably, we observe that very large organizations (>10,000 employees) identify *improved operational efficiency* as their second most likely achievement and excel in areas of *increased competitive advantage, enhanced customer service*, and *compliance/risk management*. Small organizations also report high achievement in *increased competitive advantage* and *enhanced customer service*. Interestingly, *growth in revenues*, while showing moderate success, is also the most evenly realized achievement across organizations of different sizes.

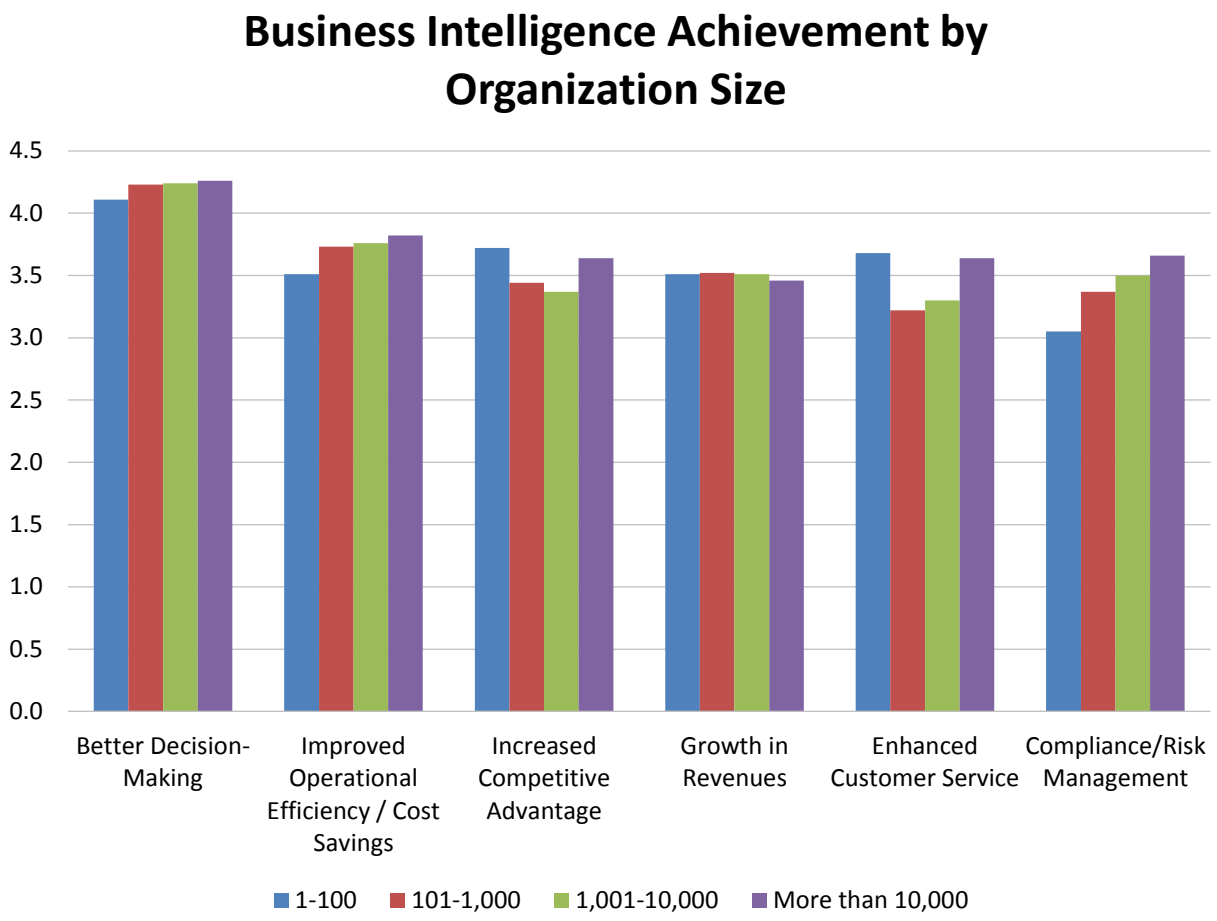



**Figure 31 – Business intelligence achievements by organization size**

## 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. 32 compares penetration of BI through the most recent seven years and finds low-level penetration decreases as higher levels climb. Between 2015 and 2022, the lowest level (< 10%) declined most (from 35 percent to 20 percent), and 11-20 percent penetration fell from 22 percent to 18 percent. The next four levels of penetration all grew noticeably. For example, 61-80 percent penetration grew from 4 to 10 percent, and >80% penetration grew from 13 to 18%.

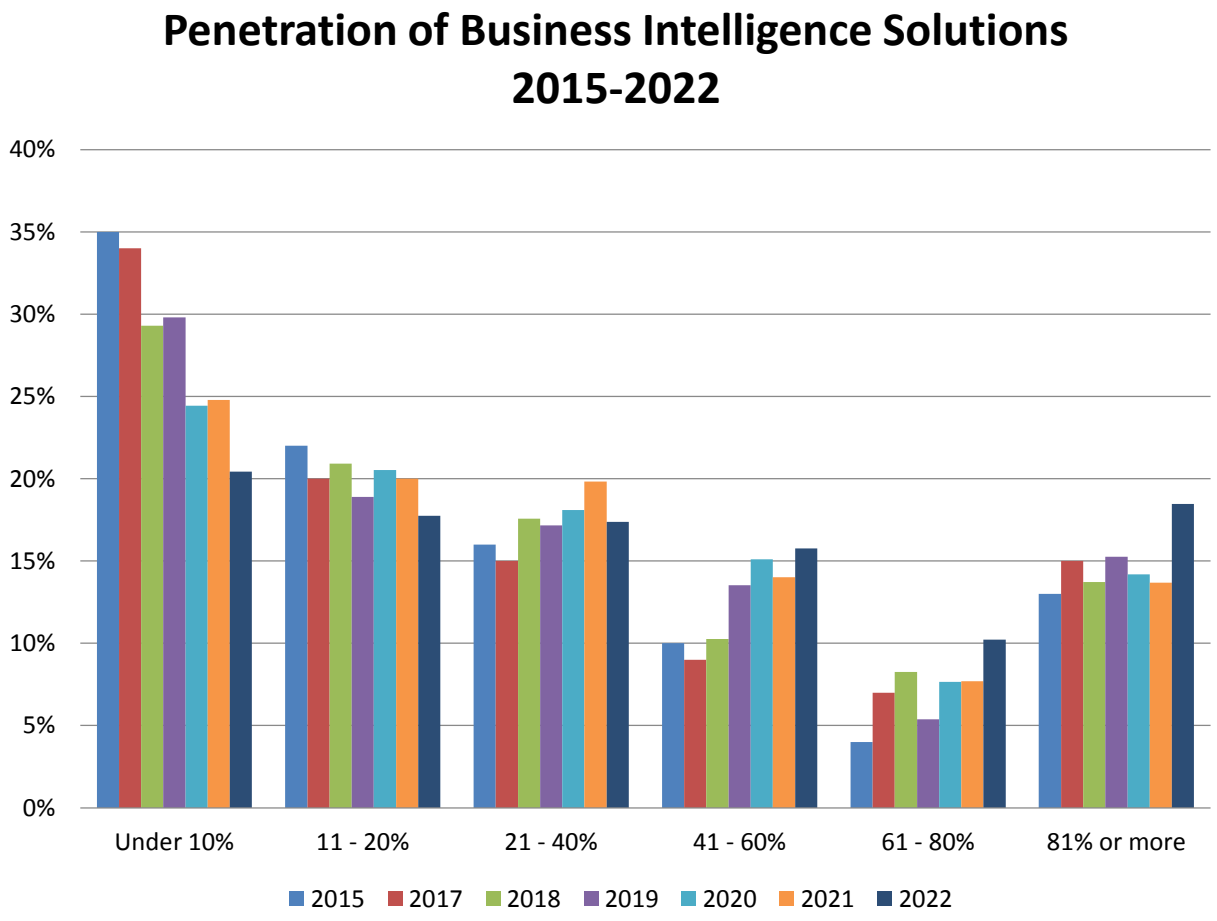



Figure 32 – Business intelligence penetration 2015-2022

## Penetration of Business Intelligence Solutions

Another instructive view of growth in BI penetration 2015-2022 is shown in fig. 33. Here we see that average BI penetration during the last seven years follows an easily visible trend line stretching from 29 percent penetration in 2015 to the greater than 40 percent we see this year.

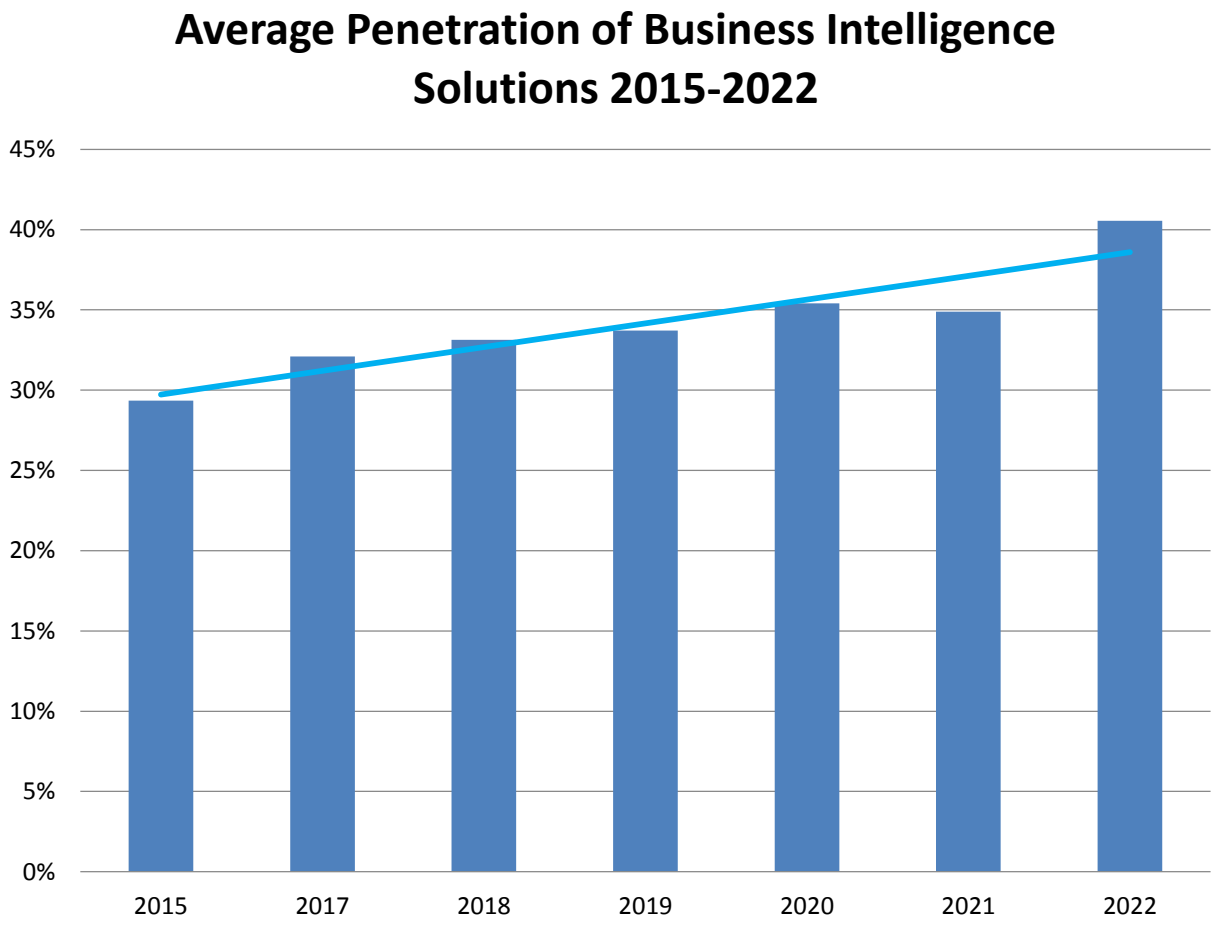



**Figure 33 – Average penetration of business intelligence solutions 2015-2022**

### Expansion Plans for Business Intelligence Through 2024

Beyond improving levels of current deployment, respondents continue to describe bullish plans for expanding BI in future time frames (fig. 34). We consider the 12-month period the most likely to be supportable and budgeted. In this 12-month time frame, respondents expect to reduce sub-10 percent penetration by half, from about 20 percent to about 10 percent and expect all other measures of penetration to improve. Sub-10 percent penetration will continue to decrease in all subsequent periods. In the longest (36-month) view, respondents expect sub-10 percent penetration will be as low as 8 percent, while penetration at the very highest level (> 80 percent) will improve from 18 percent today to 32 percent.

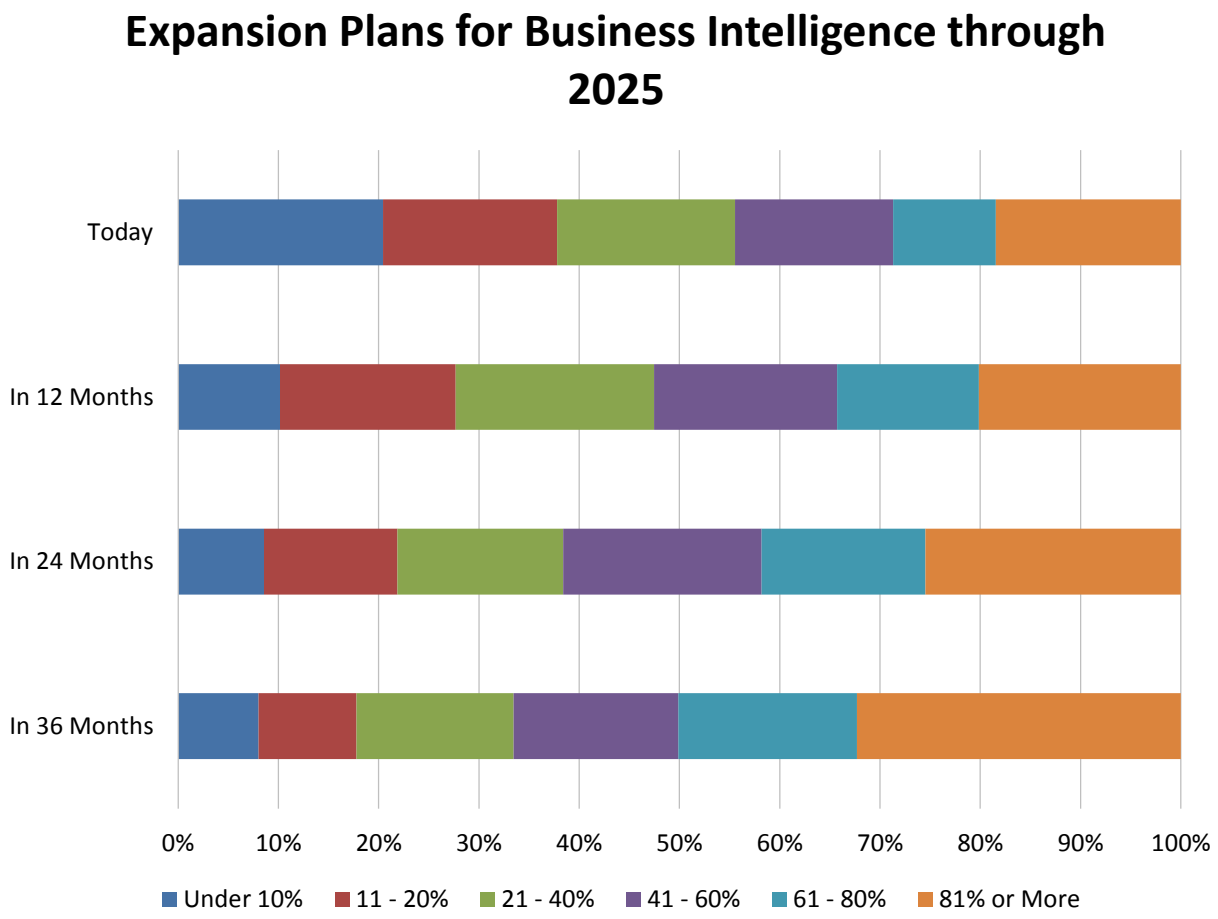



**Figure 34 – Expansion plans for business intelligence through 2025**

### Current Business Intelligence Penetration by Geography

Viewed by geographic region, North America reports just 14 percent sub-10 percent *current* penetration, compared to EMEA (25 percent), Asia Pacific (25 percent), and Latin America (37 percent) (fig. 35). The same sequence of favorable levels of penetration is repeated at higher levels, particularly at the highest >80 percent level. Here we find that North American penetration is at 22 percent, compared to 19 percent in EMEA, 9 percent in Asia pacific, and 7 percent in Latin America. Subtle variations are nonetheless visible outside this high/low mix of penetration. For example, EMEA reports greater penetration than North America in collective areas such as >20 percent, >40 percent and >60 percent.

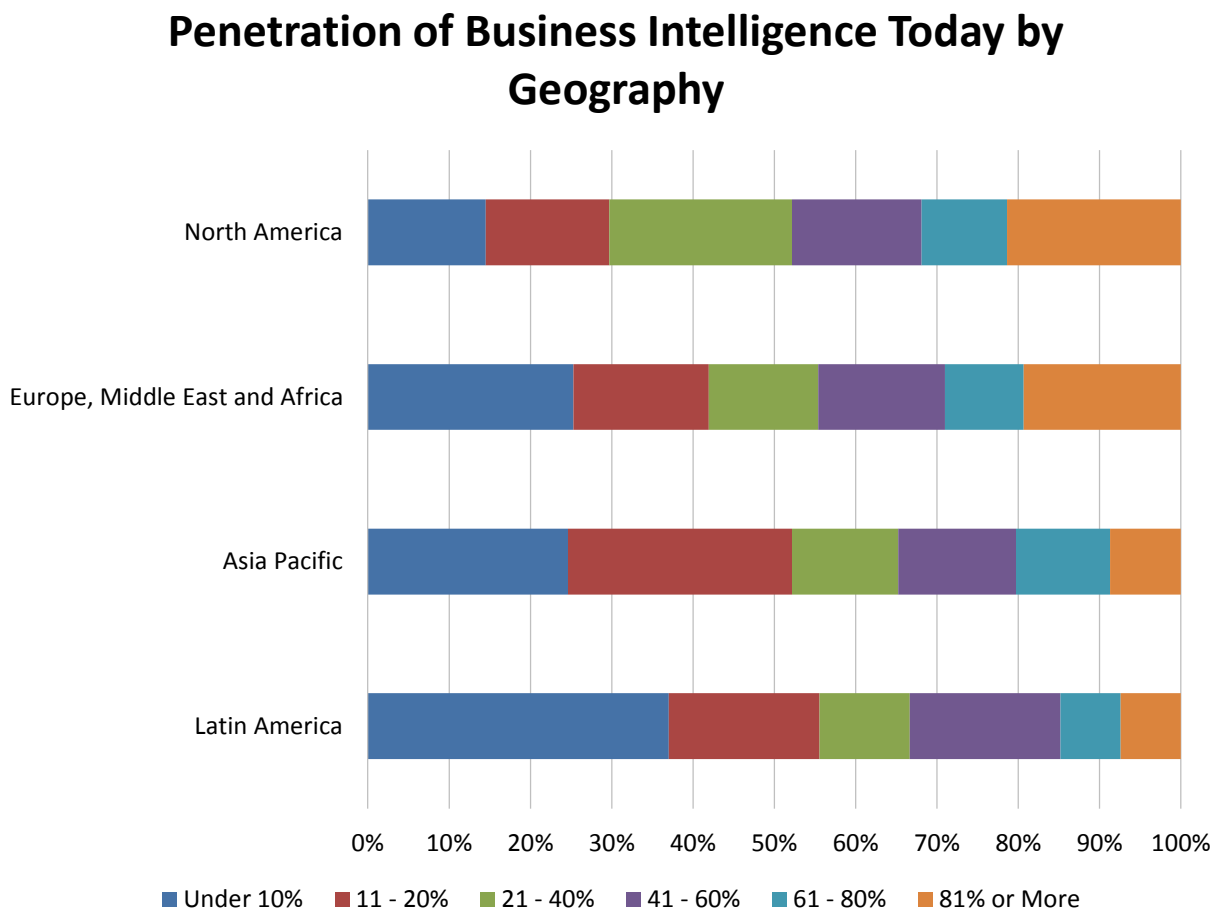



**Figure 35 – Penetration of business intelligence today by geography**

### Planned Business Intelligence Penetration by Geography

A view of *future* BI plans by geography supports global expectations of somewhat linear improvements in 12, 24, and 36-month time frames (fig. 36). The most universal expectation is that penetration at the highest level (>80 percent) will incrementally improve in future time frames regardless of region. In this regard, respondents in North America and EMEA clearly have the highest expectations: in the longest 36-month projection, well greater than 30 percent of organizations in both regions expect to see 80 percent or greater penetration. Among several other findings, all regions, particularly Asia Pacific, predict flat or even resurgent percentages of employees at the lowest level (<10 percent), and greater improvements at various higher levels of penetration.

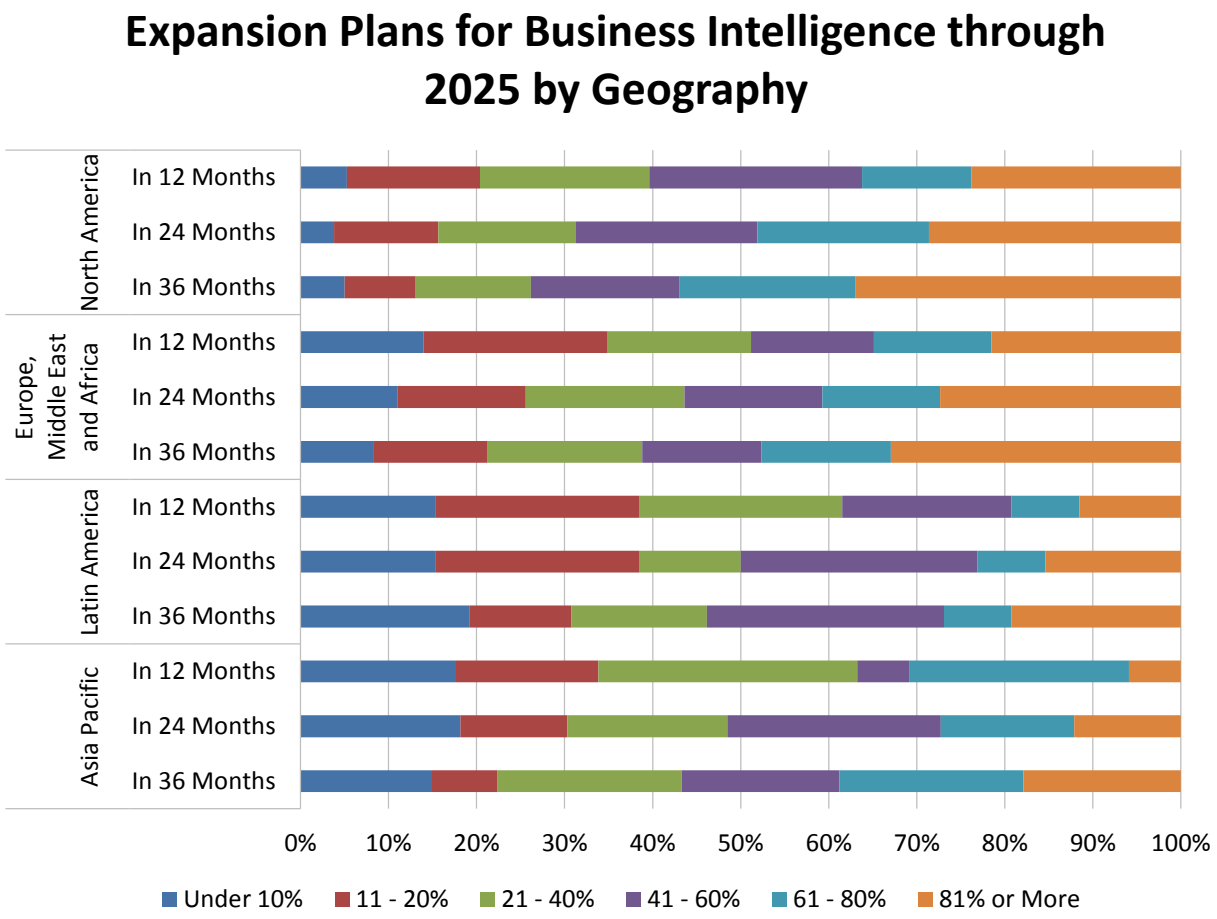



**Figure 36 – Expansion plans for business intelligence through 2025 by geography**

### Current Business Intelligence Penetration by Function

*Current* penetration levels of BI are well distributed across multiple functions in 2022 with no obvious common pattern (fig. 37). As measured by adding the top two levels of penetration, the most penetrated BI users by function in 2022 are in *R&D*, somewhat distantly followed by *executive management, operations*, and *BICC*. By this same measure, *finance* and *marketing and sales* are comparable laggards. When we add the top four or five highest penetration levels, results tend to flatten somewhat across multiple functions, a reflection of the compartmentalized nature of functional BI users. In sum, 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 (more than one-third at sub-21 percent) at low levels of penetration.

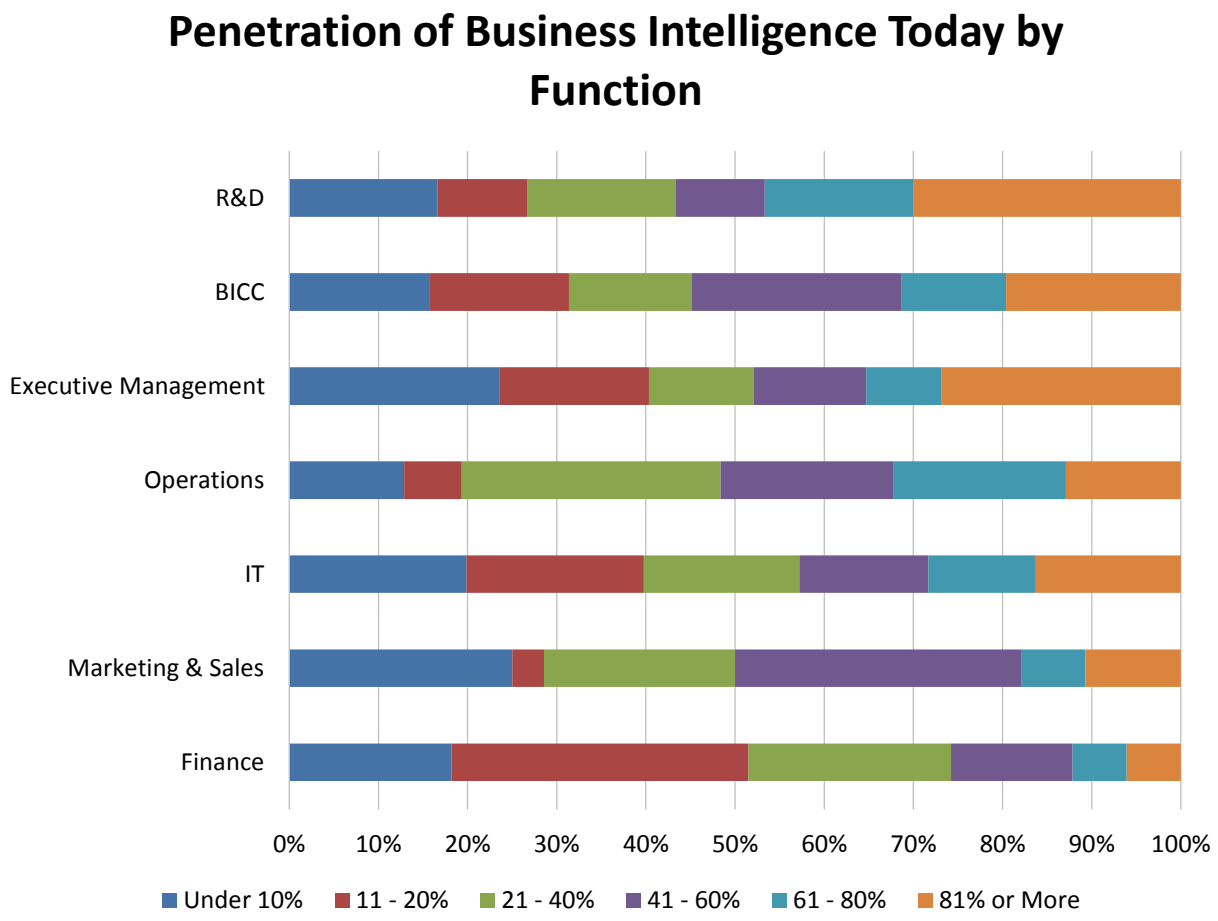



**Figure 37 – Penetration of business intelligence today by function**

### Planned Business Intelligence Penetration by Function

*Future* expansion plans at different levels of BI penetration vary by function, though most functions expect to see at least a considerable increase in "high-level" BI penetration over coming time frames (fig. 38). In particular, respondents in *R&D, executive management*, and *operation*s expect the highest levels of future penetration of 80 percent or more. Interestingly, expectations in the *BICC* (as well as *marketing and sales* and *finance*) are visibly more modest by this measure. In another expectation of improving penetration, *R&D* respondents expect the lowest sub-10 percent penetration going forward. *Operations and BICC* are the next most likely to expect declines in future low levels of BI penetration.

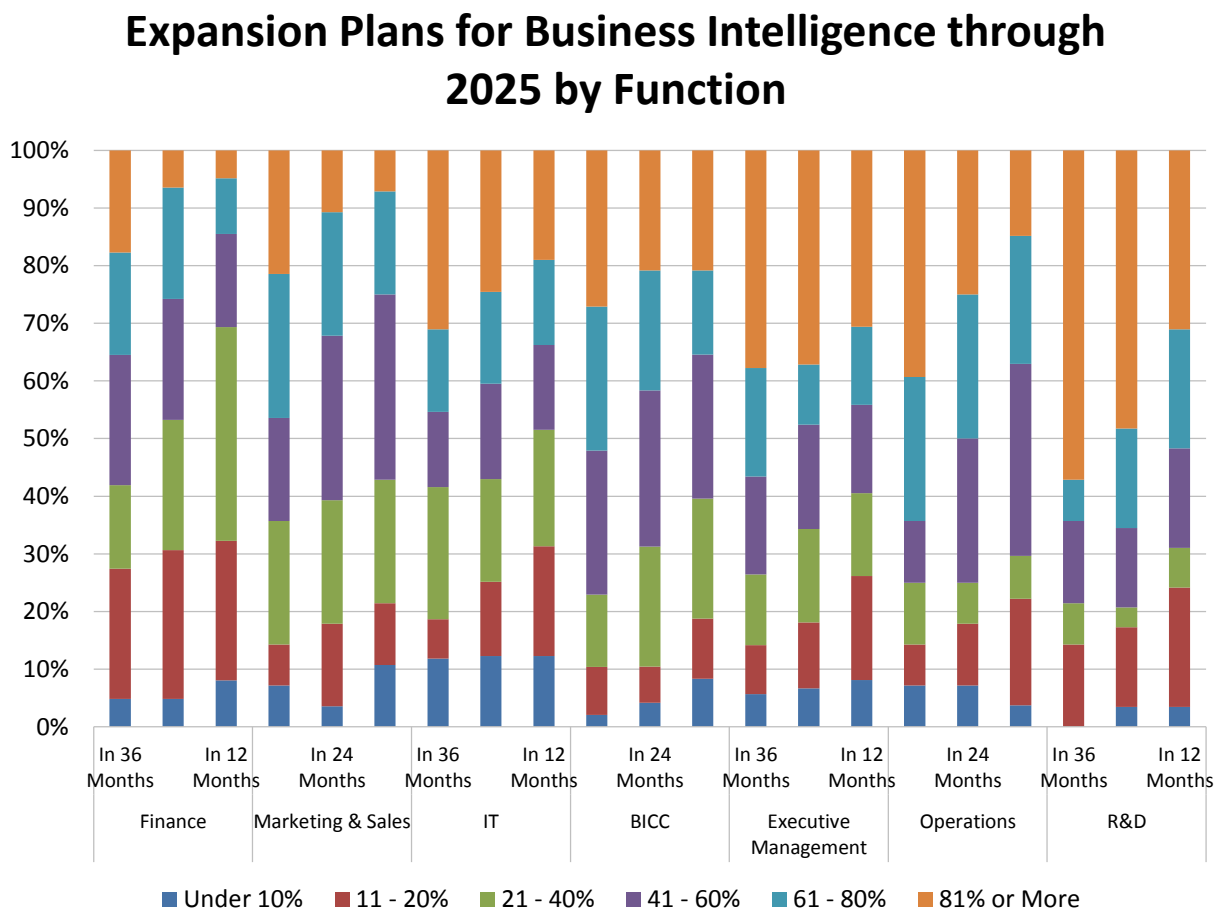



**Figure 38 – Expansion plans for business intelligence through 2025 by function**

### Current Business Intelligence Penetration by Vertical Industry

Both high and low levels of *current* BI penetration differ by vertical industry in 2022 (fig. 39). *Currently*, the best performing industries by weighted mean are *technology* and *business services*, both with less of the lower (< 20 percent) and more of the higher (> 40 percent) BI penetration. At the other extreme, *government* respondents are 70 percent likely to report sub-20 percent penetration, and none with greater than 80 percent penetration. Between these bookends, we observe *services* industries tend to report higher-than-average levels of penetration, while *manufacturing, education*, and *healthcare* report below-average penetration.

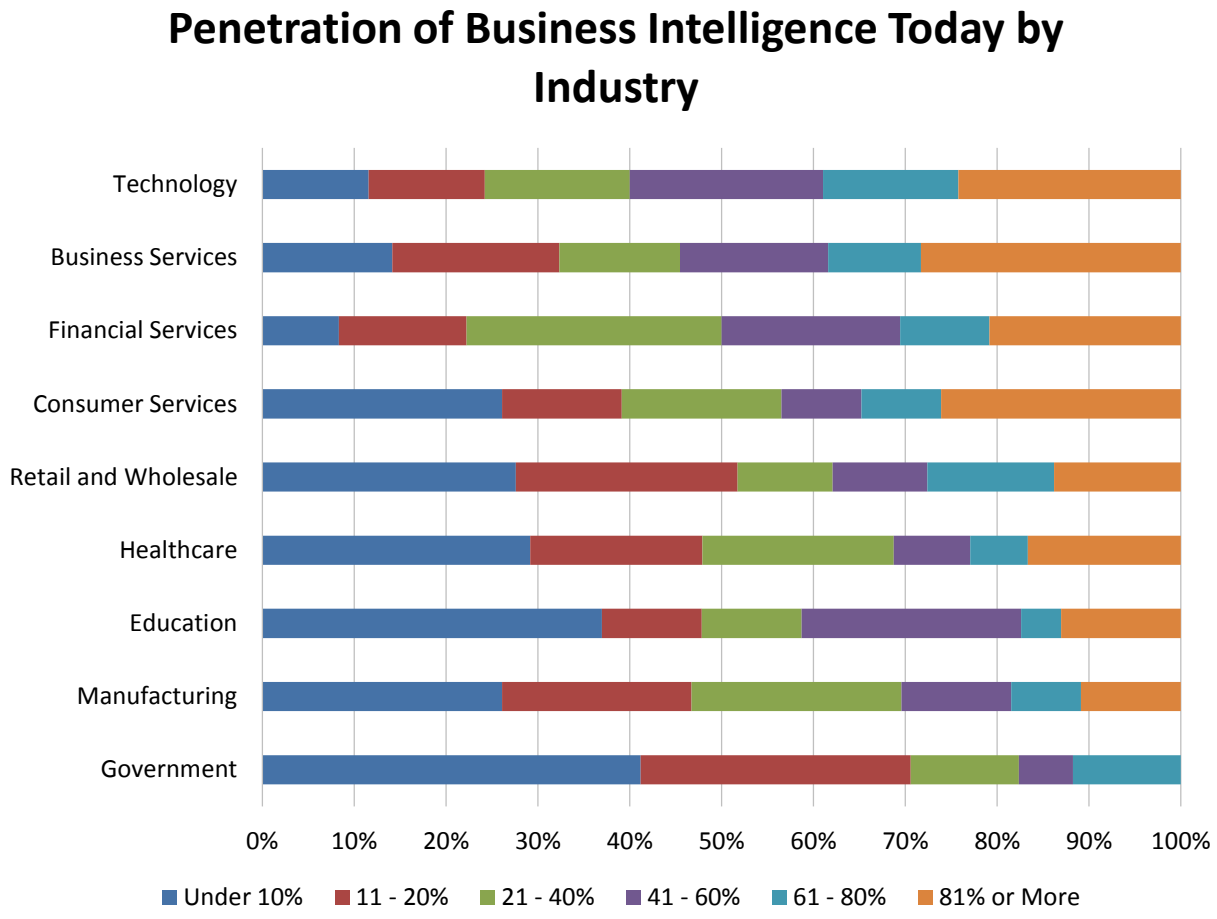



**Figure 39 – Penetration of business intelligence today by industry**

### Planned Business Intelligence Penetration by Vertical Industry

In our 2022 sample, *future* expansion plans for business intelligence vary unevenly by industry (fig. 40). Most visibly, 12, 24, and 36-month estimations of improved very high-level (> 80 percent) penetration are again highest among respondents in the *technology, financial services, business services*, and *consumer services* industries. Among several interesting industry findings, *manufacturing*, for example, expects steady improvements at multiple levels, and *healthcare* and *higher education* respondents see lingering sub-10 percent penetration but some progress at the highest levels. *Government* respondents expect improvements in fewer areas of <10 percent penetration but no improvement at the highest (>80 percent) penetration level.

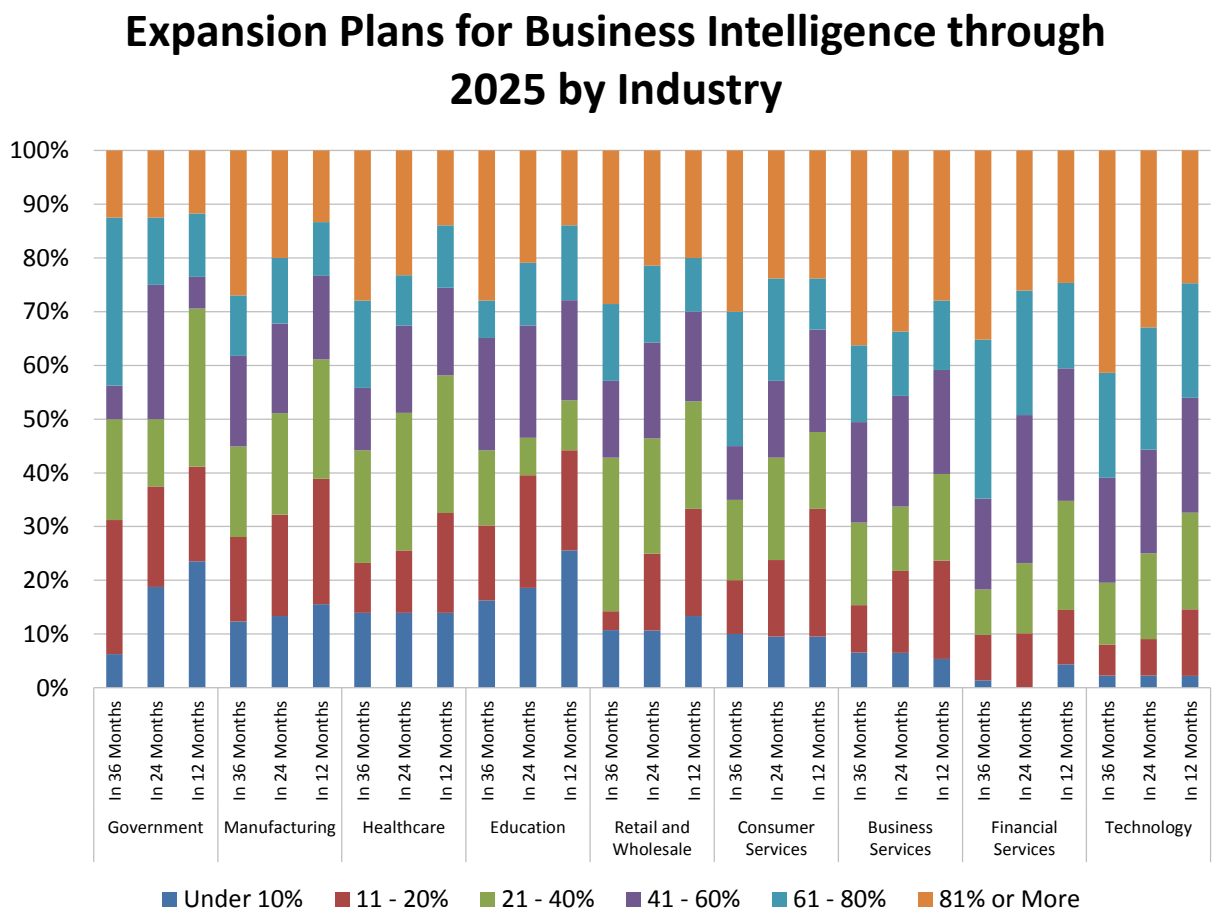



**Figure 40 – Expansion plans for business intelligence through 2025 by industry**

### Current Business Intelligence Penetration by Organization Size

As we observed in every year of our study, in 2022, small organizations of 1-100 employees have more BI penetration at higher levels and less low-level penetration, compared to all larger peers (fig. 41). 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. Even so, the next most penetrated group overall is the very large (>10,000 employees) organization, where 69 percent report greater than 20 percent penetration, and 45 percent have 40 percent or greater penetration.

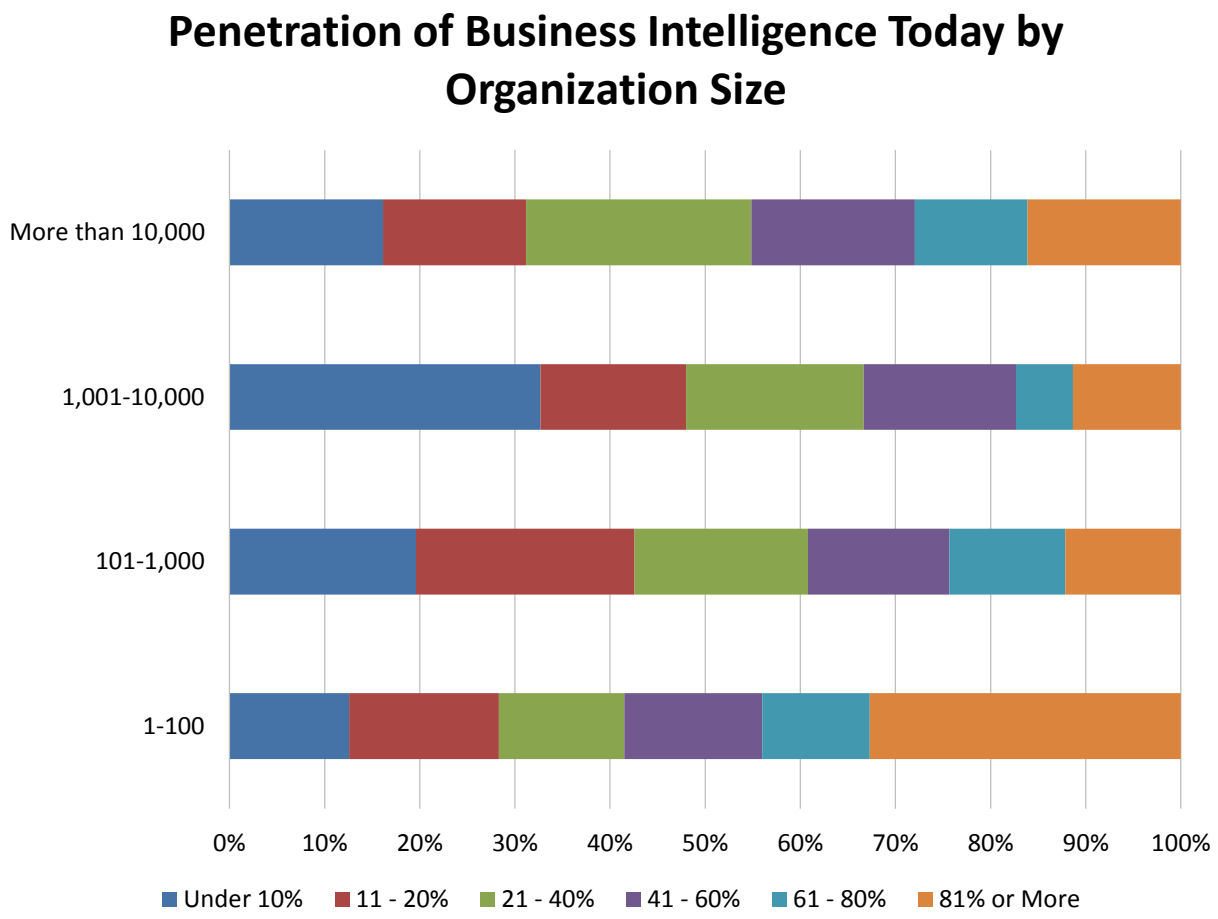



**Figure 41 – Penetration of business intelligence today by organization size**

### Planned Business Intelligence Penetration by Organization Size

Along with being the most penetrated today, small organizations (1-100 employees) have the steepest expectations by far for future high-level BI penetration in coming time frames (fig. 42). All other organizations expect somewhat flat penetration at the two lowest levels and greater success at the highest levels of penetration by percentage. Very large organizations (> 10,000 employees) have mixed expectations at the sub-20 percent level but expect year-over-year gains at the higher levels. Consistent among these findings is that the lowest penetration (< 10 percent) in organizations of any size appears somewhat "stuck" at current levels, perhaps identifying a segment that will not / does not need to be targeted with BI.

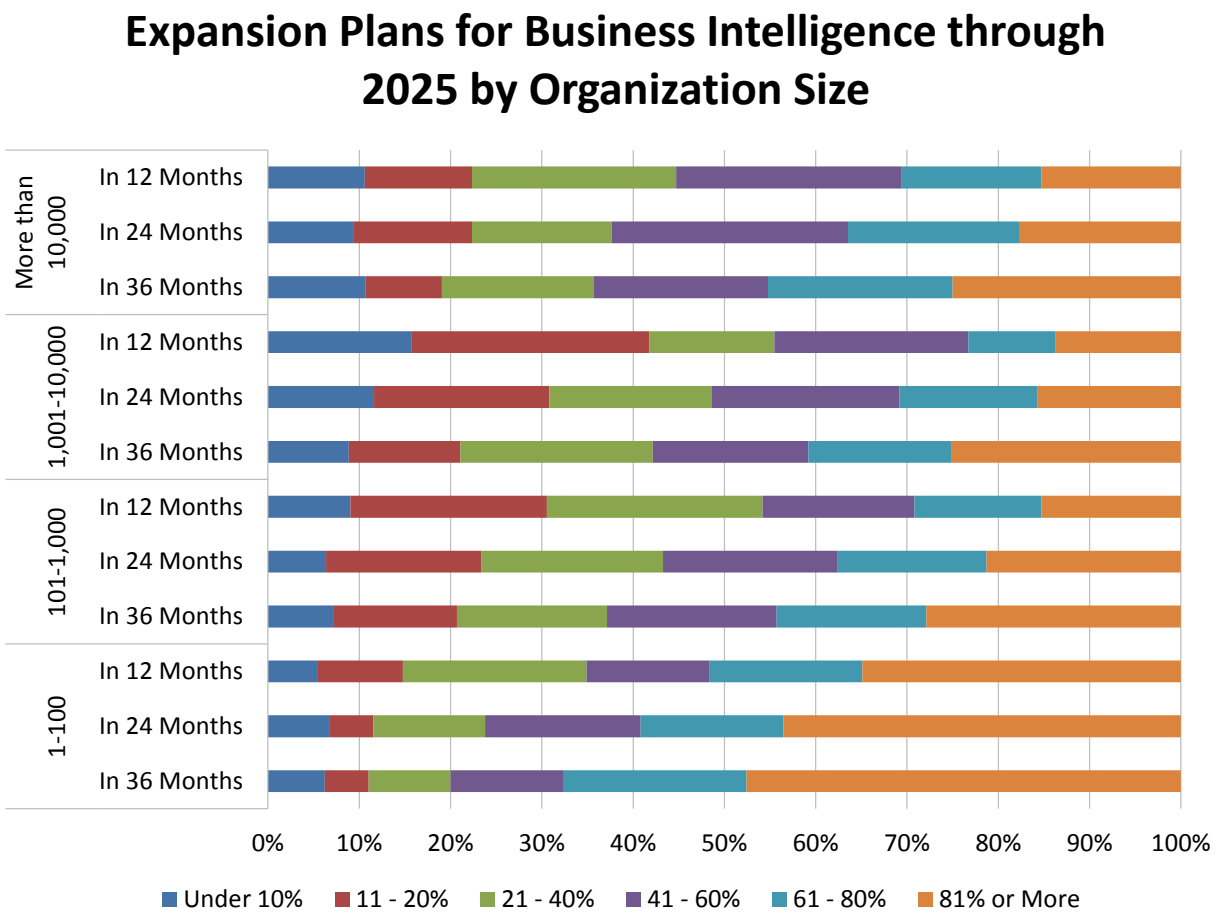



Figure 42 – Expansion plans for business intelligence through 2025 by organization size

## Data Leadership, Chief Data and Chief Analytics Officers

New for 2022, we asked respondents to identify "data leadership" within their organizations and gave them the choice of CDO, CAO or "other title" write-in roles that provide direction and leadership in leveraging the use of data in their organizations. Those identified as data leaders might lead or coordinate programs, projects, or activities around endeavors such as data democratization, data governance, marketing campaigns, or BI rollouts. We identify strongly with the importance of the CDO / CAO/data leader and pursue research to identify and support this role. (Figs. 53-57 refer specifically to the CDO / CAO role.)

In 2022, about 37 percent of organizations say they can identify a *data leader in place* in their organization (fig. 43). About 42 percent say they cannot name or identify a data leader in their organization. The remaining 20 percent say they might expect, attempt to hire, or welcome a data-leader role in the future.

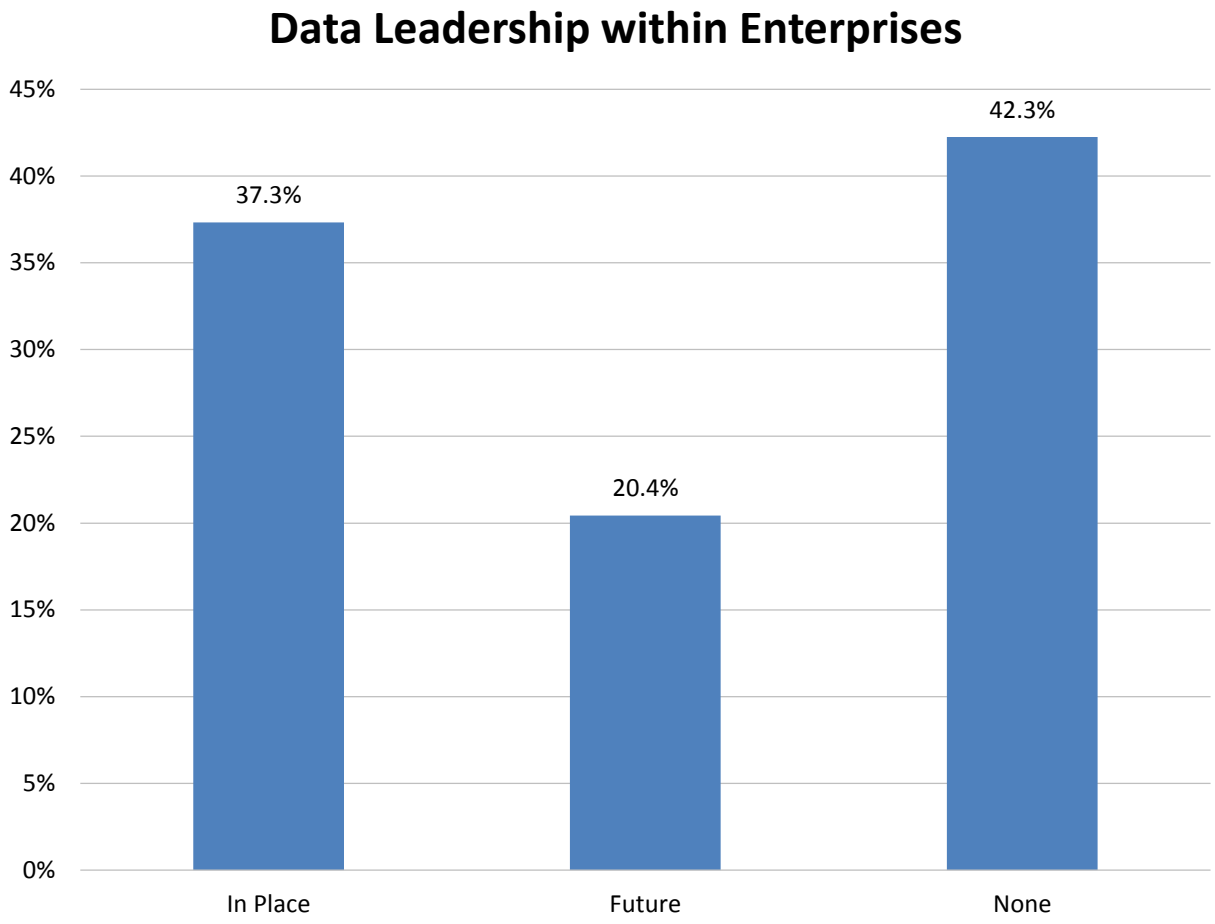



**Figure 43 – Data leadership within enterprises**

### Data Leadership by Geography

By geographic region, organizations are 34-40 percent likely to currently have a data leader in place, most often in Latin America and North America (fig. 44). Combined current and future plans are highest in Asia Pacific (62 percent), followed by Latin America (61 percent), EMEA (59 percent), and North America (56 percent).

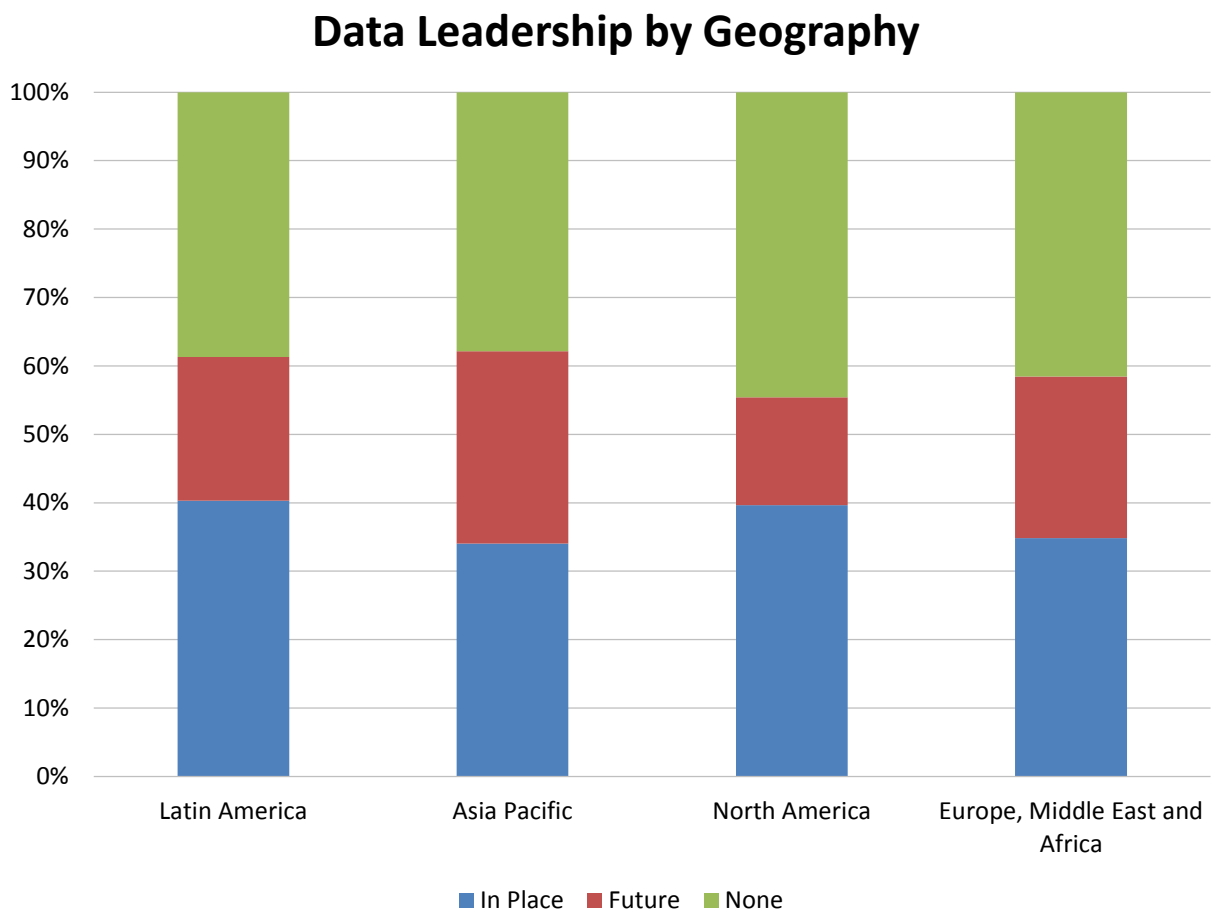



**Figure 44 – Data leadership by geography**

### Data Leadership by Industry

The presence of current data leadership roles varies by industry and this year is notably highest in *financial services* (55 percent) (fig. 45). Financial services also reports the highest combined current and future plans (70 percent). *Technology, business services*, and *healthcare* organizations are the next most likely (about 40 percent) to have data leadership in place in 2022. A third tier of *consumer services, retail and wholesale* and *education* organizations are about 29-32 percent likely to have data leadership in place. Just more than one-quarter of *manufacturing* organizations have data leadership in place, and a slight majority has no future plans to install such a role.

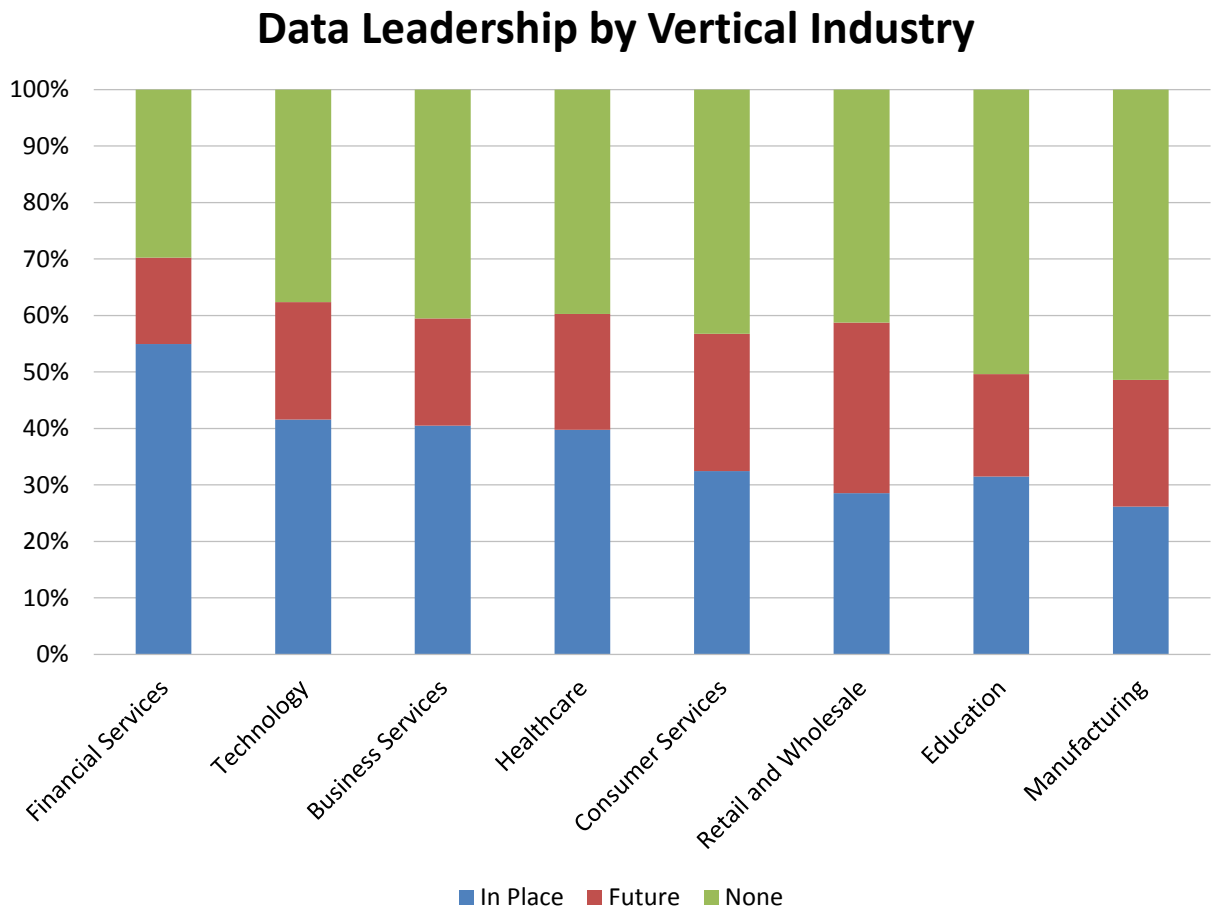



**Figure 45 – Data leadership by vertical industry**

### Data Leadership by Organization Size

The likelihood of existing and future data leadership increases with organization size, though small organizations (1-100 employees) sometimes buck this trend (fig. 46). This year, very large organizations (>10,000 employees) significantly most likely currently have data leadership in place (55 percent), and another 16 percent have future plans. Large organizations (1,001-10,000 employees) are about 40 percent likely to have data leadership in place, followed by small (34 percent) and mid-sized (25 percent) organizations. Mid-sized organizations are less than 50 percent likely to have existing or future plans for data leadership.

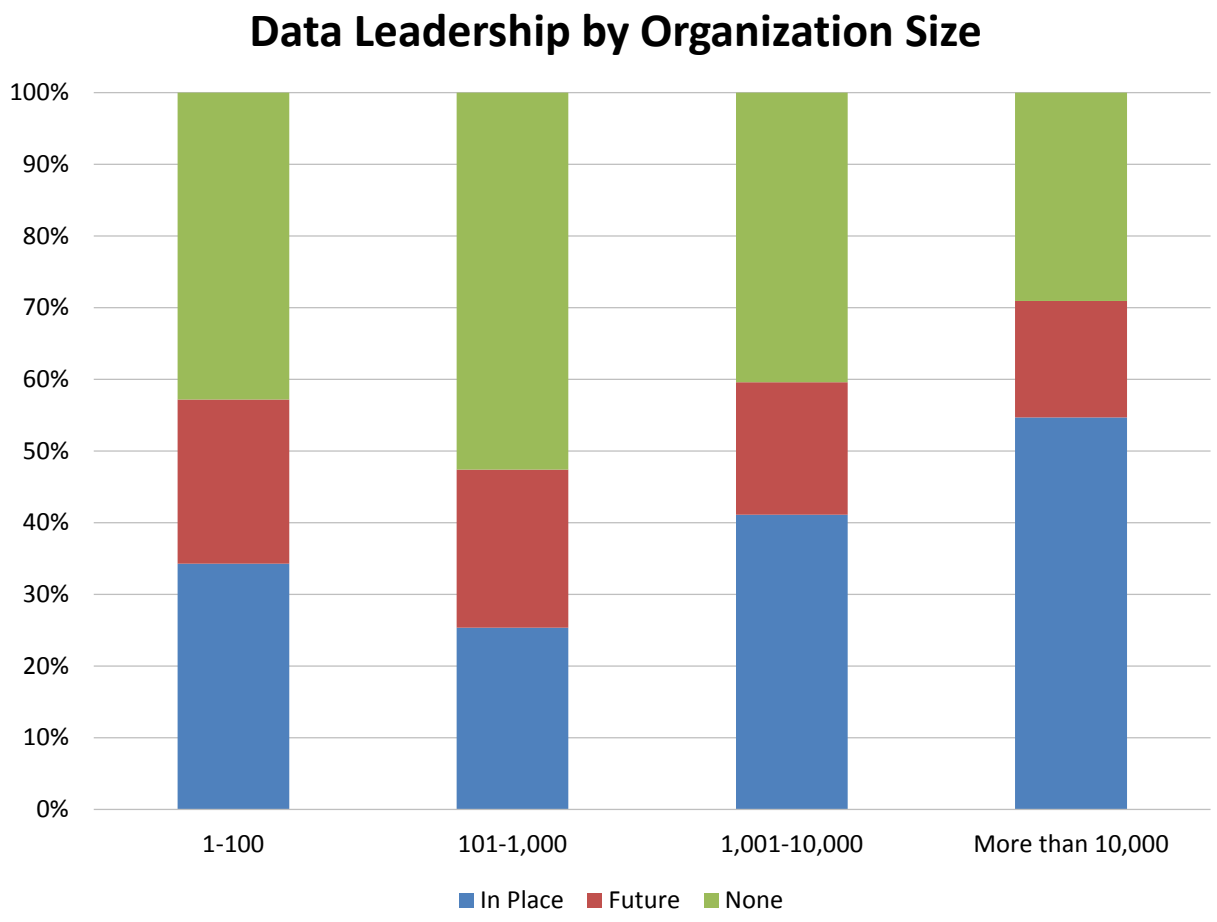



**Figure 46 – Data leadership by organization size**

### Data Leadership by Success with BI

Success with BI positively correlates with the presence of data leadership in the organization (fig. 47). At the extremes, organizations that are *completely successful* with BI are 46 percent likely to have data leadership in place, compared with 26 percent at *somewhat unsuccessful and unsuccessful* organizations. The same *somewhat unsuccessful and unsuccessful* organizations are more than 50 percent likely to have no plans for data leadership. In the middle, *somewhat successful* BI organizations are nearly 40 percent likely to have data leadership in place. Future plans for data leadership do not significantly vary by success with BI (19-21 percent).

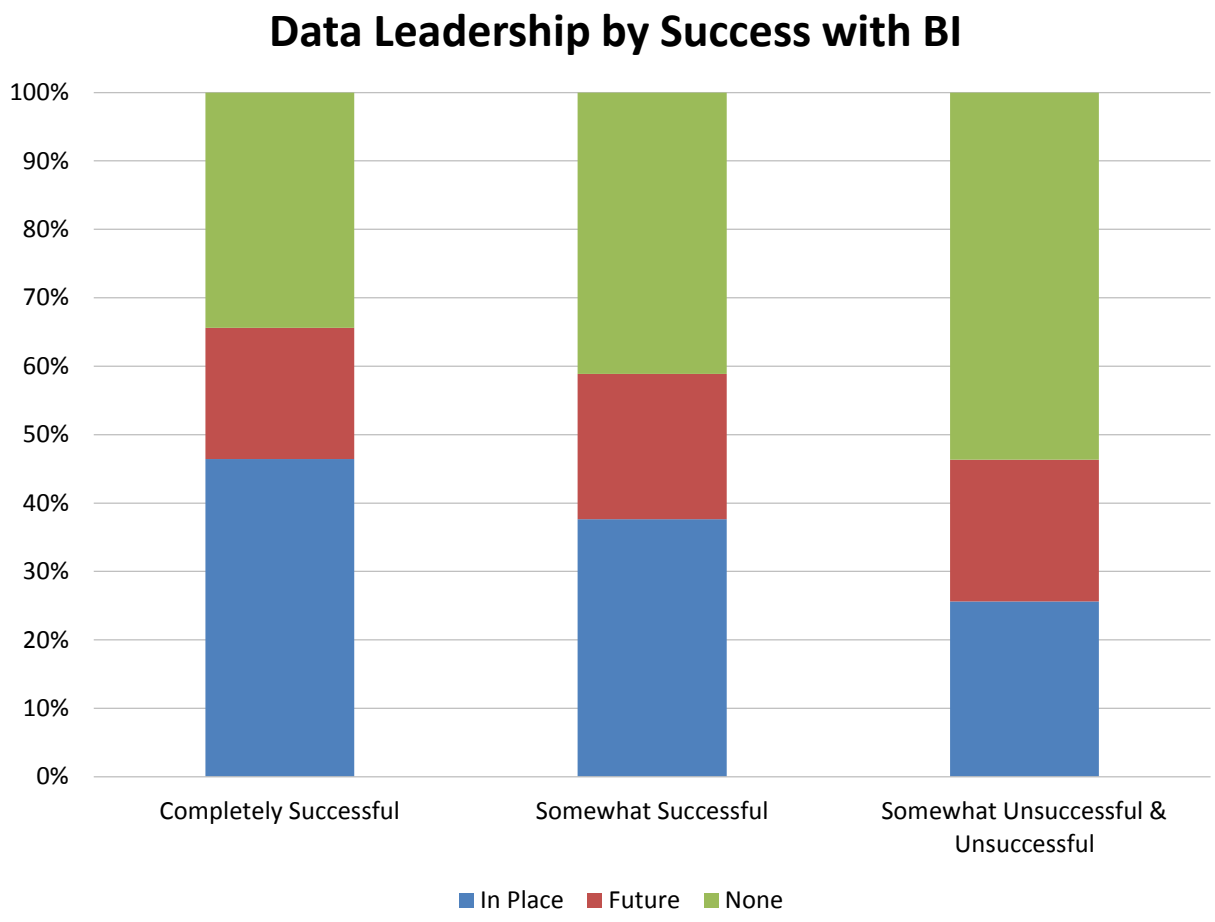



**Figure 47 – Data leadership by success with BI**

### Data Leadership by Data Literacy

The presence of high data literacy correlates positively with the presence of data leadership in organizations (fig. 48). This year, organizations with *extremely high* data literacy are notably 56 percent likely to have data leadership in place. Gradient observable declines in data literacy competency significantly reduce the likelihood of data leadership: organizations with *low literacy and very low literacy* are 24 percent likely to have data leadership in place, far less than half the aforementioned rate of highly data-literate organizations. While we cannot assign cause and effect to this relationship, it is highly evident that data leadership and data literacy go hand in hand.

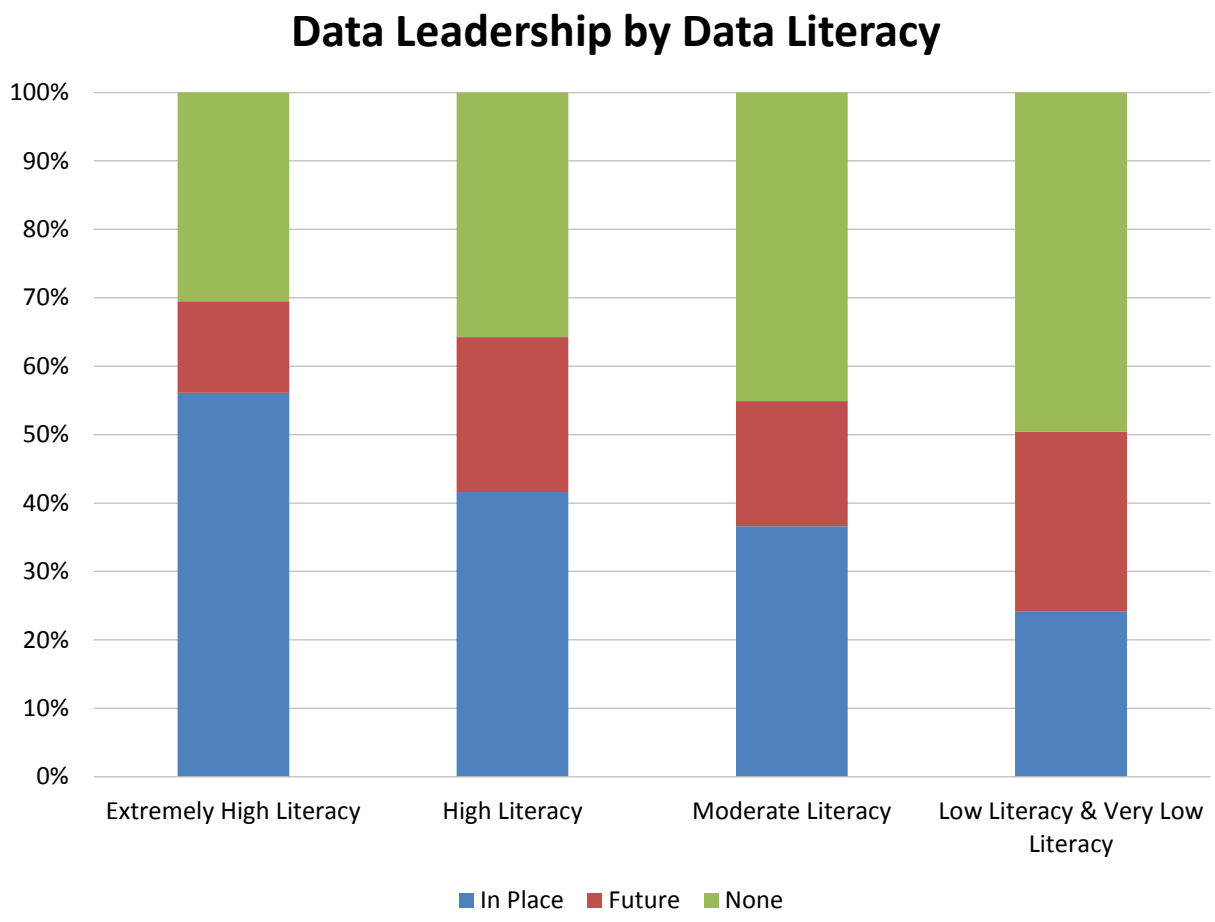



**Figure 48 – Data leadership by data literacy**

### Data Leadership by Achievement with BI

The presence of *in-place* data leadership in organizations increases the likelihood of business intelligence achievement for every objective pursued by respondents in 2022 (fig. 49). Also, in nearly every case, organizations with *future* plans for data leadership are slightly more likely to report higher business achievement than organizations with *no plans*. Notably higher margins of BI achievement with data leadership than with no plans are seen in areas of *compliance/risk management* and *increased competitive advantage*. Somewhat higher margins of achievement are observed in *improved operational efficiency* and *enhanced customer service*.

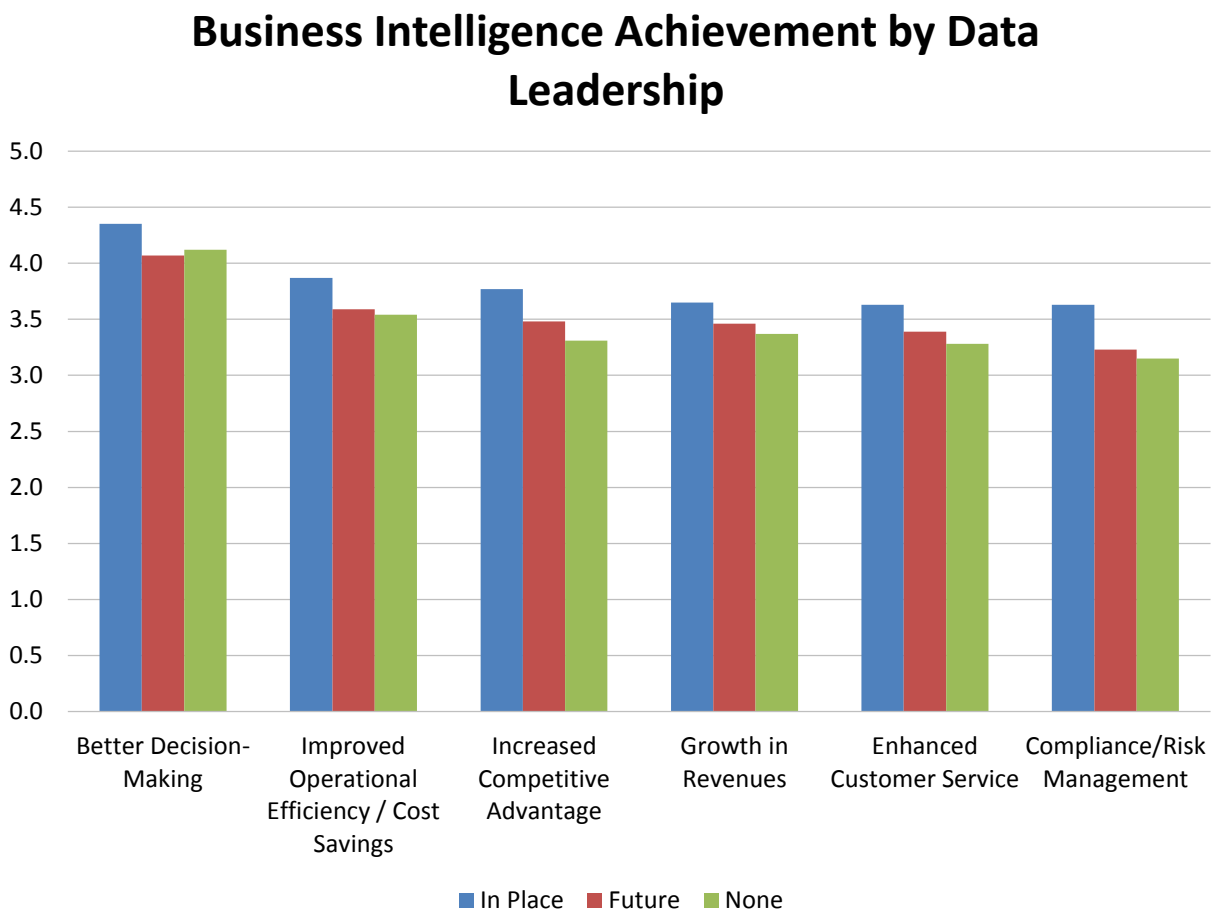



**Figure 49 – Business intelligence achievement by data leadership**

### Data Leadership Titles Found in Enterprises

We asked respondents that have an identified data leader in their organization to describe the role or title of that person (fig. 50). This year, respondents with data leaders in place most often identify their *data leader* with the *CDO / CAO* role in organizations (44 percent). In smaller numbers, respondents report the presence of data leaders with various write-in titles including *other chief* (officer), *director, VP, manager, head*, or *other.* One takeaway from this finding is that, in 2022, most individuals identified as data leaders in respondent organizations have titles other than CDO or CAO.

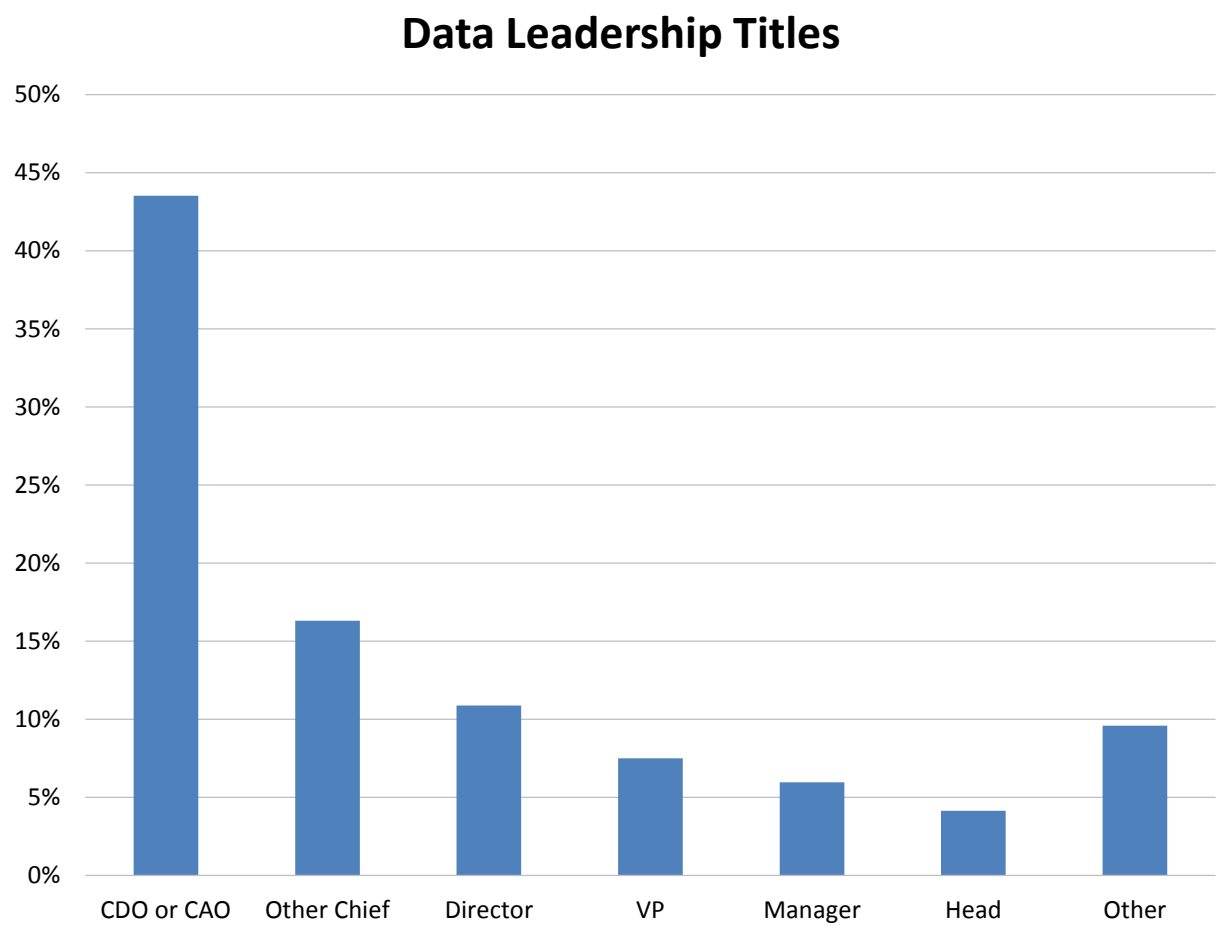



**Figure 50 – Data leadership titles**

### Data Leadership Titles by Organization Size

Respondents more often report the presence of data leaders as organization headcount increases, and most often the title is *CDO* or *CAO* (fig. 51). Notably, very large organizations (>10,000 employees) are 64 percent likely to identify a CDO / CAO data leader in their organization. Large organizations (1,001-10,000 employees) are 50 percent likely, mid-size organizations (101-1,000 employees) are 32 percent likely, and small organizations (1-100 employees) are 26 percent likely to name a CDO or CAO as a data leader. As headcount decreases, other titles are more likely to fill the role of data leader. For example, small organizations are 20 percent likely to name some *other chief* (e.g., CIO, CTO) as a data leader, compared to 24percent at mid-size organizations, and just 12-13 percent at large and very large organizations. The *director* title for data leaders is most pronounced in mid-size organizations (14 percent).

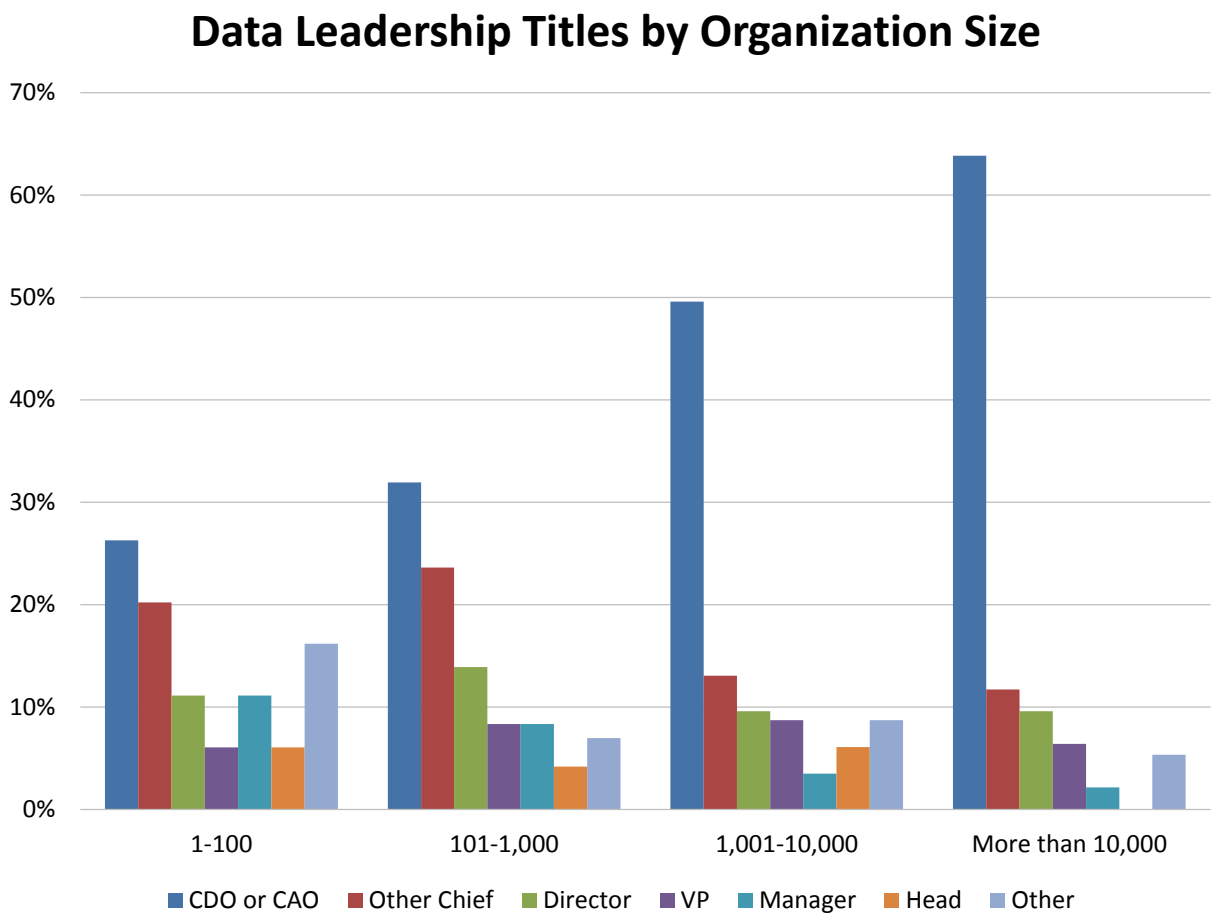



**Figure 51 – Data leadership titles by organization size**

### Data Leadership Titles by Success with BI

The BI success of organizations correlates with the presence of a chief data officer or chief analytics officer and negatively correlates with the presence of some other titles filling the role of data leader (fig. 52). For example, *completely successful* and *somewhat successful* BI organizations are 45 percent and 40 percent likely to report a *CDO* or *CAO* as data leader, compared to 22 percent at *somewhat successful and unsuccessful* organizations. *Other chief* (officer) titles (e.g., CTO, CIO) are somewhat more likely to be data leaders in *completely* and *somewhat successful* BI organizations than in unsuccessful peers. Conversely, when the titles of *director* or *VP* are identified with data leaders, organizations are more likely to be *somewhat unsuccessful* or *unsuccessful.* Generally, we can associate the title of CDO / CAO data leader as a likely indicator of success with BI.

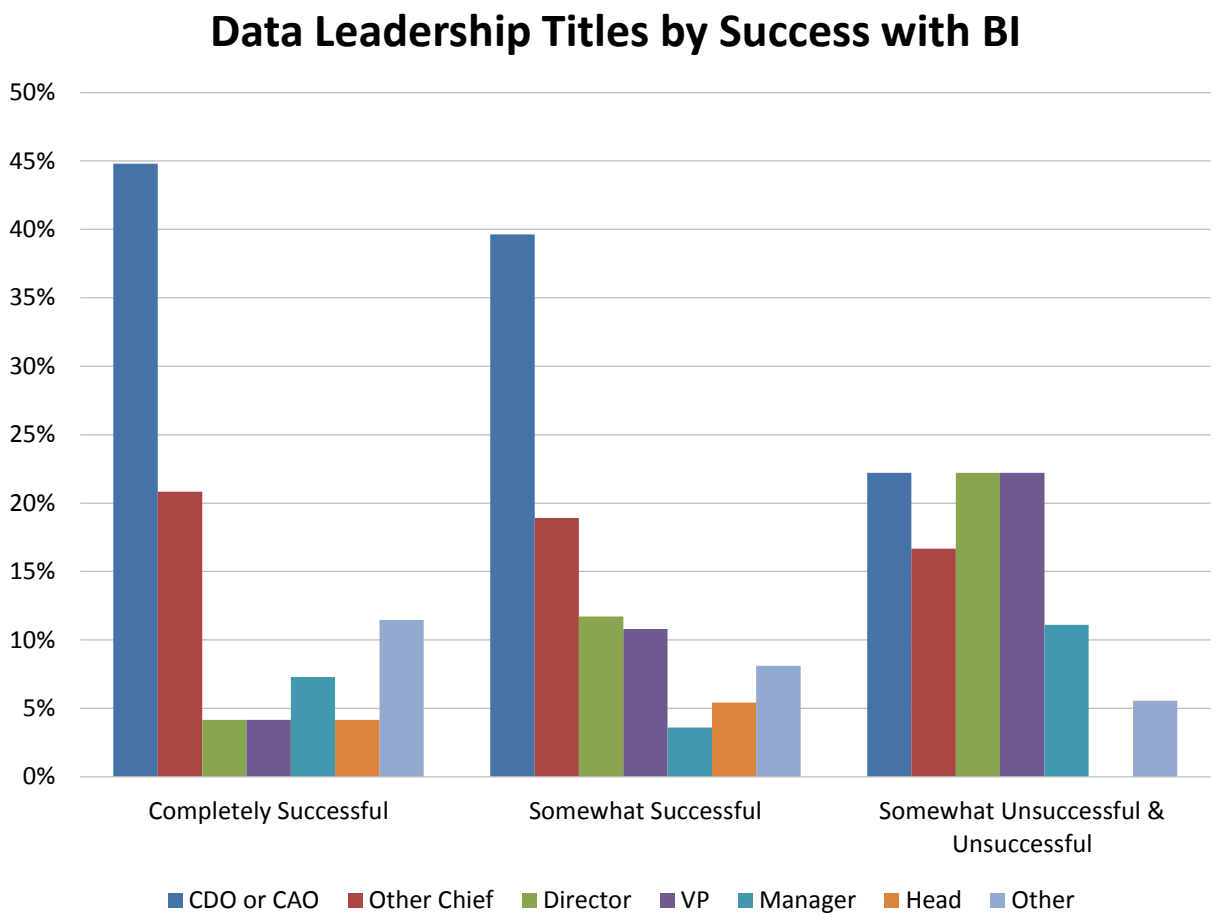



**Figure 52 – Data leadership titles by success with BI**

### Enterprises with Chief Data or Chief Analytics Officers

The ongoing longevity of chief data and chief analytics officers increased over time, most obviously from the year 2019 to the present (fig. 53). This year, organizations with a CDO in place are 88 percent likely to have held this position for one year or more. Seventy-nine percent of CAOs have been in place for one year or more. The number of CDOs and CAOs in place for five years or more is also edging higher. This year, 29-30 percent of CDOs have been in place for five years or longer, compared to 25-26 percent in the two years prior. Traction and tenure appear to favor CDOs over CAOs over time, and slowly growing longevities indicates that the title "sticks" in organizations that adopt them.

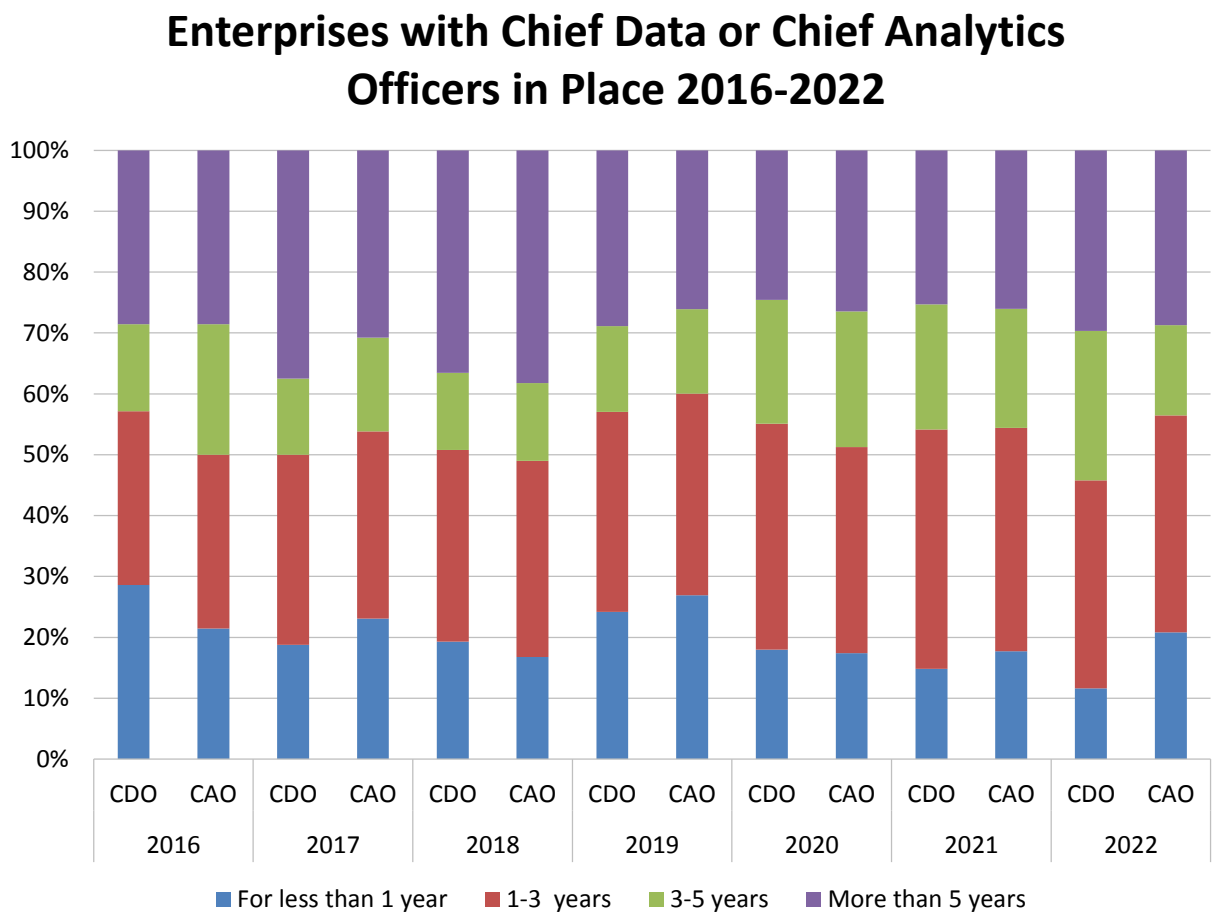



**Figure 53 – Enterprises with chief data or chief analytics officers in place 2016-2022**

### 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. 54). By this subjective measure, 2022 results are similar and very positive, with success near equal or very slightly favoring the chief analytics officer. This year, we find that CAOs are considered *extremely effective* 37 percent of the time, compared to 38 percent for CDOs. Ineffective achievement is slightly more likely for the CDO: about 9 percent of CDOs are *somewhat ineffective or ineffective*, compared to about 7 percent for CAOs. Despite their low penetration, >90 percent of CDOs and CAOs are considered at least *somewhat effective*, an impressive statistic for any C-level title.

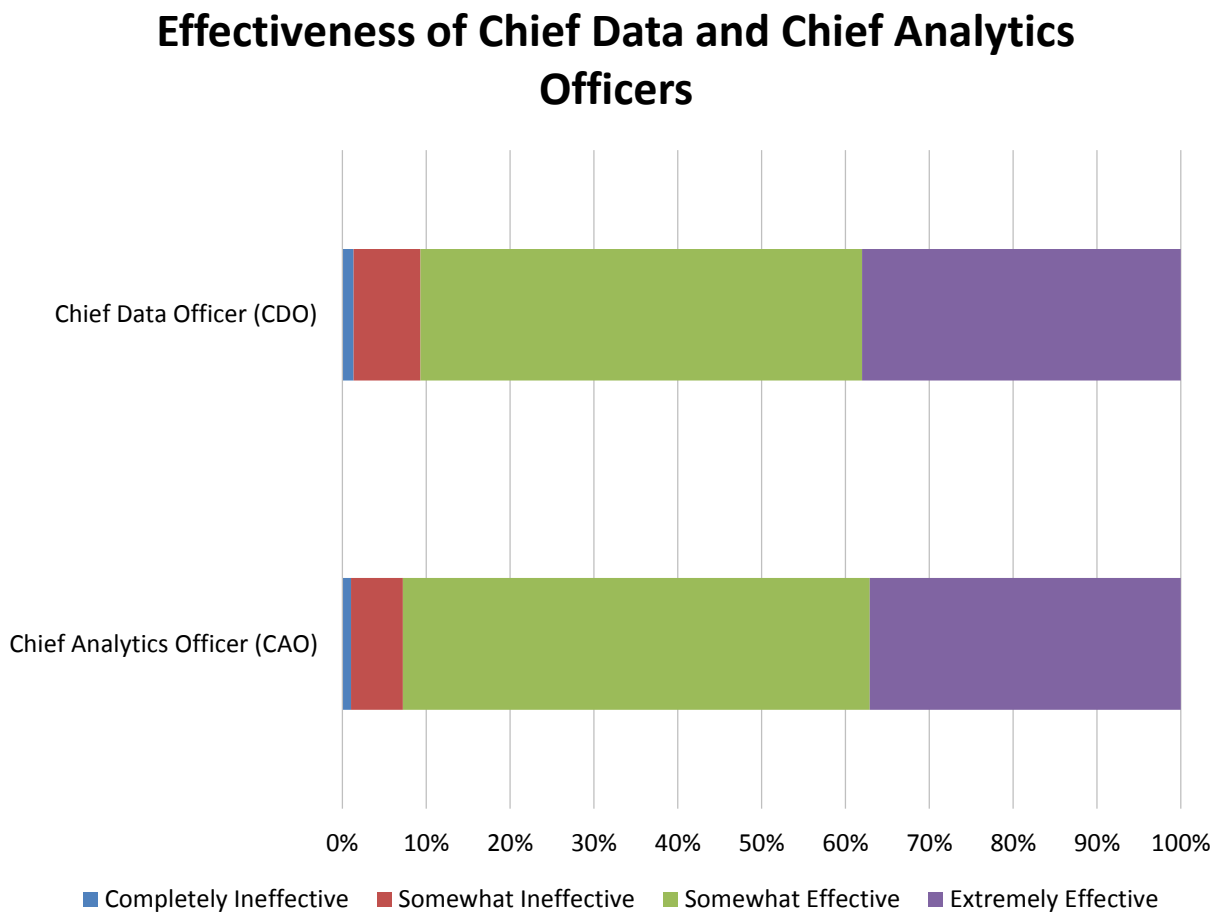



**Figure 54 – Effectiveness of Chief Data and Chief Analytics officers**

### Enterprises with Chief Data or Chief Analytics Officers by Organization Size

The presence of chief data officers and/or chief analytics officers in 2022 is more likely to be longer tenured, large-organization phenomena but also extends downstream to smaller enterprises (fig. 55). Very large organizations (>10,000 employees) account for the greatest number of five-year-plus CDO and CAO appointments (43-45 percent), which is far more than small organizations (1-100 employees) (17-19 percent). Conversely, smaller organizations report more "new" CDO and CAO appointments of one year or less. This year, CAO appointments of one year or less are more likely than new CDO appointments, an effect that roughly evens out when measured in a three-year or shorter time frame.

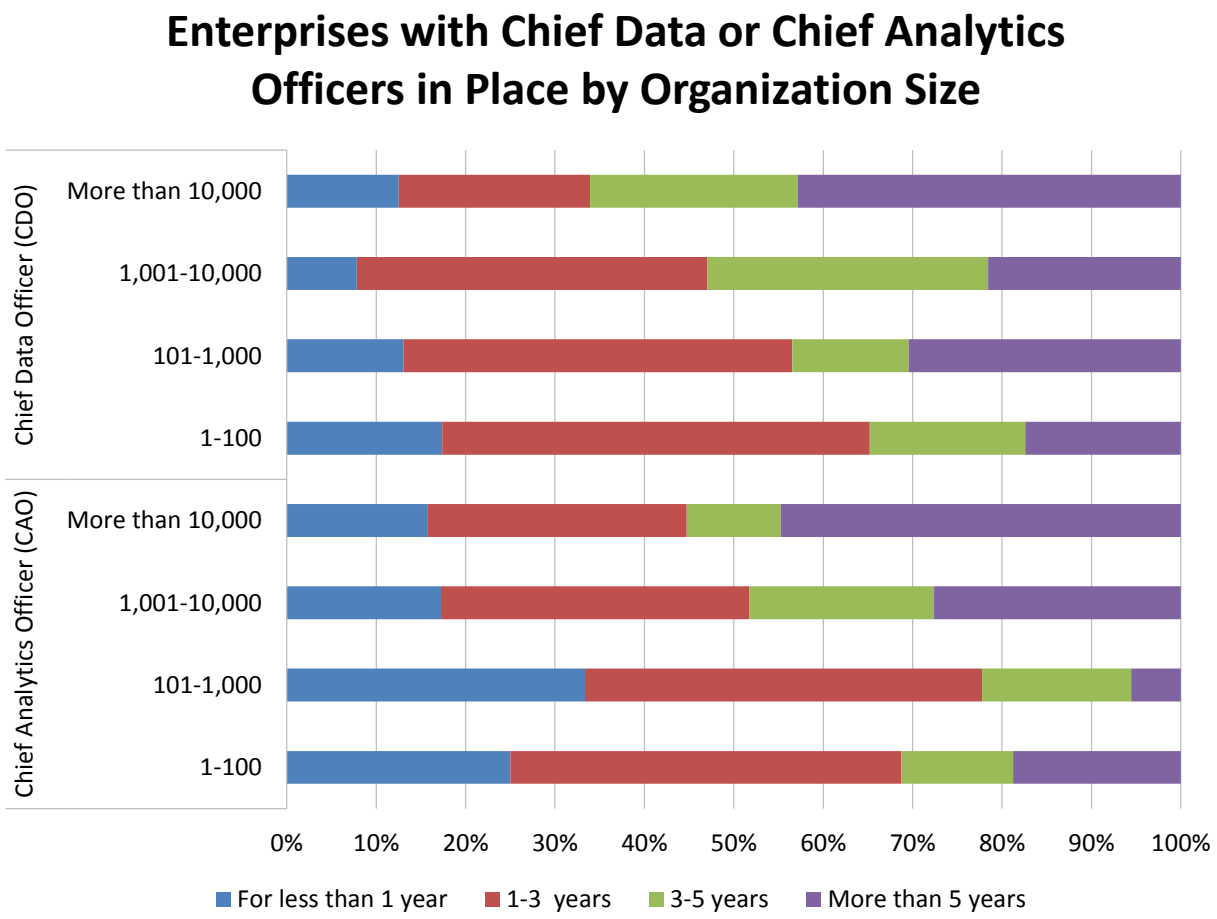



**Figure 55 – Enterprises with chief data or chief analytics officers in place by organization size**

### Enterprises with Chief Data and Chief Analytics Officers Reporting Structure

In 2022 and for the last three years, both CAO and CDO titles are overall by far most likely to report to the CEO (fig. 56). In 2022, we also observe a notable 27-42 percent year-over-year increase in the number of CDOs and CAOs that report to the CIO. The number of CDOs and CAOs reporting to the CFO or CMO is roughly stable year over year, while fewer report "other" reporting hierarchies.

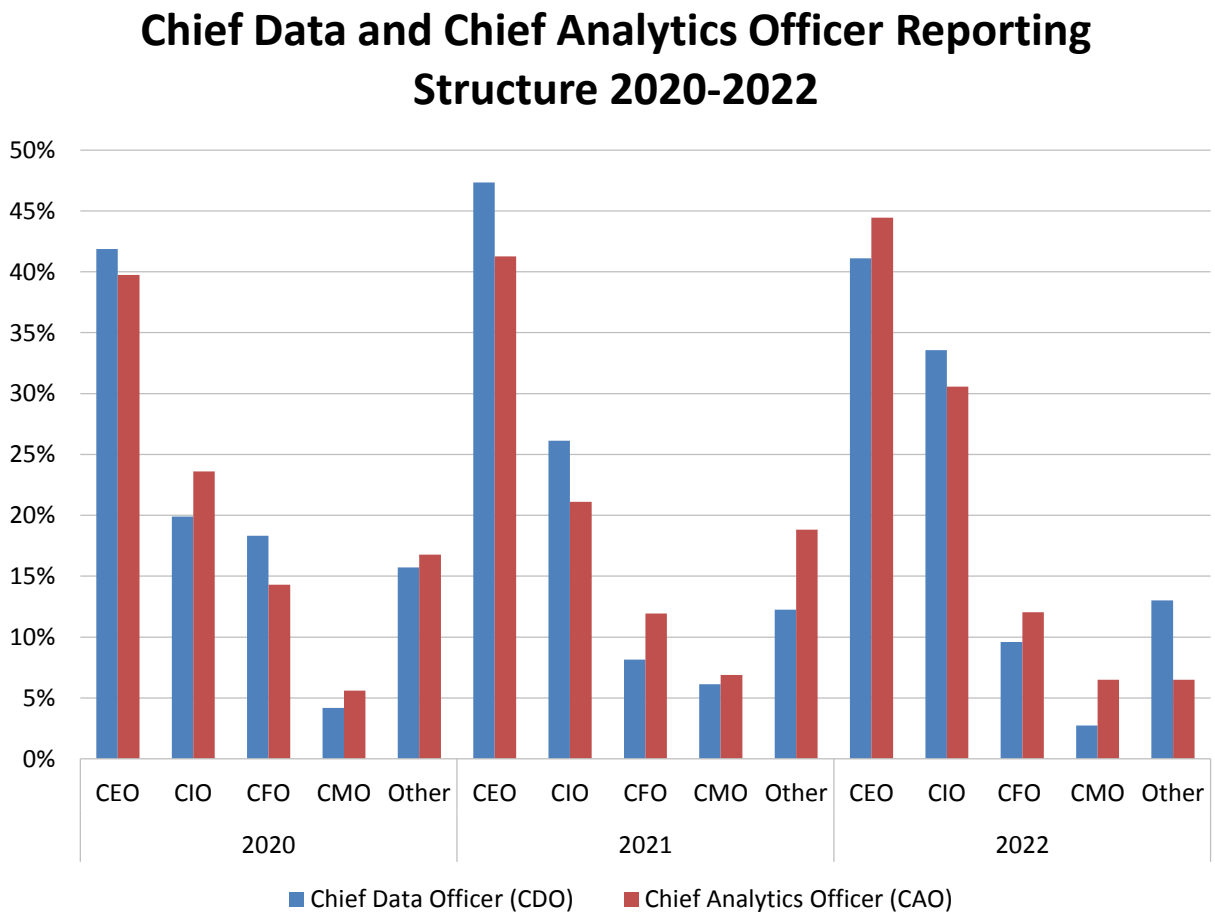



**Figure 56 – Chief data and chief analytics officer reporting structure 2020-2022**

### Chief Data and Chief Analytics Officers Reporting Structure by Organization Size

CEO authority over CDOs and CAOs is inversely related to organization size. In 2022, the percentage of CDO and CAO appointments that report to the CEO greatly decreases as organization size increases (fig. 57). In the same fashion, the number of CDOs and CAOs reporting to the CIO increases noticeably as organization size increases. This effect might be ascribed to different causes. Small organizations are simply less likely than larger peers to have a CIO title. From another perspective, we would expect infrastructure and data management complexity to increase as organization headcount increases and greater numbers of users are provisioned by IT and technology services. By comparison, variations in CDO and CAO reporting to the CFO or CMO is much less correlated to or predicted by organization size.

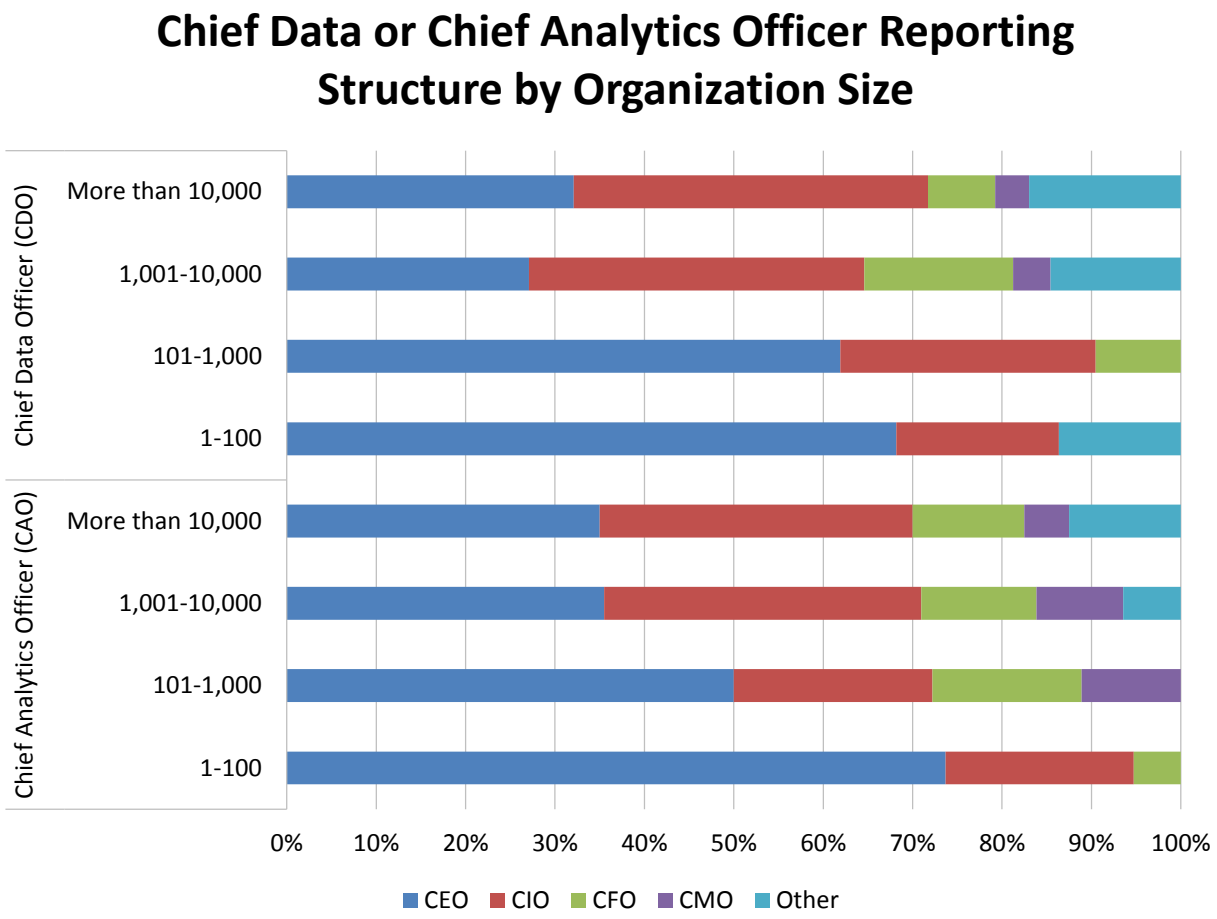



**Figure 57 – Chief data or chief analytics officer reporting structure by organization size**

## Number of Business Intelligence Tools in Use

### Number of Business Intelligence Tools in Use 2013 to 2022

Across the last 10 years of our study, we see a somewhat steady and constrained range in the number of business intelligence tools in use that more recently appears to be increasing (fig. 58). Specifically, the last three years of our study show noticeable increases in the number of tools in use. For example, the percentage of organizations using just two or fewer tools decreased from 49 percent in 2020 to 40 percent in 2021 to 37 percent this year. The percentage using four or more tools increased from 23 percent to 26 percent to 29 percent during the same three years. In sum, we observe some expansion in BI tool use that, in some part, stems from service-based and/or role-based BI tools (which we expect could be easily implemented and perhaps paid for with departmental or project budgets).

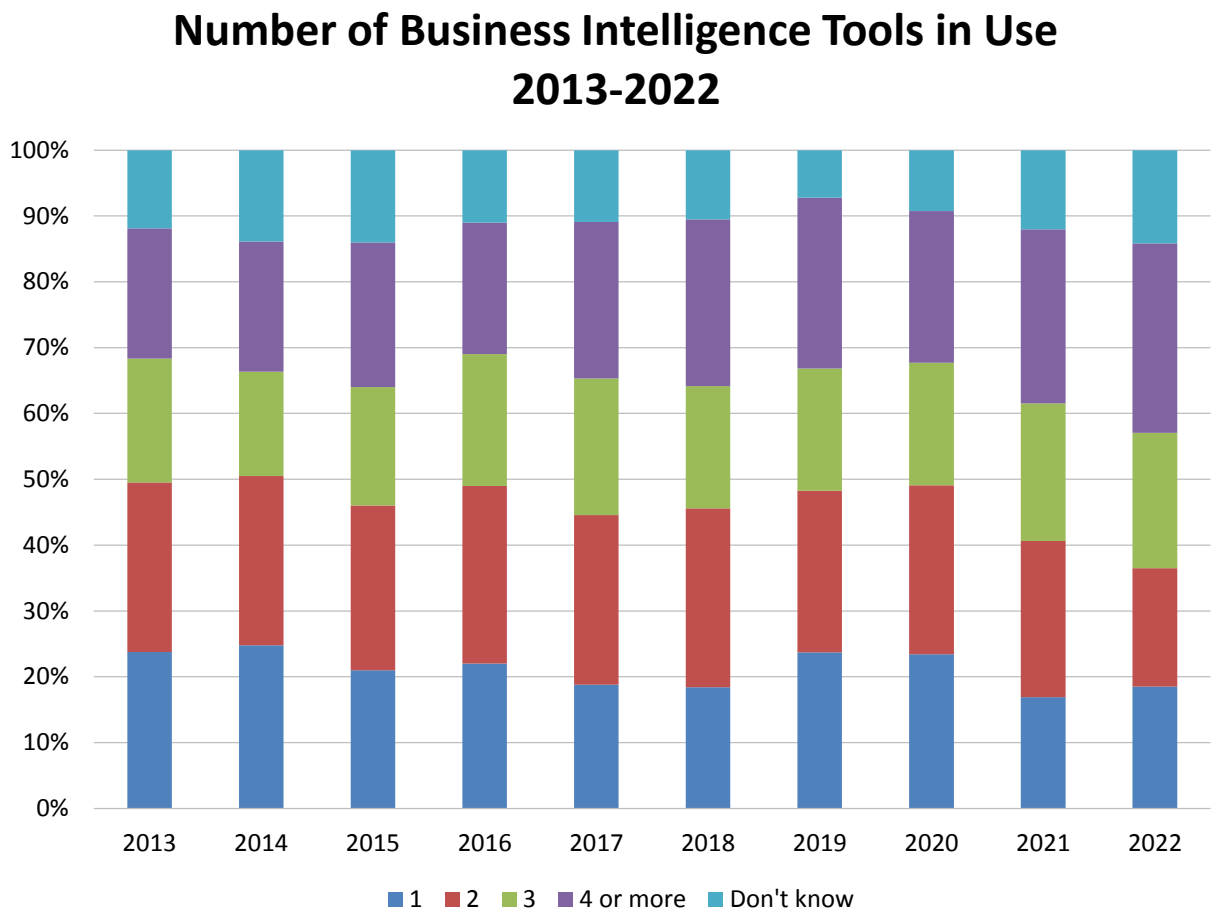



**Figure 58 – Number of business intelligence tools in use 2013-2022**

### Number of Business Intelligence Tools by Geography

Organizations in different geographic regions vary in the number of BI tools they typically use (fig. 59). Respondents in Asia Pacific are most likely to use one or two tools (47 percent), while North American peers are about 32 percent likely to use one or two tools and are most likely to use three, four, five, or more. EMEA and Latin American respondents fall between these extremes. All said, respondent organizations in all geographies report a rather wide distribution in the number of BI tools in use.

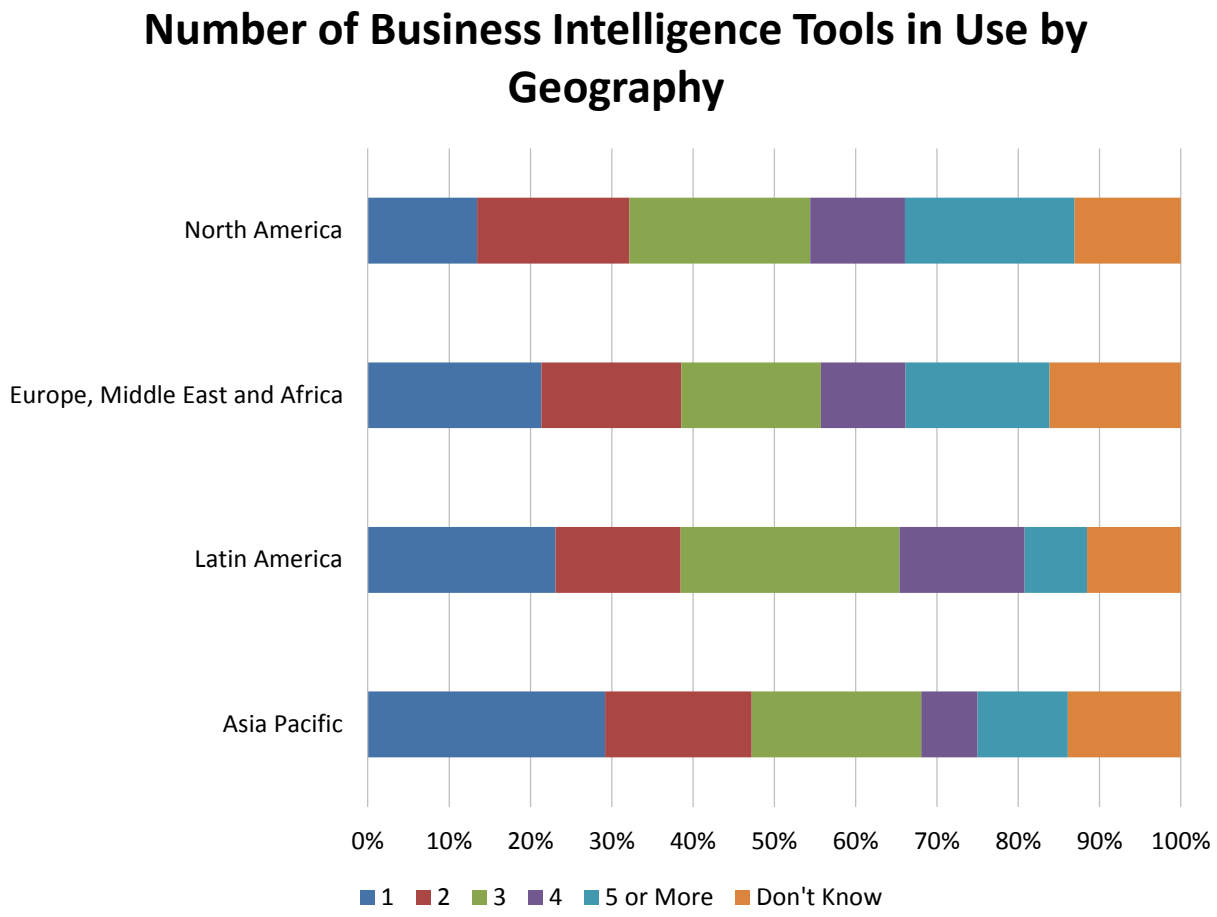



**Figure 59 – Number of business intelligence tools in use by geography**

### Number of Business Intelligence Tools by Function

All functions might use one or multiple BI tools in 2022, and no function reports radically different tool counts (fig. 60). As we would expect, *BICC* respondents that support multiple areas of the enterprise stand out as the most likely users of *three* to *five or more* tools and are least likely to *not know* the number of tools in use. *Marketing and sales* is least likely to use *five or more* tools and is most likely to not know the number of tools in use by their organization. *R&D, operations*, and *finance* are all among the most likely users of five or more BI tools.

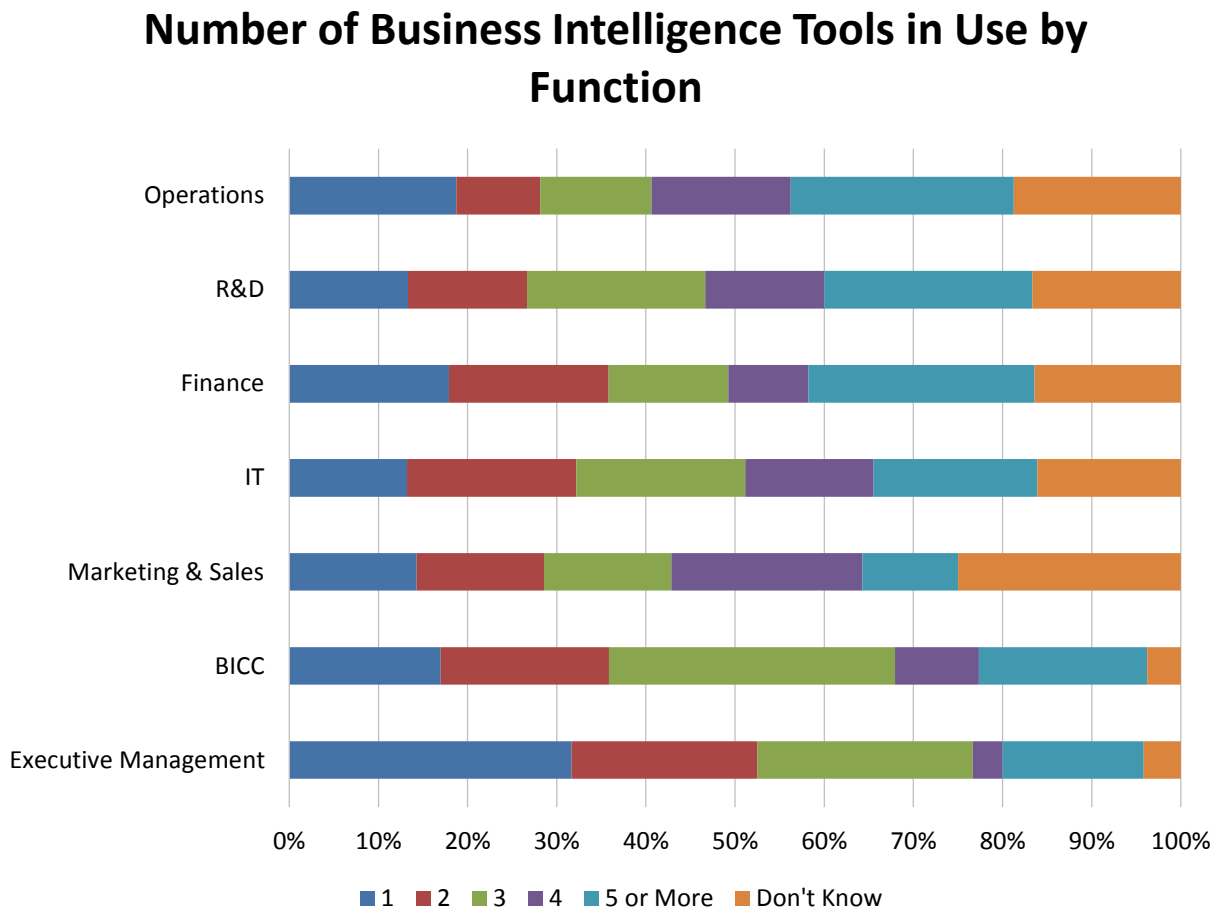



**Figure 60 – Number of business intelligence tools in use by function**

### Number of Business Intelligence Tools by Vertical Industry

The number of BI tools in use varies noticeably by industry in 2022 (fig. 61). This year, respondents in *government* are most likely to use only *one tool* and, along with *retail and wholesale*, among the least likely to use *five or more* BI tools. In contrast, respondents in *financial services* and *education* are the least likely to use only *one tool*. Respondents in *financial services, business services*, and *healthcare* are among the most likely to use *five or more* BI tools.

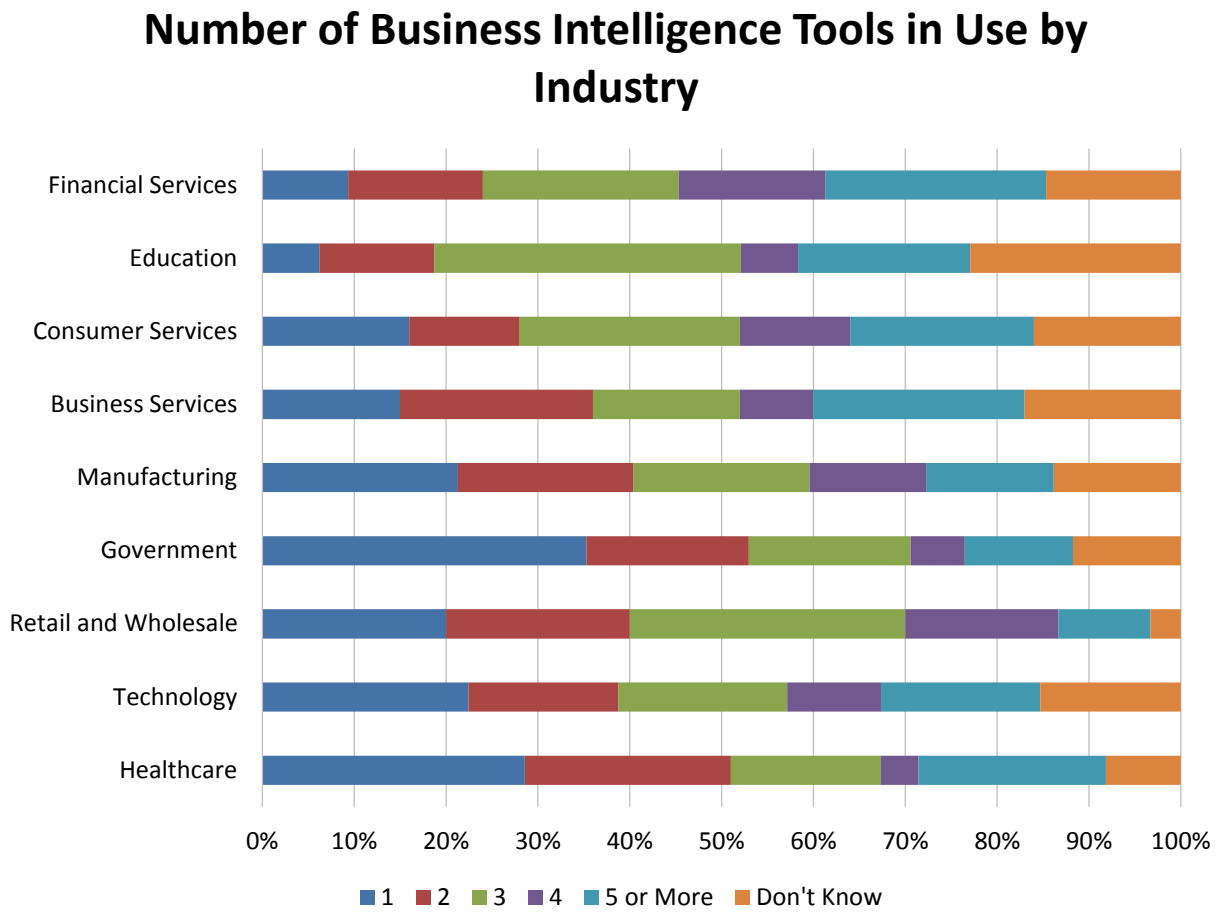



**Figure 61 – Numbers of business intelligence tools in use by industry**

### Number of Business Intelligence Tools by Organization Size

Increasing organizational headcount is historically a predictor of greater numbers of business intelligence tools in use, and this is once again true in 2022 (fig. 62). In very large organizations, just 1 percent use only *one BI tool* and fewer than 10 percent use only *one or two tools*. Nearly 40 percent of very large organizations use *five or more* BI tools. In stark contrast, about 30 percent of small organizations use only *one BI tool*, and well more than half use *one or two* BI tools; just 11 percent use five or more BI tools. Very large organizations are unsurprisingly least aware (28 percent) of the number of tools in use, compared to 15 percent or fewer of all smaller peers.

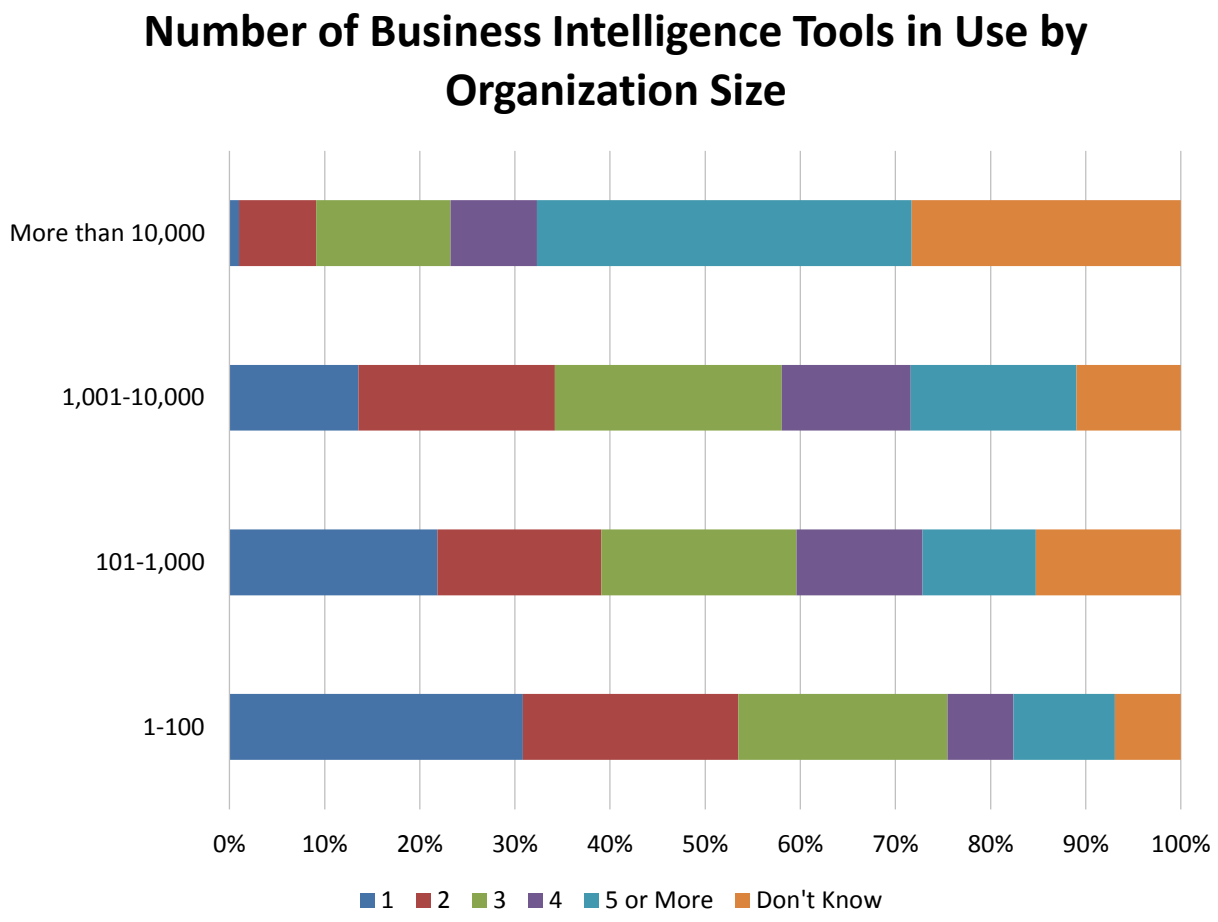



**Figure 62 – Number of business intelligence tools in use by organization size**

### Number of Business Intelligence Tools by Data Literacy

Cross tabulation of data literacy with the number of BI tools in use reveals that more highly data-literate organizations report using the highest number of BI tools (fig. 63). The effect is most pronounced when observing organizations that use either *three* (green-colored band) or *five or more* BI tools (teal-colored band). Also, the most data-literate organizations are more likely to not know the number of tools in use. Some other measures of tool count yield random-appearing results, with the exception of organizations using just *one tool*, where there is there is little difference between more and less data-literate users. It may be possible that, in some cases, organizations that are more data literate are simply prone to adopting higher numbers of tools to test or leverage their data expertise.

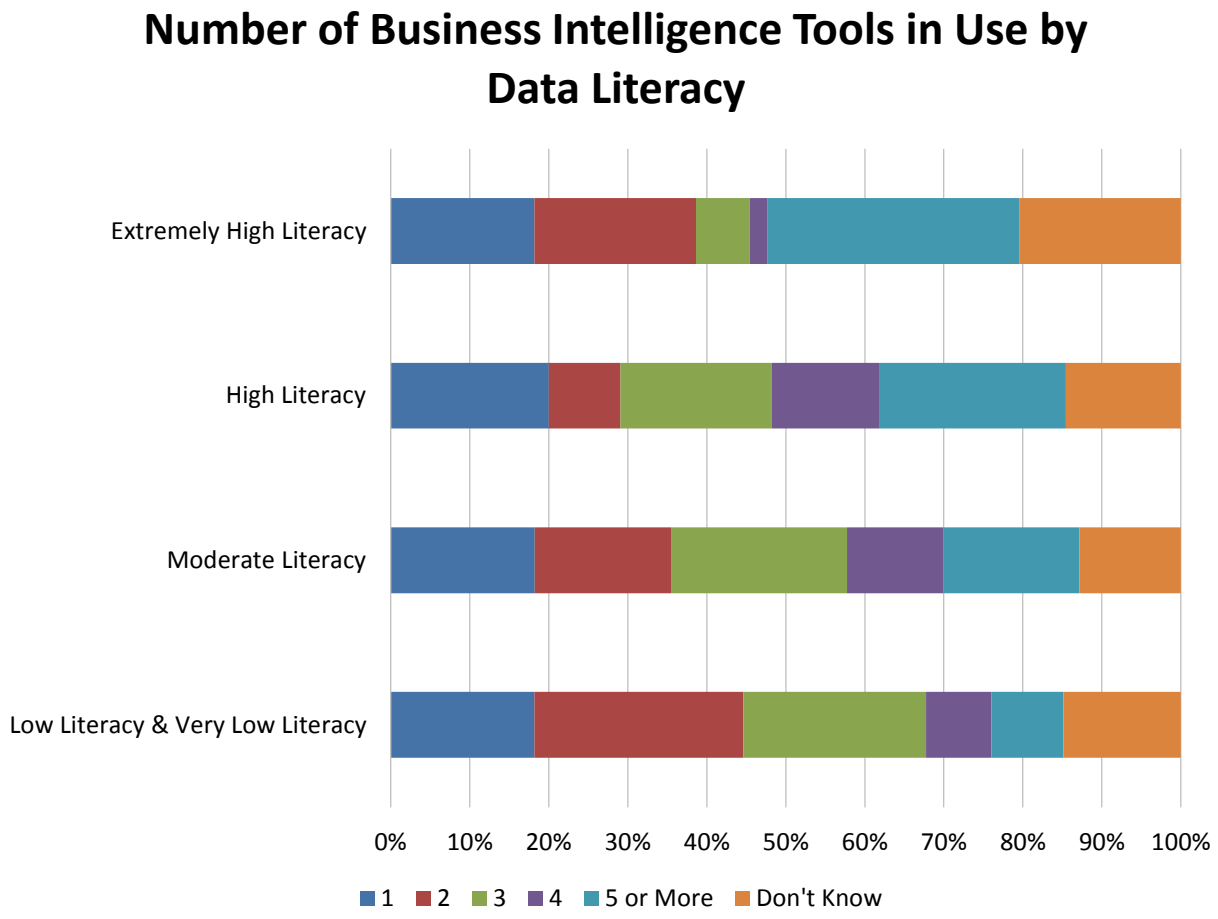



**Figure 63 – Number of business intelligence tools in use by data literacy**

### Number of Business Intelligence Tools by Difficulty Finding Analytical Content

Cross tabulation of *difficulty finding analytic content* with the *number of BI tools* in use appears to indicate that the use of fewer BI tools makes the process easier (fig. 64). For example, the use of either one or two tools makes it far more likely (50 percent) that finding analytic content will be *extremely easy* and argue for standardization. As a counterpoint and caveat, this finding might also relate to the pursuits or circumstances at different organizations. Responses do not account for data complexity or discredit the obvious: it may be the case that *difficult* and *somewhat difficult* searches for analytical content require the use of more tools because content is not centralized, federated, or suitable for use by all BI tools. Additional detail on finding analytical content can be found in our annual Data Catalog Report.

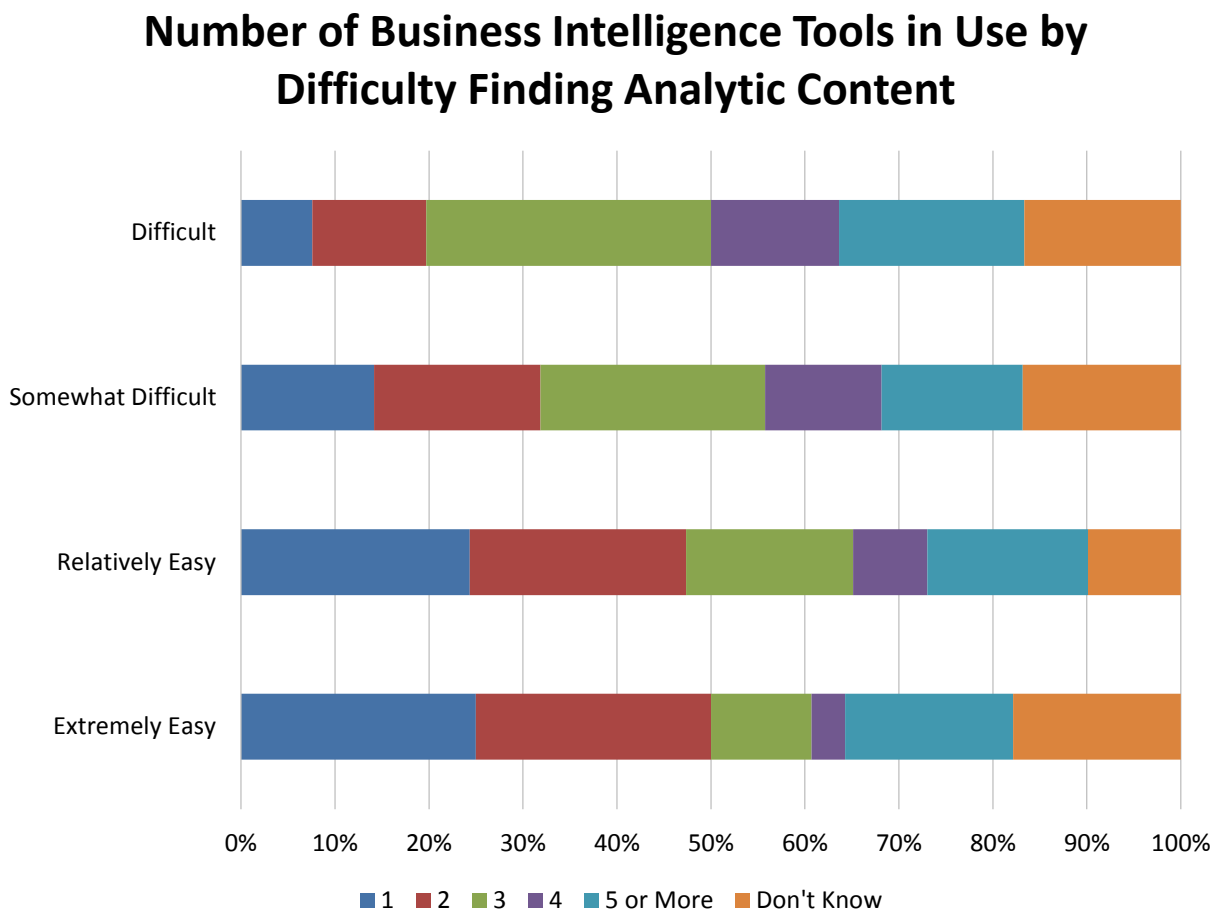



**Figure 64 – Number of business intelligence tools in use by difficulty finding analytical content**

## Technologies and Initiatives Strategic to Business Intelligence

Familiar BI technologies—*reporting, dashboards, data visualization, dashboards, data integration*, and *cloud*—top the technologies and initiatives strategic to business intelligence (of 51 topics) under our study in 2022 (fig. 65).

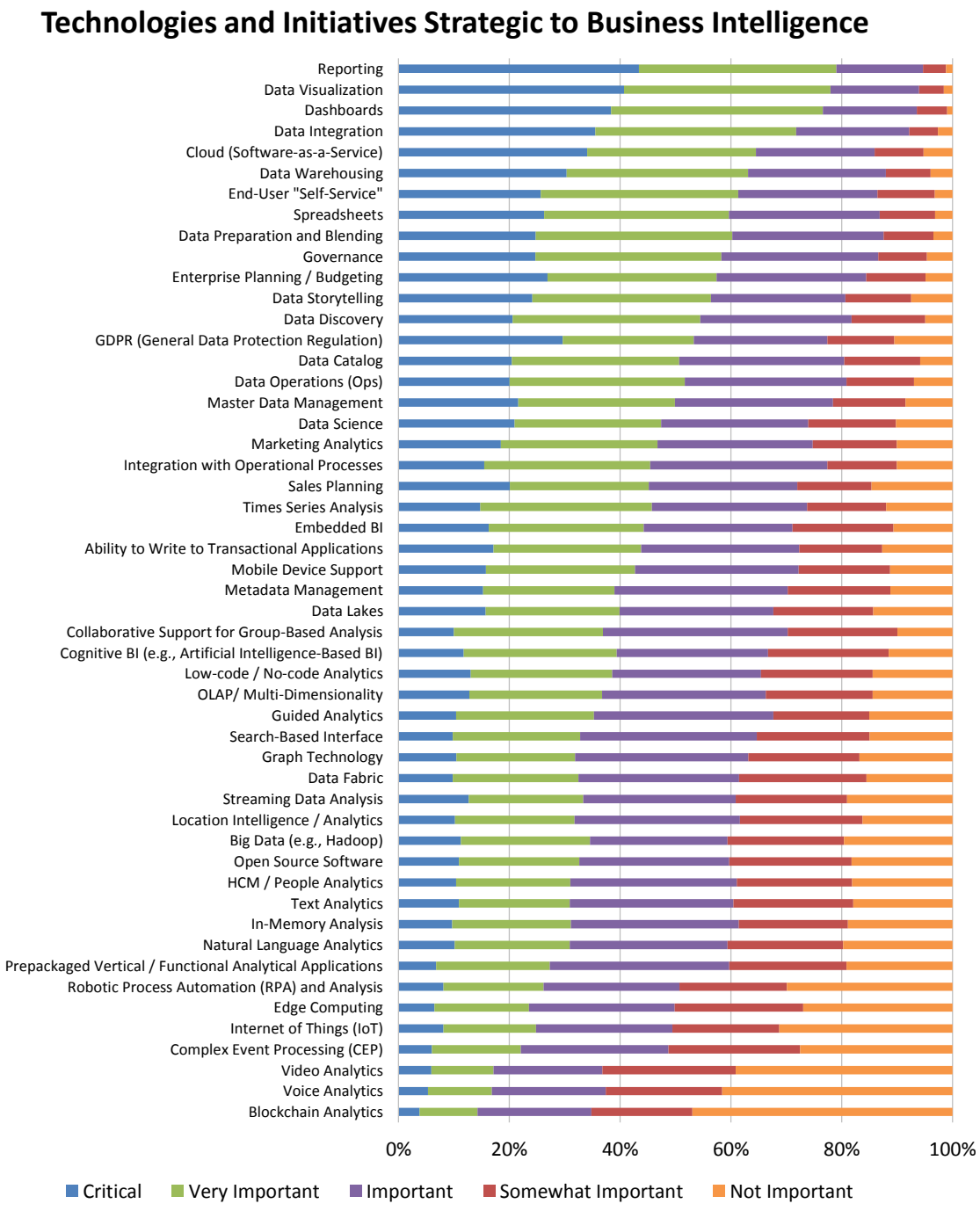



**Figure 65 – Technologies and initiatives strategic to business intelligence**

### Change in Technology Priorities 2021-2022

Year over year, most technology priorities show positive momentum, and some gainers stand at long-term peak importance in 2022 (fig. 66). *Open source software, streaming data analysis, cloud*, and *natural language analytics* are the biggest gainers by percentage in 2022. *Location intelligence, video analytics, sales planning*, and *integration with operational processes* each lost some momentum in 2022.


**Figure 66 – Change in technology priorities 2021-2022**

### Technologies and Initiatives Strategic to Business Intelligence by Geography

By region, North America and to a lesser degree EMEA respondents lead or report close to the highest interest in multiple top priorities including *reporting, data visualization, dashboards*, and *data integration* (fig. 67). Many top priorities are nonetheless *very important* or well above the level of *important* across all geographic regions. For example, the top 11 technologies or initiatives are midway between important and very important in nearly every case. Also, as technologies and initiatives decrease in importance, they tend to become more distributed by geography. Lower-ranked technologies are, for the most part, assigned higher importance by Latin American and Asia-Pacific respondents.

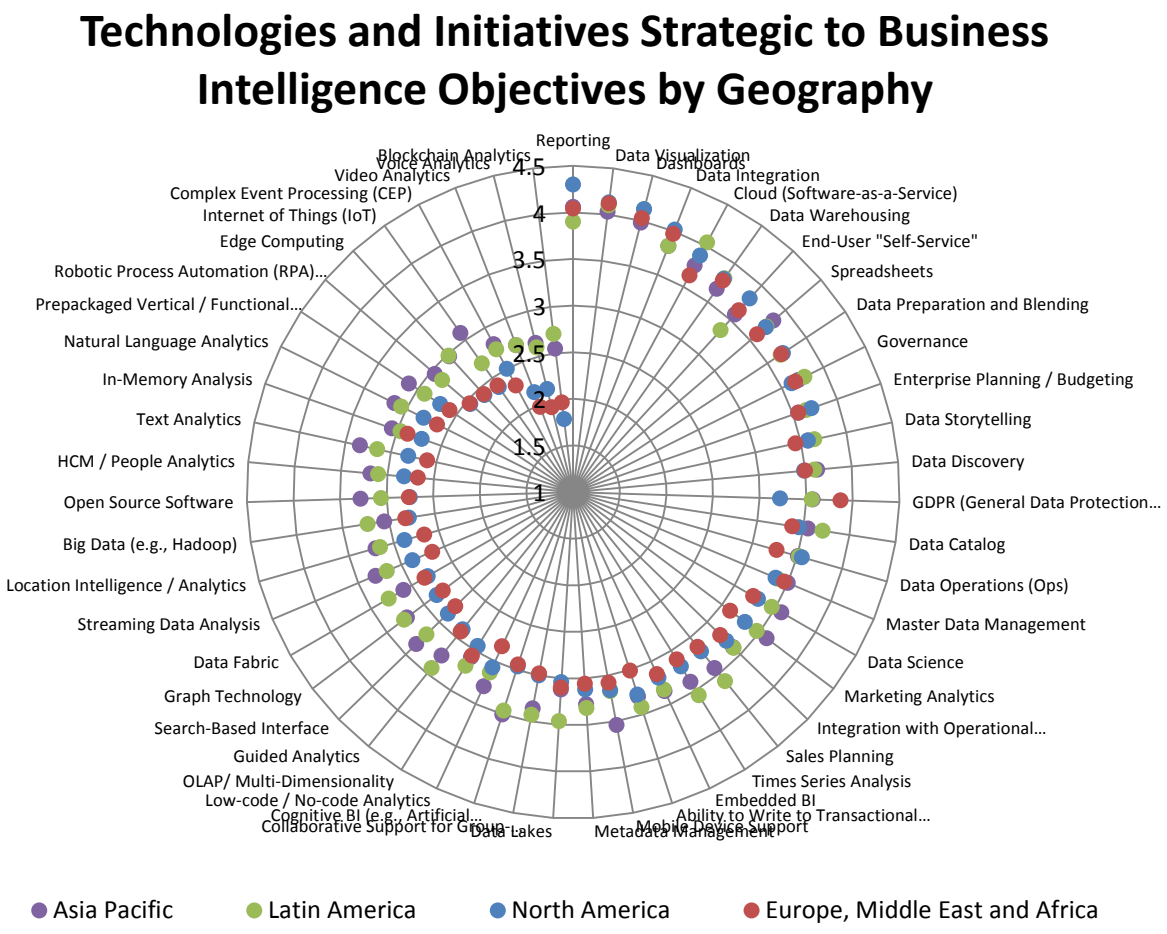



**Figure 67 – Technologies and initiatives strategic to business intelligence objectives by geography**

### 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, and most are distributed in various degrees of importance (fig. 68). *Dashboards* and *data integration* are perhaps the most clustered and important across all functions. Among some standout findings, we observe that BICC respondents assign higher importance to *data warehousing, enterprise planning* is an obvious fit with *finance,* and *marketing and sales* shows higher-than-average interest in *data storytelling* and bespoke applications. *Open source software* is primarily the province of *R&D*, as we might also expect.

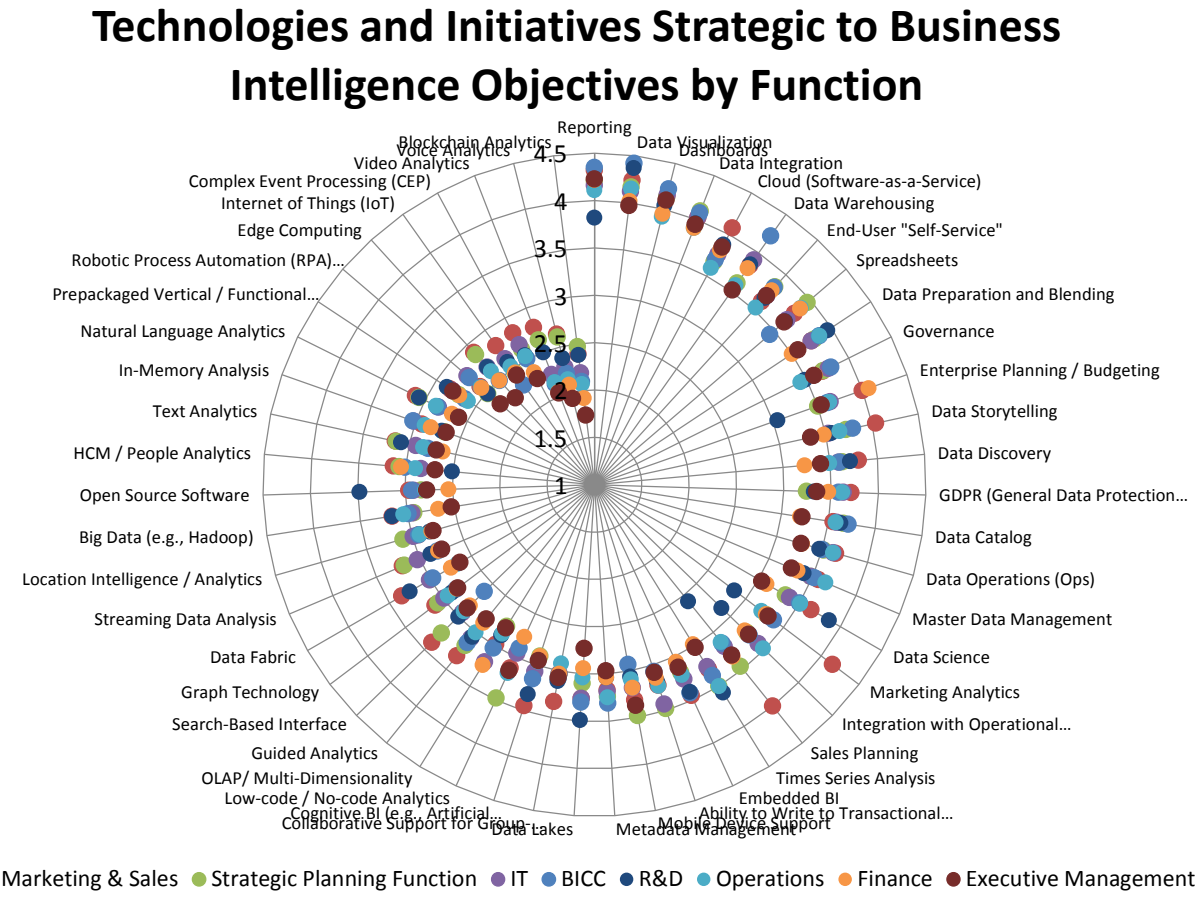



**Figure 68 – Technologies and initiatives strategic to business intelligence by function**

## Technologies and Initiatives Strategic to Business Intelligence by Vertical Industry

Vertical industries describe a range of often widely distributed interest in different business intelligence initiatives and priorities with many observations to be made (fig. 69). For example, *healthcare* and *financial services* are among industries that figure prominently in several of the top-ranked technologies. *Manufacturing* and *education* often report the lowest or below-average scores for most technologies and initiatives. Some standout areas of interest are also observable. For example, *retail and wholesale* report high interest in areas including *marketing analytics* and *sales planning*; and *technology* respondents give top scores to *embedded BI, ability to write to transactional systems*, and *low-code / no-code analytics*.


**Figure 69 – Technologies and initiatives strategic to business intelligence by industry**

### Technologies and Initiatives Strategic to Business Intelligence by Organization Size

Viewed by global headcount, very large organizations (> 10,000 employees) followed by large organizations (1,001-10,000 employees) lead interest in nearly all technologies and initiatives in 2022 (fig. 70). Some priorities nonetheless cluster, particularly the "big three" of *reporting, data visualization*, and *dashboards*, along with ubiquitous applications such as *sales planning*. Among the many areas where very large organizations are disproportionately engaged, compared to smaller peers, *data preparation, governance, GDPR, data operations, master data management*, and *data science* are standouts among the top half of selections. As we repeatedly find, small organizations (1-100 employees) are about equally or more interested in *cloud*, compared to any larger peer.

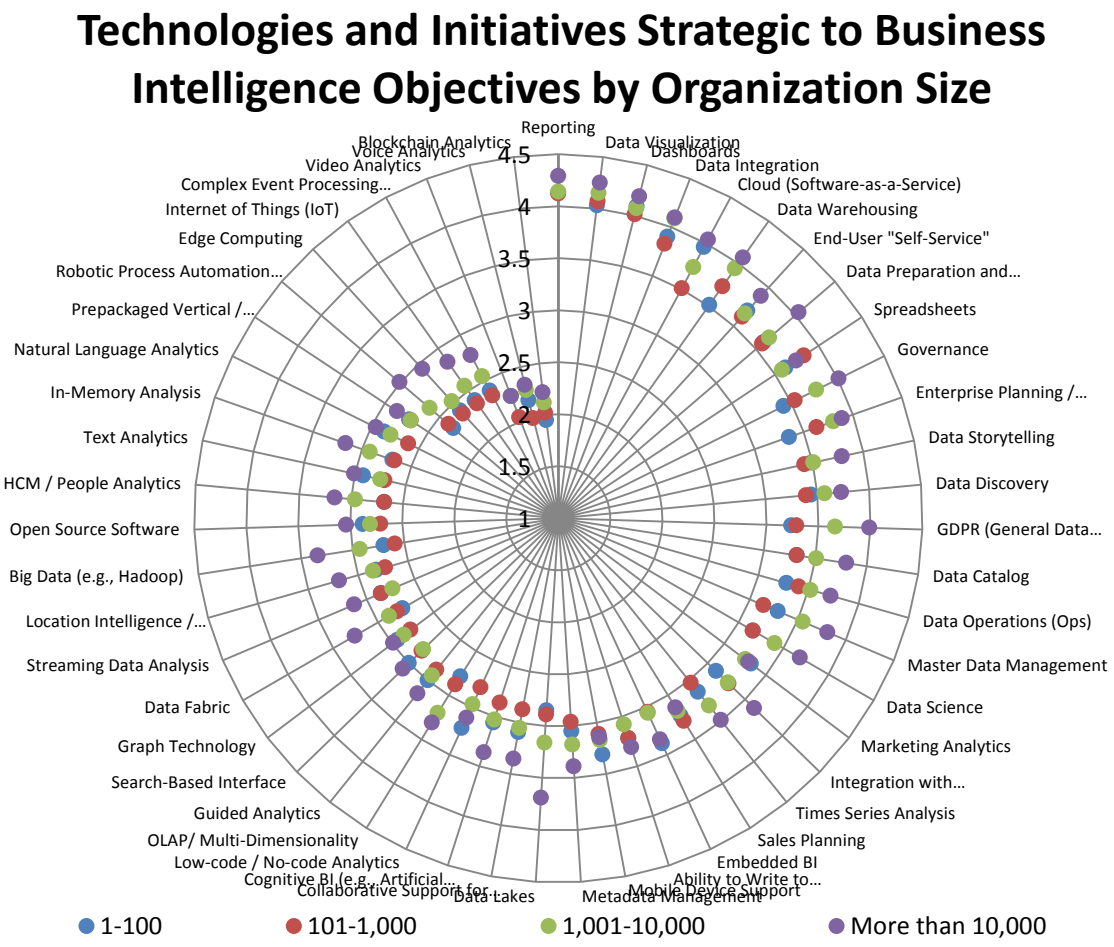



**Figure 70 – Technologies and initiatives strategic to business intelligence by organization size**

## Business Intelligence and the State of Data

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. 71-75 relate to respondents' achievement/agreement with the statement, "Data is treated as truth with common application of data, filters, rules, and semantics." In 2022, close to half of respondents (49 percent) relate their organizations' adherence to this statement as *above average*, and another 33 percent give their organizations the *highest* score for this ability (fig. 71). Less than 20 percent of respondents say their performance is only *average* or *below average*.

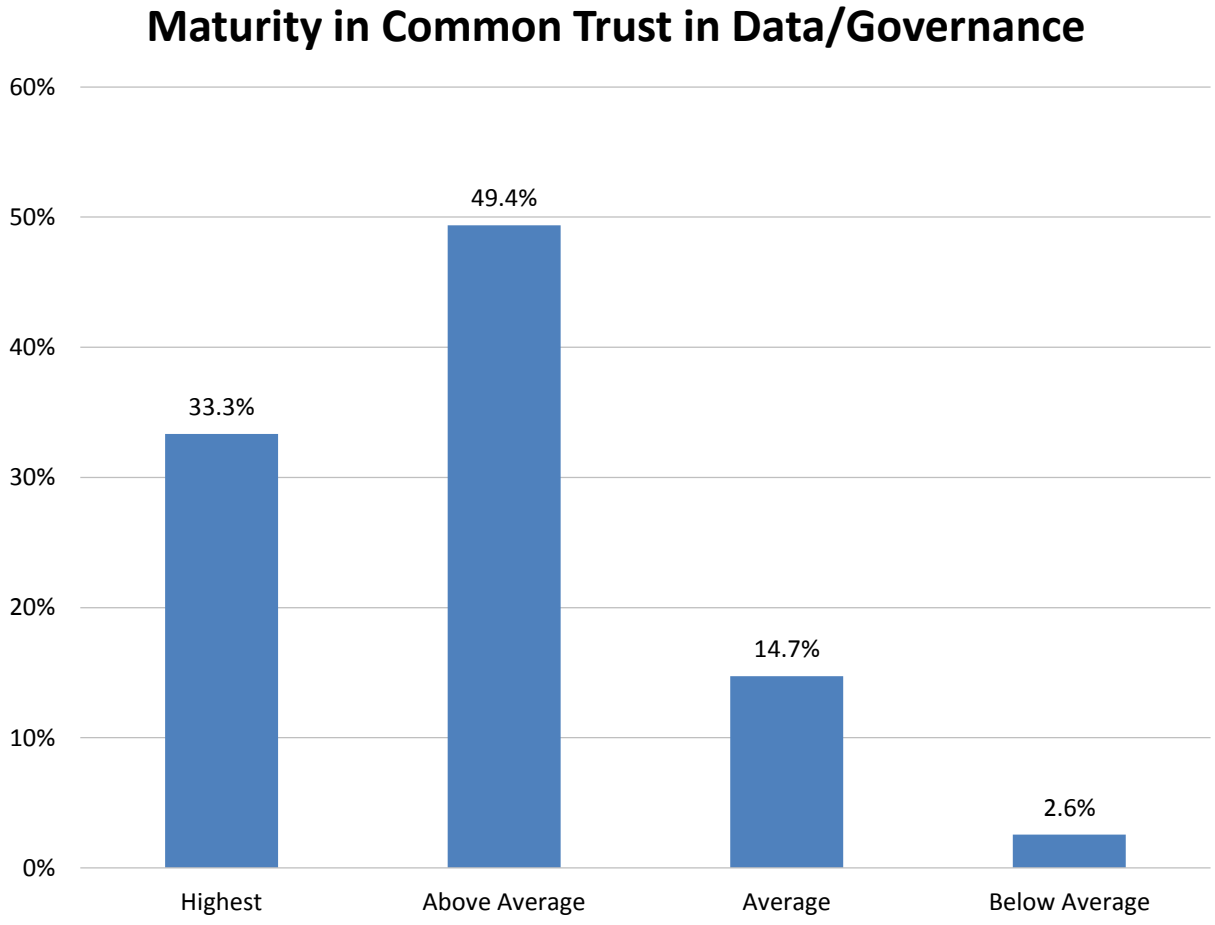



**Figure 71 – Maturity in common trust in data/governance**

### Common Trust in Data by Geography

Measured by geography, we observe that all regions share a similar high weighted-mean estimation of maturity and common trust in data/governance (fig. 72). Between 79-90 percent in any region say their results are at least *above average*. Asia-Pacific respondents are most confident in data, with the greatest number of *highest* assessments and just 1 percent *below-average* scores. Latin American respondents are close behind with greater than 40 percent *highest* assessments and 2 percent *below-average* scores. North America and EMEA post lower, similar scores with weighted-mean values in the range of *above average.*

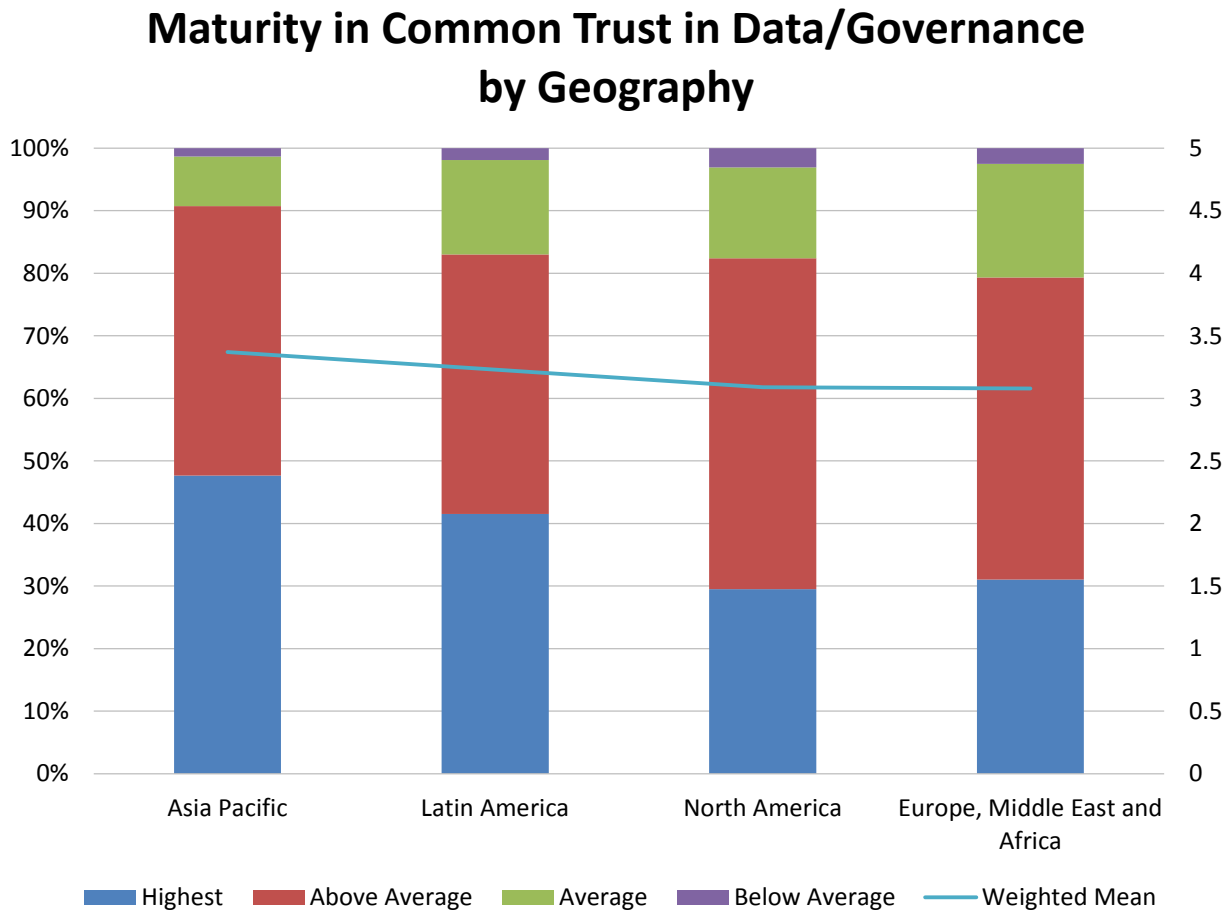



**Figure 72 – Maturity in common trust in data/governance by geography**

### Common Trust in Data by Function

Regardless of function, all respondents report weighted-mean maturity and common trust in data/governance in the range of 3.0-3.2, in the range of *above average* (fig. 73). Respondents in R&D report the greatest number of *highest* assessments of maturity (44 percent). Strategic planning and IT report the most combined *highest* and *above-average* assessments (90 percent and 87 percent respectively). All remaining functions report 74-84 percent majorities of at least above-average sentiment. Below-average scores range from 0 percent% in *strategic planning* to 4 percent in *BICC* and *operations*.

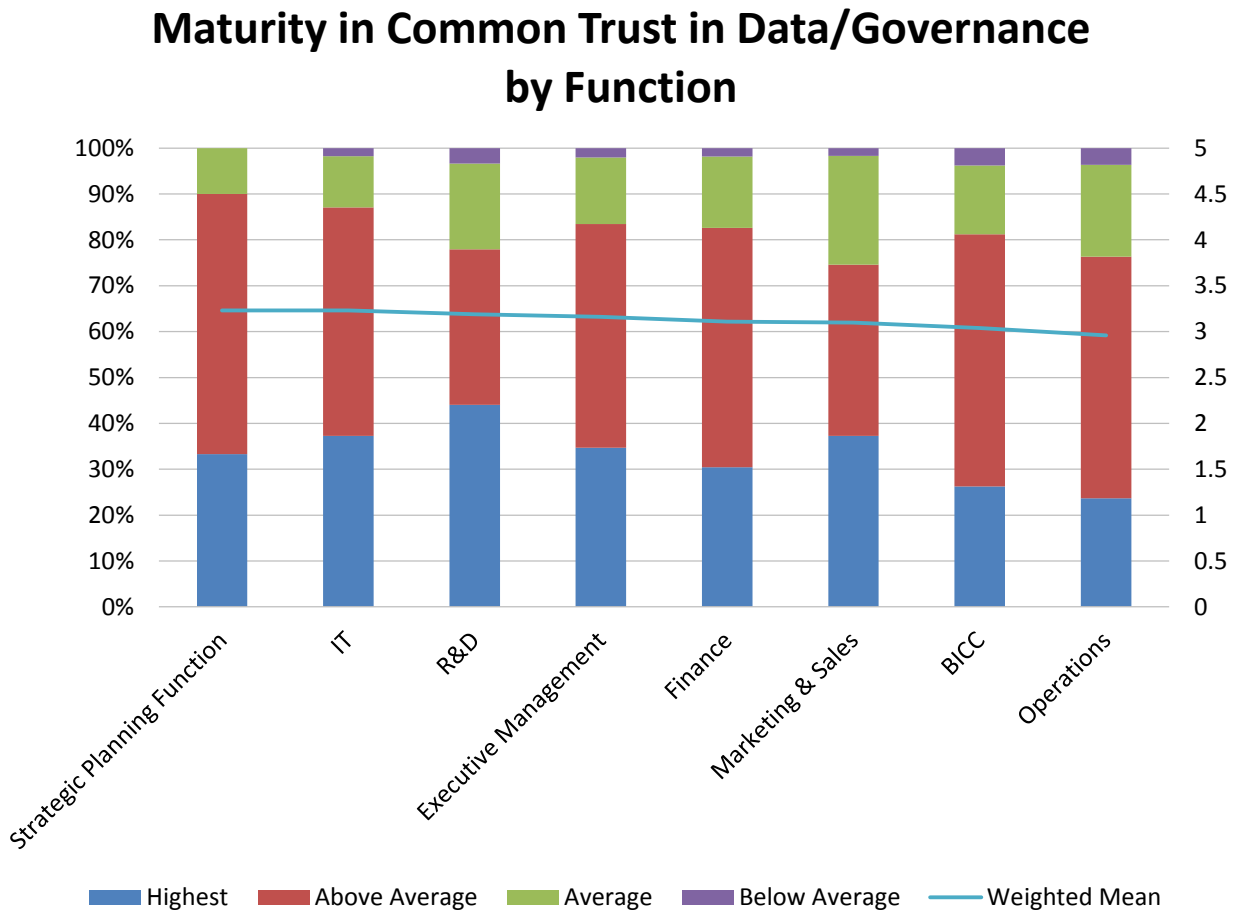



**Figure 73 – Maturity in common trust in data/governance by function**

### Common Trust in Data by Industry

In 2022, all industries rate their maturity and common trust in data/governance in a narrow weighted-mean range between 3.0 and 3.2, and significant majorities indicate at least *above-average* confidence (fig. 74). The greatest number of *highest* assessments comes from respondents in *business services* (44 percent), *consumer services* (37 percent), *technology* (36 percent) and *retail and wholesale* (34 percent). *Business services* and *technology* organizations share the most scores of at least *above average* (90 percent and 87 percent, respectively). *Below-average* scores account for between 0 percent (in *healthcare*) to 6 percent (in *consumer services*). The consistency of these scores at least in part gives lie to some old assumptions about first mover and leader industries in this category.

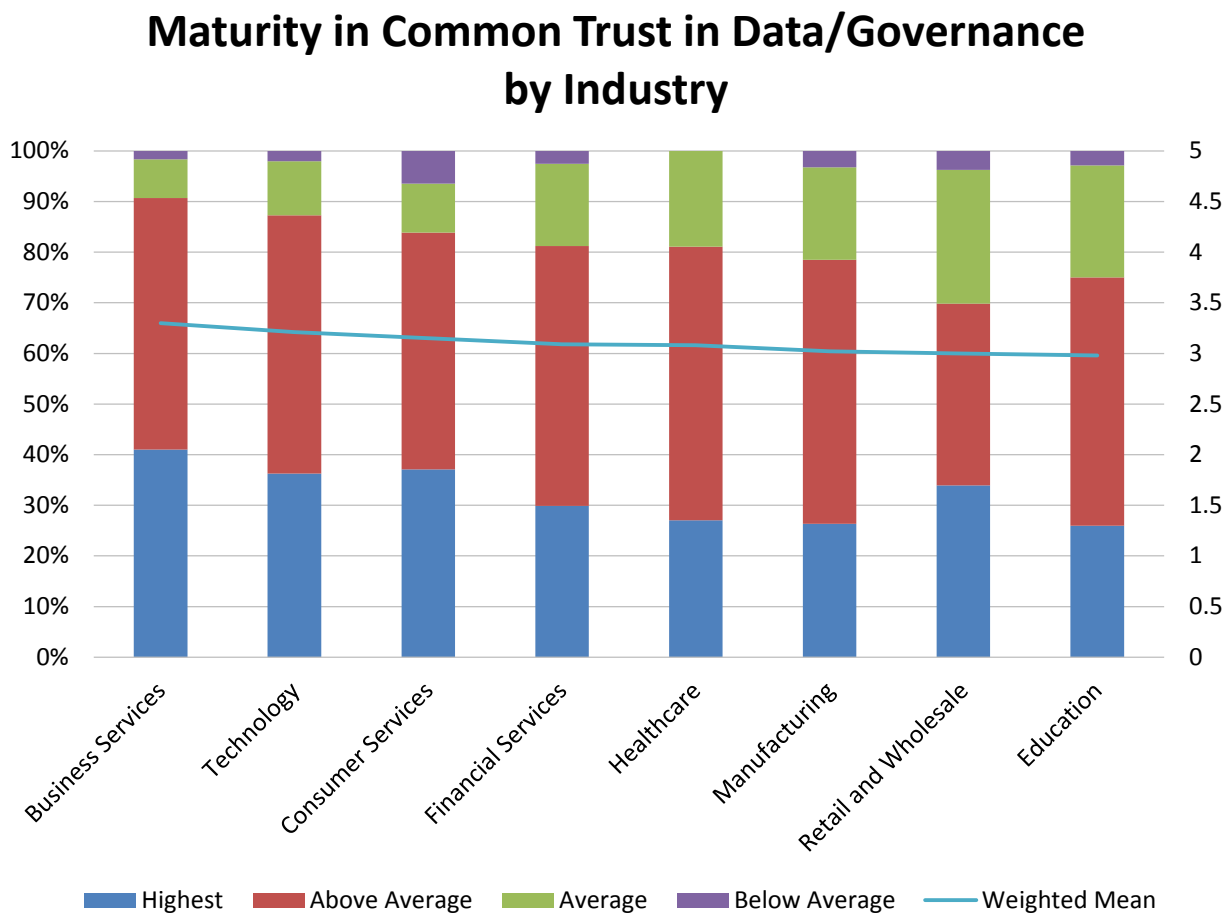



**Figure 74 – Maturity in common trust in data/governance by industry**

### 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 (fig. 75). This year, small organizations are 45 percent likely to post *highest* scores, compared to 30 percent for *mid-size* organizations (101-1,000 employees) and 27 percent for large and very large organizations (>1,000 employees). This result, along with slightly higher *average* and *below-average* assessments in larger organizations, may be partly due 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.

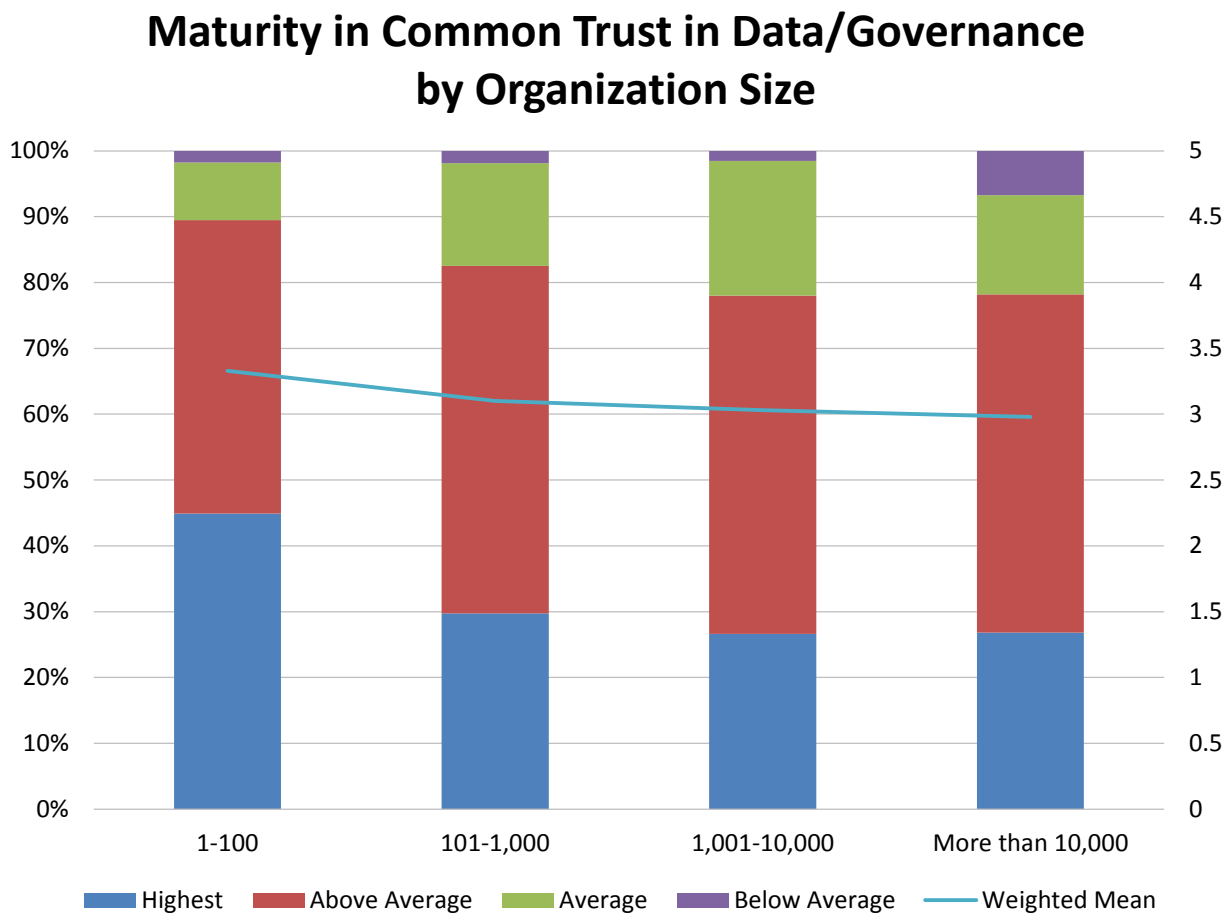



**Figure 75 – Maturity in common trust in data/governance by organization size**

## Insight Creation and Execution

Figs. 76-80 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 2022, about 53 percent of organizations relate their adherence to this statement as *above average*, and another 27 percent give their organizations the *highest* score for this ability (fig. 76). For the second consecutive year, fewer than 20 percent of respondents say their performance is only *average* or *below average*.

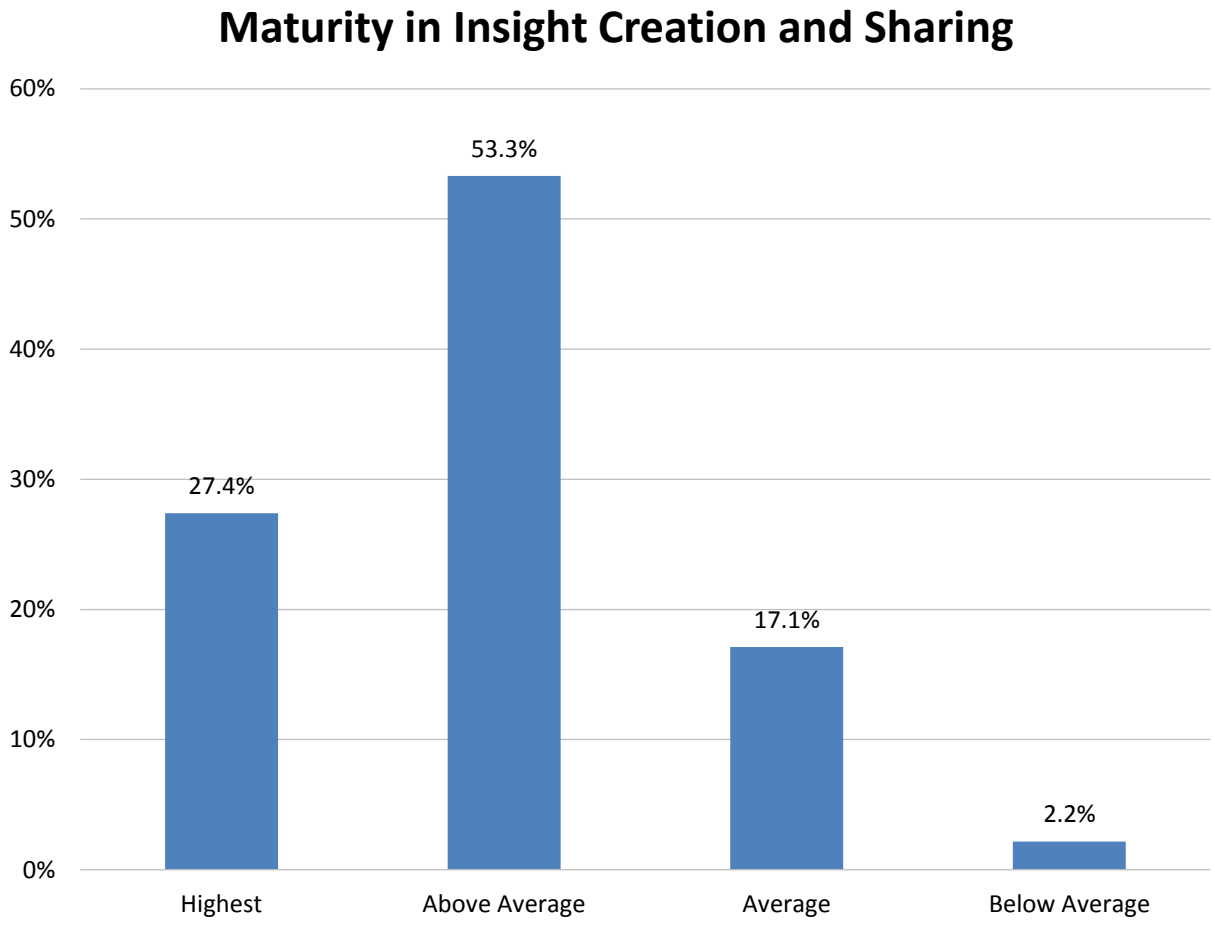



**Figure 76 – Maturity in insight creation and execution**

### 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 in *highest* assessments among EMEA respondents (fig. 77). Between 77-87 percent in any region say their results are *highest* or *above average*, and weighted-mean scores fall in a range of 3.0 to 3.1. This year, Asia-Pacific respondents give the slightly highest number of *highest* scores (34 percent), and the most combined *highest* and *above-average* results (87 percent). Just 1-3 percent report *below-average* results, indicating that self-assessment of maturity in insight creation and execution varies minimally by geographic region.

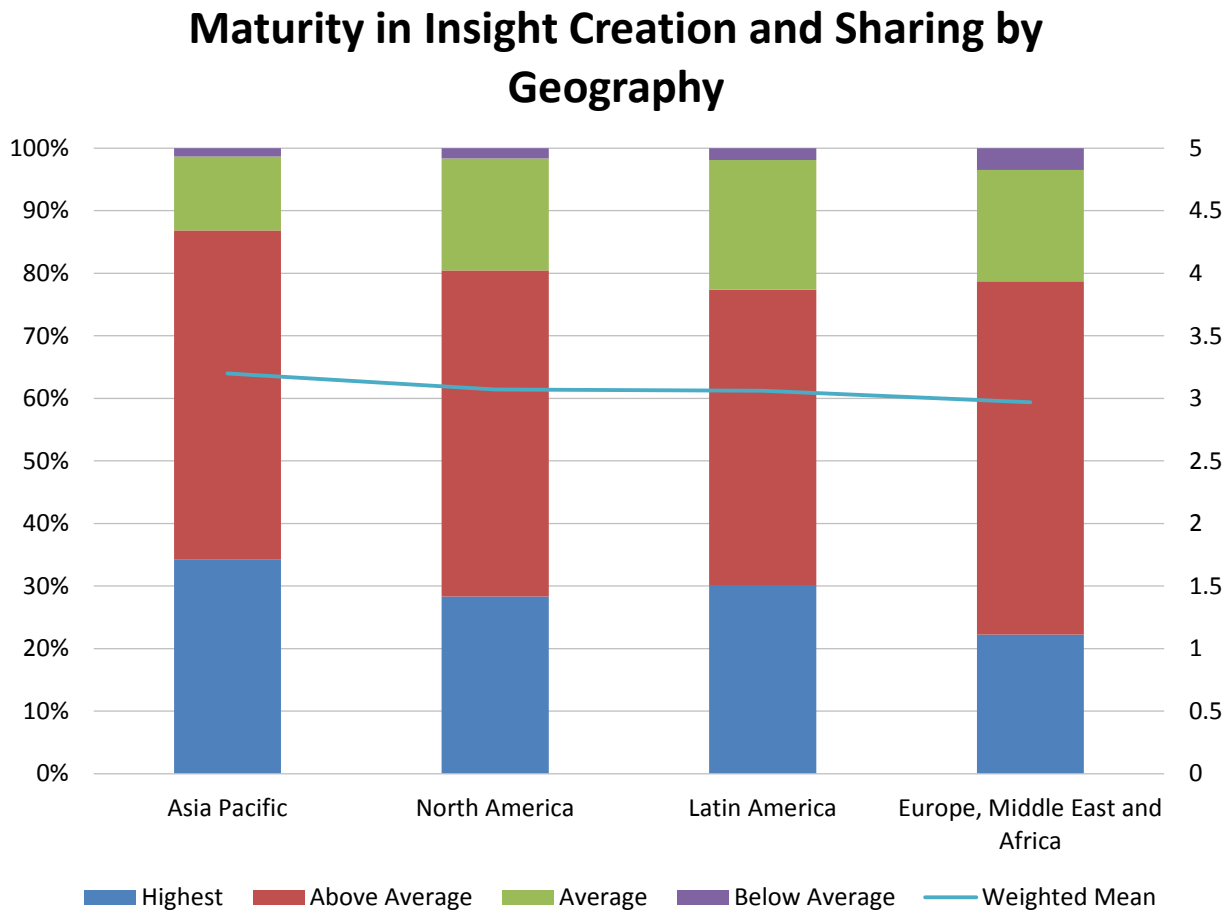



**Figure 77 – Maturity in insight creation and execution by geography**

### Insight Creation and Execution by Function

Respondents across all functions give similar weighted-mean scores (between 2.9 and 3.1) to maturity in insight creation and execution (fig. 78). Respondents in R&D and (interestingly), marketing and sales are most likely to give *highest* scores (31-33 percent), indicating select audiences of top-level insight creation. *Operations* is least likely to report *highest* assessments, but strongly supports the *above-average* mean of all functions sampled, indicating wide departmental competency in insight creation and sharing.

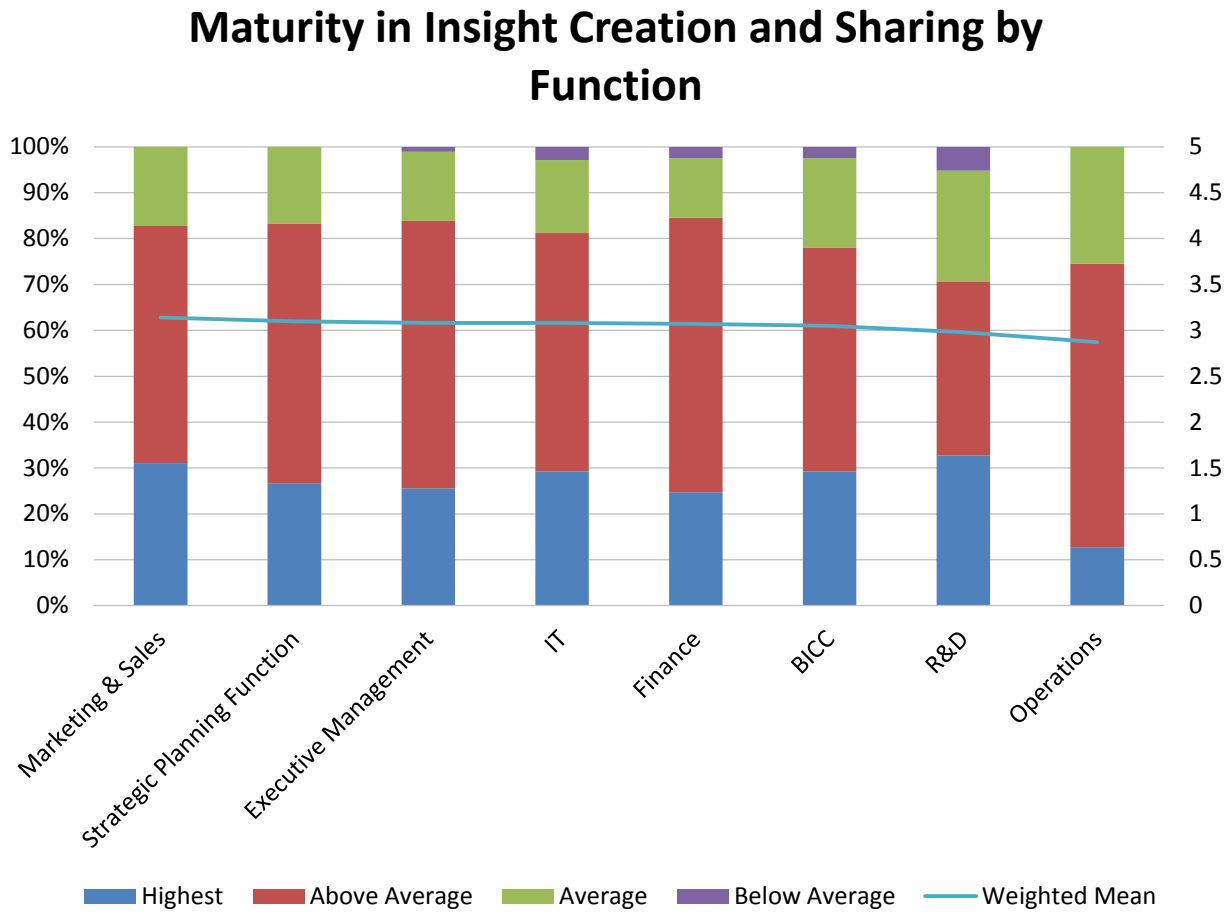



**Figure 78 – Maturity in insight creation and execution by function**

### Insight Creation and Execution by Industry

Measured by industry, respondents in any given vertical give similar weighted-mean scores (between 2.9 and 3.2) to maturity in insight creation and execution (fig. 79). Additionally, with the exception of respondents in *education*, at least 75 percent or far more in any industry score themselves *highest* or *above average* at insight creation maturity. Respondents in *technology, financial services, business services*, and *retail and wholesale* give the greatest number of *highest* scores of 30 percent% or more. *Below-average* scores range from a low of 1 percent in *technology* organizations to 7 percent in *consumer services*.

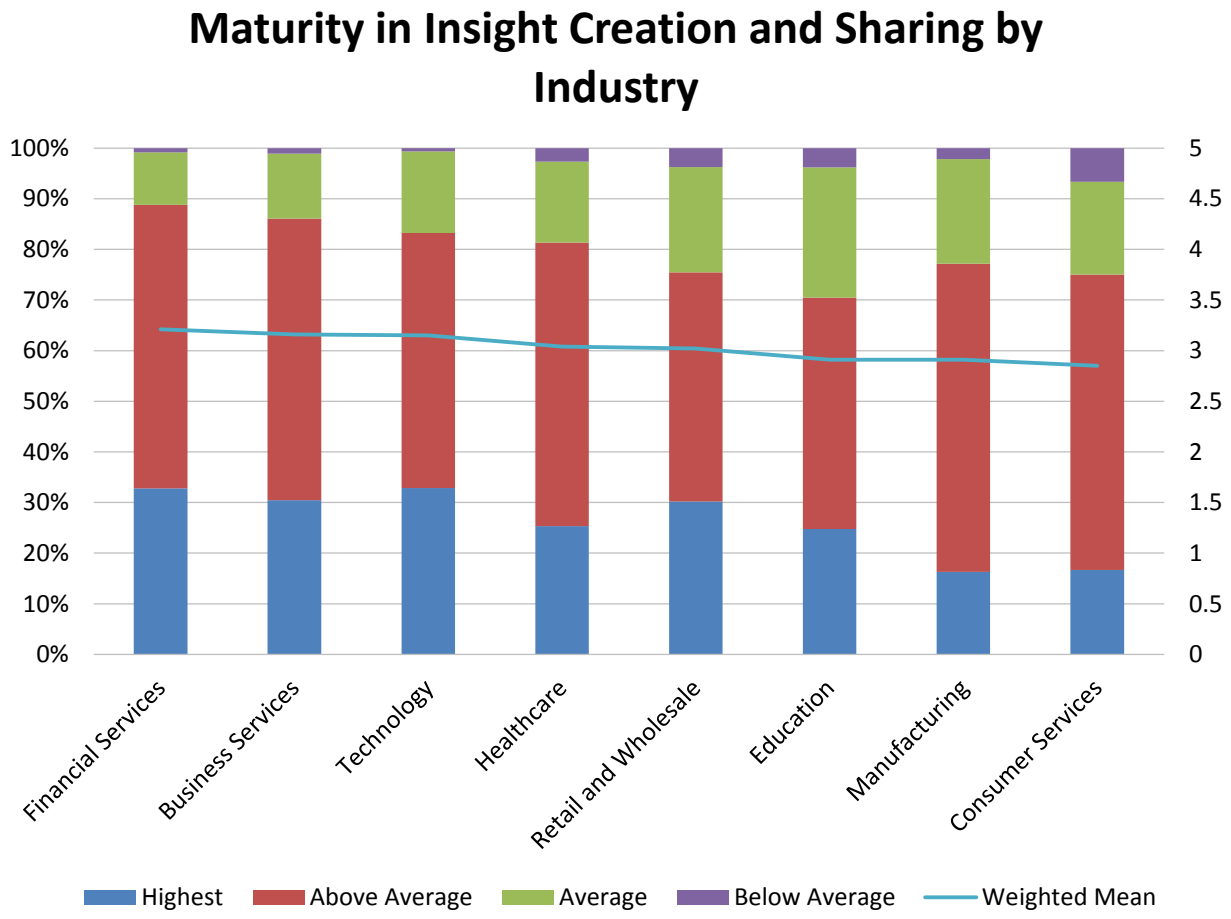



**Figure 79 – Maturity in insight creation and execution by industry**

### Insight Creation and Execution by Organization Size

All sizes of organizations report similar *above-average* levels of maturity in insight creation and execution (fig. 80). Small organizations (1-100 employees) most often give themselves the *highest* assessment (36 percent), compared to 25 percent at very large organizations (>10,000 employees), 24 percent at large, and 22 percent at mid-size organizations. A high 87 percent of small organizations count themselves in the *highest* or *above-average* categories, compared to 79 percent or slightly less at all other organizations. *Below-average* scores account for just 1-4 percent of respondents in any size organization.

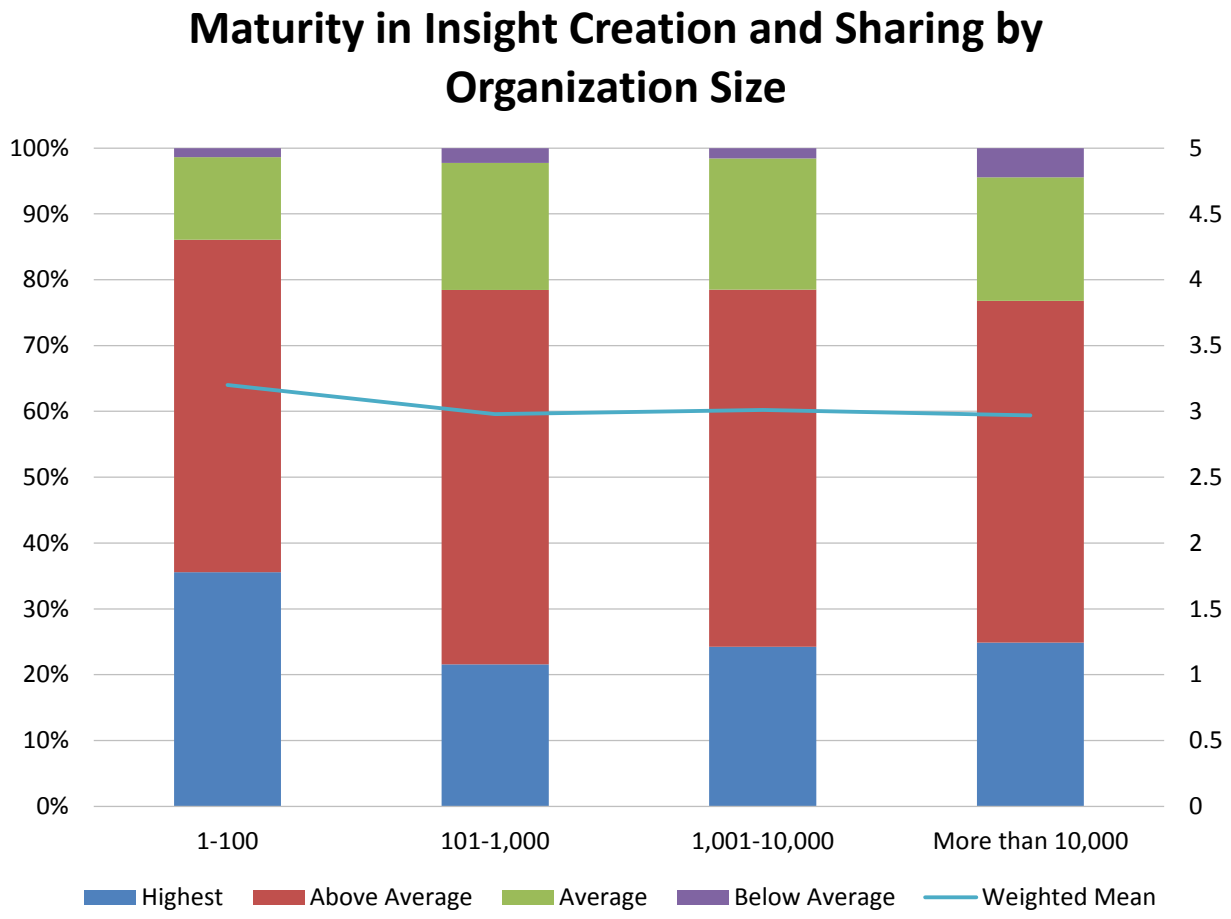



**Figure 80 – Maturity in insight creation and execution by organization size**

## Success with Business Intelligence

Our core measure of perceived *success with business intelligence* stands at a weighted-mean 3.2 or *above-average* level, flat year over year but in a third year of rebound from gradual declines during the years 2016-2019 (fig. 81). Thirty-six percent of organizations report being *completely successful* with business intelligence in 2022, compared to 37 percent in 2021 and 32 percent in 2020. Eighty-seven percent report either *completely successful* or *somewhat successful* results in 2022, close to the high-water mark in 2021 and 2015-2016. Amid a mix of events including the COVID-19 pandemic and high expectations, we see the last three years of performance as a promising sign of steady BI competency and growing maturity.

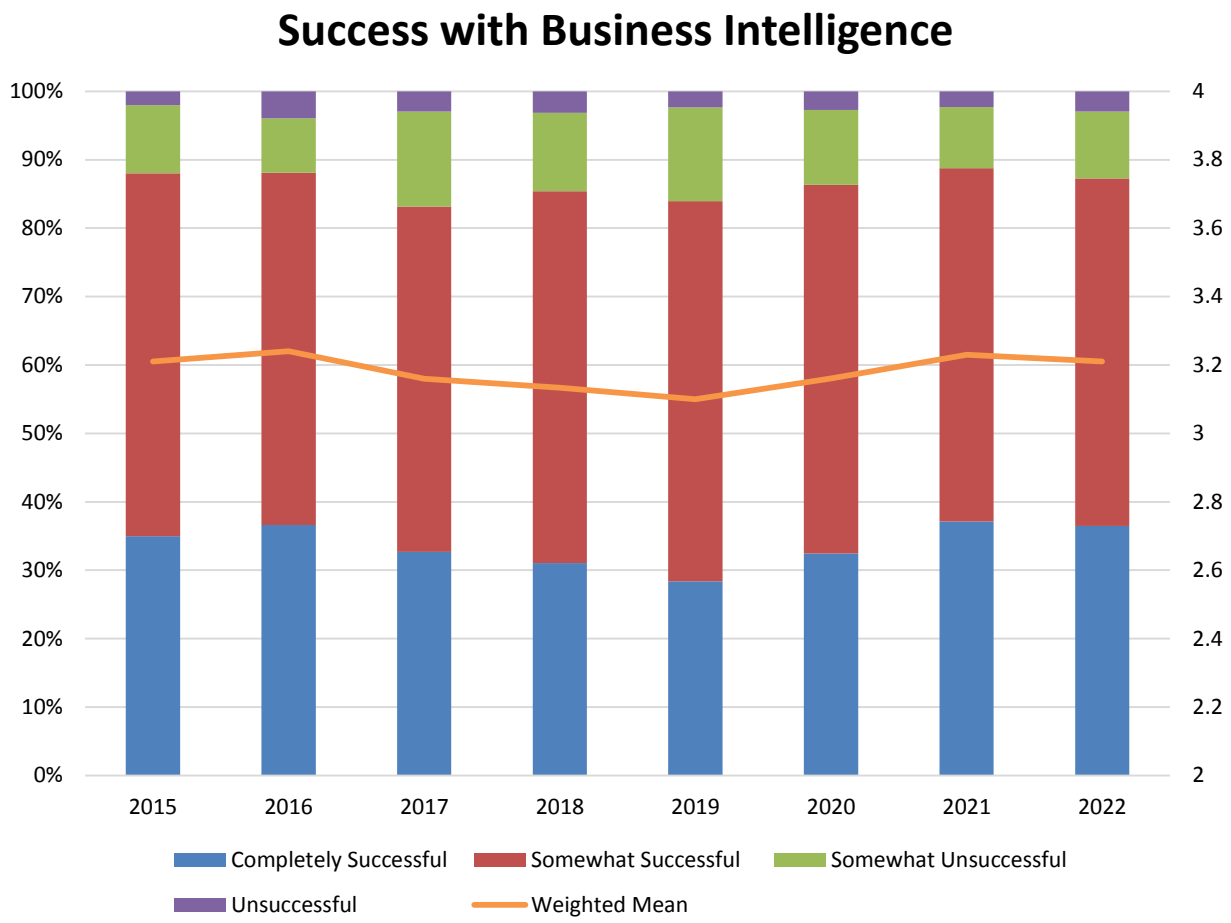



**Figure 81 – Success with business intelligence**

### 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. 82). The top result (as in all previous years) is *user feedback/satisfaction* (82 percent), followed by *customer feedback/satisfaction* (51 percent, up from 46 percent in 2021 and 40 percent in 2020). This year, *return on investment (ROI)* is the next most-cited measure, having edged past *system/application activity.* The least-common measure of success with BI is *number of deployed users,* used by about 37 percent of respondents. By a significant margin, respondents tell us they engage with users and measure their satisfaction in qualitative ways rather than focusing on system activity or raw numbers of users.

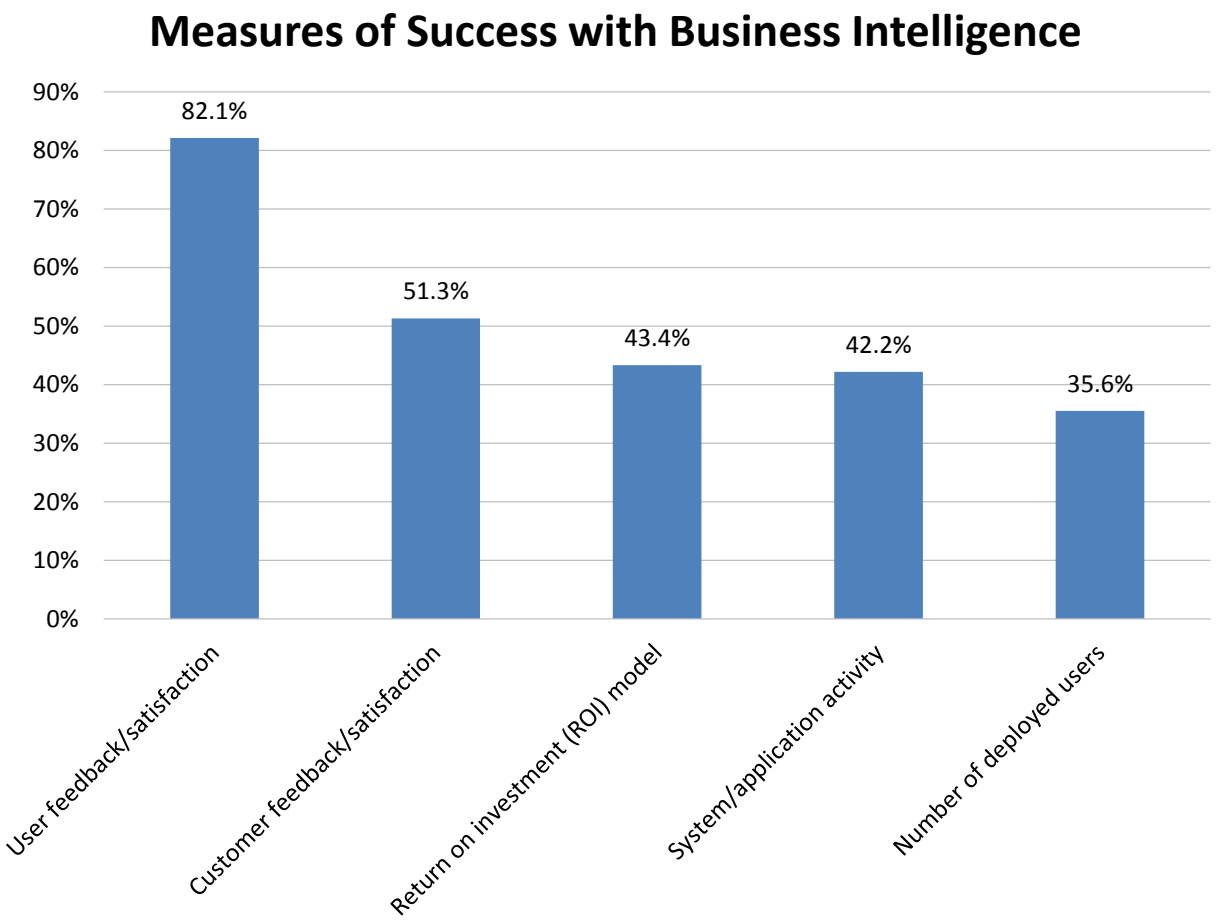



**Figure 82 – Measures of success with business intelligence**

### Contributors to Success with Business Intelligence

We asked respondents to choose from a selection of contributors to success with business intelligence (fig. 83). This year, the most-cited contributors are *support from senior management or other BI champions, a culture that understands and values fact-based decision-making,* and *good communication/collaboration between those developing/supporting BI solution and those using it.* These findings are only very slightly changed from 2021 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 top contributors rank ahead of *reliable, trustworthy data* and well ahead of issues specific to tools and technology. Though a lesser contributor today, we are monitoring the topic of *data literacy* and its impact upon success with BI (also see *number of BI tools in use by data literacy*, fig. 63, p. 79).

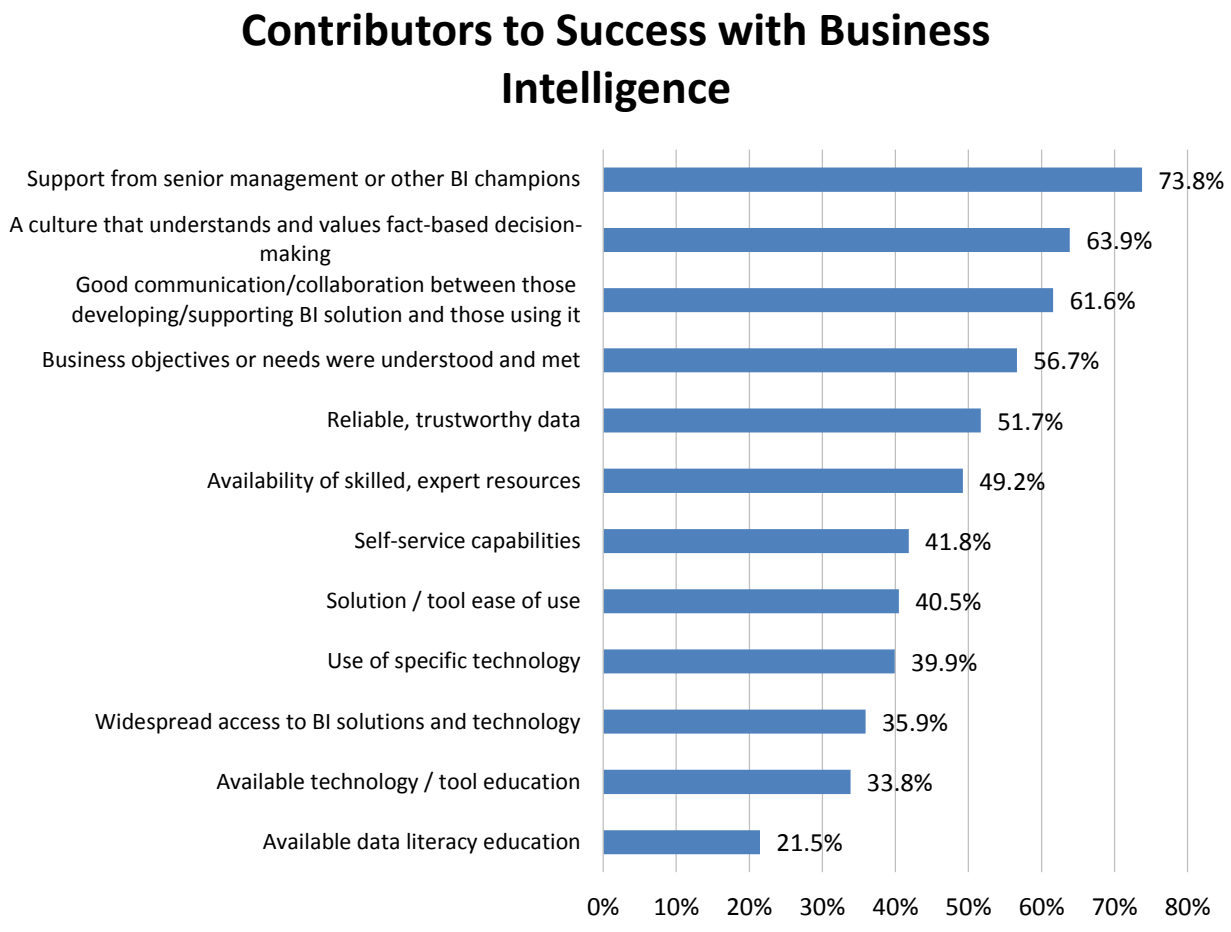



**Figure 83 – Contributors to success with business intelligence**

## Obstacles to Success with Business Intelligence

In 2022 we also asked respondents to choose from a selection of obstacles to success with business intelligence (fig. 84). This year, the most-cited obstacles are *lack of skilled, expert resources, a culture that doesn't fully understand or value fact-based decision-making,* and *lack of data-literacy education*. Compared to earlier years when the contrary contributor/obstacle answers aligned neatly, *lack of skilled, expert resources* and *lack of data literacy* stand out inordinately as obstacles this year. Without certainty, we are inclined nonetheless to partly attribute these two outsized obstacles to a tightening labor/skills market in 2022.


**Figure 84 – Obstacles to success with business intelligence**

### Success with Business Intelligence by Organization Size

Perceived success with business intelligence is fairly uniform and consistent by organization size in 2022 (fig. 85). Small organizations (1-100 employees) are most likely to claim *completely successful* BI success (39 percent), compared to about 35 percent at very large (> 10,000 employees), large (1,001-10,000 employees), and mid-size organizations (101-1,000 employees). All organizations of any size are similarly likely (87-88 percent) to report combined *completely successful* and *somewhat successful* results. Just 4 percent or fewer organizations of any size say they are *somewhat unsuccessful* or *unsuccessful* at BI.

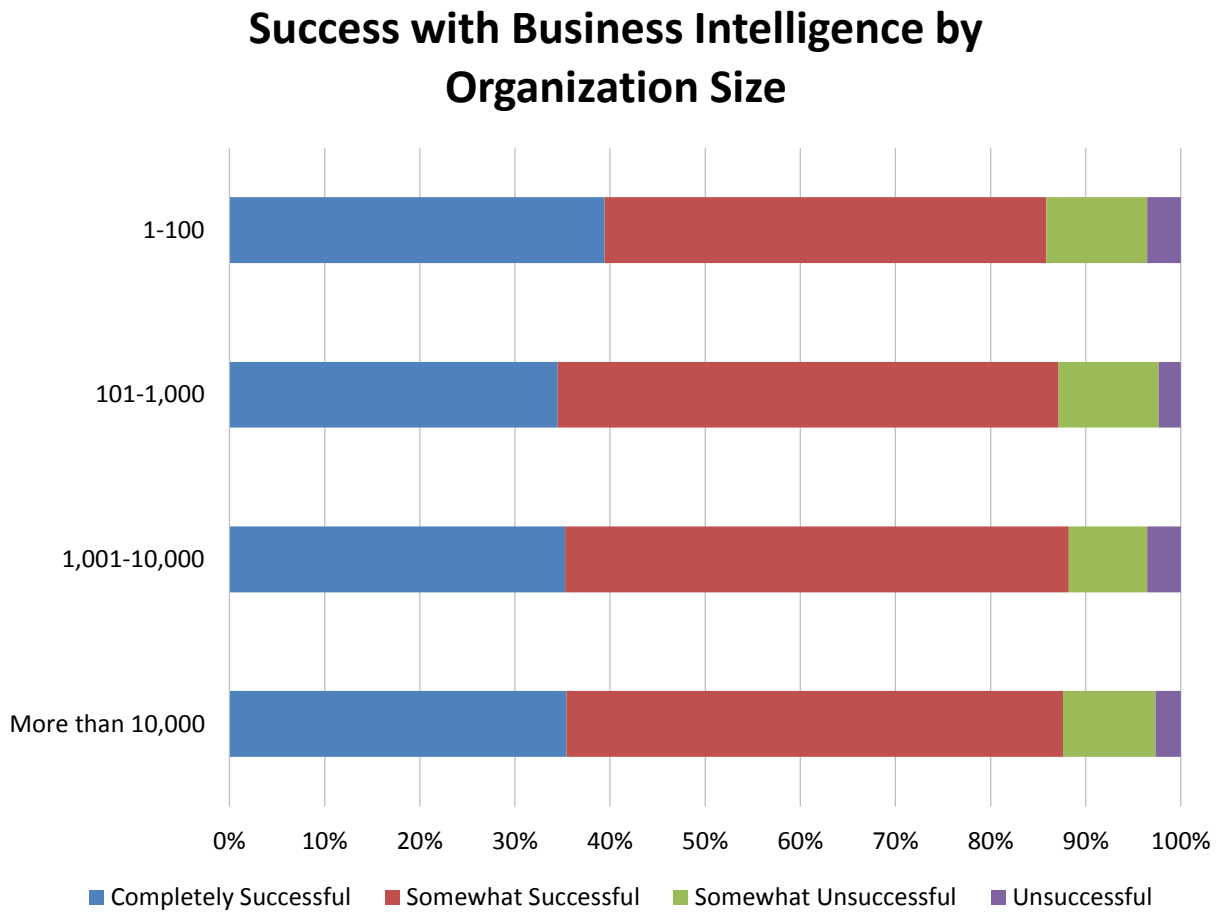



**Figure 85 – Success with business intelligence by organization size**

### 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 2022 (fig. 86). 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* as the foremost among multiple objectives. Organizations that consider themselves *somewhat unsuccessful & unsuccessful* are less emphatic in all areas and possibly more likely to see more "soft" than "hard" benefits of meeting objectives.

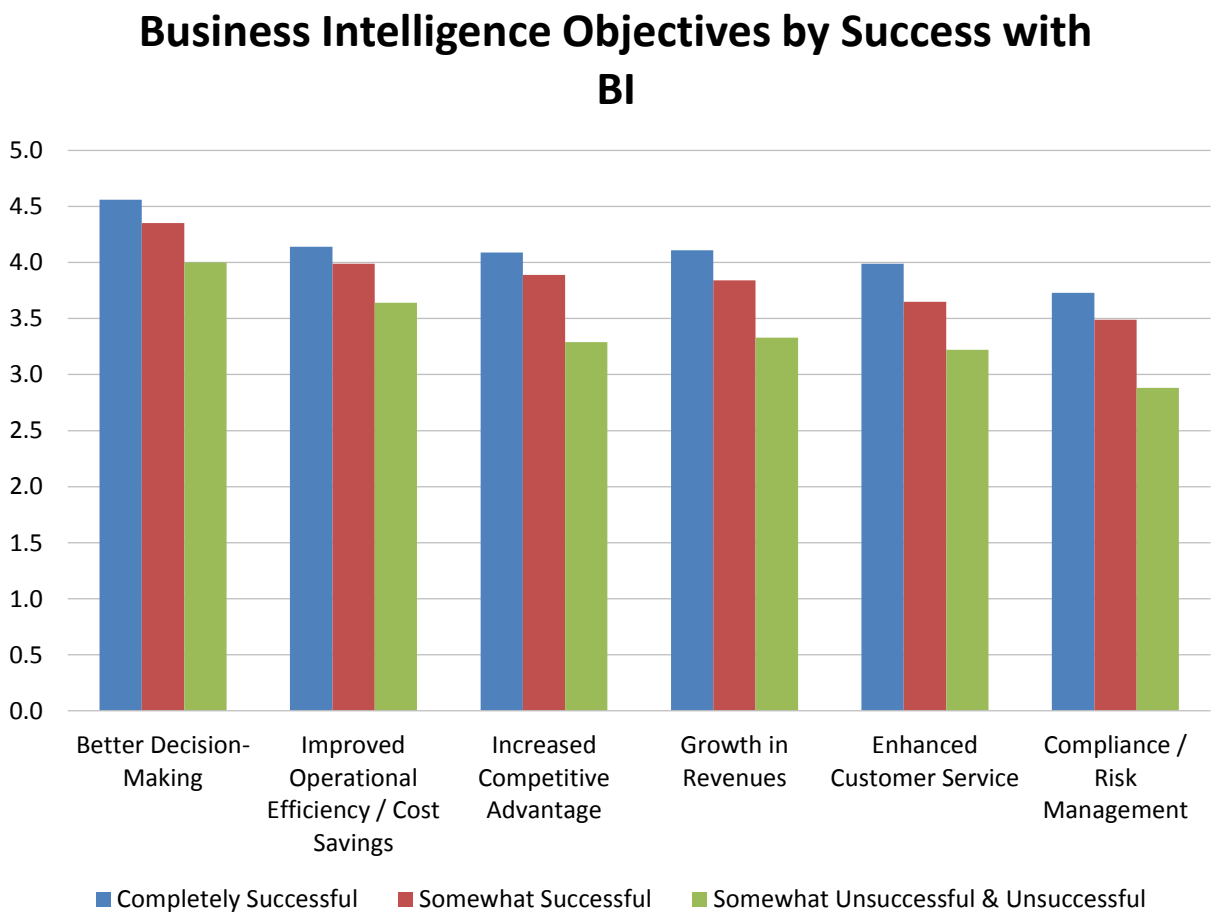



**Figure 86 – Business intelligence objectives by success with BI**

### Success with Business Intelligence by Targeted Users

In 2022, we see evidence that downstream attention to non-traditional targeted users brings success to organizations (fig. 87). Most obvious this year, *customer* targeting is disproportionately embraced by *completely successful* BI organizations. By specifically comparing the delta between *completely successful and somewhat unsuccessful and unsuccessful* BI organizations, we also see a large gulf in targeting of *individual contributors and professionals, line managers, partners/affiliates*, and *suppliers*. In every case, completely successful organizations place the most emphasis on every targeted audience.

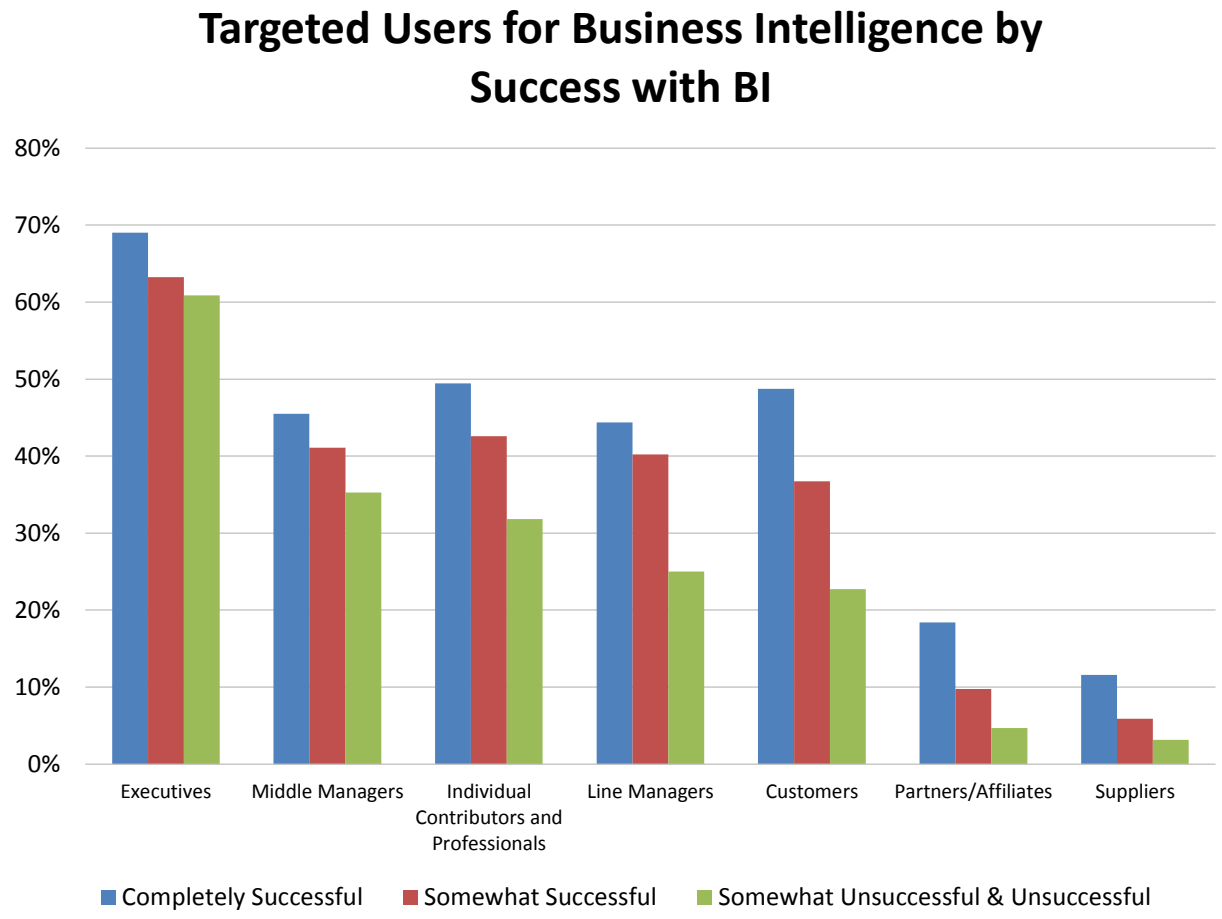



**Figure 87 – Targeted users for business intelligence by success with BI**

## Success with Business Intelligence and Technology Priorities

Organizations that are *completely successful* with business intelligence (and to a lesser degree those that are *somewhat successful*) pay more attention to multiple BI-related technology priorities, compared to lower-performing peers (fig. 88). The diversity of attention in high-performing organizations is remarkably broad and ranges from the most basic (*data visualization, reporting, dashboards*) to emergent growth areas (*data lakes, graph technology*) to more obscure priorities (*streaming data, robotic process automation*, etc.). By comparison, *somewhat unsuccessful & unsuccessful* organizations under-invest in several areas including *data warehousing, data preparation*, and *governance*.


**Figure 88 – Technologies and initiatives strategic to business intelligence by success with BI**

### Success with Business Intelligence and Number of BI Tools

In 2022, about 23 percent of organizations that are *completely successful* with business intelligence use just one BI tool, and about 40 percent use one or two BI tools (fig. 89). *Somewhat successful*, and *somewhat unsuccessful & unsuccessful* organizations are more likely to use three or more tools or say they don't know BI user tool counts. (As we noted in fig. 64, p. 80, *Number of Business Intelligence Tools in use by Difficulty Finding Analytical Content,* success with BI might also be more hampered by factors other than the number of BI tools in use.)

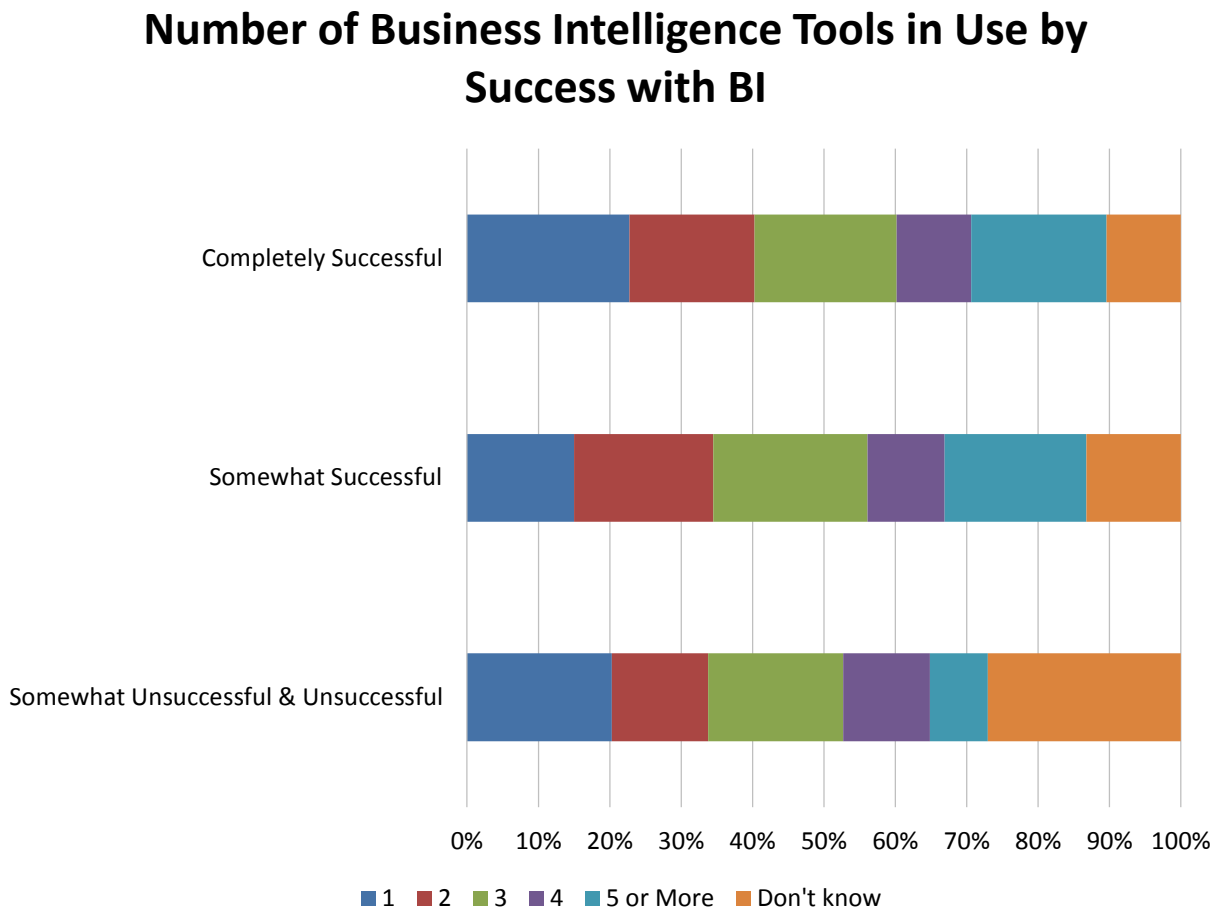



**Figure 89 – Number of business intelligence tools in use by success with BI**

### Success with Business Intelligence and Common Trust in Data

Fig. 90 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 2022, success with BI closely correlates with maturity in common trust in data/governance. Fifty-four percent of *completely successful* organizations assign the *highest* agreement with this statement. This *highest* score declines to 27 percent among *somewhat successful* BI organizations and just 9 percent of *somewhat unsuccessful & unsuccessful* organizations. Combined *highest* and *above-average* BI success also declines in linear fashion with diminishing maturity in common trust in data/governance, while *below-average* scores increase.

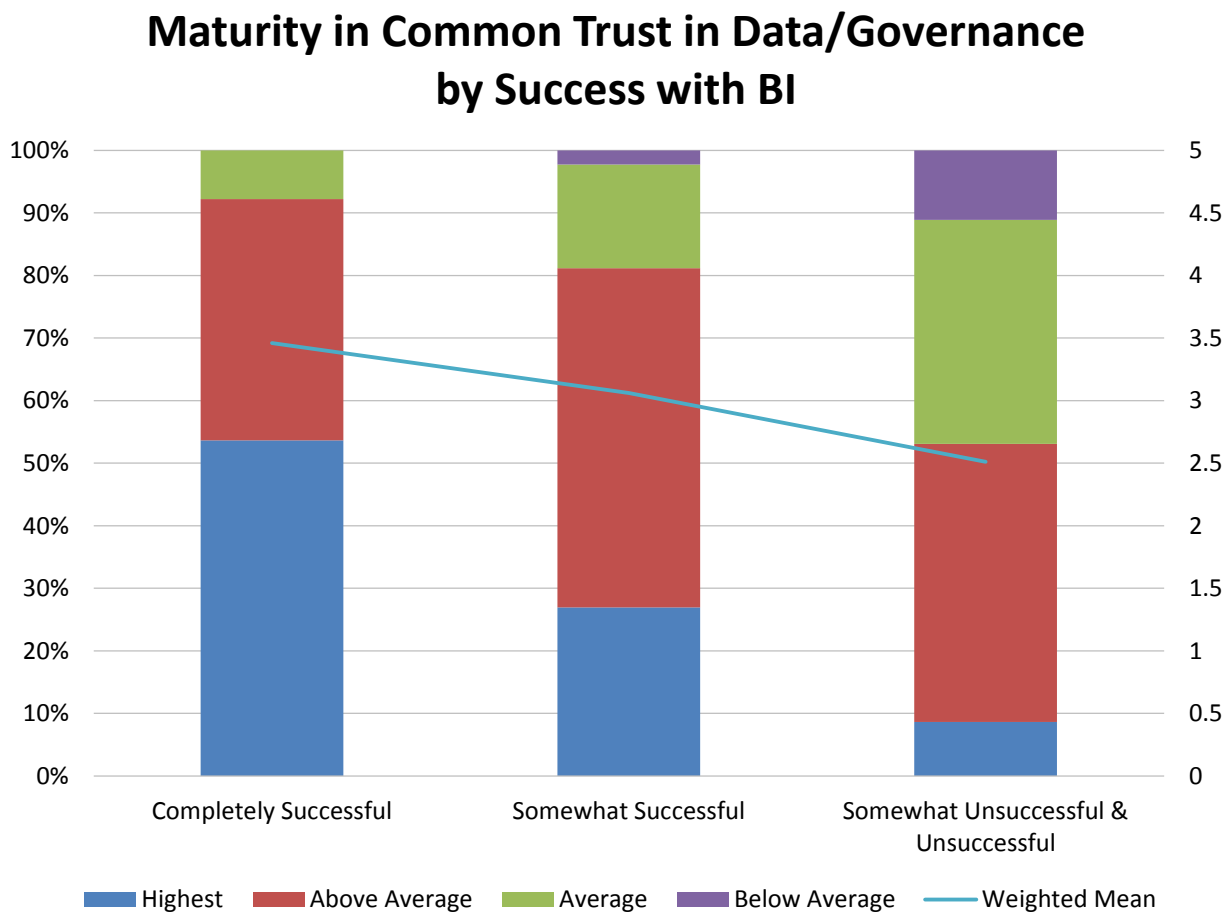



**Figure 90 – Maturity in common trust in data/governance by success with BI**

### Success with Business Intelligence and Insight Creation and Execution

Fig. 91 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 2022, success with BI is closely correlated with maturity in insight creation and execution. About 44 percent of *completely successful* organizations give themselves the *highest* maturity self-assessment. This *highest* score declines to 18 percent among *somewhat successful* organizations and just 6 percent at *somewhat unsuccessful & unsuccessful* organizations. Combined *highest* and *above-average* BI success also declines with diminishing maturity in insight creation and execution, while *below-average* scores increase.

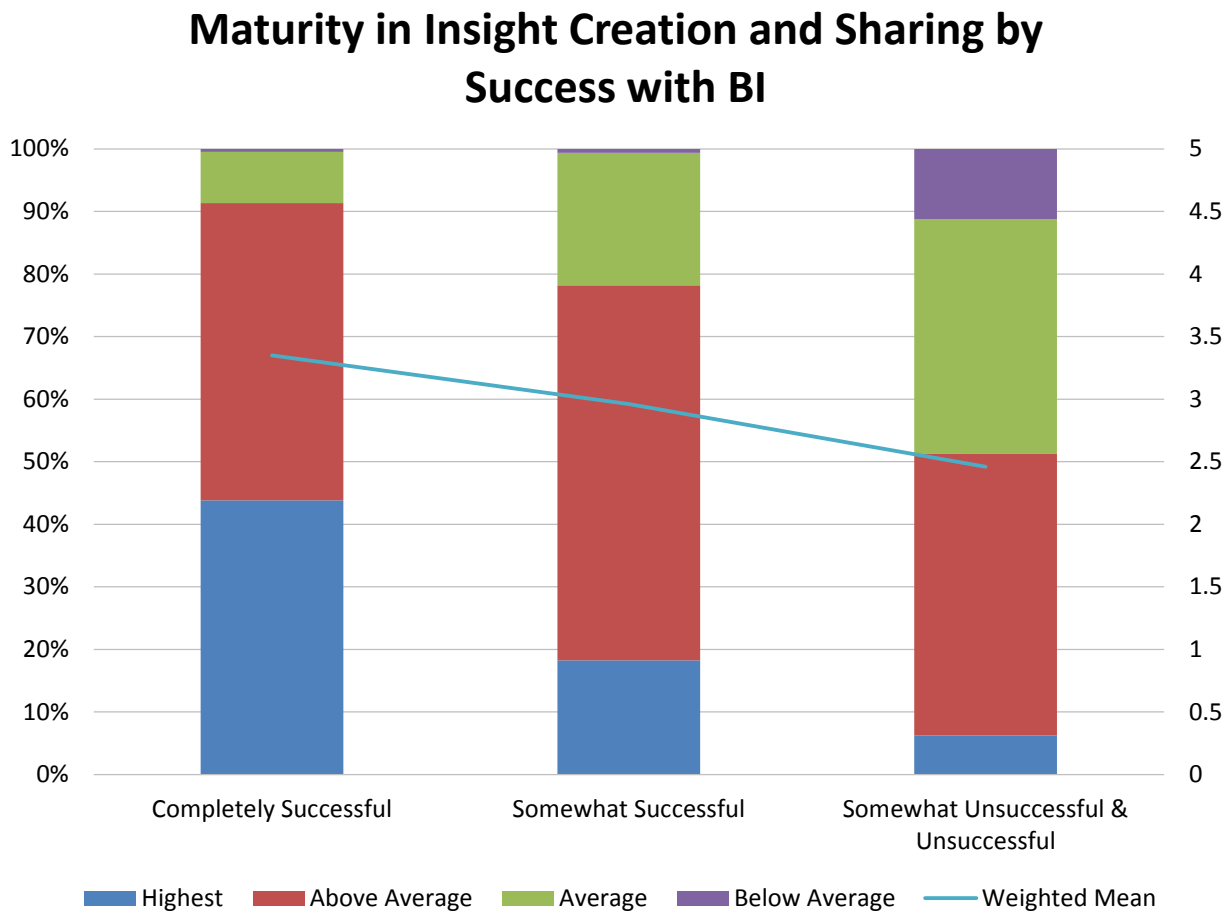



**Figure 91 – Maturity in insight creation and execution by success with BI**

### Success with Business Intelligence and Penetration of Users

Figure 92 compares *success with BI* with *total average BI penetration* in organizations in current and future time frames. In this cross tabulation, we observe a clear positive correlation between higher total penetration and success with BI in every time frame sampled. For example, *completely successful* BI organizations report 49 percent current BI penetration, compared to 37 percent current penetration at *somewhat successful*, and 31 percent current penetration at *somewhat unsuccessful and unsuccessful* BI organizations. Future time frames extrapolate positively, regardless of success with BI; but organizations with greater BI success currently experience higher average penetration of usage and users and expect the same in the future.

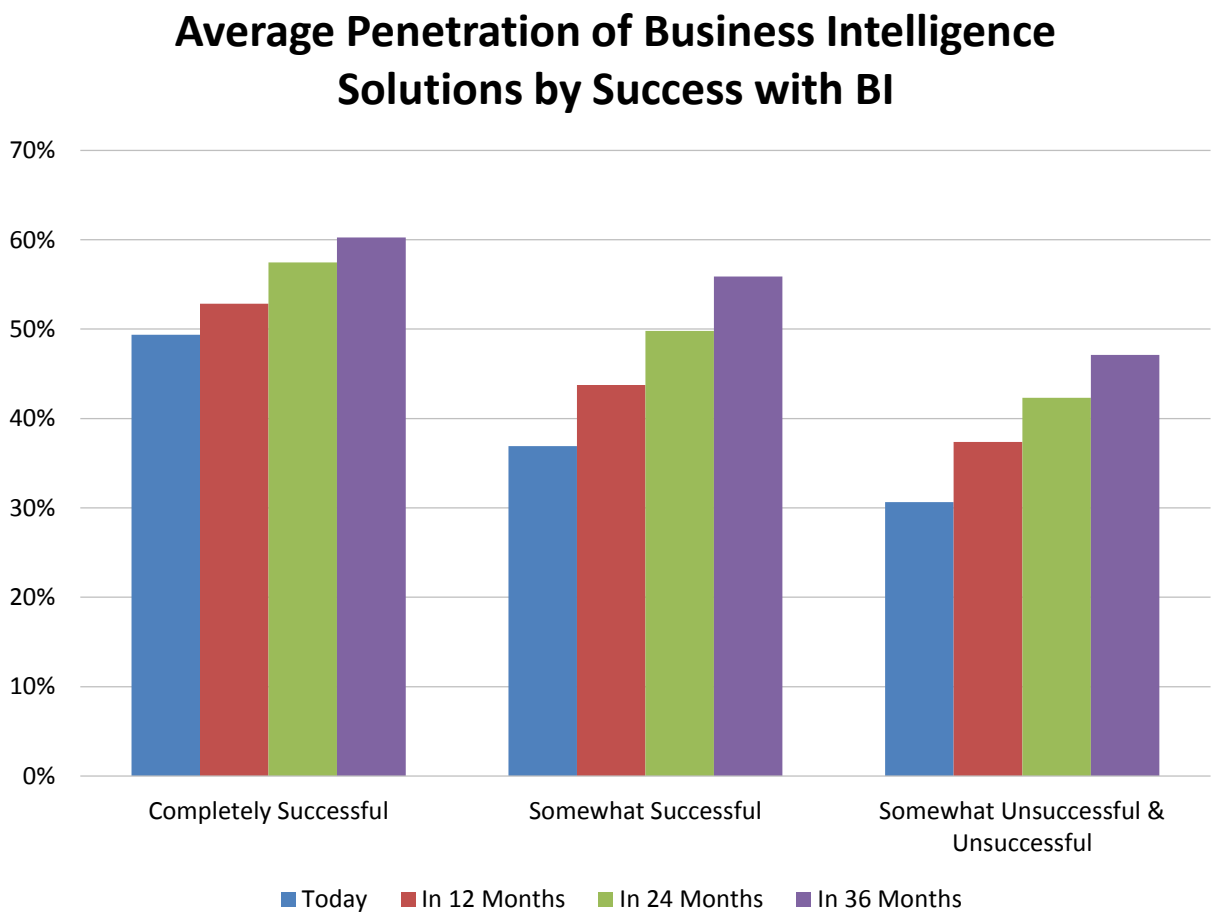



**Figure 92 – Averge penetration of business intelligence solutions by success with BI**

### Business Intelligence Achievements by Success with BI

As we would expect, high-achieving organizations are far more likely to be successful at multiple BI objectives (fig. 93). In 2022, *completely successful* organizations execute best at every objective starting with *better decision-making* (weighted mean 4.7) and *improved operational efficiency/cost savings* (4.1). Both these measures are at or above criticality of 4.0 or well higher than *moderate* achievement. Levels of BI success thereafter decline in linear fashion across all measures among *somewhat successful* and *somewhat unsuccessful & unsuccessful* organizations. We can assume that *somewhat unsuccessful & unsuccessful* organizations are less likely to attempt to meet multiple and various BI objectives.

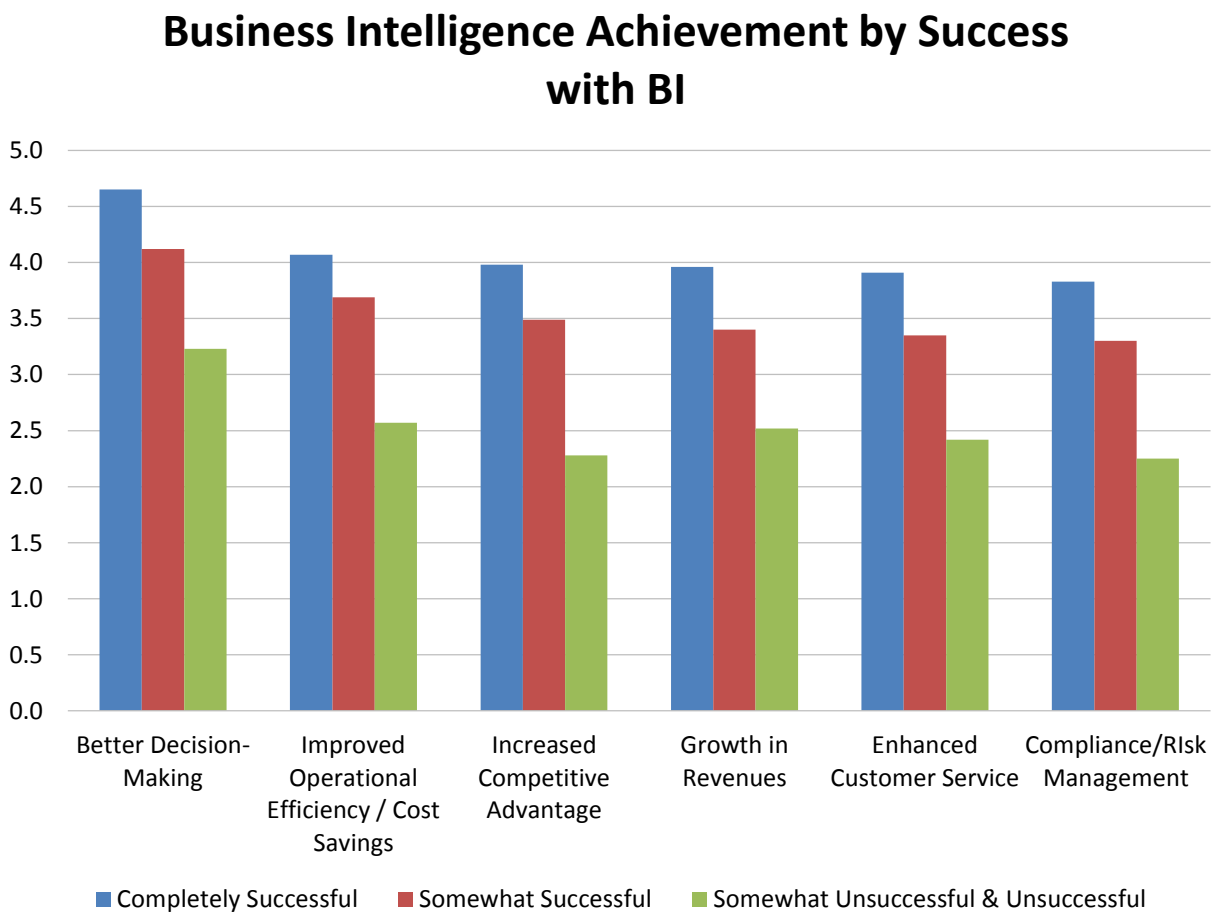



**Figure 93 – Business intelligence achievement by success with BI**

## 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. 94). In 2022, about 55 percent of respondent organizations plan to *increase* BI investment above 2021 levels. Another 40 percent will *maintain* current budgeting, and 5 percent will *decrease* budgeting. (We do not determine the extent to which BI expansion might consist of departmental spending or the adoption of BI subscription services.)

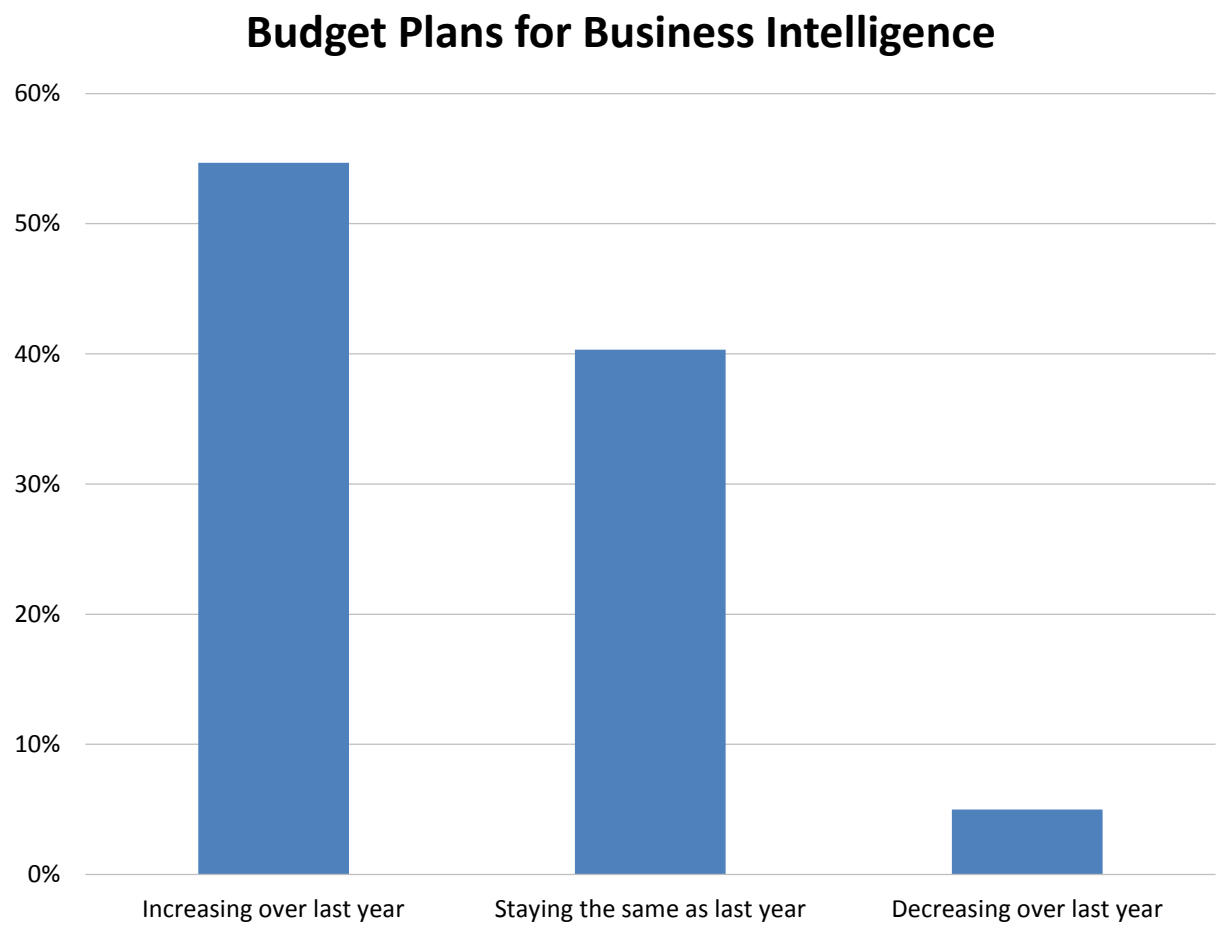



**Figure 94 – Budget plans for business intelligence**

## Budget Plans for Business Intelligence 2017-2021

By percentage, budget changes for business intelligence across the latest six years of data are somewhat consistent and, on a positive note, reveal a reversal of 2021 declines (fig. 95). This year, 55 percent of organizations are *increasing* BI budgets, while 40 percent are *maintaining* ,and just 5 percent are *decreasing* budgets. This marks a rebound to the positive budget trends seen in 2019. (2021 marked an all-time low of 46 percent increasing, and a high 8 percent decreasing BI budgets.) Not factored here but a likely contributor to this finding is the COVID-19 pandemic.

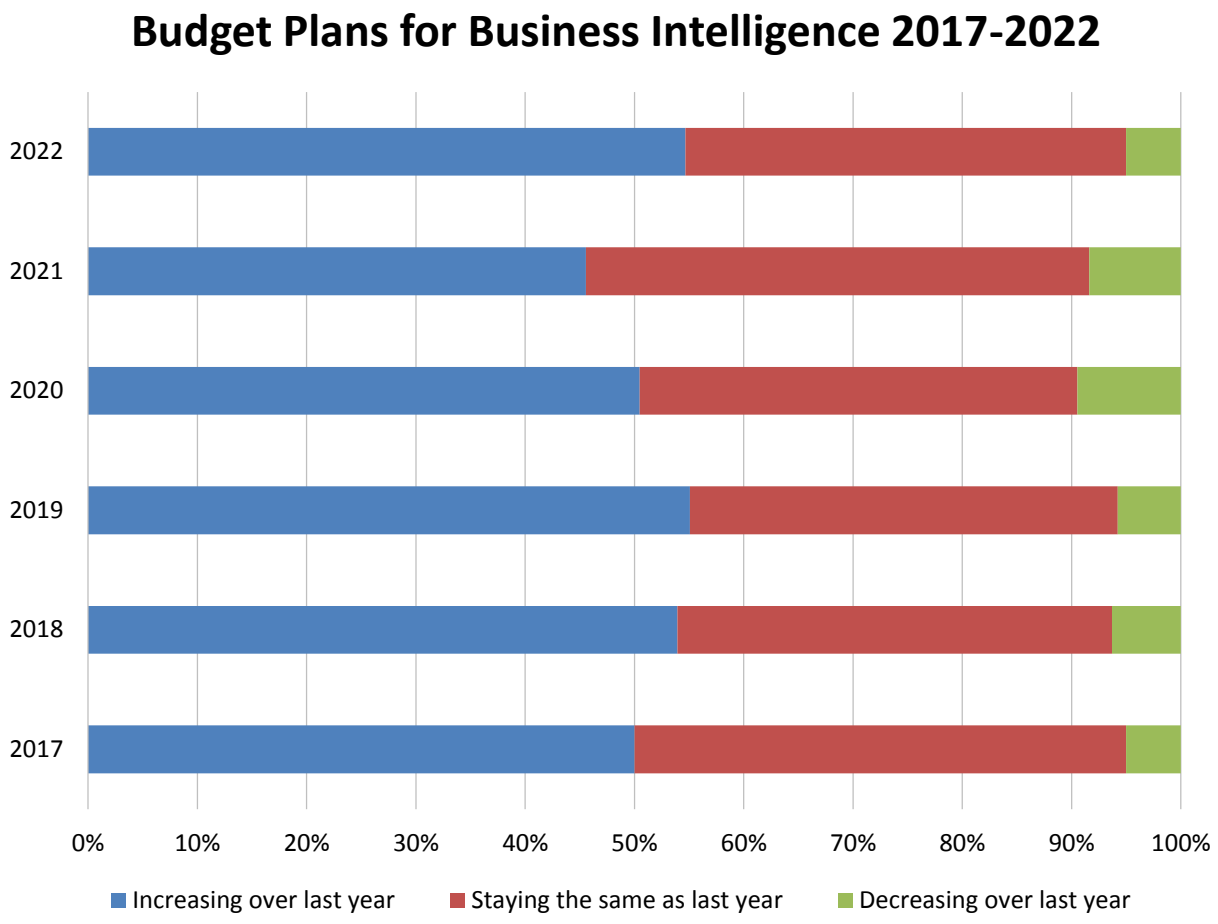



**Figure 95 – Budget plans for business intelligence 2017-2022**

### Budget Plans for Business Intelligence by Geography

In 2022, EMEA and Asia Pacific are somewhat stronger investment markets for BI based on budget plans (fig. 96). Latin America is the only region in which a minority of respondents plans to increase BI budgets, though only 7 percent report planned BI budget cutbacks. Overall, 48-62 percent of organizations in all geographic regions plan to increase BI spending in 2022. Asia Pacific reports the highest percentage of organizations increasing budgets but also the most organizations with budget decreases (12 percent).

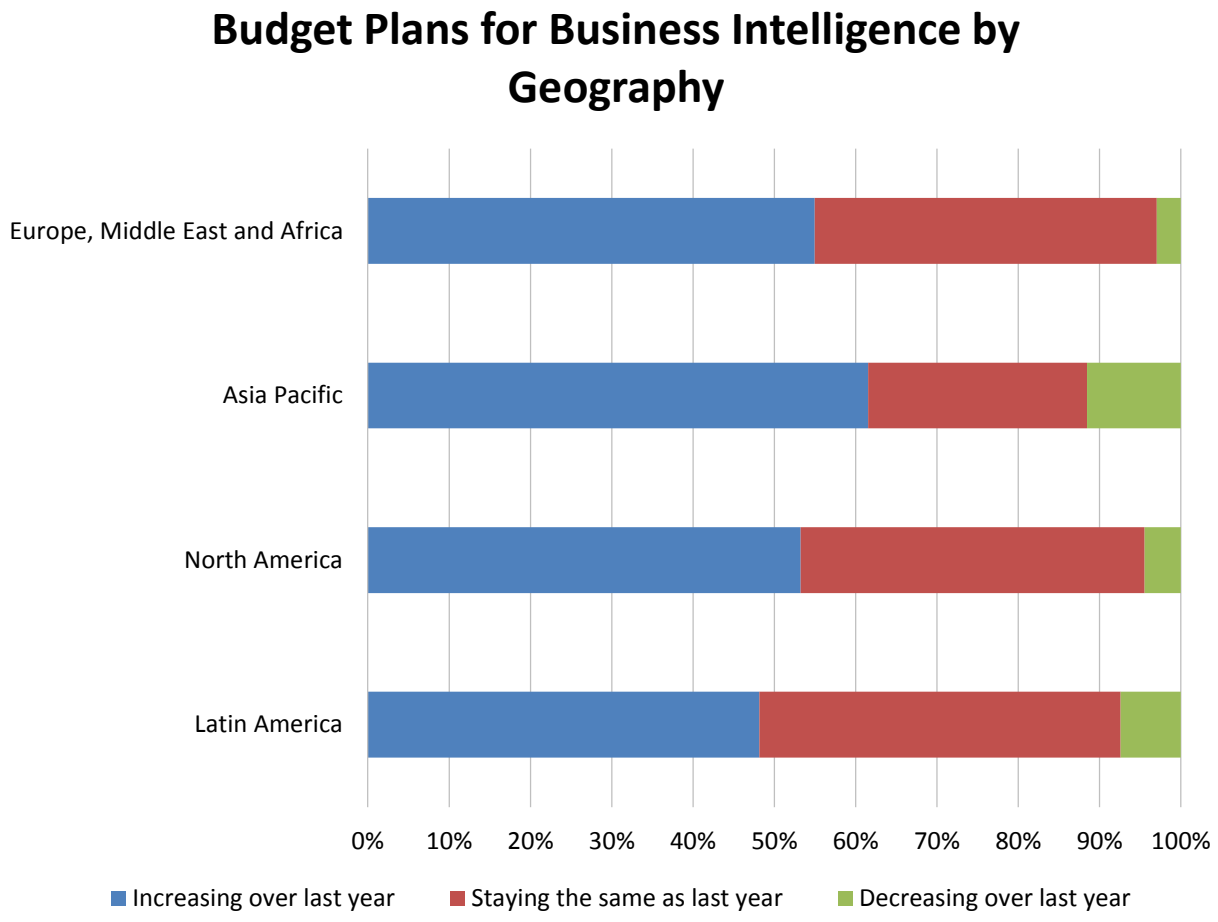



**Figure 96 – Budget plans for business intelligence by geography**

### Budget Plans for Business Intelligence by Function

In 2022, budget plans for BI are mostly aggressive by function, with a category-high 81 percent of *marketing and sales* respondents reporting they will increase BI spending compared to last year (fig. 97). We view this as the most obvious sign of ongoing departmental enablement of BI. *Executive management* is the next most likely to boost BI budgets (61 percent), followed by *R&D* (56 percent), *BICC* (54 percent) and *IT* (53 percent). R&D is most likely (13 percent) to report budget decreases. All other functions are 7 percent or less likely to decrease BI budgets.

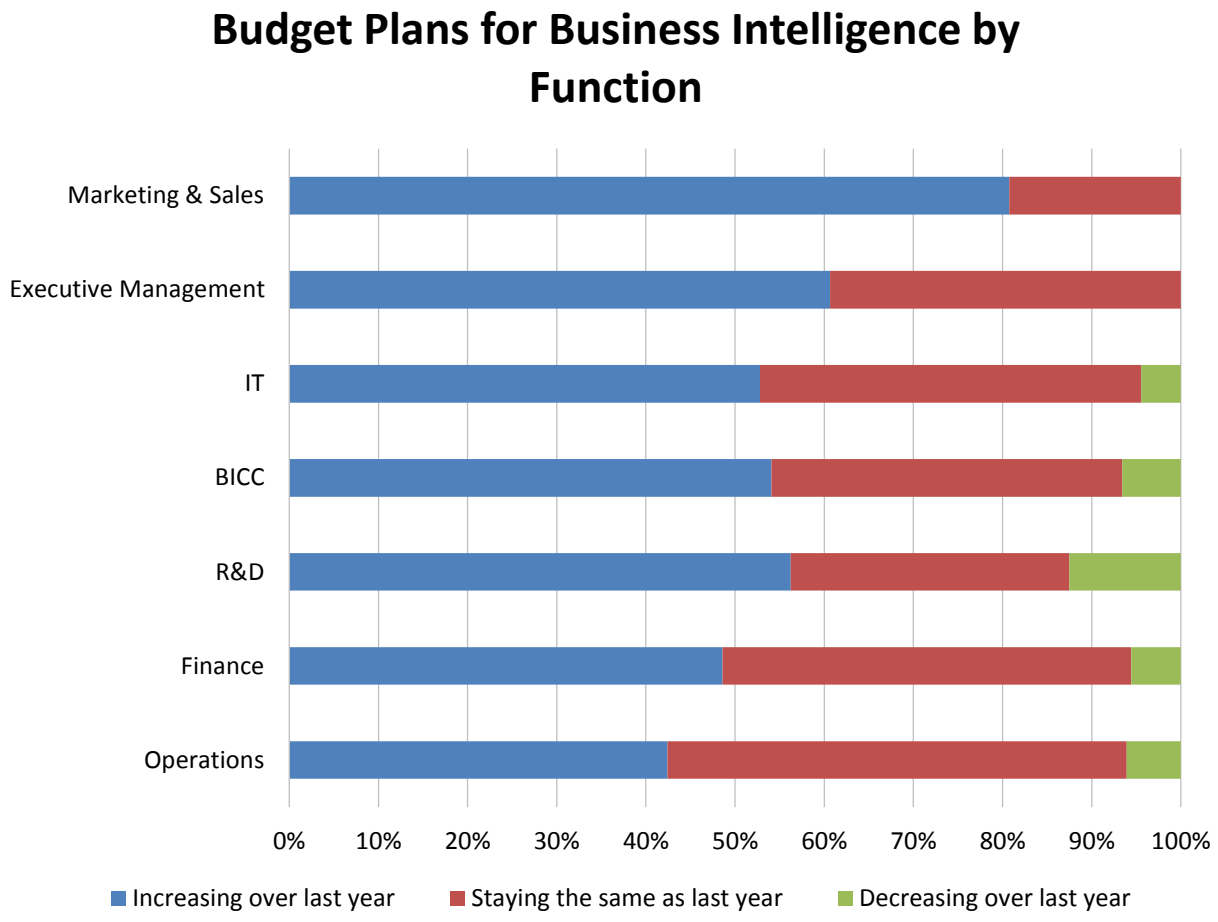



**Figure 97 – Budget plans for business intelligence by function**

### Budget Plans for Business Intelligence by Vertical Industry

In 2022, budget plans for BI are mostly aggressive by industry, led by *consumer services*, where 69 percent of organizations plan to boost BI spending (fig. 98). *Financial services* and *technology* industry organizations are the next most likely to boost BI spending, at 62 percent and 58 percent, respectively. A majority of respondents in all industries except *higher education* plan budget increases this year, and just 8 percent or fewer in any industry plan to decrease budgets.

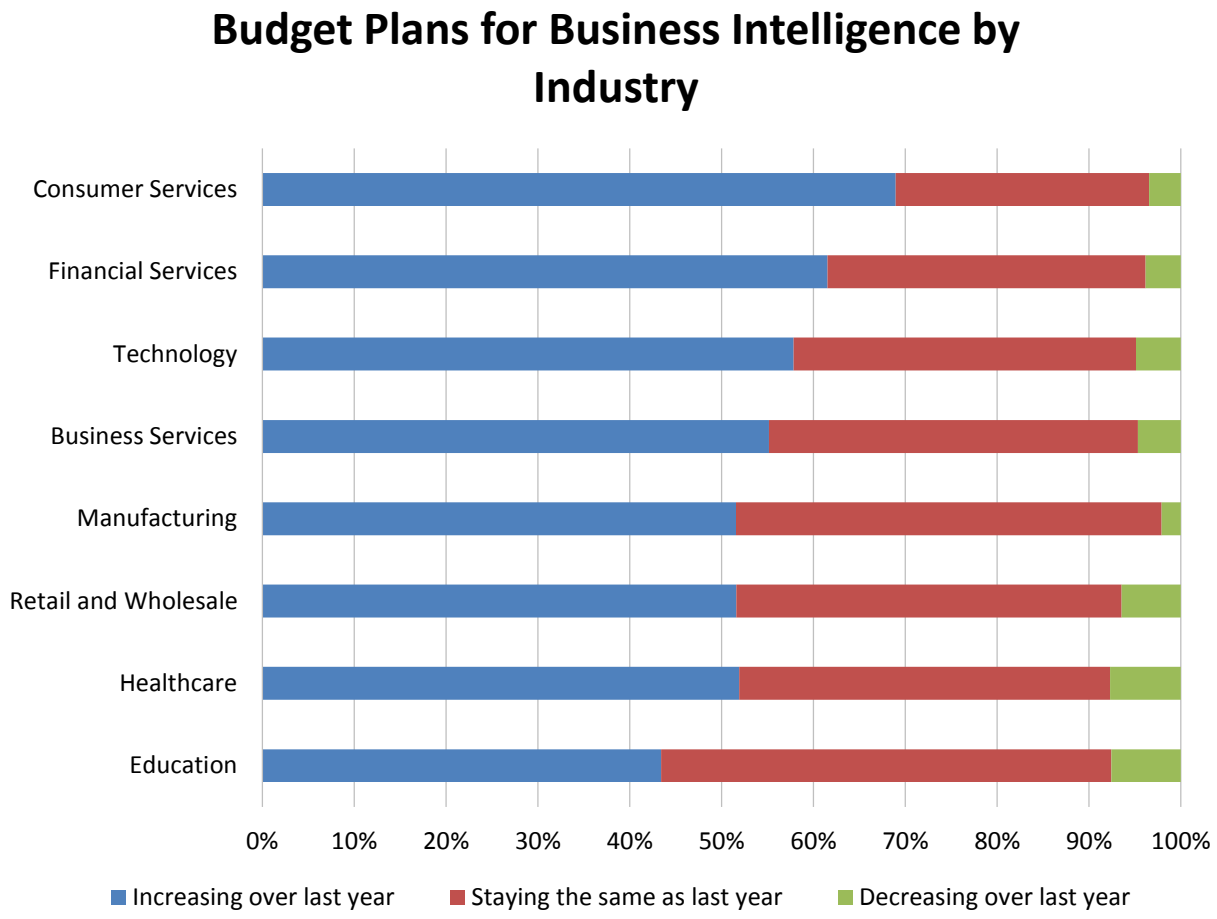



**Figure 98 – Budget plans for business intelligence by industry**

### Budget Plans for Business Intelligence by Organization Size

In 2022, increases in BI spending become somewhat more likely as global headcount increases, though some small organizations buck this trend with higher spending of their own (fig. 99). Very large organizations (>10,000 employees) are about 62 percent likely to *increase* spending, compared to 56 percent of large organizations (1,001-10,000 employees), 46 percent of mid-sized organizations (101-1,000 employees), and 56 percent of small organizations (1-100 employees). Just 2 percent of very large organizations plan to *decrease* BI budgets, a rate that slowly increases at large (4 percent), mid-size (7 percent), and small (6 percent) organizations.

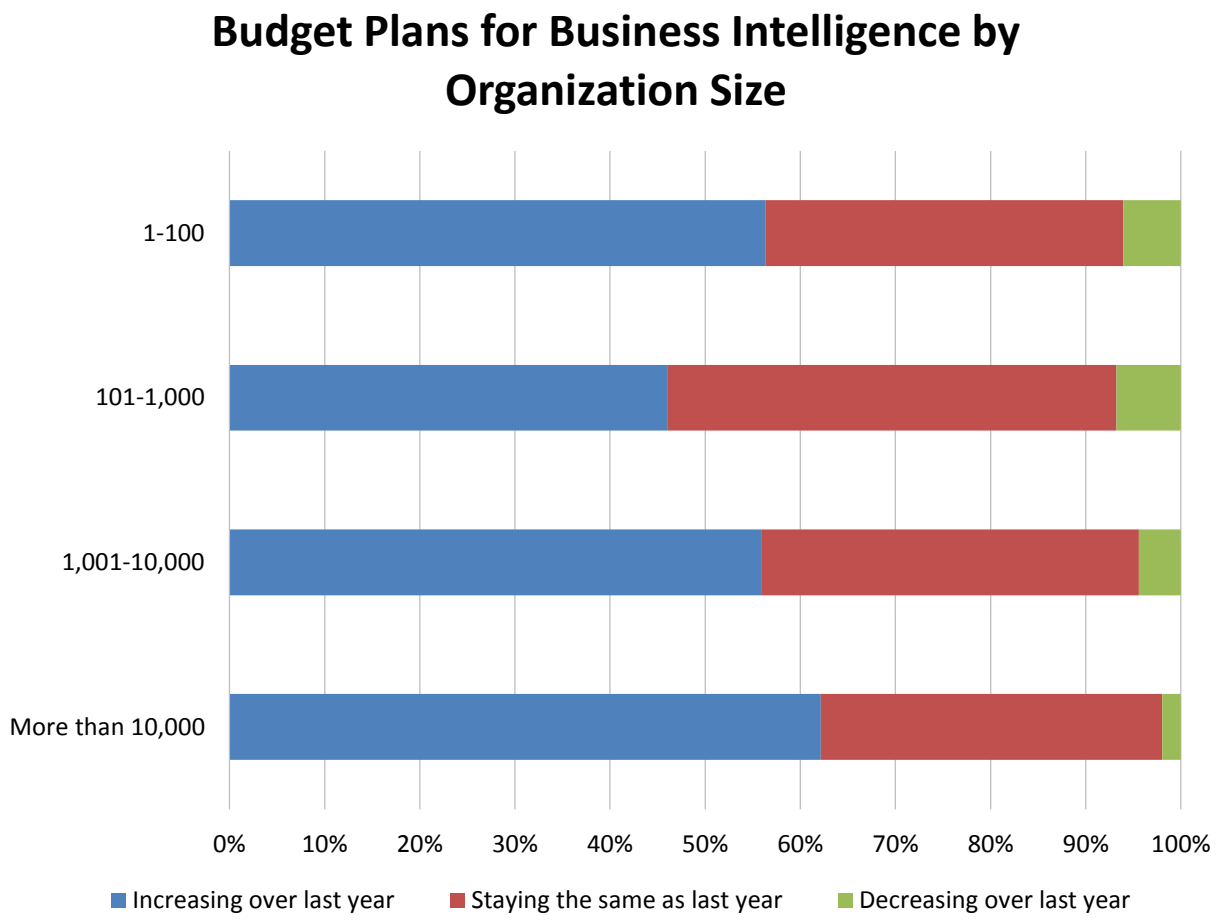



**Figure 99 – Budget plans for business intelligence by organization size**

### Budget Plans for Business Intelligence by Penetration of BI Solutions

Figure 100 compares *BI budget plans* with *total average BI penetration* in organizations in current and future time frames. In this cross tabulation, we observe a positive correlation between higher total penetration and higher BI budgets. For example, organizations that are *increasing* BI budgets report 43 percent current BI penetration, compared to 39 percent current penetration at organizations *maintaining* BI budgets and 33 percent current penetration at organizations *decreasing* BI budgets. Future time frames extrapolate positively, regardless of budget plans; but organizations with higher budgets currently experience higher average penetration of users and expect the same in the future.

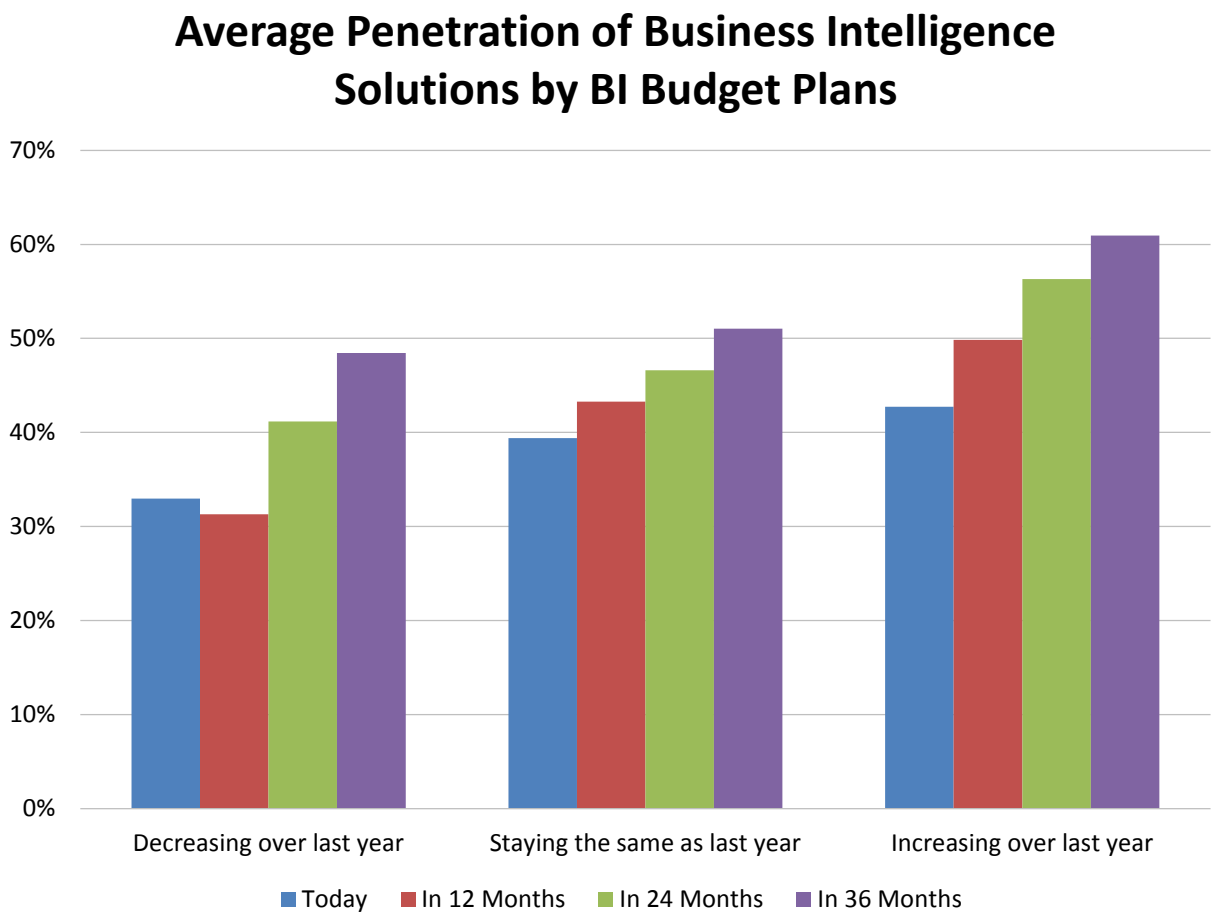



**Figure 100 – Average penetration of business intelligence solutions by BI budget plans**

### Budget Plans for Business Intelligence by Success with BI

Organizations that are more successful with business intelligence are incrementally more likely to increase BI spending in 2022, compared to last year (fig. 101). Sixty-five percent of *completely successful* organizations (up from 50 percent in 2021), will increase budgets this year, compared to 51 percent of "somewhat successful" and 40 percent of *somewhat unsuccessful and unsuccessful organizations*. As success decreases, organizations are more likely to decrease year-over-year budgets. *Somewhat unsuccessful and unsuccessful* organizations are 13 percent likely to decrease budgets compared to 5 percent% of *somewhat successful* and 2 percent of *completely successful* BI organizations.

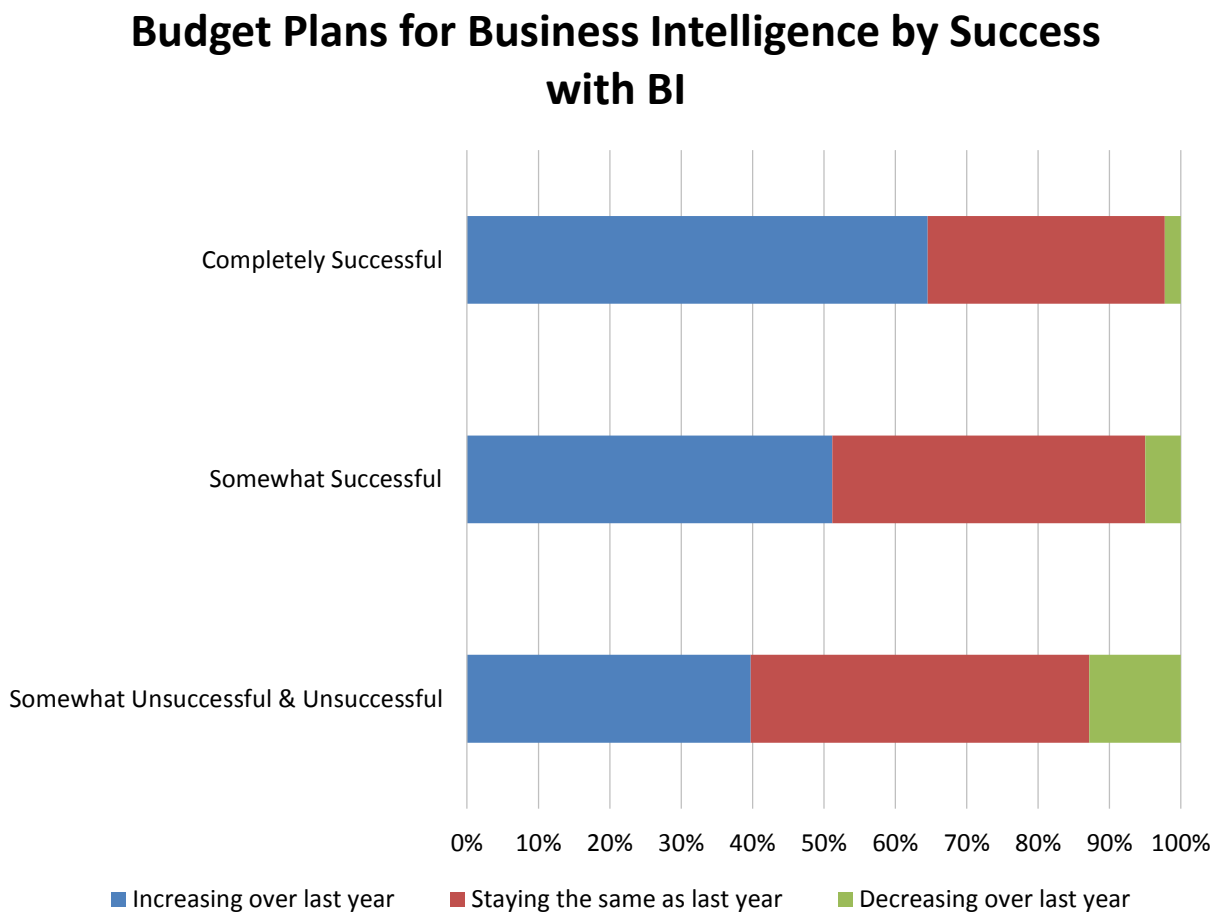



**Figure 101 – Budget plans for business intelligence by success with BI**

### Business Intelligence Achievements by BI Budget Plans

We would expect high-achieving organizations to be the most likely to increase spending on BI achievements "across the board," and this is again the case in 2022 (fig. 102). 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 slightly fewer decreases compared to increases for *increased competitive advantage* and *growth in revenues*, and slightly more decreases for *enhanced customer service*. Generally, we find that achievements would naturally increase the likelihood of future investment.

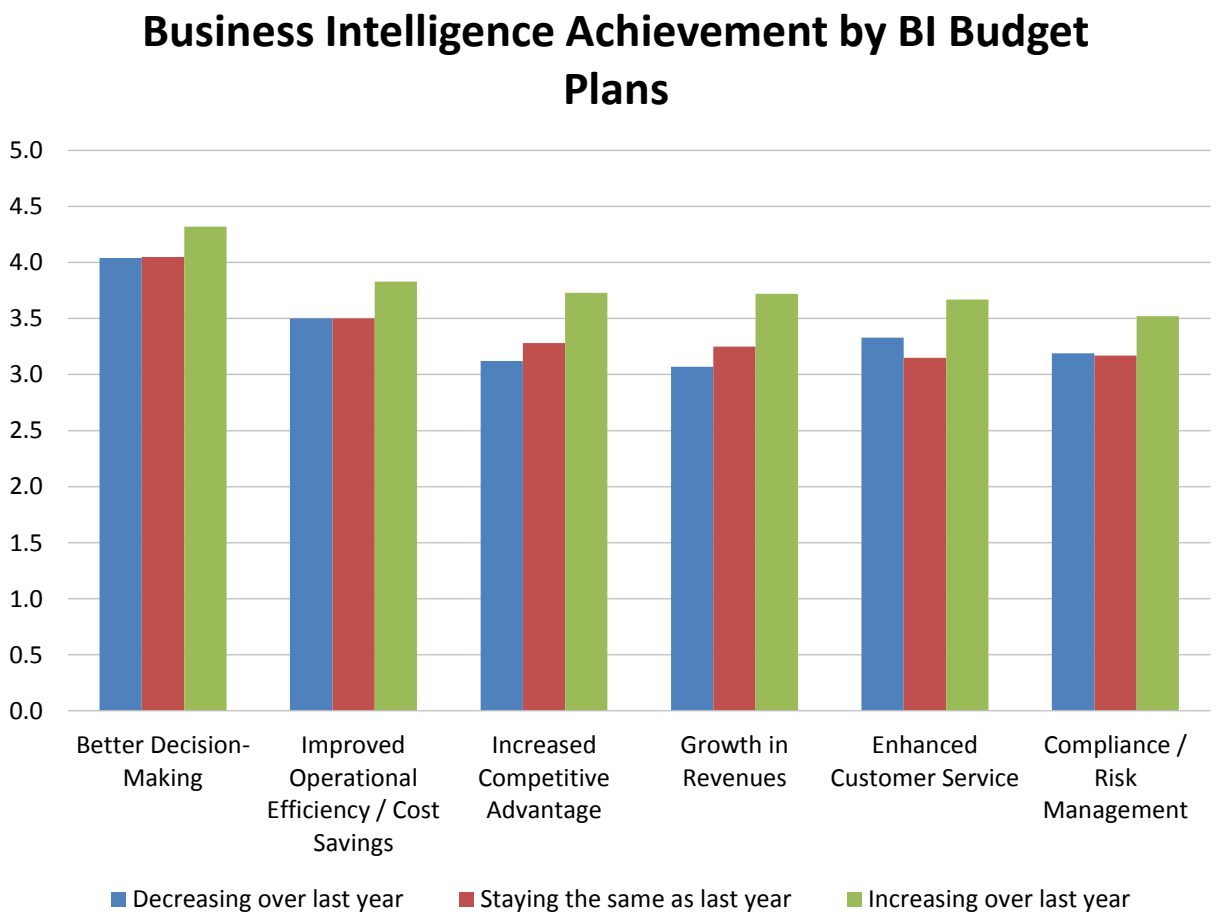



**Figure 102 – Business intelligence achievements by BI budget plans**

### Technologies and Initiatives Strategic to Business Intelligence by BI Budget Plans

The percentage of organizations increasing BI budgets logically increases proportionately as individual initiatives are seen as more critical (fig. 103). For example, organizations increasing budgets see *data integration* or *cloud/software-as-a-service* more critically than those decreasing spending. We also see relatively fewer organizations decreasing versus increasing budgets in certain areas that include *data visualization* or *enterprise planning*. As obvious as this relationship is, we also observe that marginally lower 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 *in-memory analysis* or *text analytics* to see interest fall below 3.0 or the level of *important*. Those increasing spending in 2022 favor the great majority of all but the lowest-ranked technologies and initiatives.

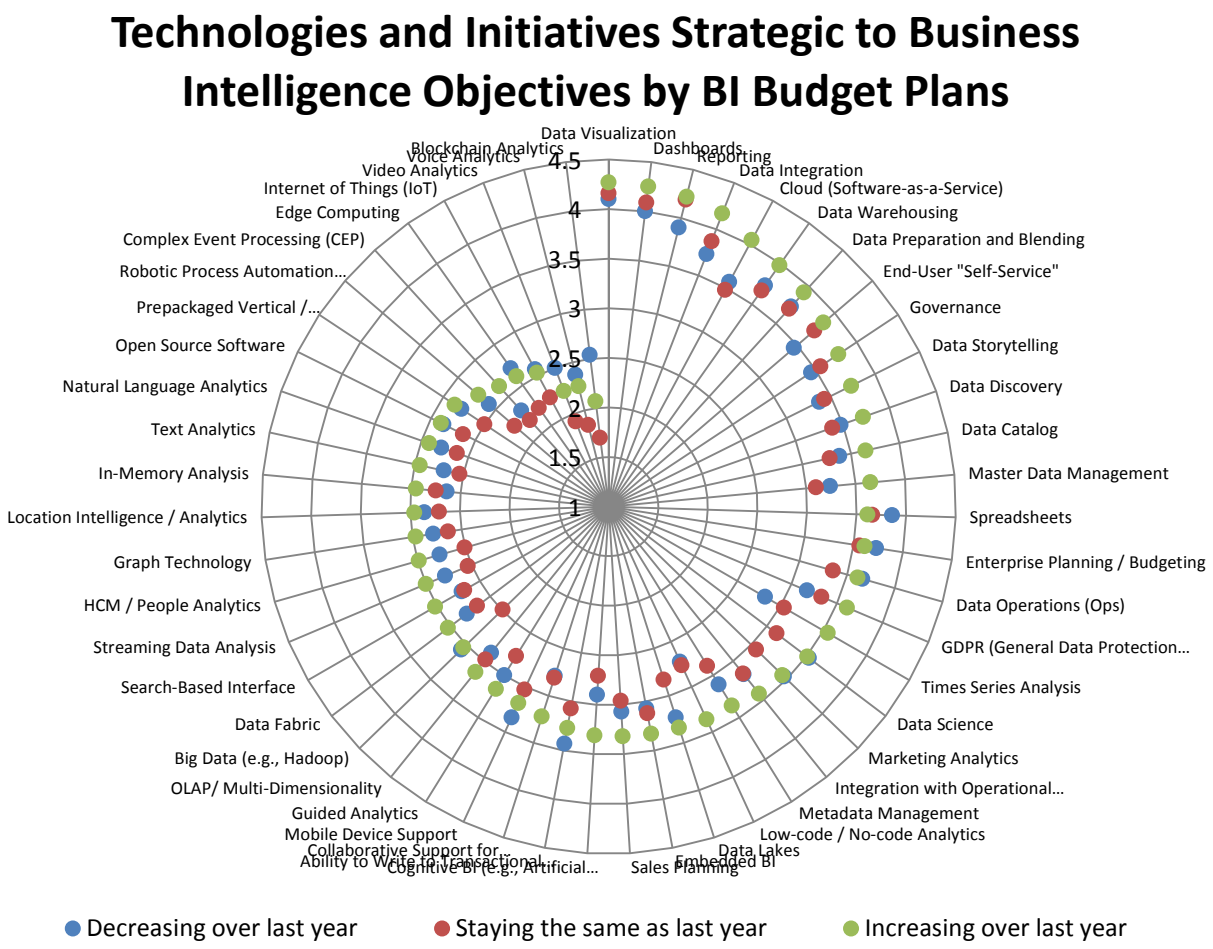



**Figure 103 – Technologies and initiatives strategic to business intelligence by BI budget plans**

## Business Intelligence Product Longevity and Replacement

### Longevity of Business Intelligence Products

In 2022, respondents indicate that about 73 percent of their current business intelligence tools are in place five years or less, and the remaining 27 percent are in place six years or more (fig. 104). Additionally, we can say that longevity shifts year over year, with decreases among tools held one to two years, for example, and increases among tools held for three to five years. Very old tools used for 10 years or more appear to be on the decline. 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.

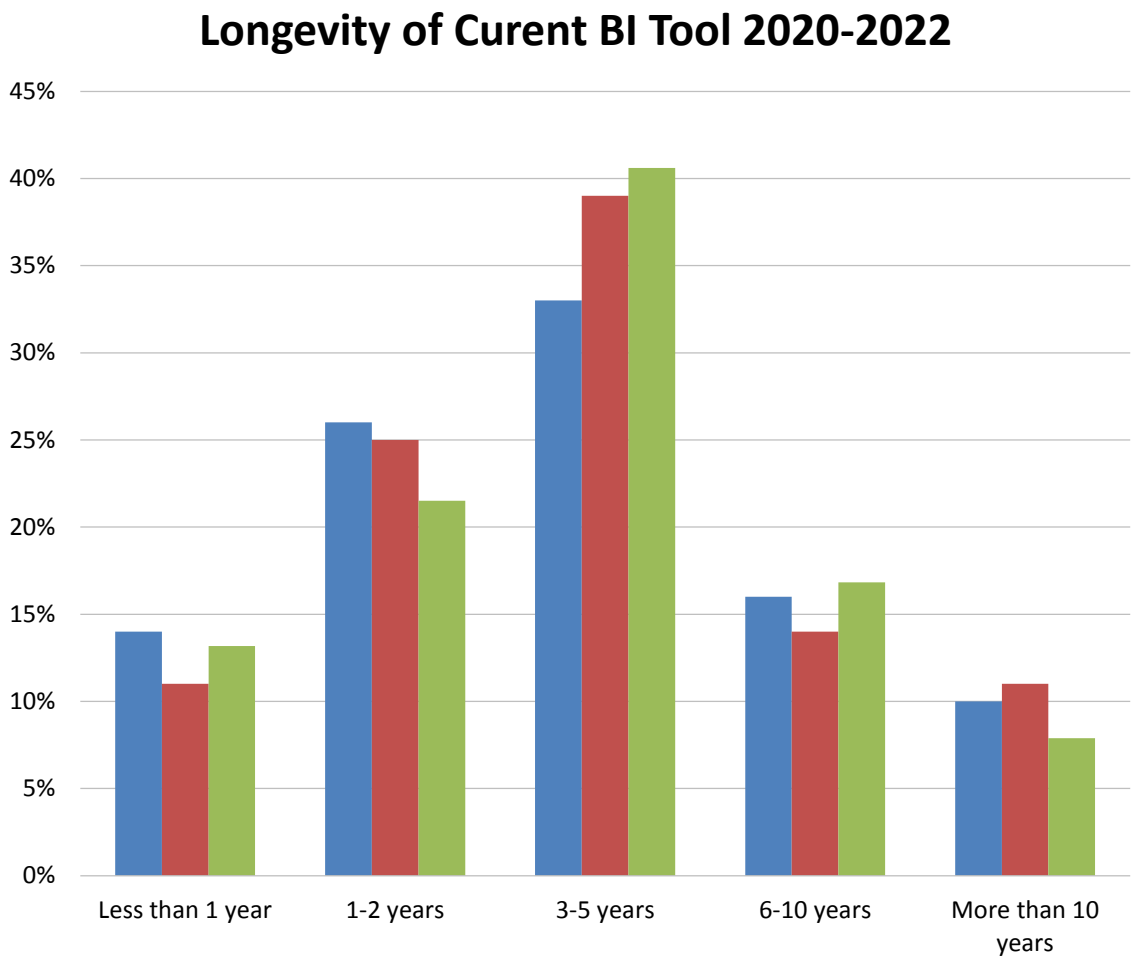



Figure 104 – Longevity of current BI tool 2020-2022

### Longevity of Business Intelligence Products by Organization Size

As we would expect, as organization size increases, tool longevity also increases (fig. 105). Among other causes, larger organizations are often more likely to standardize, engage in license and maintenance agreements, and face higher cost and complexity with tool replacement, compared to smaller organizations. Thus, we see very large organizations with notably fewer BI tools used less than one year, compared to smaller organizations that see lower risk and cost of entry or changing BI tools. Nonetheless, where multiple and newer tools are adopted by department or line of business, risks of entry are lower at organizations of any size due to the proliferation of subscription services and cloud-based applications and infrastructure.

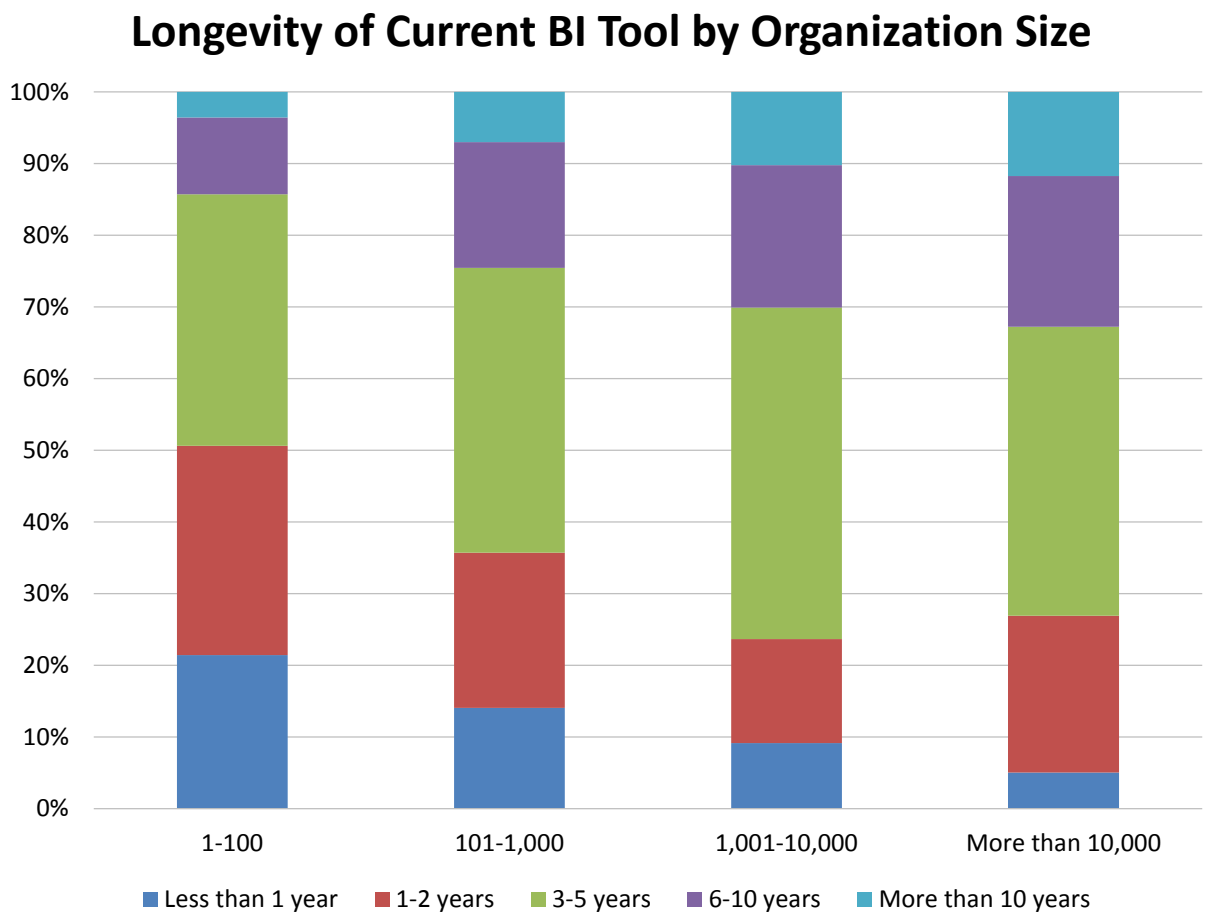



**Figure 105 – Longevity of business intelligence products by organization size**

### Longevity of Business Intelligence Products by Success with BI

Organizations that are most successful with business intelligence most often have extended experience with their BI tools (fig. 106). Stated another way, tool longevity positively correlates with BI success. For example, tools in use for more than 10 years are almost three times more likely present (11 percent versus 4 percent) in *completely successful* versus *somewhat unsuccessful & unsuccessful* BI organizations. The effect is most pronounced for tools in use six years or more but is visibly present throughout tool life cycles. Tool longevity might also be a sign of overall BI maturity (and might not justify maintenance of aging technology or remove the need for new tools), though success through consistent use of common tools argues in favor of standardization and institutionalized practices for majorities of users.

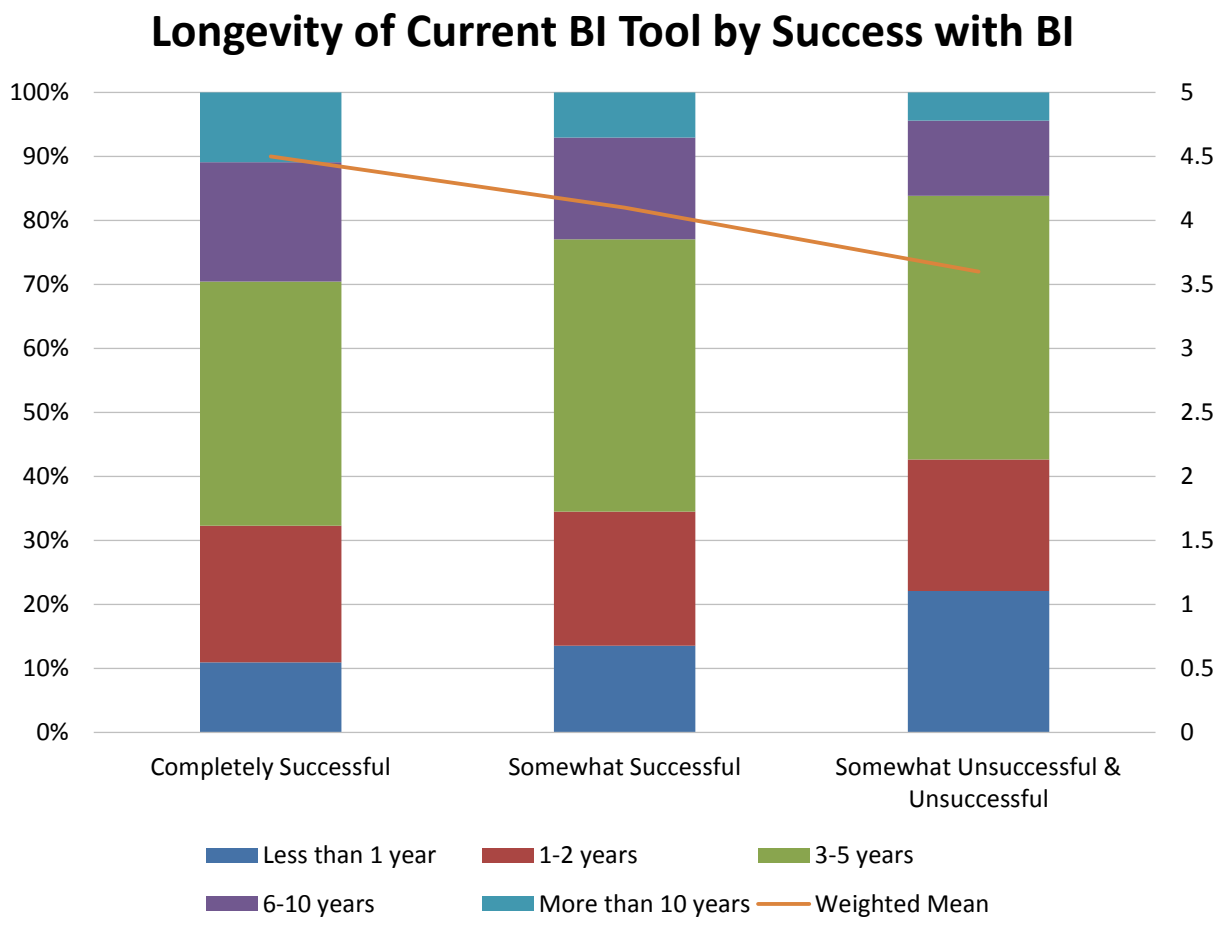



**Figure 106 – Longevity of business intelligence products by success with BI**

### Current Business Intelligence Products Replaced by Another

Beginning in 2018, we asked respondents whether their current BI product replaced another BI product (fig. 107). In 2022, the net new product replacement rate of 27 percent is on an upward slope from a 2018 low 24 percent, but largely identical to the 27-28 percent rates of the previous three years. Again, this year, about 73 percent of respondents say the acquisition of a current BI tool or service was not due to the replacement of another product. 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.

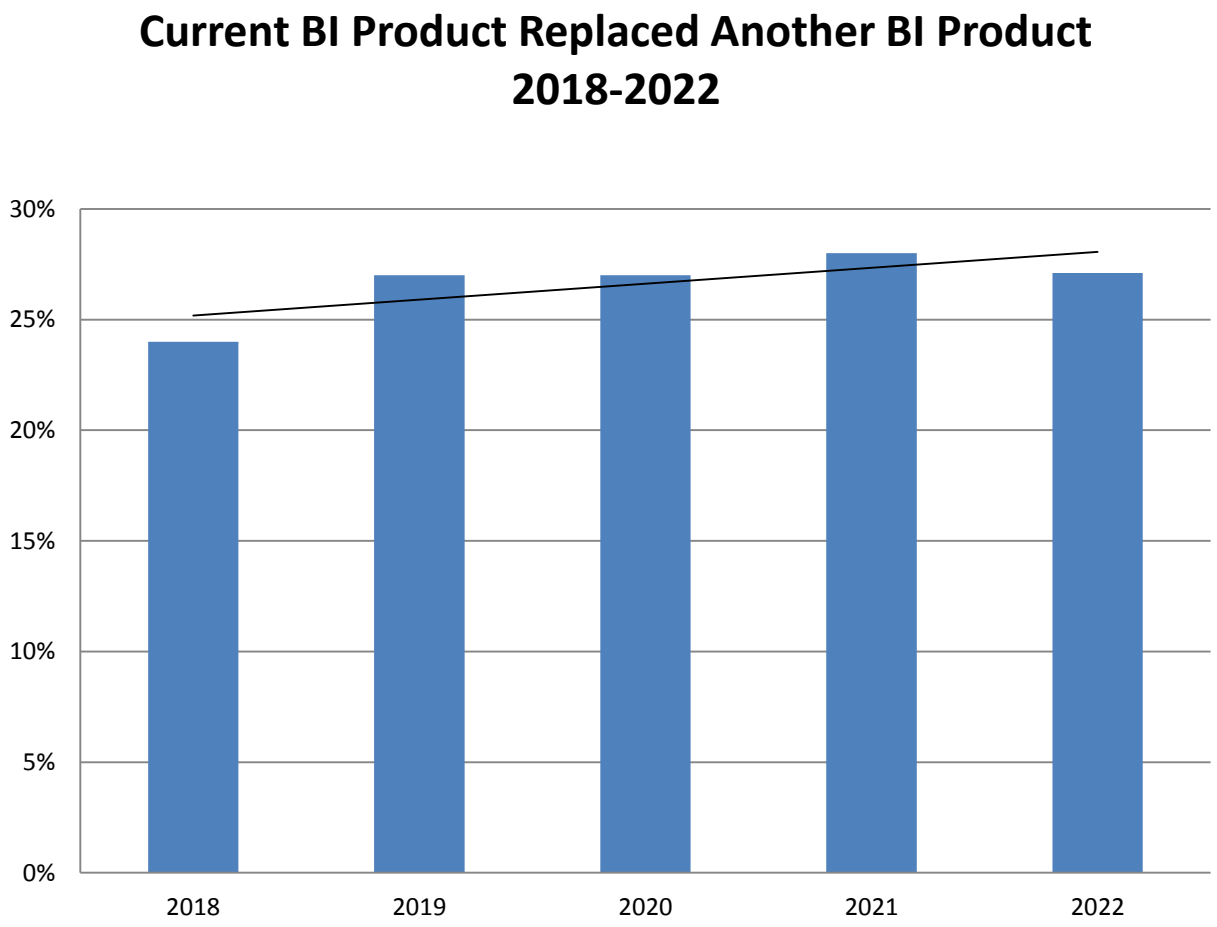



**Figure 107 – Current BI product replaced by another BI product 2018-2022**

### Reasons BI Products Are Replaced

Of the 27 percent of respondent organizations that say their current BI product replaced another (previous chart), the primary reasons cited for doing so are *functionality* (75 percent) and *modernization* (66 percent) (fig. 108). *Product reliability* is less of a concern (41 percent), ahead of *cost* (33 percent), and the institution of a *corporate standard* (31 percent). We consider a hierarchy focused on function over cost an implicit endorsement of the value-add of business intelligence in organizations. Although three years of data is a short period from which to draw conclusions, it is also obvious that respondents shifted rationale for product replacement in 2021, especially toward modernization and reliability.

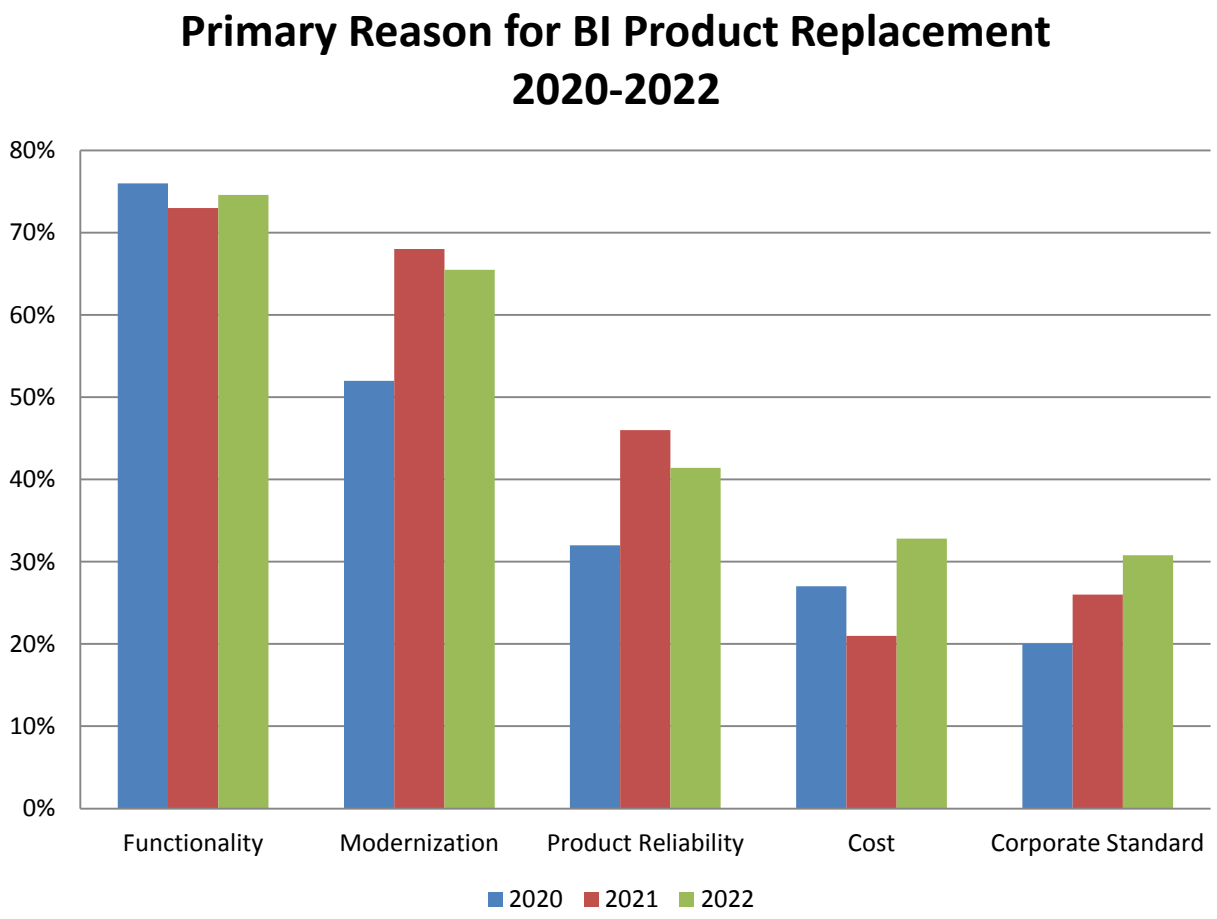



**Figure 108 – Primary reason for BI product replacement 2020-2022**

# 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 (2021-2022), we observe a very slim decline in users' measures of industry sales and acquisition performance (fig. 109). For the most part, 2022 continues a plateau of performance that commenced in 2019 from peak levels seen in 2017-2018. Based on weighted-mean values, sales and acquisition performance is positive (in the range of *good* to *very good*) and mostly consistent during the years 2019-2022, following a drop-off from a 2017-2018 peak period. The best experiential performers in 2022 are traditionally the strongest: *product knowledge* and *professionalism*. Nonetheless, 2022 marks a third year of very slight decline in all sales and acquisition areas, with the exception of contractual terms and conditions.

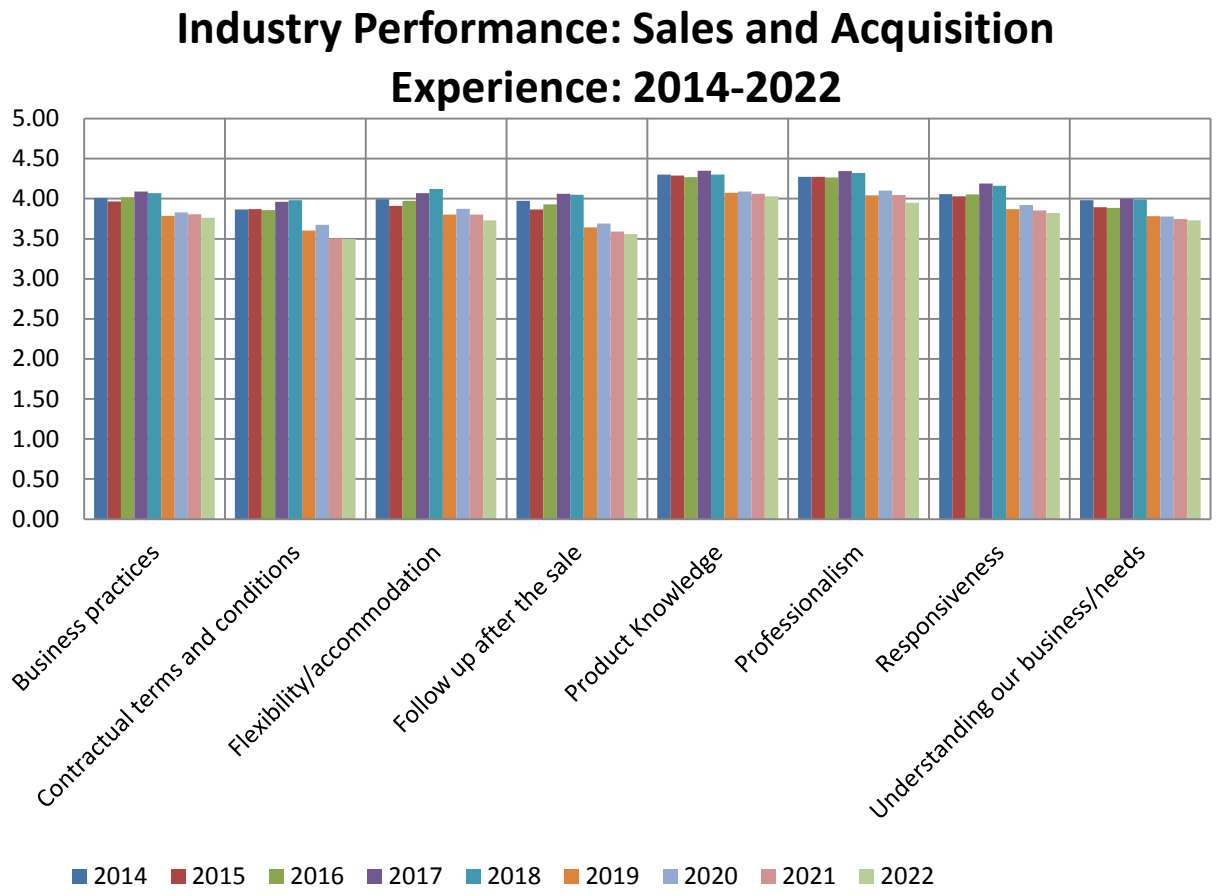



**Figure 109 – Industry performance — sales and acquisition experience: 2014-2022**

### Value

End users report a 2022 decline in scores for value when compared to 2021 and 2020 (from 4.21 to 4.17 to 4.13) that follows a slight increase seen during the years 2019-2020 (fig. 110). Admittedly, the scale for this score is somewhat compressed to show what are only very minor differences in these time spans. Though it is mildly reversing, eight years of data reveals that industry value performance sustains an uptrend with satisfaction scores higher than 4.0 (the value representing "very good" performance) throughout.

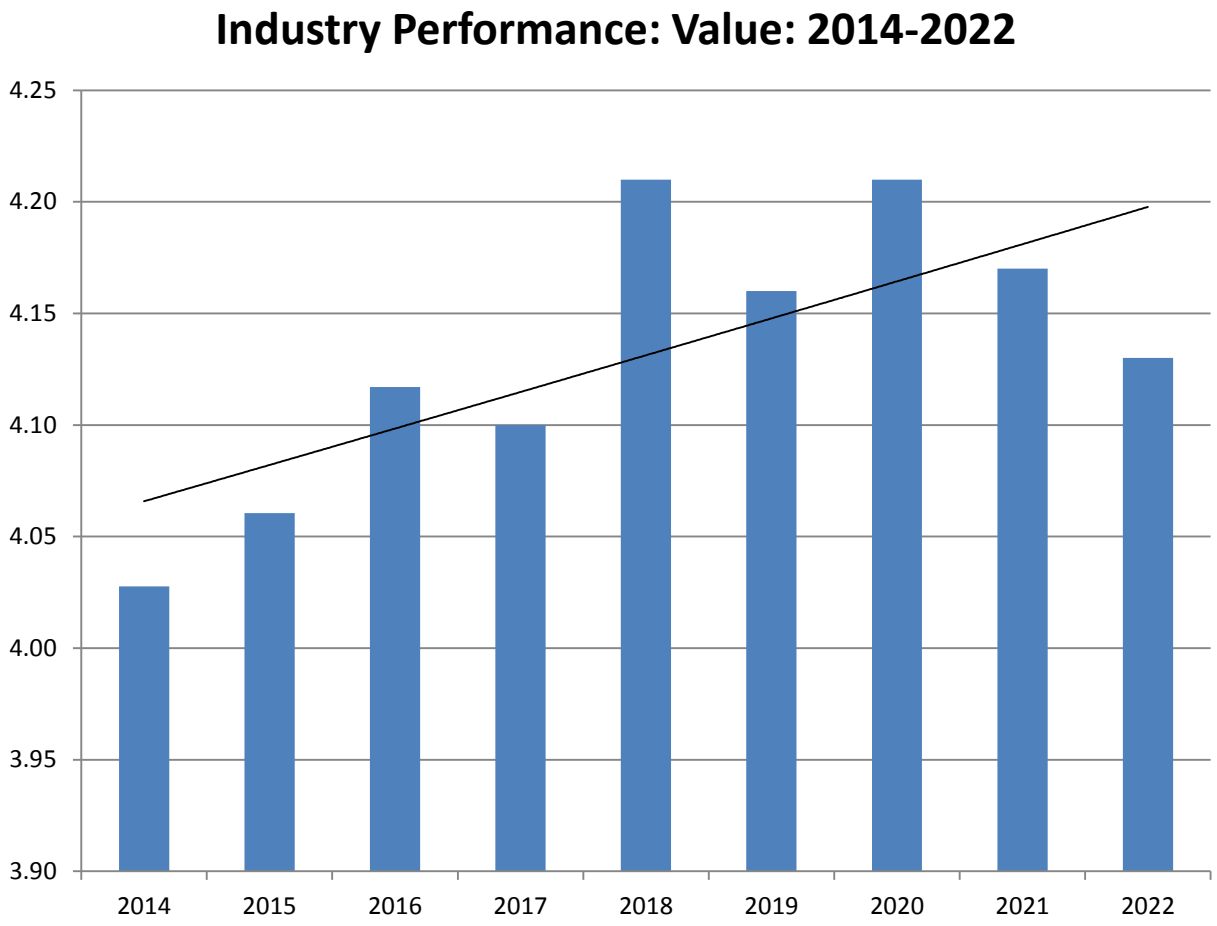



Figure 110 – Industry performance — Value: 2014-2022

## Quality and Usefulness of Product

In 2022, all measures of industry quality and usefulness are in a range from well higher than *good* to *very good*, based on our user scale for satisfaction (fig. 111). Nonetheless, all values except *ease of upgrade/migration to new versions* sit somewhere below all-time highs reached mostly during the years 2017-2018. (Success in *ease of upgrade/migration* may be due in part to public, single-tenant applications.) Areas that score relatively poorly, compared to previous studies, include *completeness of functionality*; *reliability of technology*; *overall usability*; and *online training, forums, and documentation*. We note that quality and usefulness scores can be affected by many external factors including new releases and combined and acquired product rollouts.

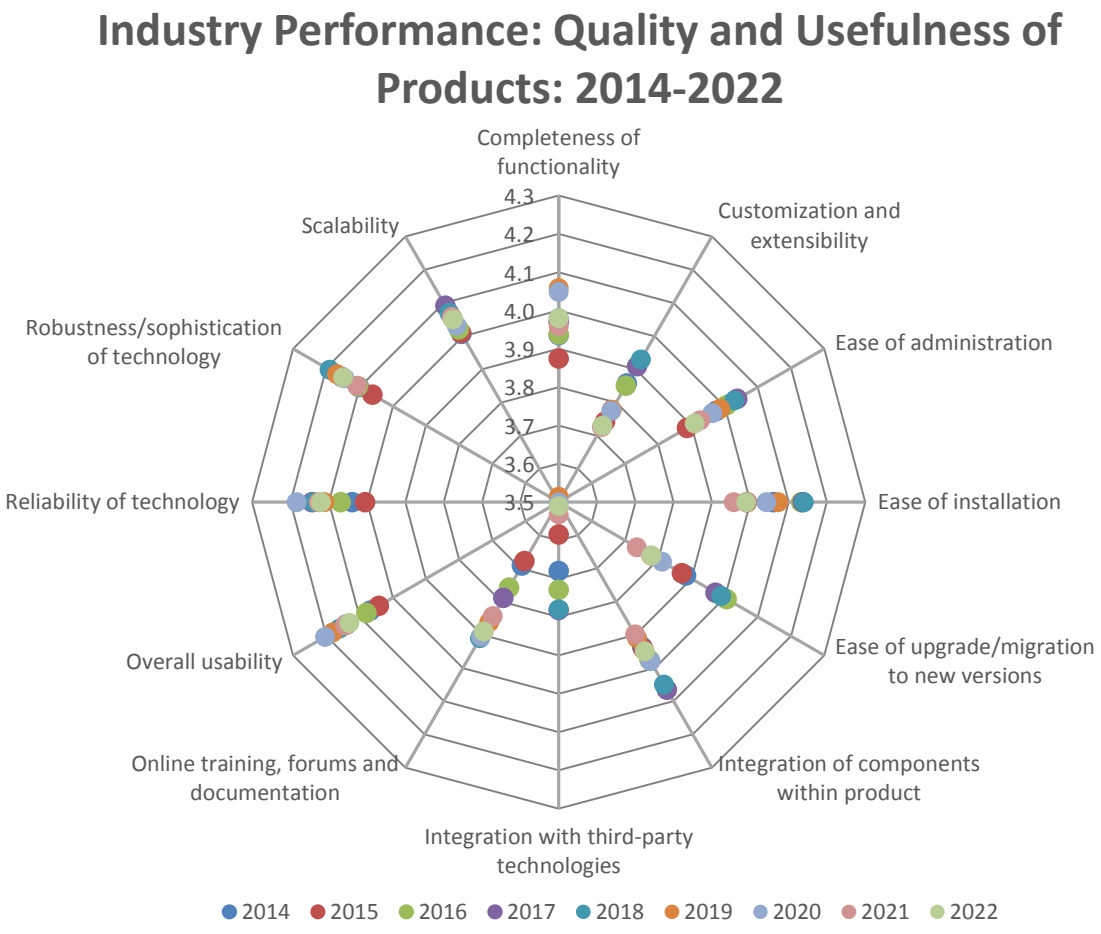



**Figure 111 – Industry performance — Quality and usefulness of products: 2014-2022**

### Technical Support

In 2022, all measures of industry technical support are in a range from well higher than *good* to close to *very good* based on our user scale for satisfaction (fig. 112). Nonetheless, every value measured declined slightly this year to all-time-low scores that commenced in a 2019 drop-off (fig. 112). Compared to minor uptrends during the years 2014-2018, the least four years of decline appear steady and "across the board." Also alarming, all scores are now below 4.0, the level indicating *very good* performance. The best performing areas of technical support are *product knowledge* and *professionalism*. The worst performing areas are *continuity of personnel* and *time to resolve problems*. While the COVID-19 pandemic may have exacerbated this, as we advised for the last two years, industry respondents are likely aware but should review resources and investments and monitor responsiveness in support of customer technical issues.

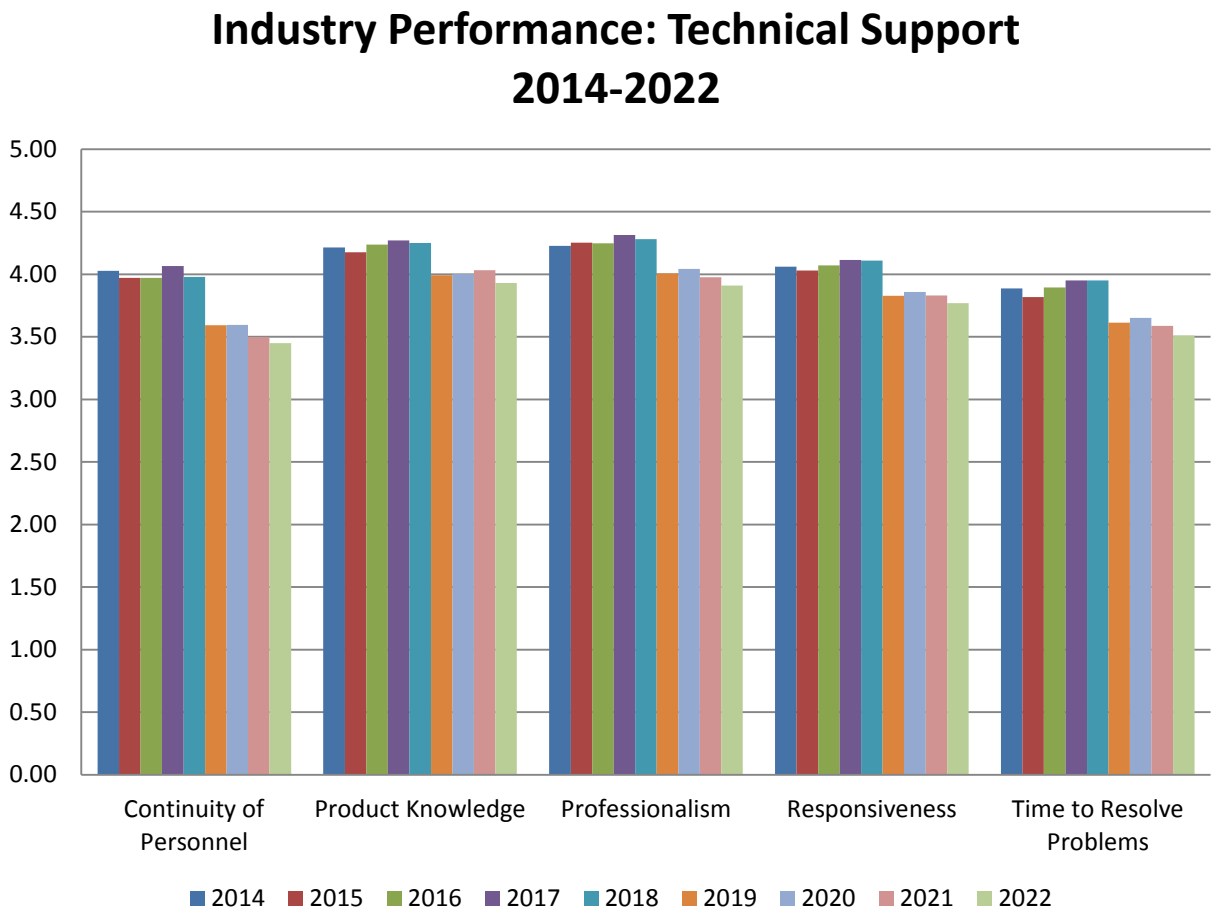



**Figure 112 – Industry performance — Technical support: 2014-2022**

## Consulting

In 2022, BI consulting is, for a fourth year, the weakest-scoring area of vendor and market performance (fig. 113). Across nine 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 and into 2022. 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, 2020, and 2021, the weakest areas of vendor consulting include *continuity* and *value* (from historic highs of *very good* to the current state of merely *good*).

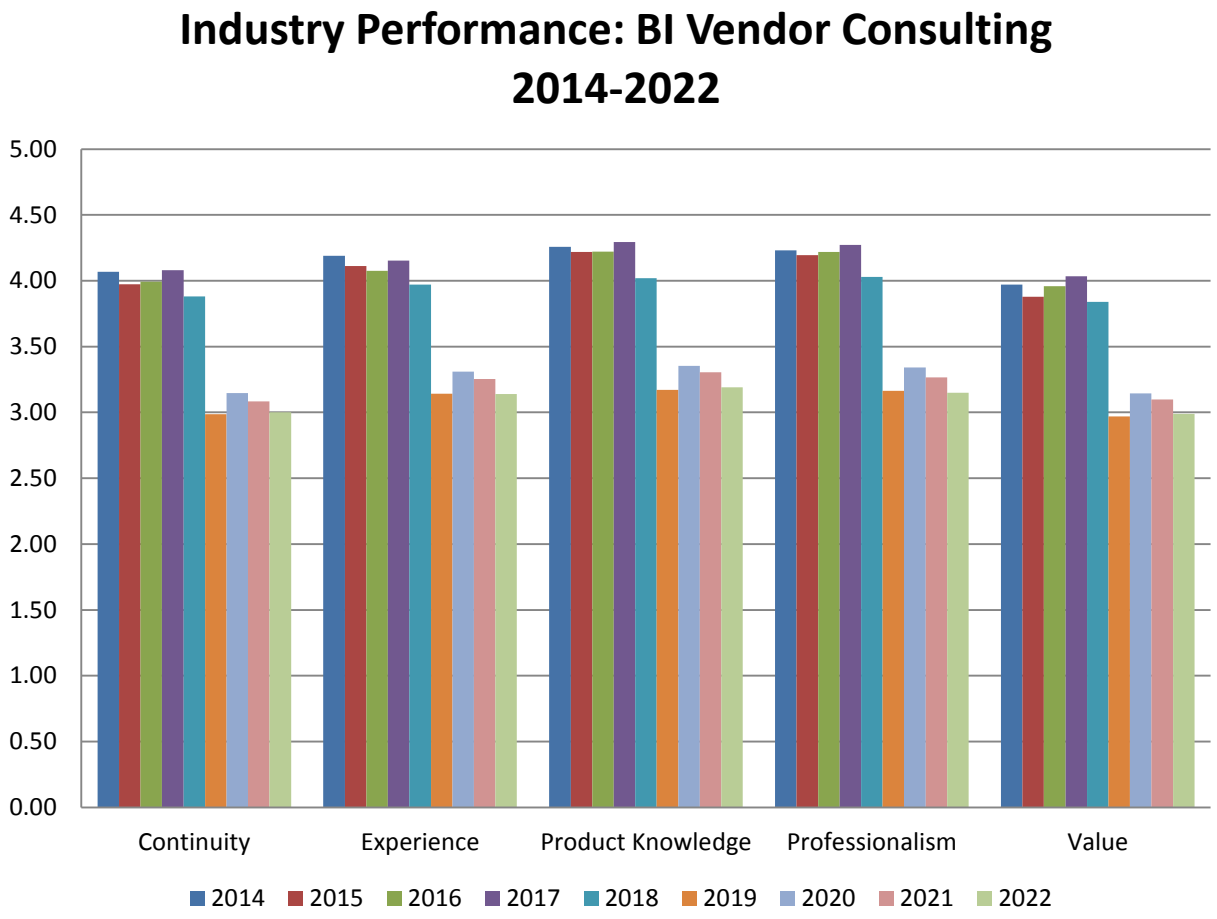



**Figure 113 – Industry performance — BI vendor consulting: 2014-2022**

### Integrity

Vendor integrity—measured as honesty and truthfulness in all dealings—also declines for a third year, from 4.3 in 2020 to 4.18 in 2021 to 4.15, representing an all-time low that is nonetheless above the 4.0 level that signifies *very good*. (fig. 114). Previously, integrity scores show slow, steady growth during the years 2014-2018 to a high of 4.39, followed by four years of weaker performance. While the scores in this view are rather compressed and remain far above anything we would describe as dissatisfaction, an earlier positive trend line tipped to the negative.

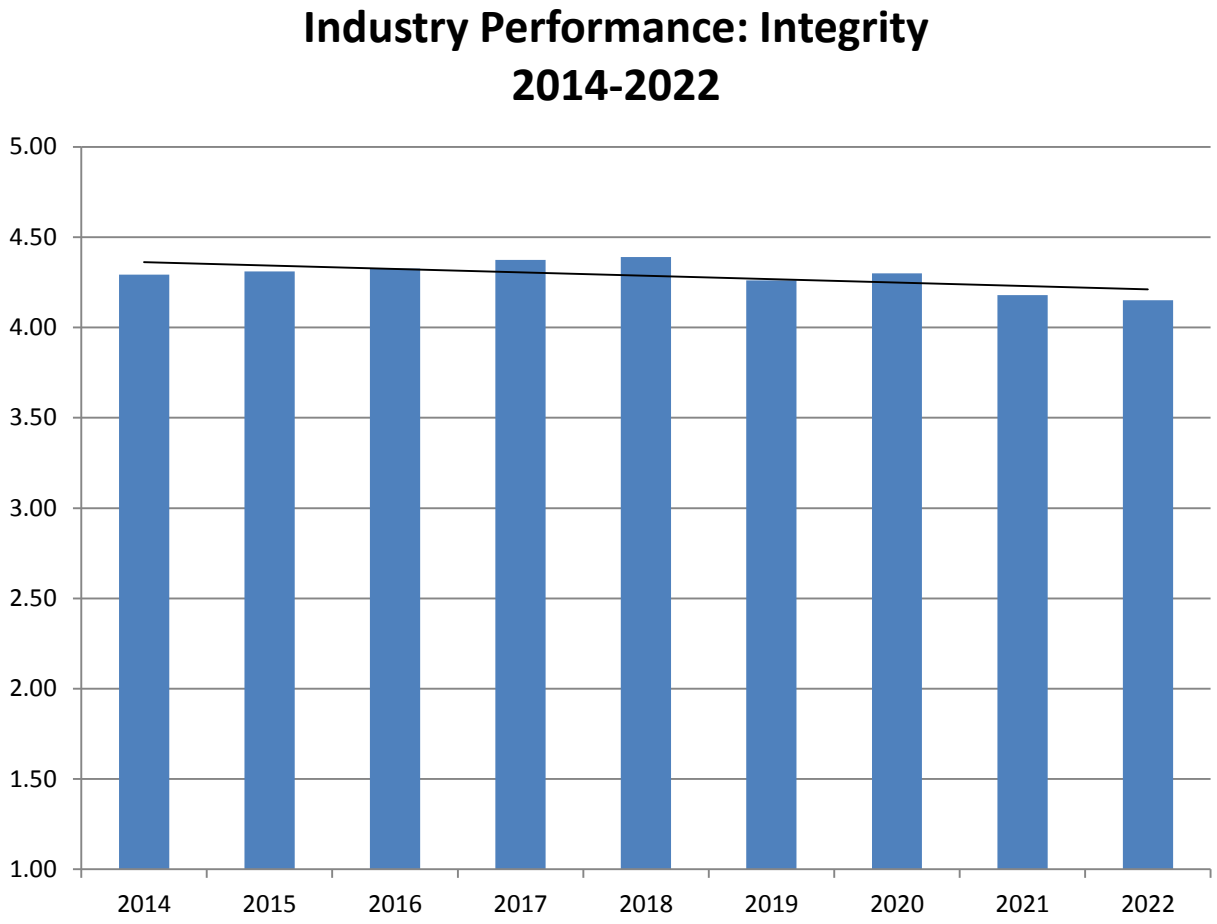



**Figure 114 – Industry performance — Integrity: 2014-2022**

### Recommended

On perhaps the most positive note of 2022, industry performance—as measured by the willingness of customers willing to recommend their vendor—continues to have near-perfect performance and remains on a positive trend line (fig. 115). A 2022 score of 4.80 narrowly misses an all-time high and offers a reassuring measure for vendors. The nine-year positive trend of well above *very likely* to recommend is very close to our highest allowable score of 5.0, leaving little room for improvement.

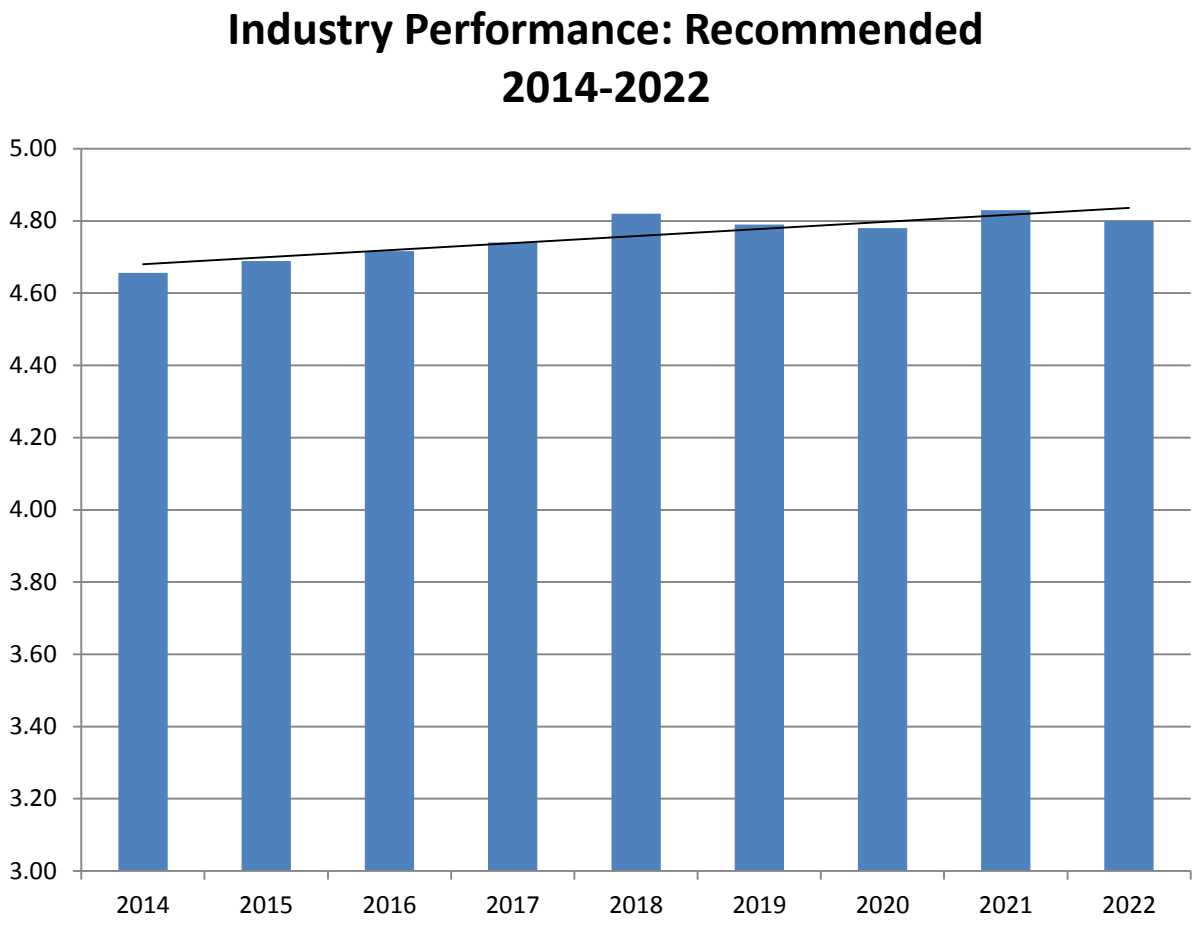



**Figure 115 – Industry performance — Recommended: 2014-2022**

### 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 flattens out in the last four years (fig. 116). In the long term, the number of respondents that say overall performance *improved* is remarkably consistent, between 40-45 percent. Even so, the last few years show the aforementioned flattening, more *stayed the same* scores, and slightly fewer *declined* scores. In the wake of the slowly abating COVID pandemic, a near-historic low 4 percent of respondents say overall industry performance declined in 2020, 2021, or 2022.

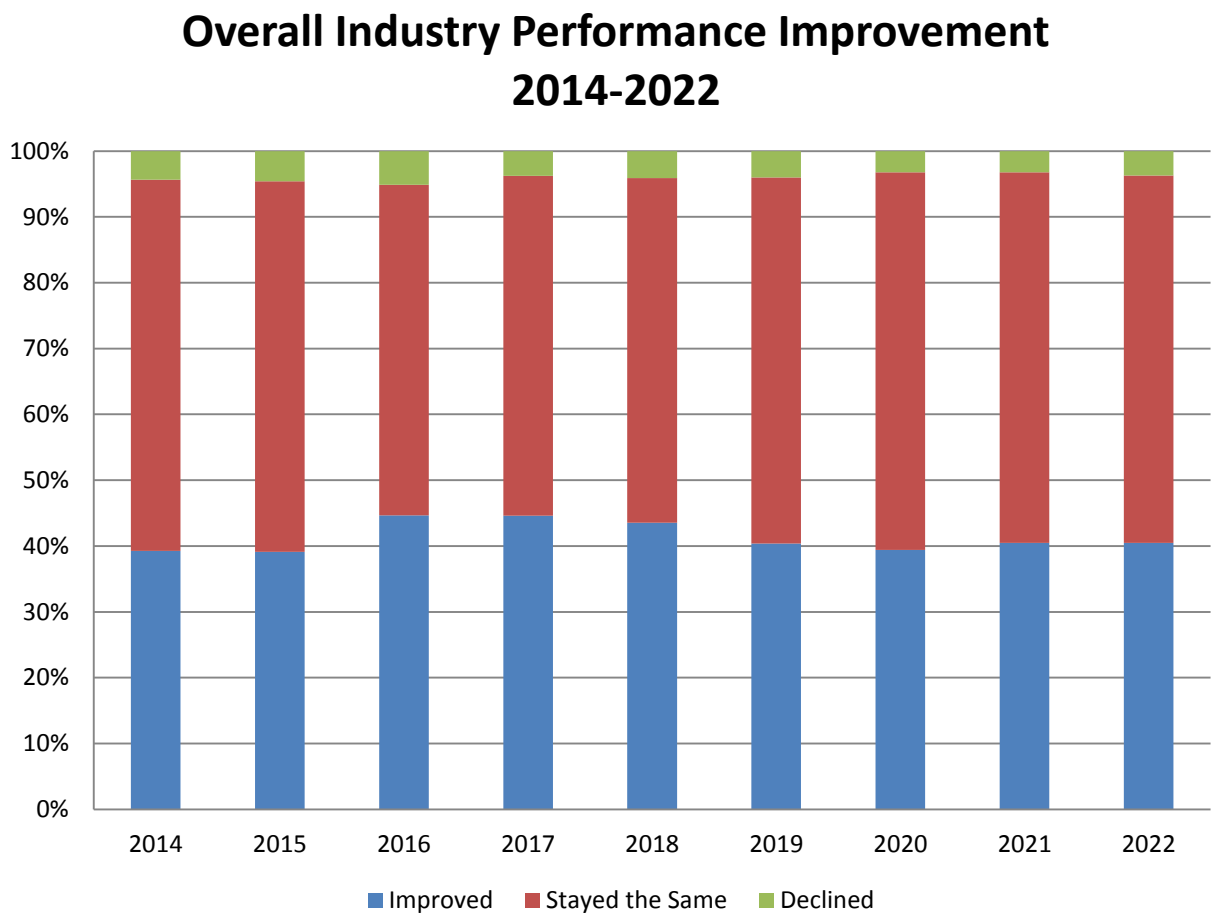



**Figure 116 – Overall industry performance improvement: 2014-2022**

## 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. 117). 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.

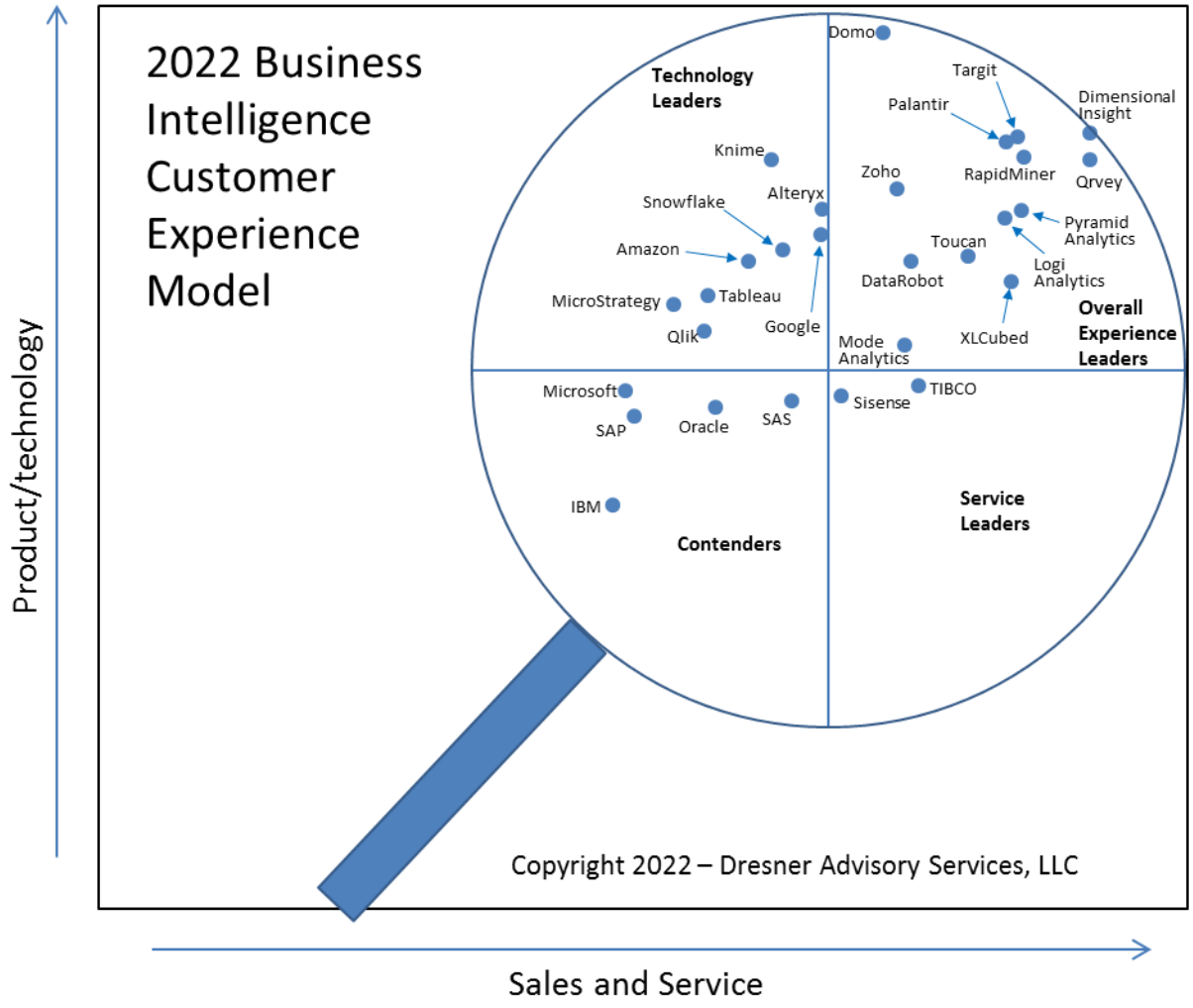



**Figure 117 – Customer experience model**

## Vendor Credibility Model

The vendor credibility model considers how customers "feel" about their vendor (fig. 118). 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.

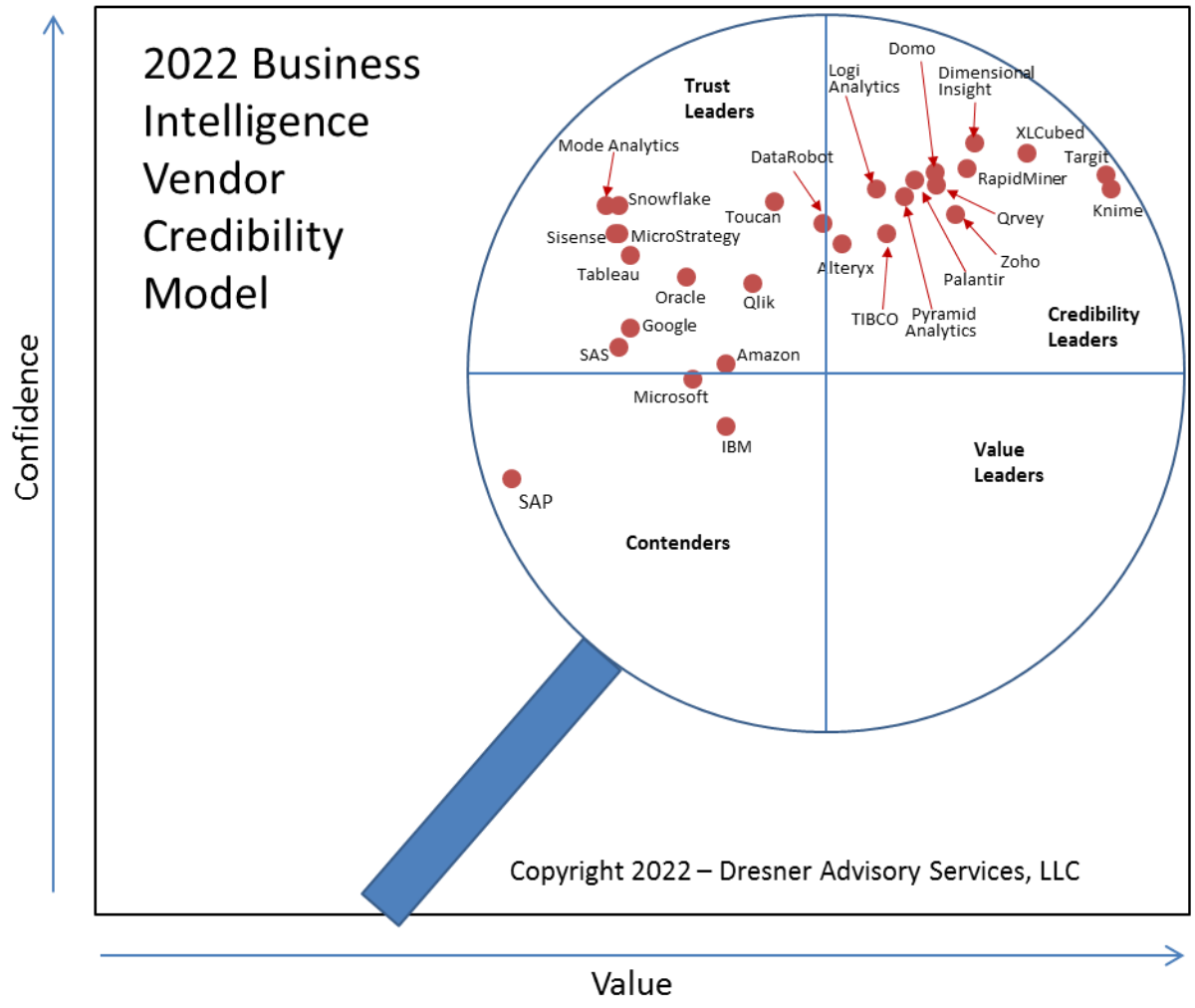



Figure 118 – Vendor credibility model

## 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

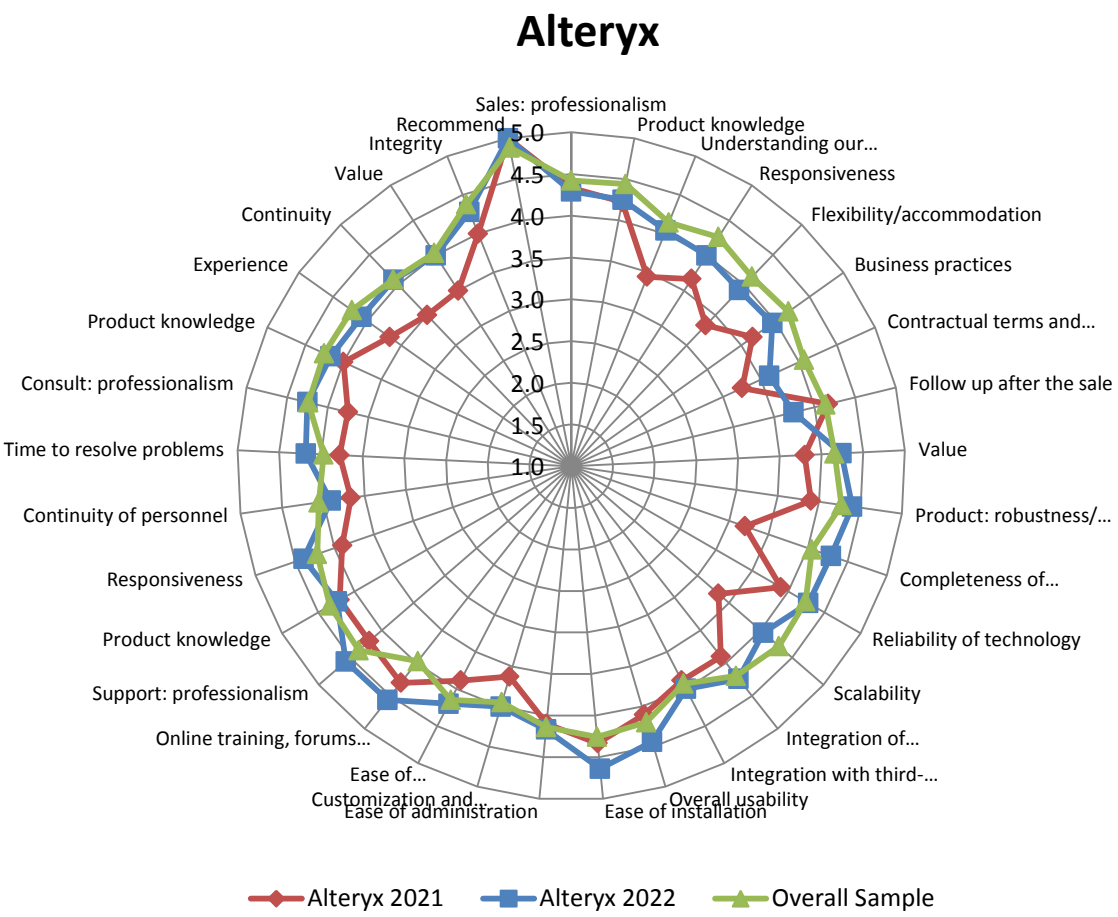



**Figure 119 – Alteryx detailed score**

For 2022, Alteryx is generally above or in line with the overall sample, with key improvements across virtually all measures including sales, product, technical support, consulting, and value. It is a Technology Leader in the Customer Experience Model and a Credibility Leader in the Vendor Credibility Model. It maintains a perfect recommend score.

## Amazon Detailed Score

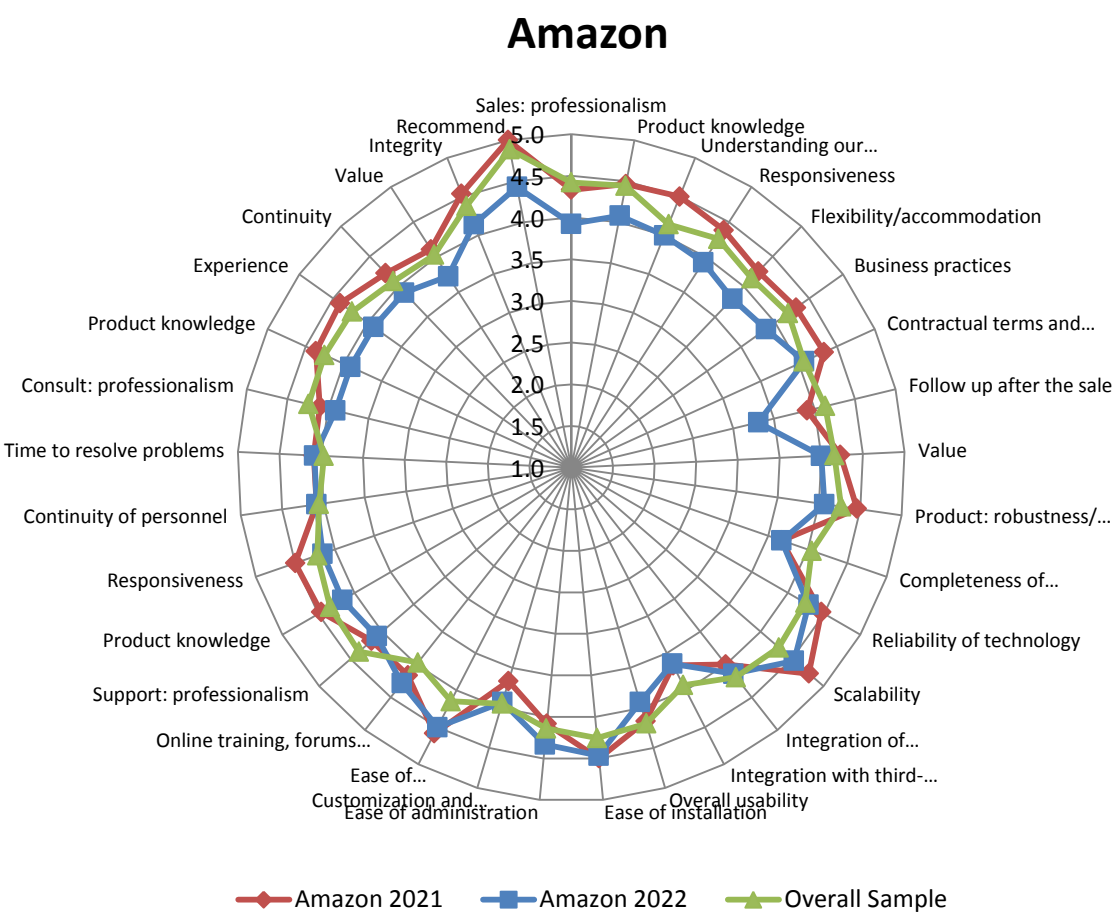



Figure 120 – Amazon detailed score

In 2022, Amazon is generally in line with or somewhat below the overall sample. Although several measures are lower, several key product measures increased. It is a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model.

## DataRobot Detailed Score

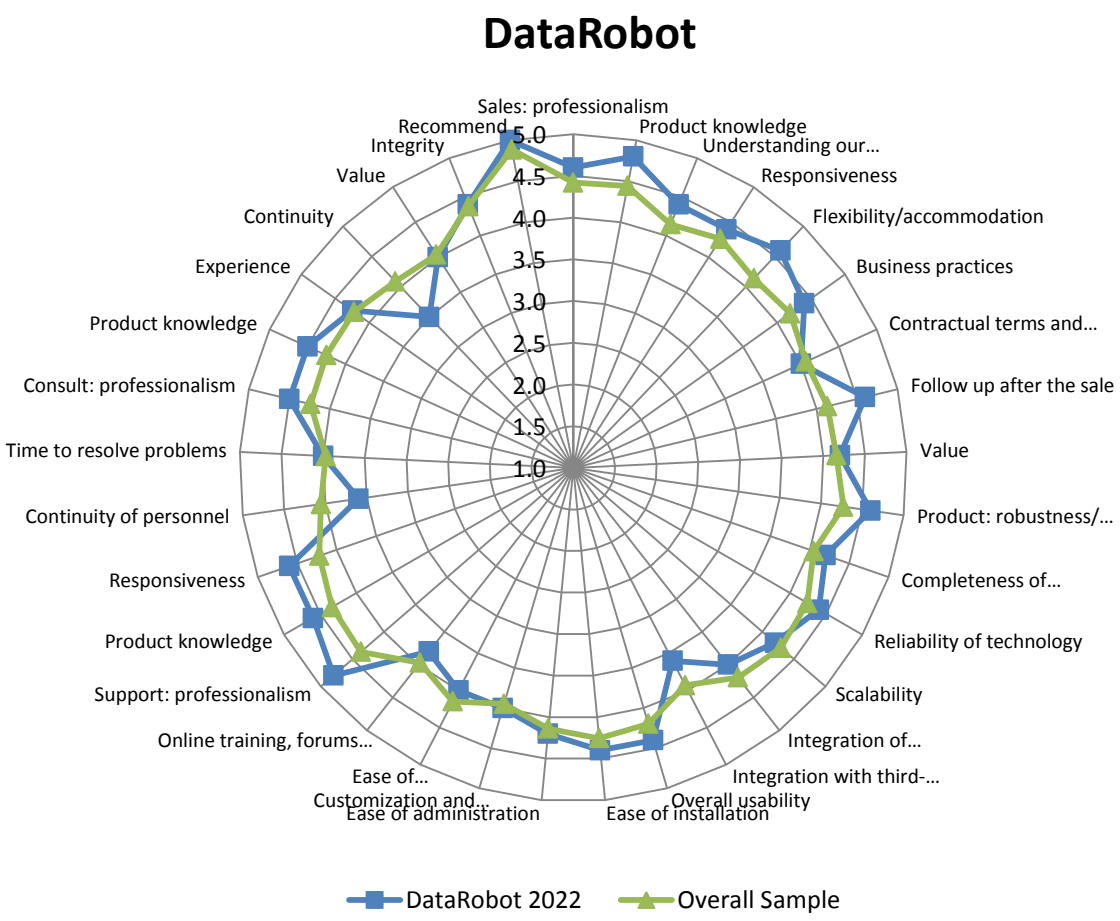



**Figure 121 – DataRobot detailed score**

In its first year of coverage, DataRobot is generally above the overall sample for most categories of measurement including sales, product, value, technical support, and consulting. It is an Overall Experience Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. It has a perfect recommend score.

## Dimensional Insight Detailed Score

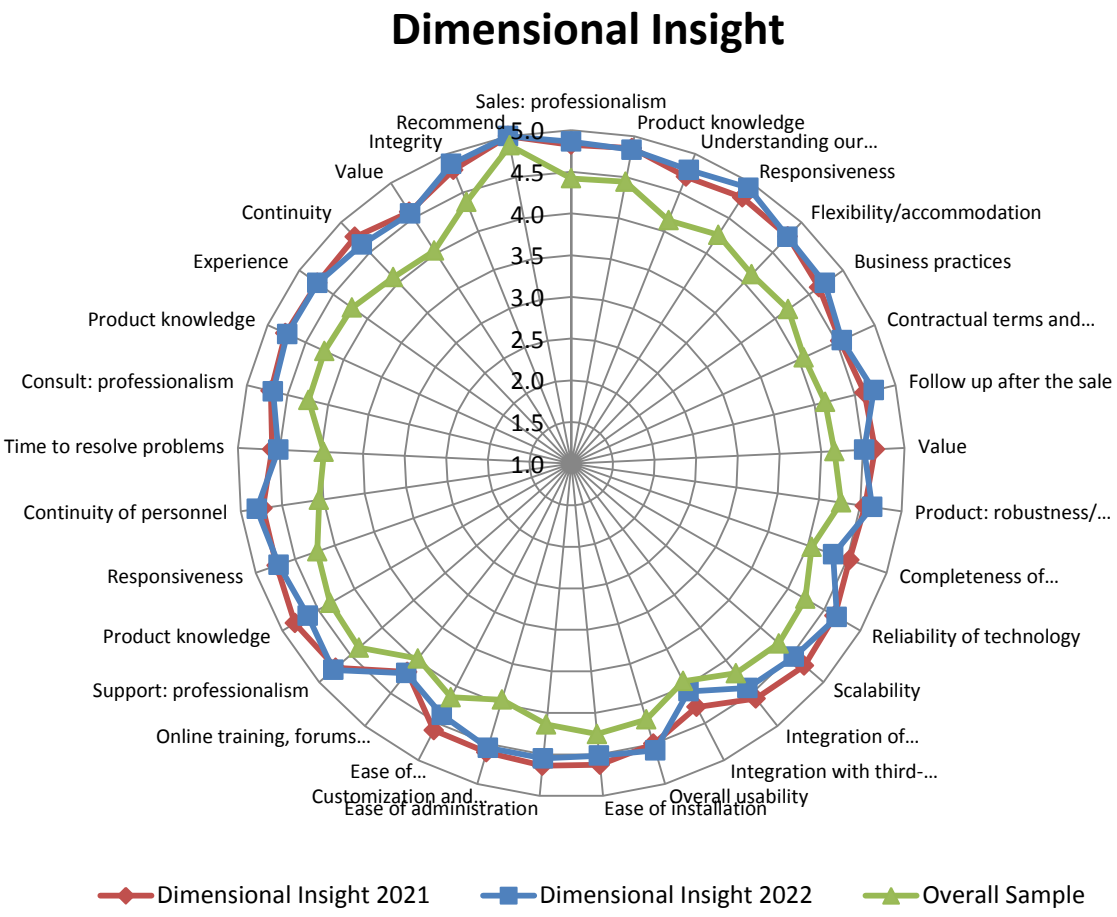



**Figure 122 – Dimensional Insight detailed score**

In 2022, Dimensional Insight remains well above the overall sample across all categories of measurement and is an overall leader in both Customer Experience and Vendor Credibility models. It is best in class for most sales measures including professionalism, product knowledge, understanding business/needs, responsiveness, and flexibility/accommodation. It is also best in class for consulting product knowledge and experience, and overall integrity. It maintains a perfect recommend score.

## Domo Detailed Score

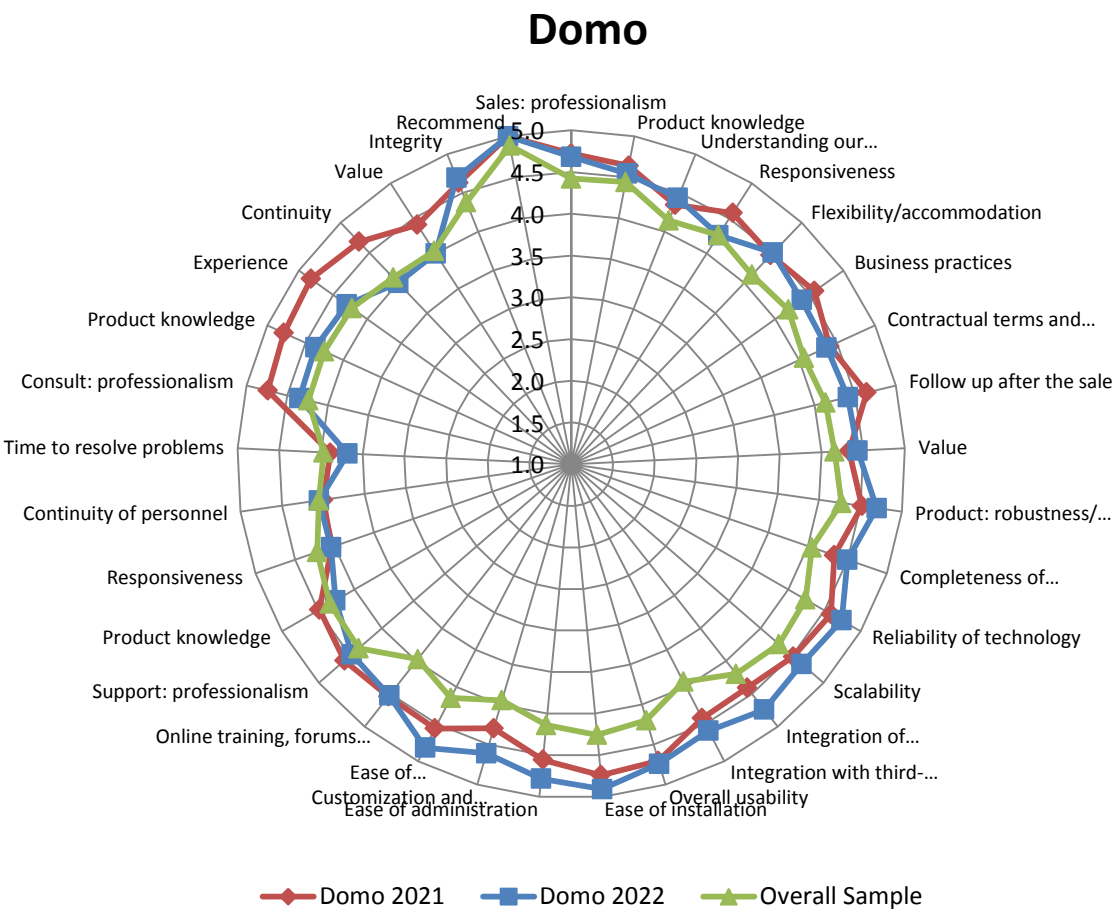



**Figure 123 – Domo detailed score**

Domo remains above the overall sample in 2022 and is an overall leader in both Customer Experience and Vendor Credibility models. It has key improvements across virtually all product measures and is best in class for product robustness/sophistication of technology, completeness of functionality, reliability of technology, overall usability, ease of installation, ease of administration, customization and extensibility, and ease of upgrade/migration to new versions. It maintains a perfect recommend score.

## Google Detailed Score

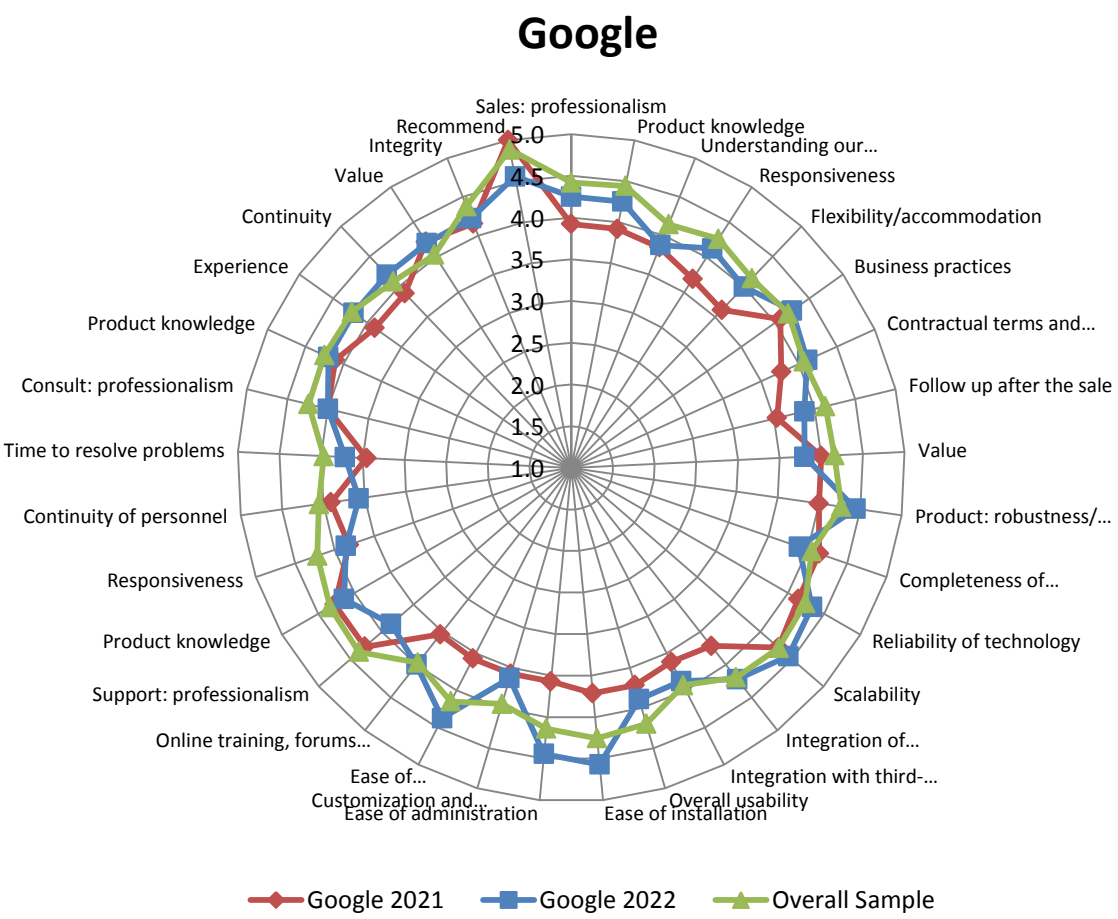



**Figure 124 – Google detailed score**

For 2022, Google (including Looker) is generally in line with or somewhat below the overall sample. It has improvements across most categories of measurement including sales, product, consulting, and integrity. It is a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model.

## IBM Detailed Score

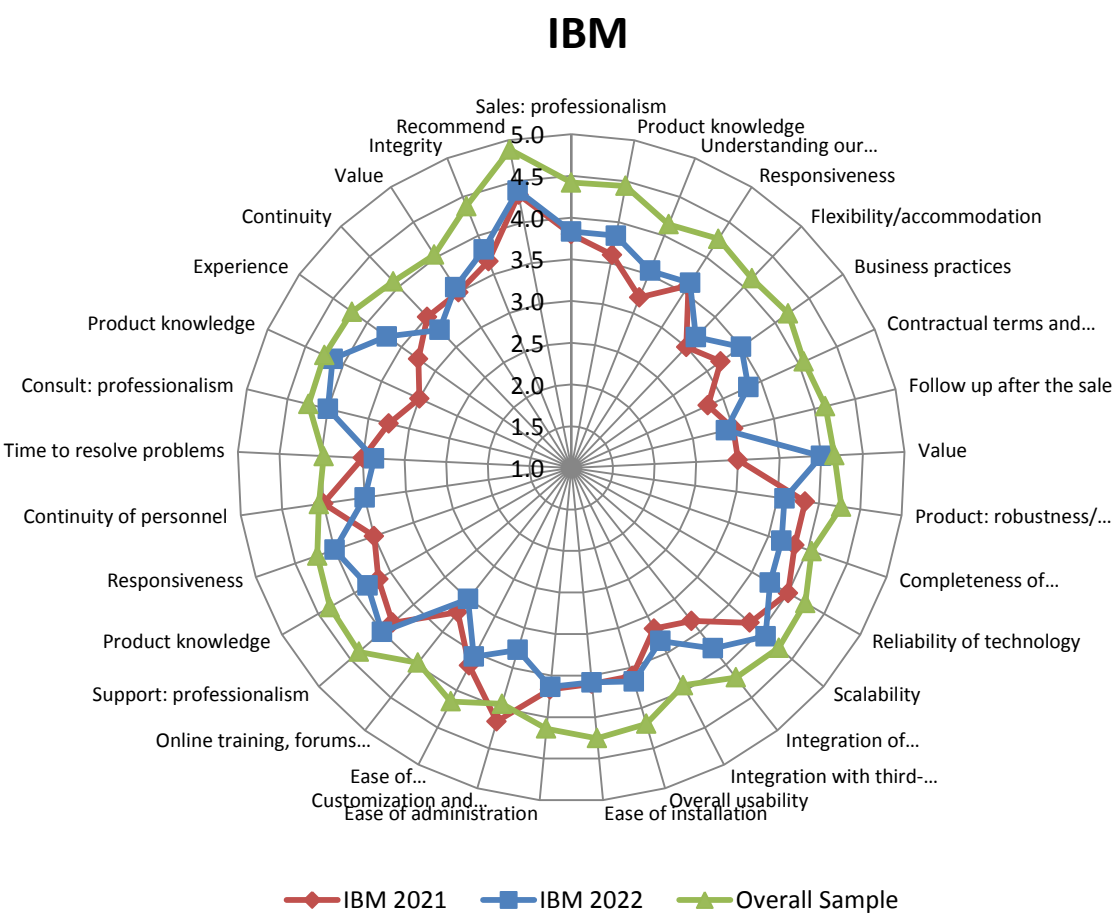



**Figure 125 – IBM detailed score**

IBM remains well below the overall sample for all measures in 2022, with some key improvements in a number of areas including sales, overall value, and consulting. It is a Contender in both Customer Experience and Vendor Credibility models.

## Knime Detailed Score

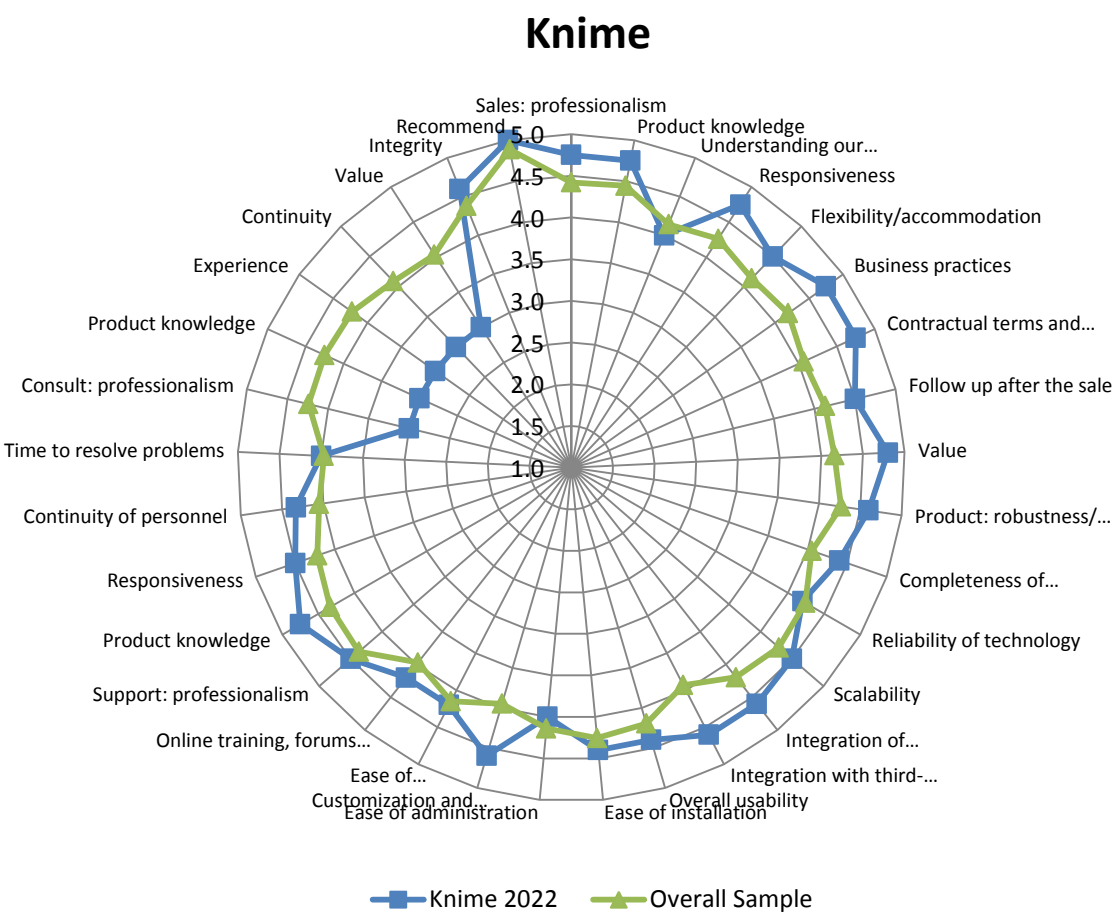



**Figure 126 – Knime detailed score**

In its first year of coverage, Knime is generally above the overall sample, with the exception of consulting. It is best in class for business practices, contractual terms and conditions, overall value, integration with third-party technologies, and technical support product knowledge. It is a Technology Leader in the Customer Experience Model and a Credibility Leader in the Vendor Credibility Model. It has a perfect recommend score.

## Logi Analytics Detailed Score

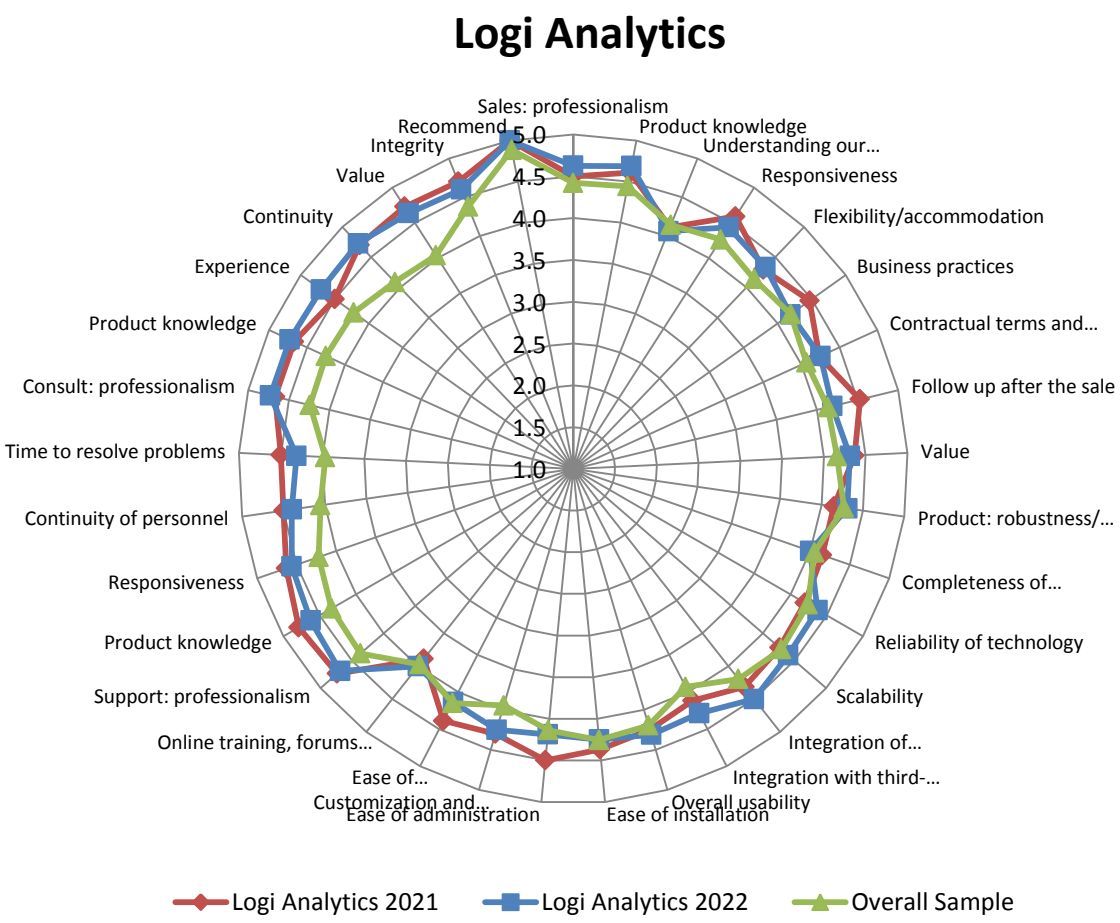



**Figure 127 – Logi Analytics detailed score**

In 2022, Logi Analytics remains generally above the overall sample, with key improvements for a majority of product and consulting measures. It is best in class for consulting value and is an overall leader in both Customer Experience and Vendor Credibility models. It maintains a perfect recommend score.

## Microsoft Detailed Score

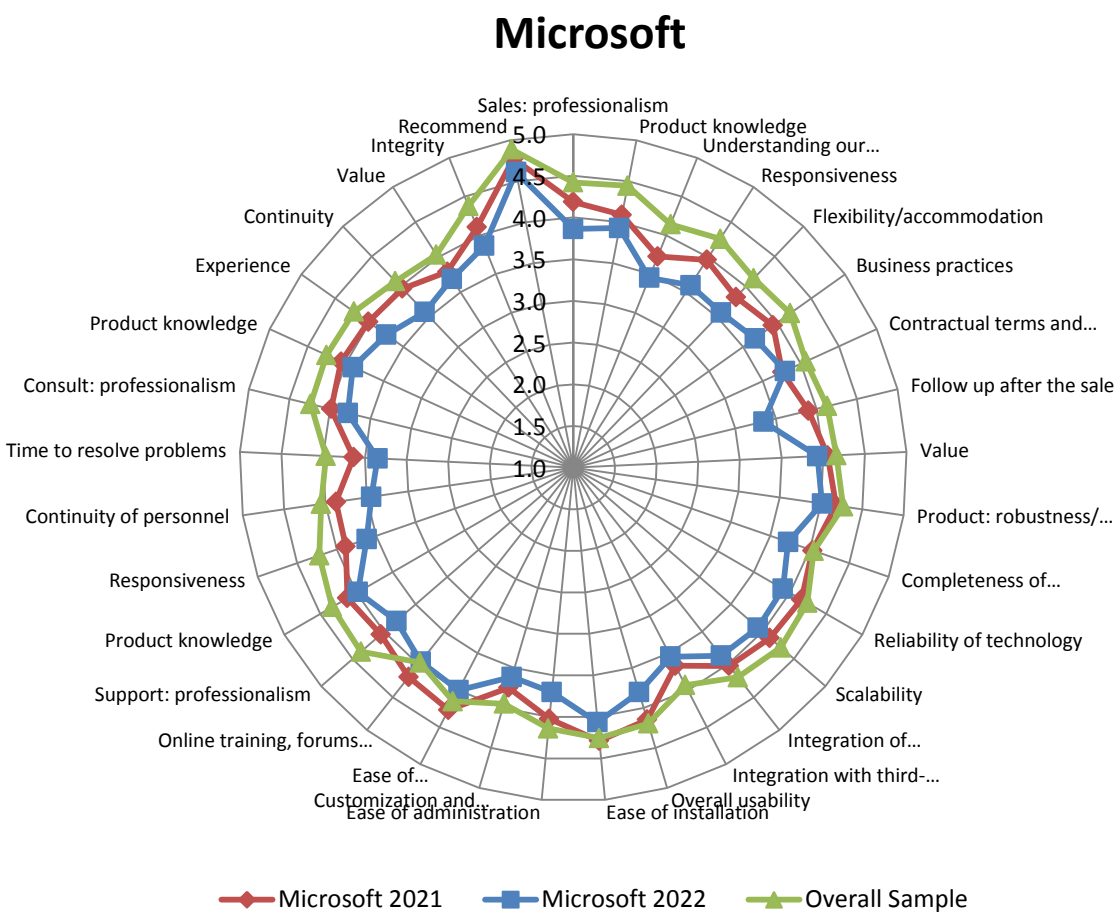



**Figure 128 – Microsoft detailed score**

Microsoft remains below the overall sample, with 2022 scores falling across all categories of measurement. It is a Contender in both Customer Experience and Vendor Credibility models.

## MicroStrategy Detailed Score

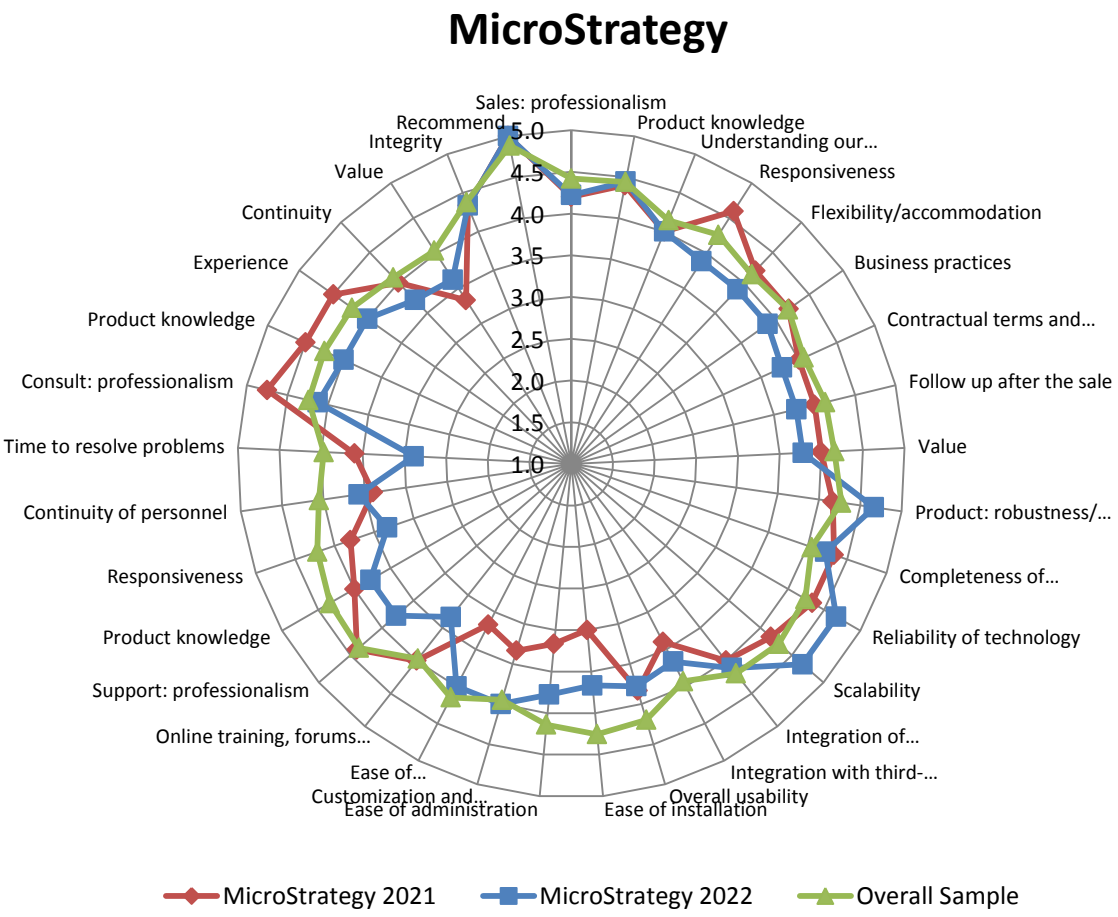



**Figure 129 – MicroStrategy detailed score**

For 2022, MicroStrategy is generally below the overall sample for most measures, has key improvements for product, but declines for most others including sales, technical support, consulting, and overall value. It is a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. It maintains a perfect recommend score.

## Mode Analytics Detailed Score

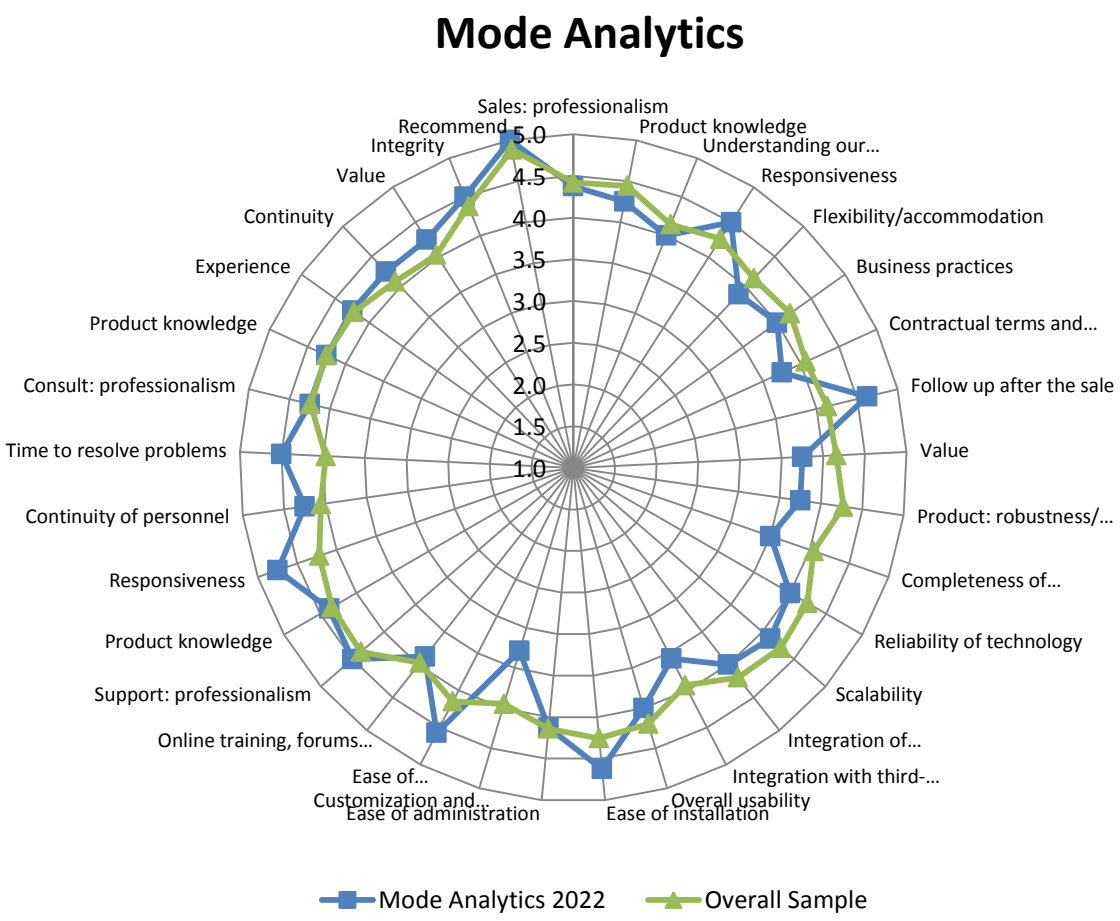



**Figure 130 – Mode Analytics detailed score**

In its first year of coverage, Mode Analytics is generally in line with the overall sample. It is an Overall Experience Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. It has a perfect recommend score.

## Oracle Detailed Score

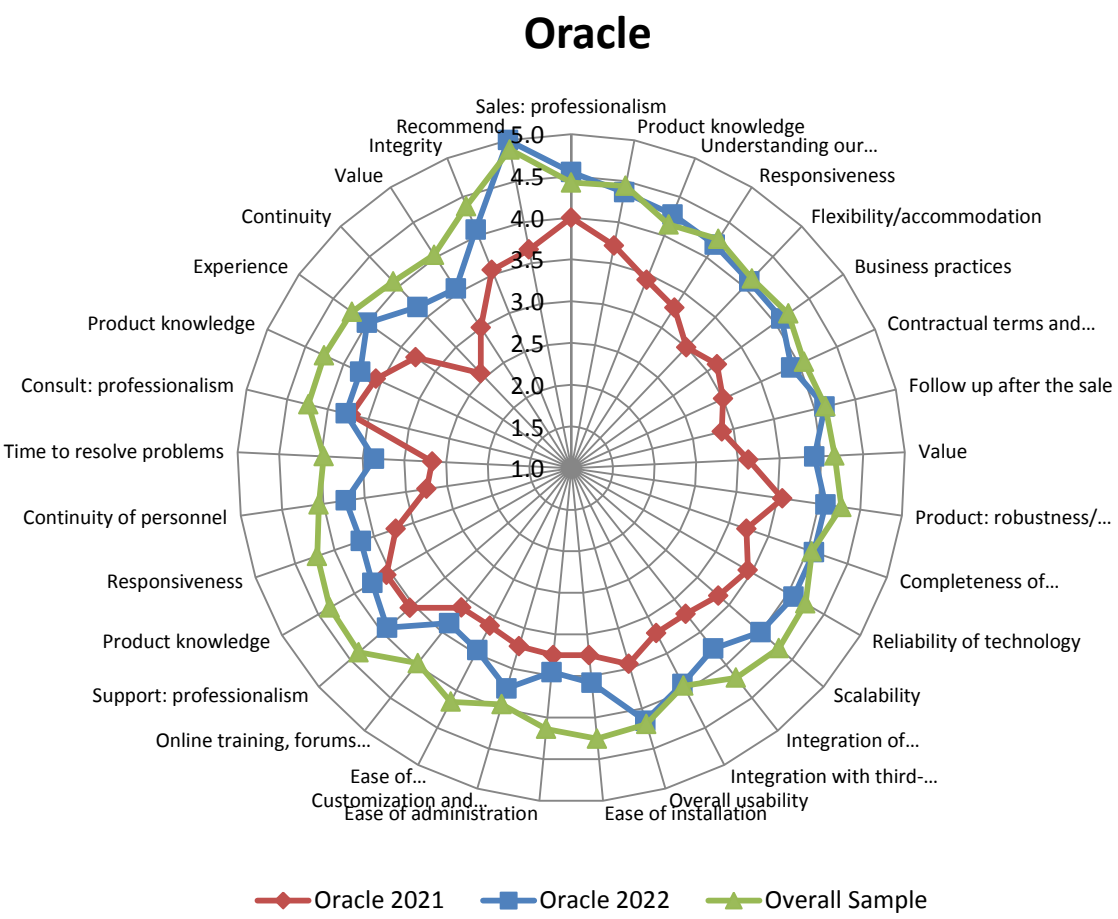



**Figure 131 – Oracle detailed score**

For 2022, Oracle shows substantial improvements across all measures but remains below the overall sample for almost all. It is a Contender in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model.

## Palantir Detailed Score

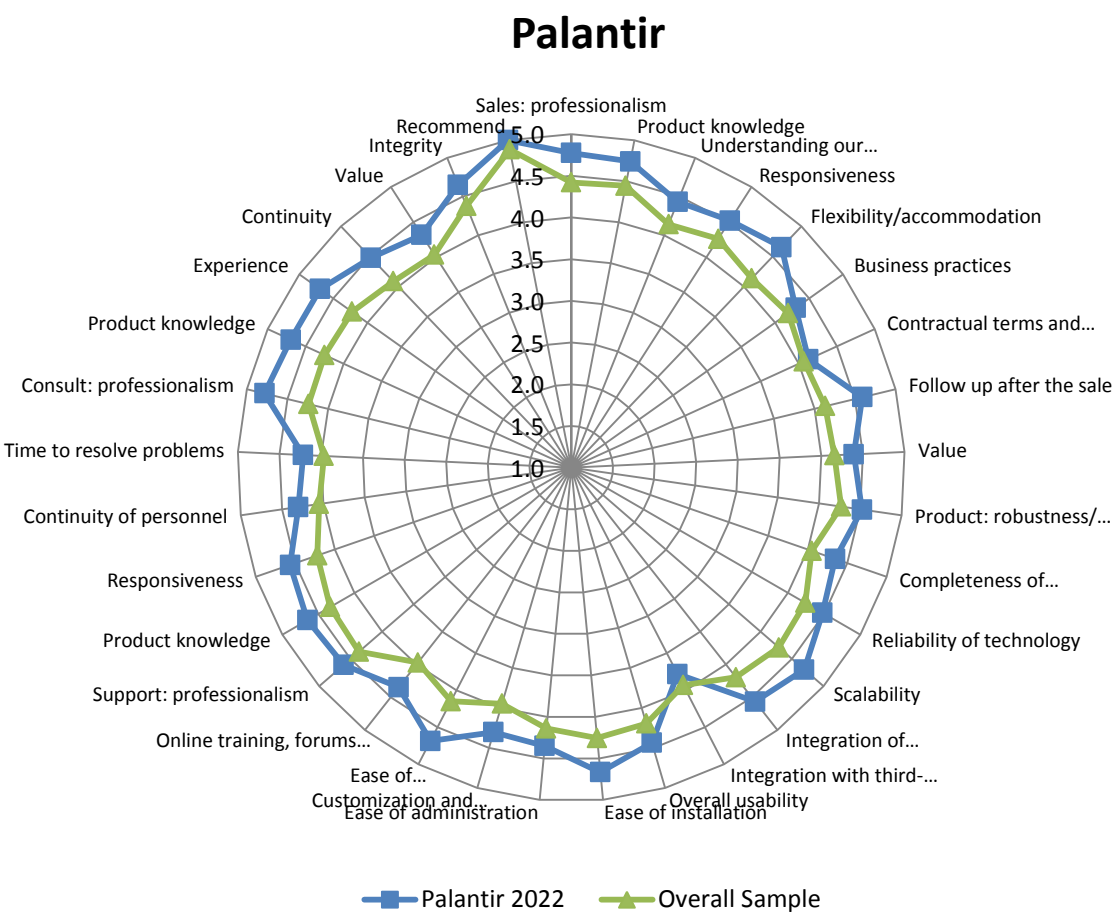



**Figure 132 – Palantir detailed score**

In its first year of coverage, Palantir is generally above the overall sample for all categories of measurement and is an overall leader in both Customer Experience and Vendor Credibility models. It is best in class for product scalability and consulting professionalism and has a perfect recommend score.

## Pyramid Analytics Detailed Score

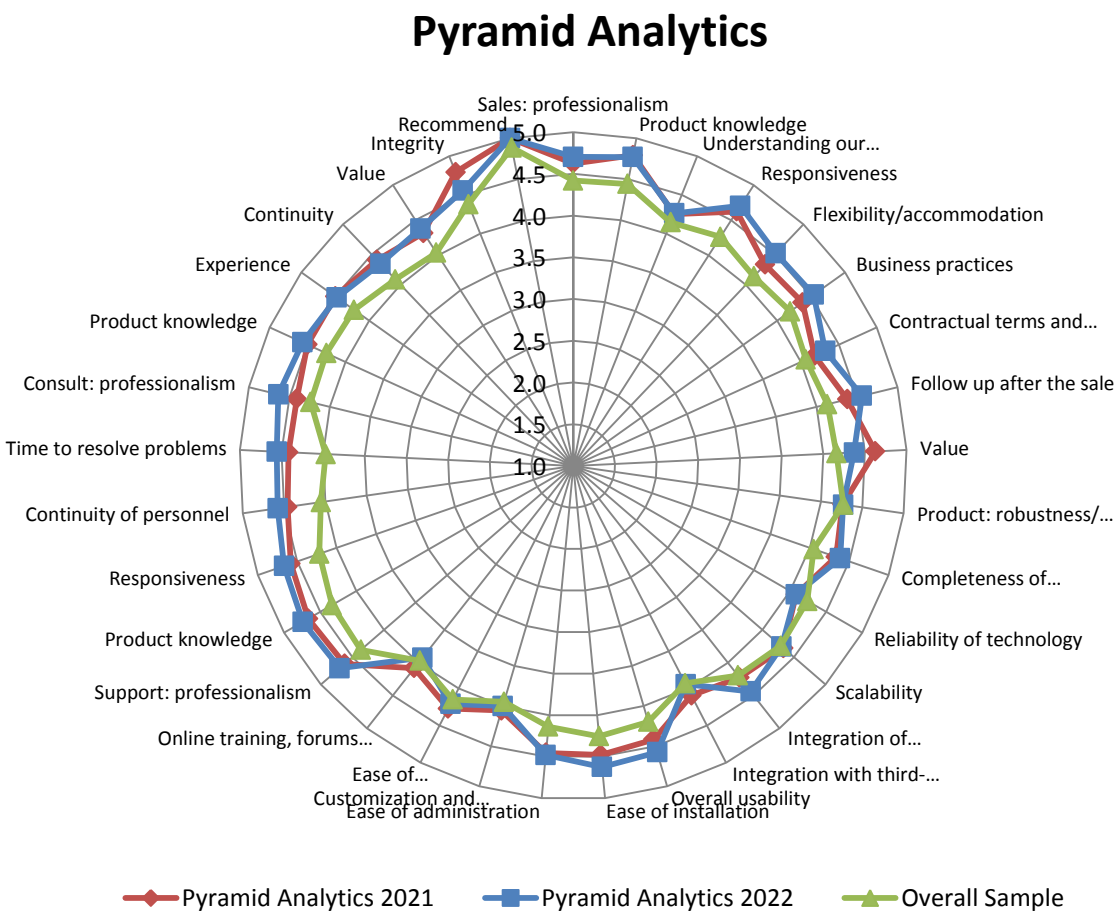



**Figure 133 – Pyramid Analytics detailed score**

For 2022, Pyramid Analytics remains generally above the overall sample, with key improvements in sales, product, and technical support. It is an overall leader in both Customer Experience and Vendor Credibility models and is best in class for technical support time to resolve problems. It maintains a perfect recommend score.

## Qlik Detailed Score

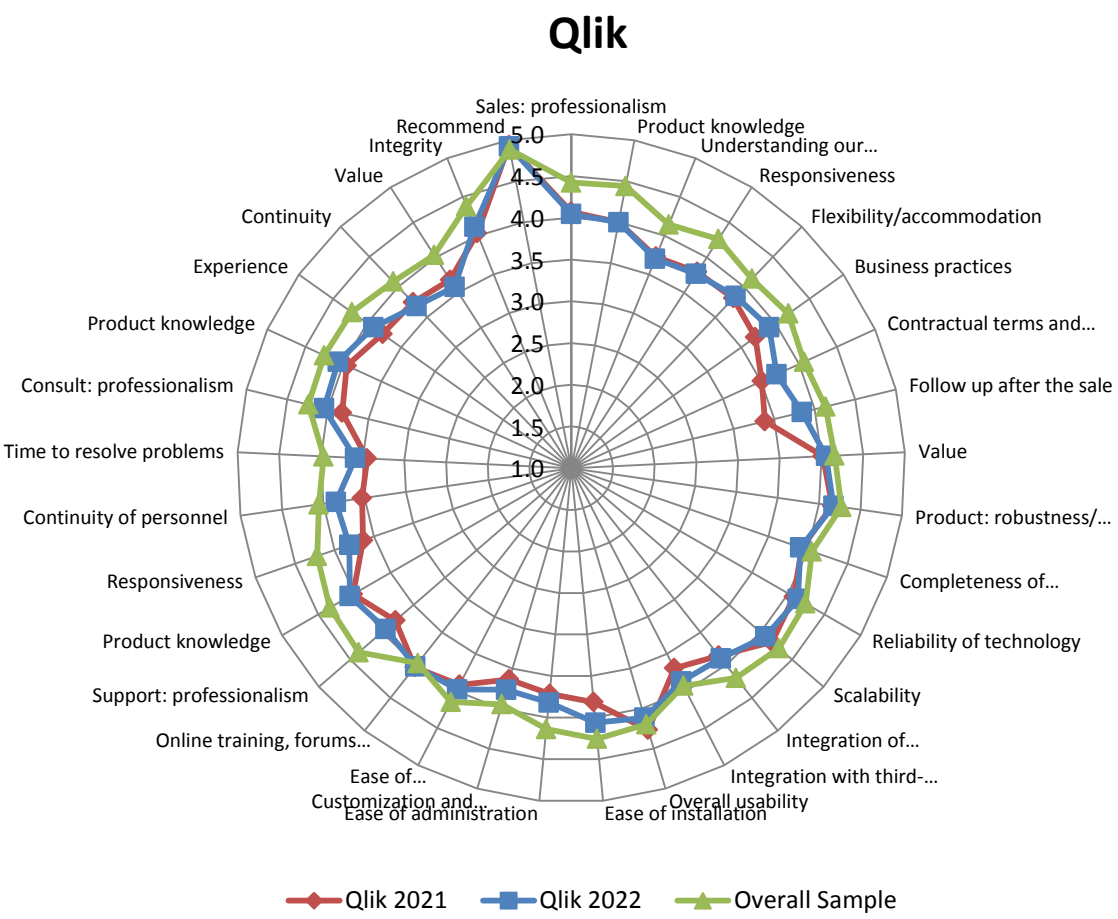



**Figure 134 – Qlik detailed score**

In 2022, Qlik remains somewhat below the overall sample but has key improvements across most categories of measurement including sales, overall value, product, technical support, and consulting. It is a Technology Leader in the Customer Experience Model, and a Trust Leader in the Vendor Credibility Model.

## Qrvey Detailed Score

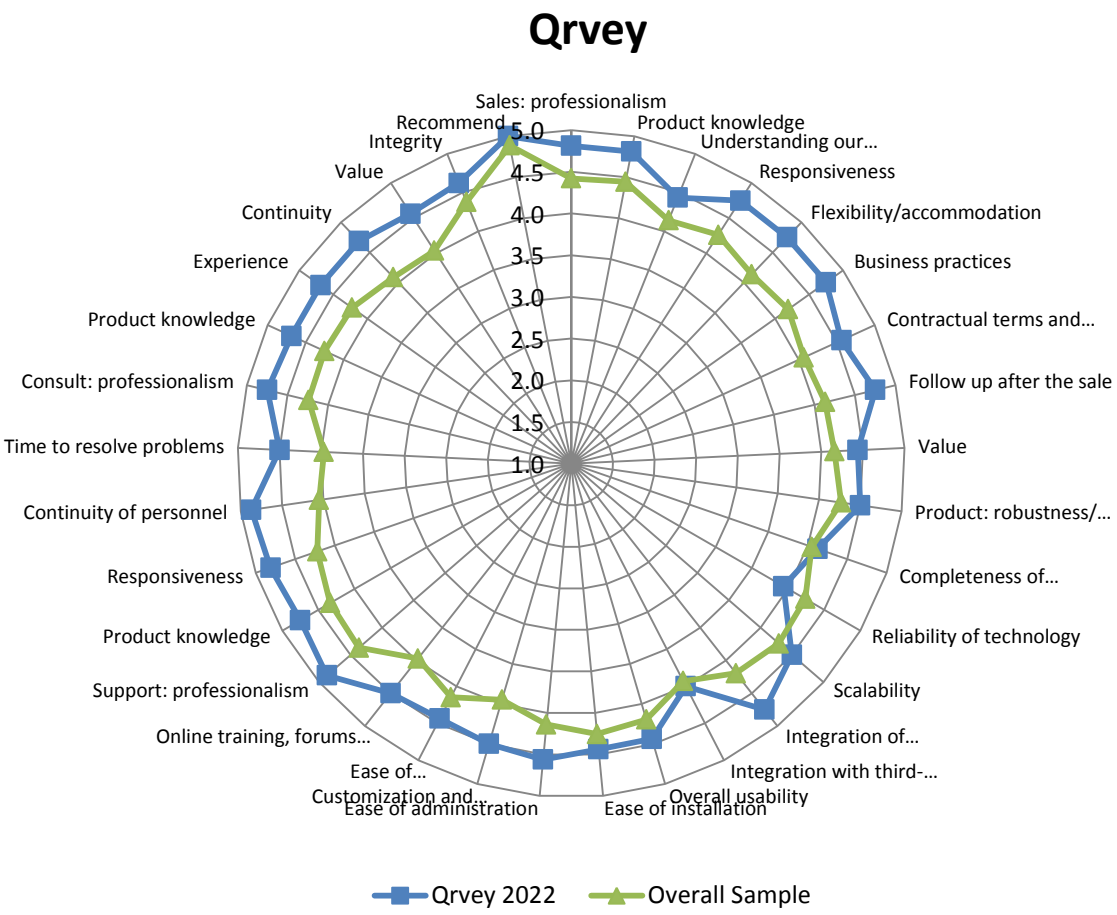



**Figure 135 – Qrvey detailed score**

In its first year of inclusion, Qrvey is above the overall sample for all categories of measurement, including sales, value, product, technical support, and consulting. It is an overall leader in both Customer Experience and Vendor Credibility models and is best in class for business practices, follow-up after the sale, integration of product components, and most technical support measures. It has a perfect recommend score.

## RapidMiner Detailed Score

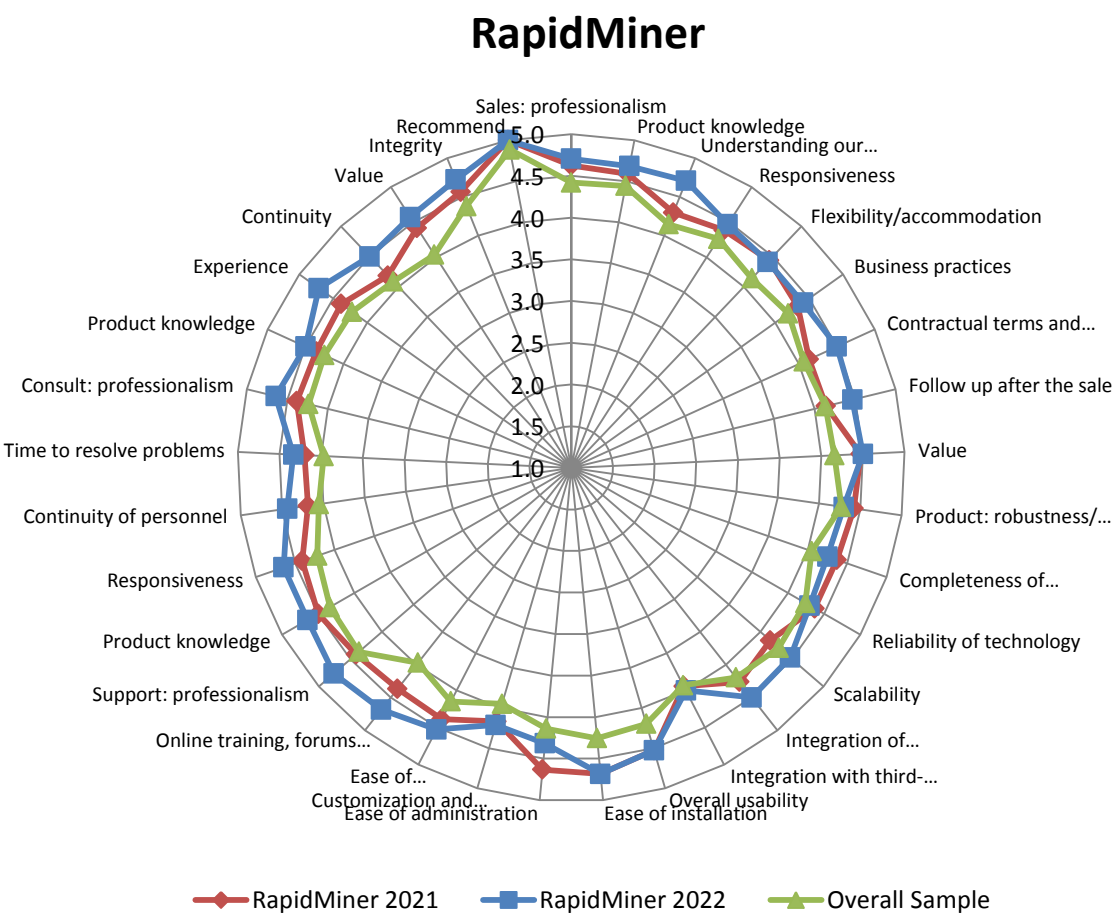



**Figure 136 – RapidMiner detailed score**

RapidMiner is generally above the overall sample for 2022, with key improvements across all categories of measurement including sales, product, overall value, technical support, consulting, and integrity. It is an overall leader in both Customer Experience and Vendor Credibility models and is best in class for online training, forums, and documentation. It maintains a perfect recommend score.

## SAP Detailed Score

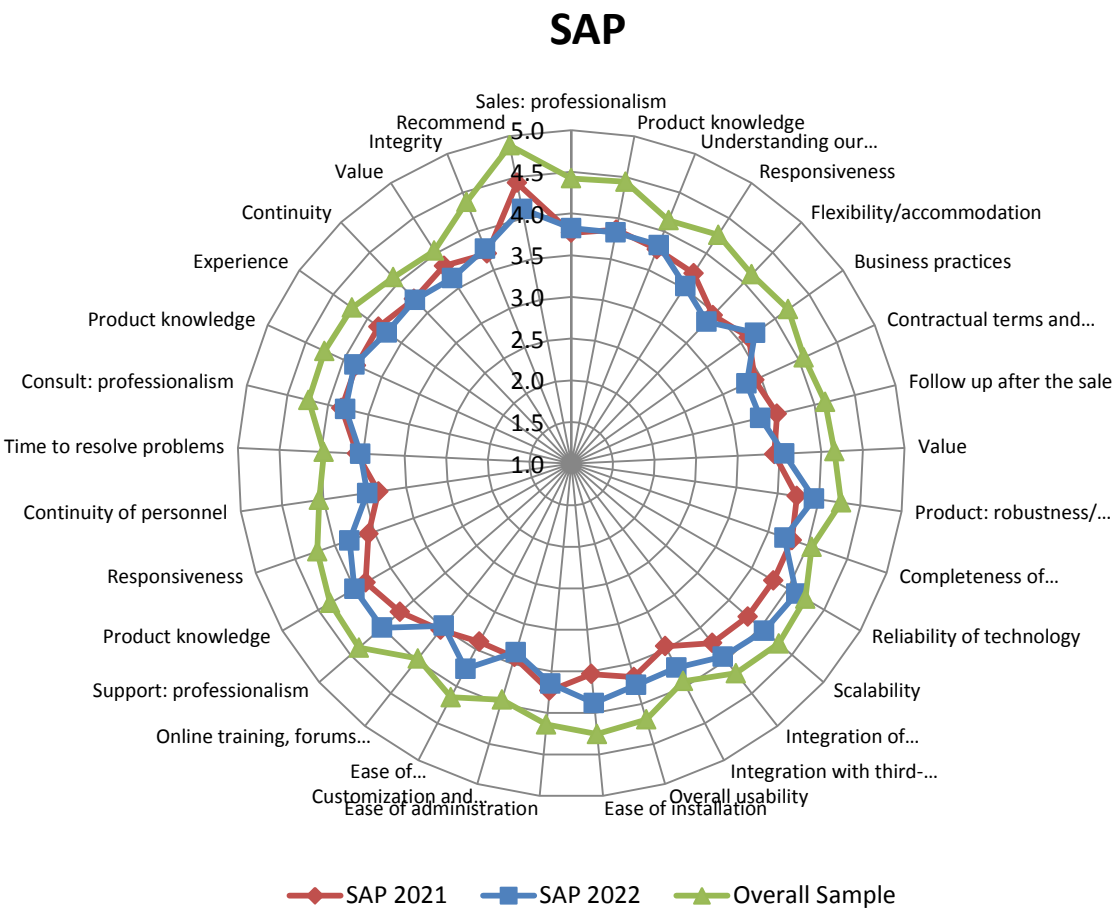



**Figure 137 – SAP detailed score**

In 2022, SAP remains generally below the overall sample for all categories of measurement with some improvements in product, overall value, and technical support. It is a Contender in both Customer Experience and Vendor Credibility models.

## SAS Detailed Score

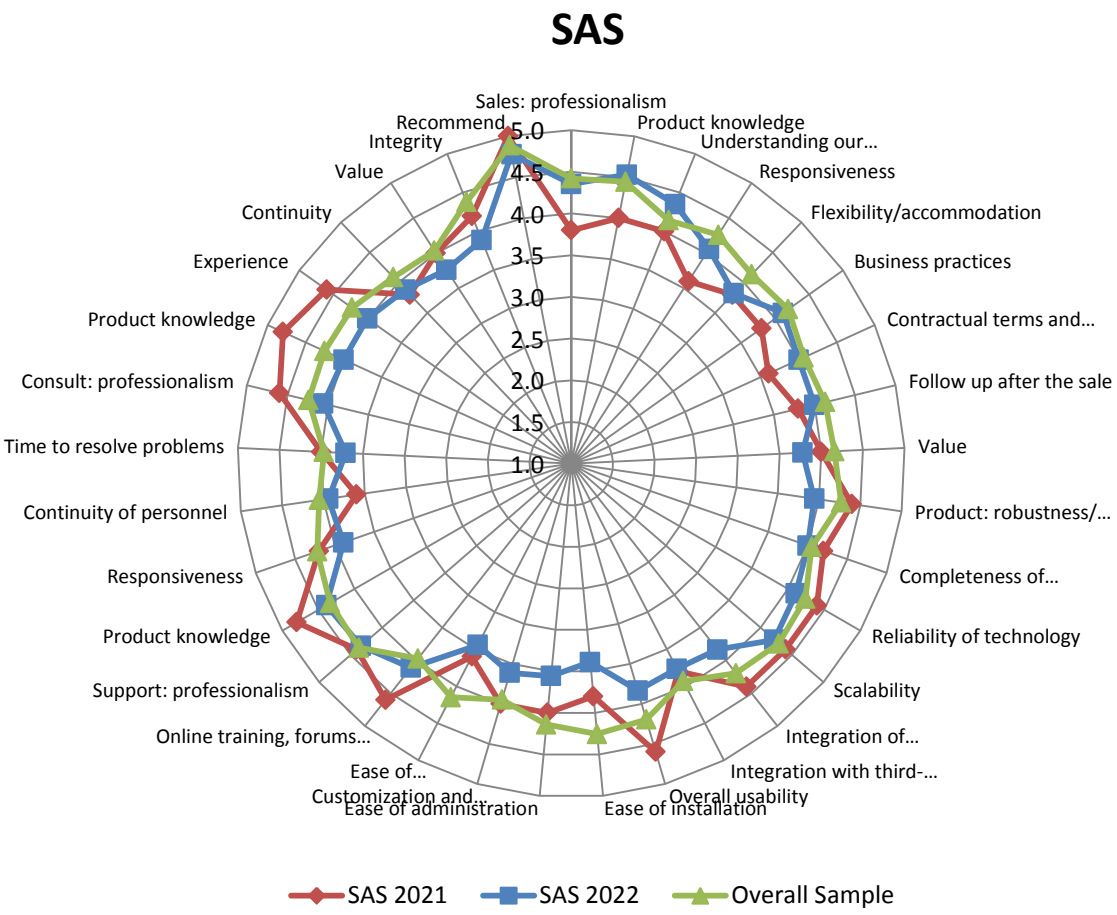



Figure 138 – SAS detailed score

SAS is generally below the overall sample for most measures in 2022. It has key improvements across all sales measures, as well as continuity of personnel for technical support and consulting. It is a Contender in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model.

## Sisense Detailed Score

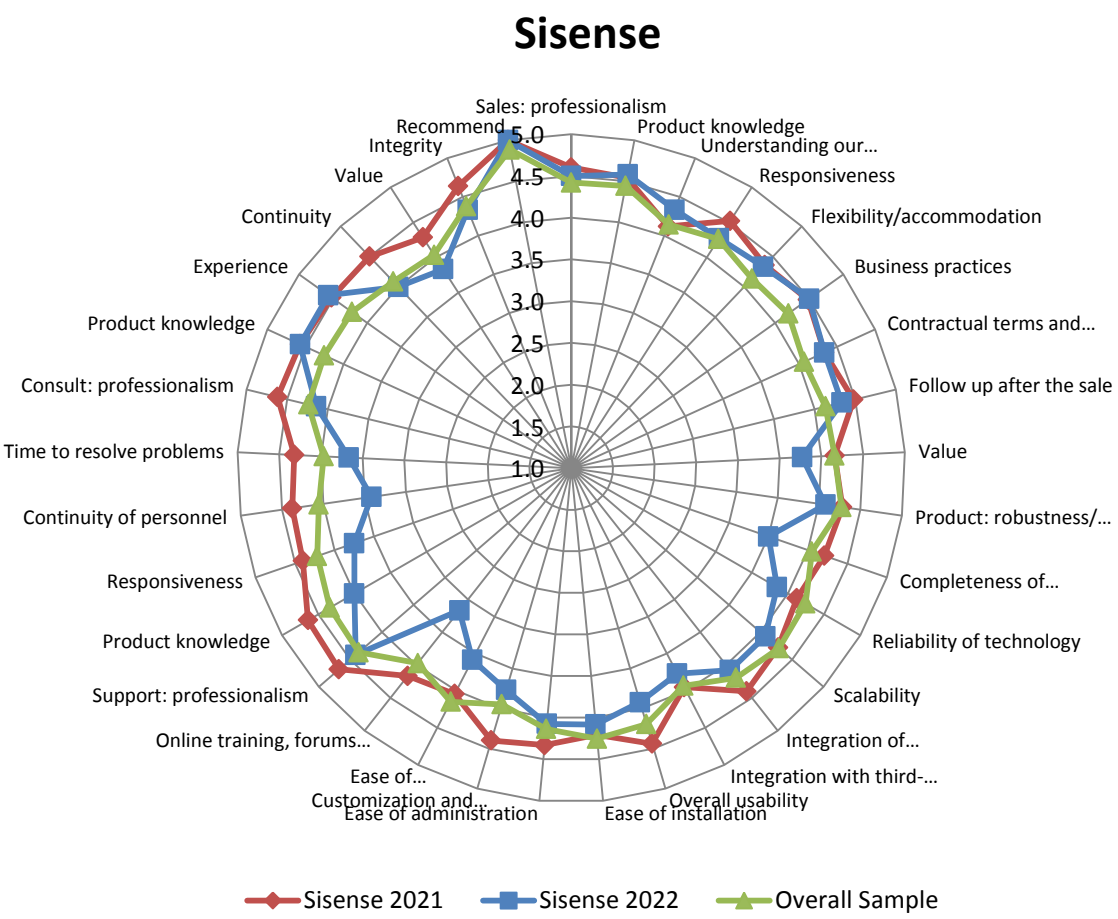



**Figure 139 – Sisense detailed score**

For 2022, Sisense is generally in line with or below the overall sample with some key improvements in sales and consulting experience. It is a Service Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. It maintains a perfect recommend score.

## Snowflake Detailed Score

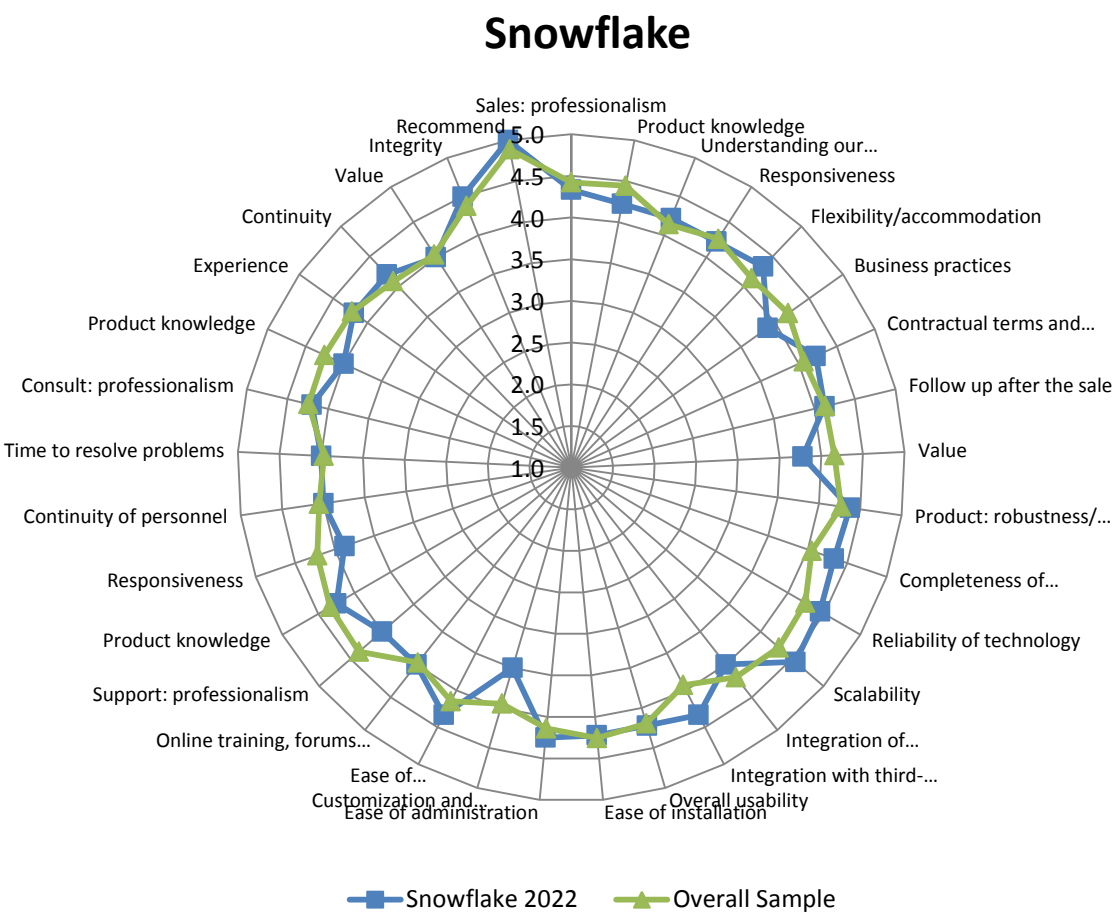



**Figure 140 – Snowflake derailed score**

In its first year of inclusion, Snowflake is generally above or in line with the overall sample. It is a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. It has a perfect recommend score.

## Tableau Detailed Score

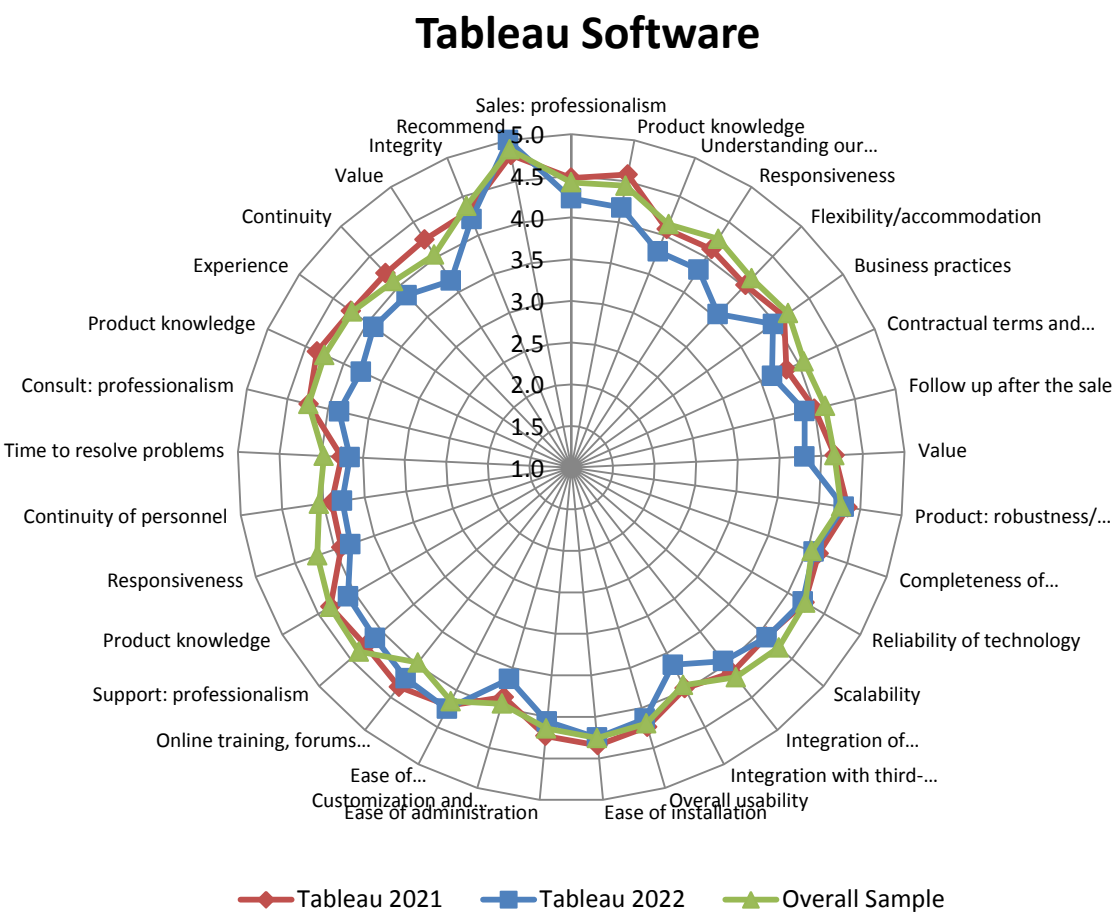



**Figure 141 – Tableau detailed score**

In 2022, Tableau is generally in line with or somewhat below the overall sample with improvements for product ease of upgrade/migration to new versions. It is a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. It has a perfect recommend score.

## Targit Detailed Score

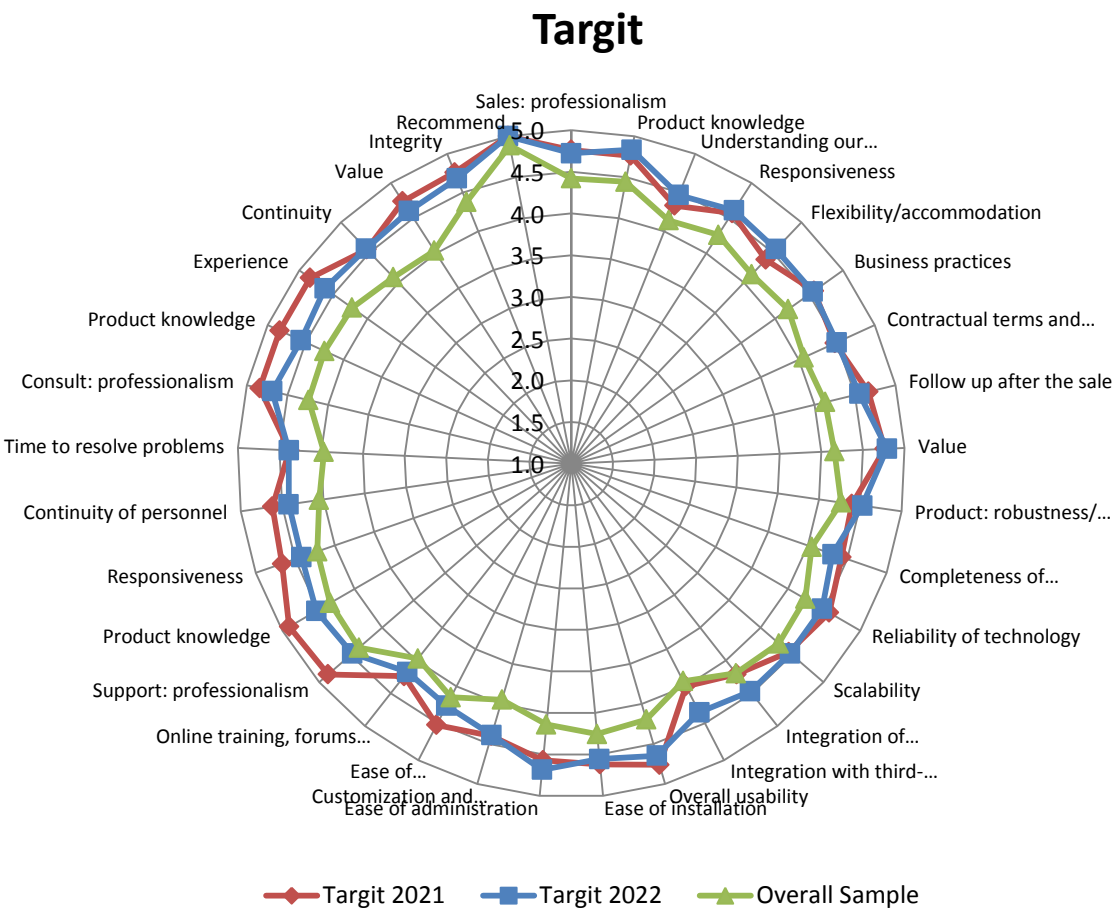



**Figure 142 – Targit detailed score**

In 2022, Targit remains above the overall sample for all categories of measurement including sales, product, technical support, and consulting, with key improvements across a number of measures. It is an overall leader in both Customer Experience and Vendor Credibility models and is best in class for sales product knowledge. It maintains a perfect recommend score.

## TIBCO Software Detailed Score

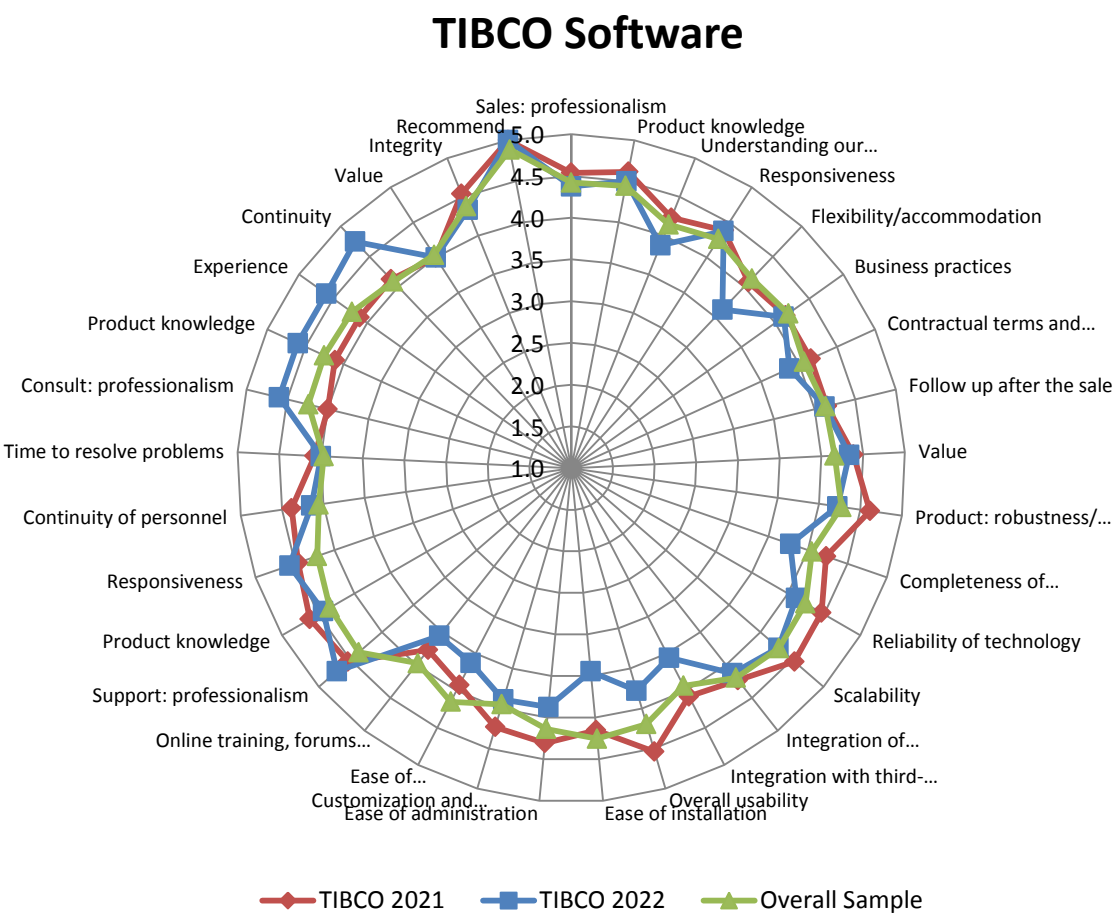



**Figure 143 – TIBCO Software detailed score**

In 2022, TIBCO is generally in line with the overall sample with some measures well above and others below. Key improvements include technical support professionalism, responsiveness, and all consulting measures. It is a Service Leader in the Customer Experience Model and a Credibility Leader in the Vendor Credibility Model. It is best in class for consulting continuity and maintains a perfect recommend score.

## Toucan Detailed Score

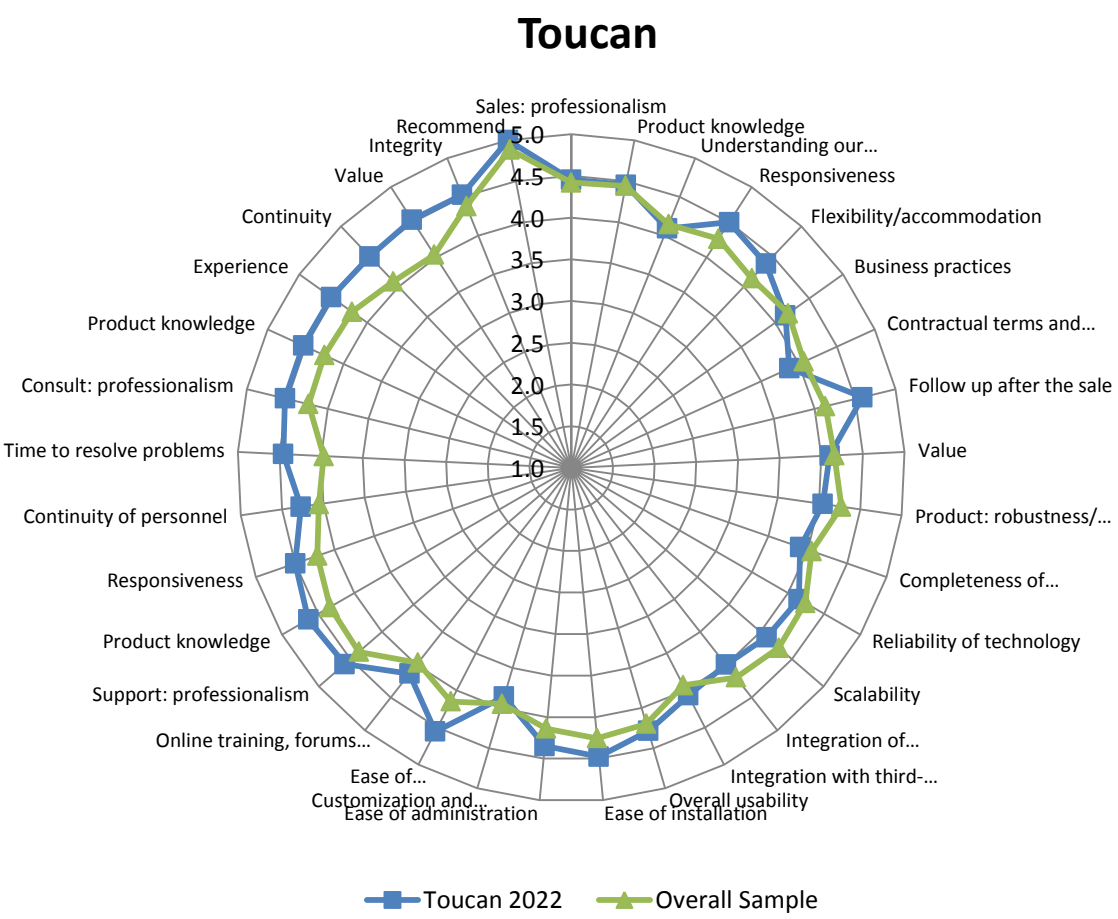



**Figure 144 – Toucan detailed score**

In its first year of inclusion, Toucan is generally above the overall sample for most categories of measurement including sales, product, overall value, technical support, consulting, and integrity. It is an overall leader in the Customer Experience Model, and a Trust Leader in the Vendor Credibility Model. It has a perfect recommend score.

## XLCubed (Fluence) Detailed Score

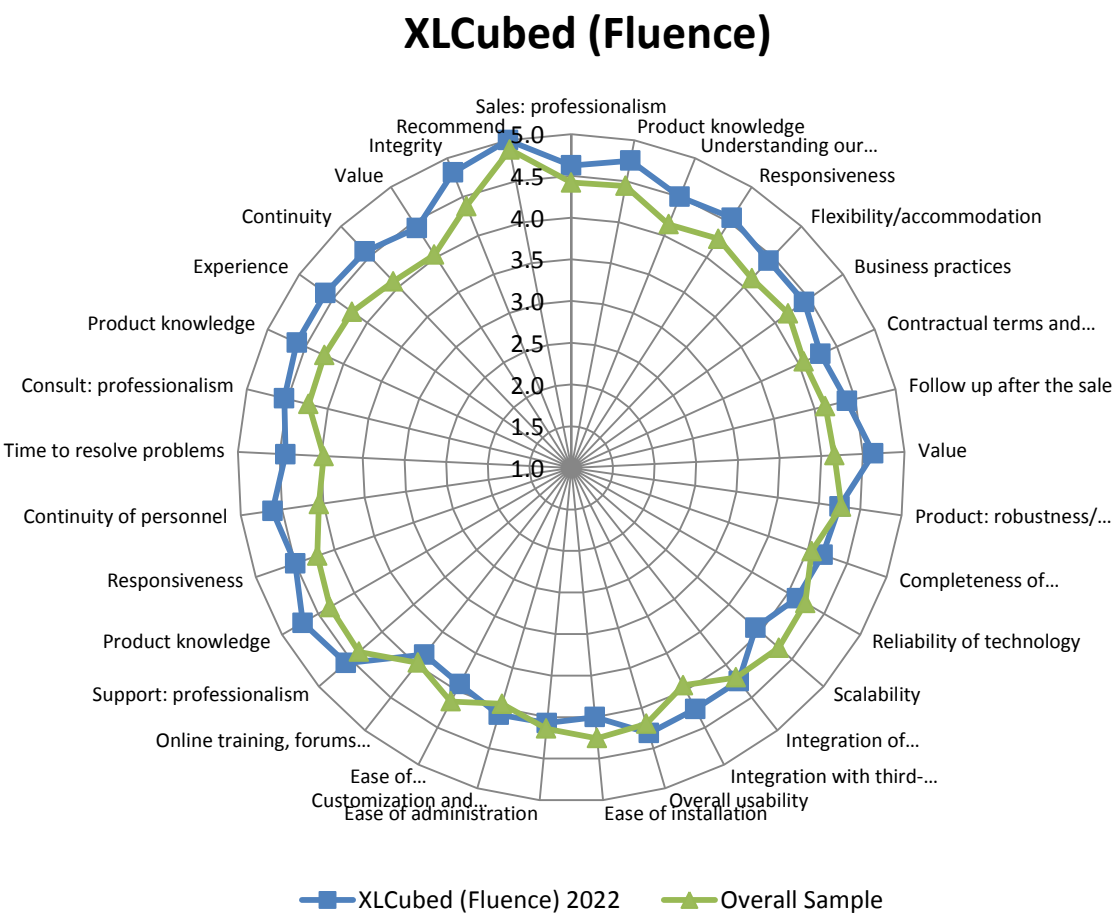



**Figure 145 – XLCubed (Fluence) detailed score**

In its first year of coverage, XLCubed scores generally above the overall sample for most categories of measurement, including sales, overall value, technical support, and consulting. It is an overall leader in both Customer Experience and Vendor Credibility Models and has a perfect recommend score.

## Zoho Detailed Score

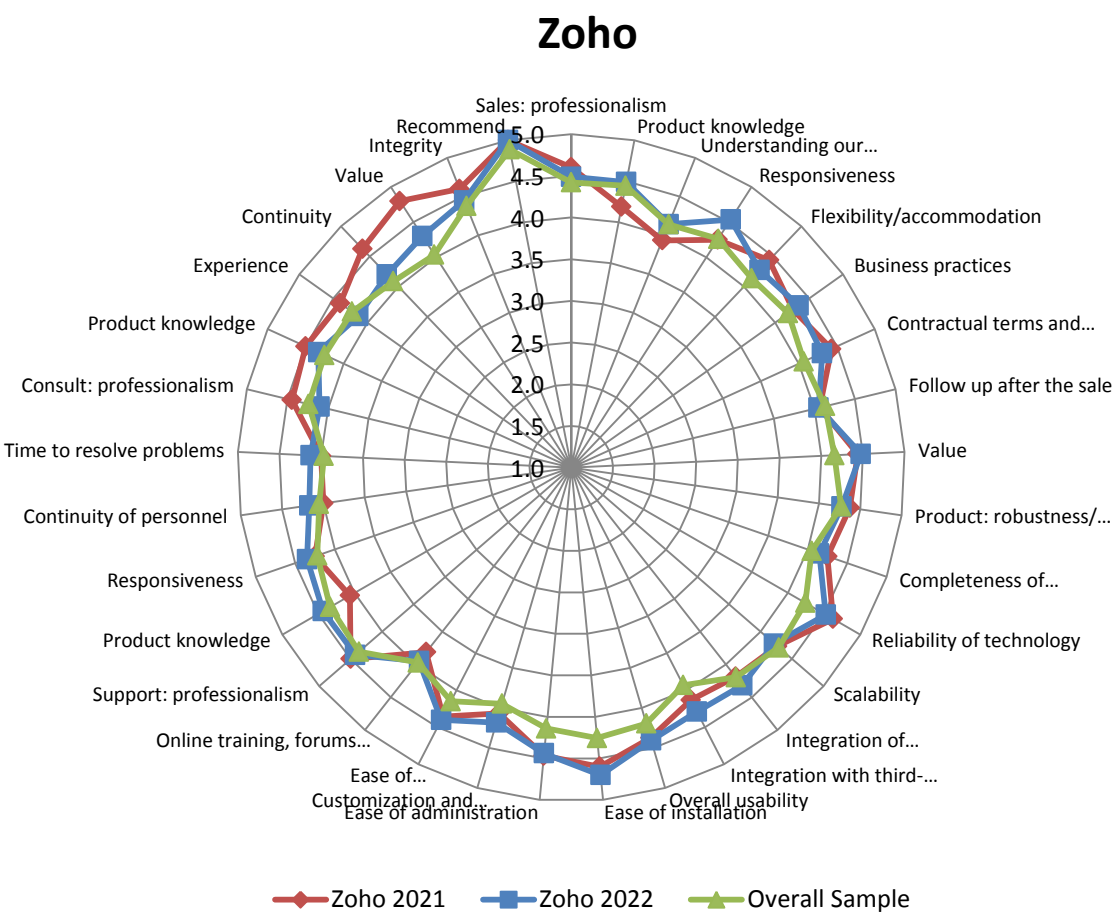



Figure 146 – Zoho detailed score

For 2022, Zoho's scores are generally above the overall sample, with key improvements in overall value, product, and technical support. It is an overall leader in both Customer Experience and Vendor Credibility Models and has a perfect recommend score.

## Other Dresner Advisory Services Research Reports

- Wisdom of Crowds® "Flagship" Business Intelligence Market Study
- Analytical Data Infrastructure
- Analytical Platforms
- BI Competency Center
- Cloud Computing and Business Intelligence
- Data Engineering
- Data Science and Machine Learning
- Embedded Business Intelligence
- Enterprise Performance Management
- Financial Consolidations, Close Management, and Reporting
- Guided Analytics
- Master Data Management
- Natural Language Analytics
- People Analytics
- Sales Performance Management
- Self-Service Business Intelligence
- 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?
*

( ) Business Intelligence Competency Center

( ) Executive Management

( ) Finance

( ) Human Resources

( ) Information Technology (IT)

( ) Marketing

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

( ) Research and Development (R&D)

( ) Sales

( ) Strategic Planning Function

( ) Other - Write In

How many years has your company been in existence?

( ) Less than 5 years

( ) 5-10 years

( ) 11-16 years

( ) 16 or more years

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

( ) All the time

( ) Most of the time

( ) Some of the time

( ) Infrequently

( ) Never

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

( ) Quarterly

( ) Monthly

( ) Weekly

( ) Daily

( ) Hourly

( ) Real time

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

( ) Increased

( ) Decreased

( ) Stayed the same

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

How pervasive is the use of spreadsheets in your organization?

( ) Everyone uses them

( ) Most use them

( ) Some use them

( ) Few use them

What role do spreadsheets play within your organization?

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

( ) As a necessary evil (tolerated by organization)

( ) As a nuisance (frowned upon by organization)

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

( ) Increase

( ) Decrease

( ) Stay the same

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

( ) Yes

( ) No

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

( ) Extremely concerned

( ) Very concerned

( ) Somewhat concerned

( ) Not concerned

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

_____

Does your organization have identified data leadership in place?

( ) Yes

( ) No

( ) Future

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

( ) Yes

( ) Other Title - Write In: _____

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

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

To which role does the CDO or CAO report?

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

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

_____

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

_____

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

( ) Extremely Effective

( ) Somewhat Effective

( ) Somewhat Ineffective

( ) Completely Ineffective

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

[ ] Delegate

[ ] Orchestrate

[ ] Govern

[ ] Align

[ ] Communicate

[ ] Decide

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

( ) Critical

( ) Very Important

( ) Important

( ) Somewhat Important

( ) Not Important

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

( ) Extremely Effective

( ) Somewhat Effective

( ) Somewhat Ineffective

( ) Completely Ineffective

How "data literate" is your user community?

( ) Extremely High Literacy

( ) High Literacy

( ) Moderate Literacy

( ) Low Literacy

( ) Very Low Literacy

How has data literacy changed in the past 12 months?

( ) Increased

( ) Decreased

( ) Stayed the same

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

( ) Yes

( ) No

( ) We are planning to start one

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

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

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

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

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

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

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

( ) Completely Agree

( ) Agree Somewhat

( ) Disagree Somewhat

( ) Disagree

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

[ ] Support from senior management or other BI champions

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

[ ] Business objectives or needs were understood and met

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

[ ] Use of specific technology

[ ] Reliable, trustworthy data

[ ] Availability of skilled, expert resources

[ ] Available data literacy education

[ ] Widespread access to BI solutions and technology

[ ] Available technology / tool education

[ ] Self-service capabilities

[ ] Solution / tool ease of use

[ ] Other - Write In: _____

[ ] Other - Write In: _____

How do you determine BI success?

[ ] Return on investment (ROI) model

[ ] User feedback/satisfaction

[ ] Customer feedback/satisfaction

[ ] Number of deployed users

[ ] System/application activity

[ ] Other - Write In: _____

[ ] Other - Write In: _____

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

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

[ ] Business objectives or needs were not understood or met

[ ] Inadequate budget / funding

[ ] Lack of a specific technology

[ ] Unreliable, untrustworthy data

[ ] Lack of skilled, expert resources

[ ] Lack of data literacy education

[ ] Limited access to BI solutions and technology

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

[ ] Lack of technology / tool education

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

[ ] Poor self-service capabilities

[ ] Poor solution / tool ease of use

[ ] Unrealistic time frames / expectations

[ ] Other - Write In: _____

[ ] Other - Write In: _____

This year our budget for business intelligence / analytics is:

( ) Increasing over last year

( ) Decreasing over last year

( ) Staying the same as last year

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

_____Computer Hardware

_____Internal Headcount

_____Education and Training

_____External Consulting Services

_____Subscriptions for user BI software

_____Subscriptions for database or other analytical infrastructure

_____Perpetual Licensing (purchase) of user BI software

_____Perpetual Licensing (purchase) of database or other analytical infrastructure

_____Software Maintenance for perpetual licensed software

_____Other

Which function drives your business intelligence initiatives?

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

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

Where has business intelligence helped to achieve business goals?

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

What does your organization expect to achieve with business intelligence?

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

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

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

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

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

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

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

( ) Don't know

( ) 1

( ) 2

( ) 3

( ) 4

( ) 5

( ) 6

( ) 7

( ) 8

( ) 9

( ) 10 or more

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

( ) Yes

( ) No

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

[ ] Cost savings

[ ] Corporate standard

[ ] Ease of use

[ ] Improved functionality

[ ] Strategic initiative

[ ] Unused "shelf ware"

[ ] Modernization

[ ] Other - Write In

[ ] Other - Write In: _____

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

( ) 1010data

( ) Adaptive Insights (Workday)

( ) Altair (Datawatch)

( ) Alteryx

( ) Amazon (i.e., QuickSight)

( ) Board

( ) C3.AI

( ) Dataiku

( ) DataRobot

( ) Dimensional Insight

( ) Domo

( ) Dundas

( ) GoodData

( ) Google (including Looker)

( ) Grid

( ) Grow

( ) H2O.ai

( ) IBM

( ) Incorta

( ) InetSoft

( ) Infor (Birst)

( ) Jedox

( ) Klipfolio

( ) KNIME

( ) Logi Analytics

( ) Microsoft

( ) MicroStrategy

( ) Mode Analytics

( ) OmniSci

( ) Oracle

( ) Palantir

( ) Phocas

( ) Pyramid Analytics

( ) Qlik

( ) Qrvey

( ) RapidMiner

( ) SAP

( ) SAS Institute

( ) Sigma Computing

( ) Sisense

( ) Snowflake (i.e., Snowsight)

( ) Tableau (Salesforce)

( ) TARGIT

( ) ThoughtSpot

( ) TIBCO (Includes Information Builders)

( ) Toucan Toco

( ) Yellowfin

( ) Zoho

( ) Other - Write In: _____

Please specify the product name and version for the selected vendor

_____

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

( ) Less than 1 year

( ) 1-2 years

( ) 3-5 years

( ) 6-10 years

( ) More than 10 years

Did this product replace another BI product?

( ) Yes ( ) No

Which product did it replace?:

_____

Why was it replaced?

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

How many users currently use this product?

( ) 1-10

( ) 11-50

( ) 51-100

( ) 101-200

( ) 201-500

( ) More than 500

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

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

How would you characterize the value for the price paid?

( ) Great Value (Well exceeded expectations)

( ) Good Value (Somewhat exceeded expectations)

( ) Average Value (Met expectations)

( ) Poor Value (Fell short of expectations)

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

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

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

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

How would you characterize the vendor's technical support?

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

How would you characterize the vendor's consulting services?

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

| | | | | | | |
|---|---|---|---|---|---|---|
| Experience | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) |
| Continuity | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) |
| Value | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) |

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

( ) Excellent

( ) Very Good

( ) Adequate

( ) Poor

( ) Very Poor

( ) Don't Know

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

( ) Improved

( ) Stayed the Same

( ) Declined

Would you recommend this vendor/product?

( ) I would recommend this vendor/product

( ) I would NOT recommend this vendor/product

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

_____

_____

_____

_____