Wisdom of Crowds®
Business Intelligence Market Study

2020 Edition

Licensed to Pyramid Analytics
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.

Reproduction and distribution of this publication in any form without prior written permission is forbidden.
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.”

Introduction
This year marks the thirteenth anniversary of Dresner Advisory Services and the eleventh anniversary of this “Flagship” Wisdom of Crowds Business Intelligence Market Study.

At the time of publication of this report, a COVID-19 pandemic affects millions worldwide and impacts businesses and how they leverage data and business intelligence.

As our data collection began in February and concluded in April of this year, the data and resulting analyses reflect the pandemic impact.

Through this period, we separately conducted specific COVID-19 research, which is not reflected in this report but is available on our community site at no cost. Additionally, we will continue to collect data at www.covidbusinessimpact.com and will continue to publish research through the duration of the pandemic.

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

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

Howard Dresner
Chief Research Officer
Dresner Advisory Services
Contents

Business Intelligence: A Definition .................................................................................. 3
Introduction ........................................................................................................................ 4
Benefits of the Study ......................................................................................................... 11
   Consumer Guide ........................................................................................................... 11
   Supplier Tool ................................................................................................................ 11
      External Awareness .................................................................................................. 11
      Internal Planning ..................................................................................................... 11
About Howard Dresner and Dresner Advisory Services .................................................. 12
About Jim Ericson ............................................................................................................. 13
Survey Method and Data Collection .................................................................................. 14
   Data Quality ................................................................................................................ 14
Executive Summary ........................................................................................................... 16
Study Demographics ........................................................................................................ 17
   Geography ................................................................................................................... 17
   Functions ...................................................................................................................... 18
   Vertical Industries ...................................................................................................... 19
   Organization Size ....................................................................................................... 20
Analysis and Trends .......................................................................................................... 22
   Departments/Functions Driving Business Intelligence ................................................ 22
      Functions Driving Business Intelligence 2013-2019 ............................................... 23
      Change in Functions Driving Bi 2019-2020 ............................................................ 24
      Functions Driving Business Intelligence by Major Geography ............................. 25
      Functions Driving Business Intelligence by Industry .............................................. 26
      Functions Driving Business Intelligence by Organization Size .......................... 27
   User Roles Targeted for Business Intelligence ............................................................ 28
      Targeted Users for Business Intelligence Through 2019-2020 ............................ 29
      Targeted Users for Business Intelligence by Geography ......................................... 30
      User Targets for Business Intelligence by Organization Size ............................... 31
      User Targets for Business Intelligence by Vertical Industries ............................... 32

http://www.dresneradvisory.com

Copyright 2020 – Dresner Advisory Services, LLC
Targeted Users by Success with Business Intelligence .................................................. 33
Objectives for Business Intelligence ........................................................................... 34
Business Intelligence Objectives 2017-2020 ................................................................. 35
Percent Change in BI Objectives 2017-2018 ............................................................... 36
Business Intelligence Objectives by Geography .......................................................... 37
Business Intelligence Objectives by Function .............................................................. 38
Business Intelligence Objectives by Vertical Industry .................................................. 39
Business Intelligence Objectives by Organization Size ............................................... 40
Business Intelligence Achievements .......................................................................... 41
Business Intelligence Achievement 2018-2020 .......................................................... 42
Business Intelligence Achievements by Function ......................................................... 43
Business Intelligence Achievements by Industry ......................................................... 44
Business Intelligence Achievements by Organization Size ......................................... 45
Penetration of Business Intelligence Solutions ............................................................ 46
Expansion Plans for Business Intelligence Through 2021 .......................................... 47
Current Business Intelligence Penetration by Geography .............................................. 48
Planned Business Intelligence Penetration by Geography ............................................. 49
Current Business Intelligence Penetration by Function .............................................. 50
Planned Business Intelligence Penetration by Function .............................................. 51
Current Business Intelligence Penetration by Vertical Industry ................................... 52
Planned Business Intelligence Penetration by Vertical Industry ................................... 53
Current Business Intelligence Penetration by Organization Size .................................. 54
Planned Business Intelligence Penetration by Organization Size .................................. 55
Chief Data and Chief Analytics Officers ....................................................................... 56
Enterprises with Chief Data or Chief Analytics Officers ............................................... 56
Plans to Implement Chief Data or Chief Analytics Officers ......................................... 57
Effectiveness of Chief Data or Chief Analytics Officers .............................................. 58
Presence of Chief Data and Chief Analytics Officer by Success with BI ..................... 59
Business Intelligence Achievements by Presence of CDO/CAO ................................. 60
Enterprises with Chief Data or Chief Analytics Officers by Organization Size ............ 61
## 2020 Wisdom of Crowds® Business Intelligence Market Study

Success with Business Intelligence by Targeted Users .......................................................... 90
Success with Business Intelligence and Technology Priorities .............................................. 91
Success with Business Intelligence and Number of BI Tools .............................................. 92
Success with Business Intelligence and Common Trust in Data ......................................... 93
Success with Business Intelligence and Insight Creation and Execution ......................... 94
Success with Business Intelligence and Penetration of Users ............................................. 95
Business Intelligence Achievements by Success with BI ..................................................... 96

Budget Plans for Business Intelligence .................................................................................. 97
Budget Plans for Business Intelligence 2017-2019 .............................................................. 98
Budget Plans for Business Intelligence by Geography ......................................................... 99
Budget Plans for Business Intelligence by Function ............................................................ 100
Budget Plans for Business Intelligence by Vertical Industry .............................................. 101
Budget Plans for Business Intelligence by Organization Size ............................................ 102
Budget Plans for Business Intelligence by Penetration of BI Solutions ............................ 103
Budget Plans for Business Intelligence by Success with BI ................................................. 104
Business Intelligence Achievements by BI Budget Plans .................................................... 105
Technologies and Initiatives Strategic to Business Intelligence by BI Budget Plans ......... 106

Business Intelligence Product Longevity and Replacement ............................................... 107
Longevity of Business Intelligence Products ...................................................................... 107
Current Business Intelligence Products Replaced by Another ......................................... 108
Reasons BI Products Are Replaced ...................................................................................... 109

Industry and Vendor Analysis ............................................................................................... 111
Scoring Criteria ................................................................................................................... 111
Industry Performance .......................................................................................................... 112
Sales/Acquisition Experience .............................................................................................. 112
Value .................................................................................................................................. 113
Quality and Usefulness of Product ....................................................................................... 114
Technical Support ................................................................................................................ 115
Consulting ............................................................................................................................ 116
Integrity............................................................................................................................. 117
Recommended ................................................................................................................118
Performance Improvements ............................................................................................119
Vendor Ratings ..................................................................................................................120
Business Intelligence Market Models ..............................................................................121
   Customer Experience Model .........................................................................................121
   Vendor Credibility Model .............................................................................................123
Detailed Vendor Ratings ..................................................................................................125
   Alteryx Detailed Score .................................................................................................126
   Amazon Detailed Score .................................................................................................127
   Board Detailed Score ....................................................................................................128
   Dimensional Insight Detailed Score .............................................................................129
   Domo Detailed Score .....................................................................................................130
   Google Detailed Score ..................................................................................................131
   IBM Detailed Score .......................................................................................................132
   Infor Detailed Score ......................................................................................................133
   Information Builders Detailed Score ............................................................................134
   Keyence Detailed Score .................................................................................................135
   Logi Analytics Detailed Score ......................................................................................136
   Looker Detailed Score ....................................................................................................137
   Microsoft Detailed Score ...............................................................................................138
   MicroStrategy Detailed Score .......................................................................................139
   Oracle Detailed Score ....................................................................................................140
   Pyramid Analytics Detailed Score ................................................................................141
   Qlik Detailed Score .........................................................................................................142
   RapidMiner Detailed Score ............................................................................................143
   Salesforce Detailed Score ..............................................................................................144
   SAP Detailed Score ........................................................................................................145
   SAS Detailed Score ........................................................................................................146
   Sigma Computing Detailed Score ................................................................................147
2020 Wisdom of Crowds® Business Intelligence Market Study

Sisense Detailed Score ........................................................................................................ 148
Tableau Software Detailed Score ....................................................................................... 149
Targit Detailed Score .......................................................................................................... 150
TIBCO Software Detailed Score ........................................................................................ 151
Zoho Detailed Score .......................................................................................................... 152
Other Dresner Advisory Services Research Reports .............................................................. 153
Dresner Advisory Services - 2019 Wisdom of Crowds Survey Instrument ......................... 154
Benefits of the Study
The Wisdom of Crowds® Business Intelligence Market Study provides a wealth of information and analysis—offering value to both consumers and producers of business intelligence technology and services.

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

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

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

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

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

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

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

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

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

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

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

- Cloud Computing and Business Intelligence
- Data Catalog
- Data Pipelines
- Data Preparation
- Data Science and Machine Learning
- Embedded Business Intelligence
- Location Intelligence
- Self-Service BI

Howard (www.twitter.com/howarddresner) conducts a weekly Twitter “tweetchat” on 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 a program called “25 Top Information Managers.” His related feature articles earned ASBPE national bronze and multiple Mid-Atlantic region gold and silver awards for Technical Article and for Case History feature writing.

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

Jim’s earlier background as senior morning news producer at NBC/Mutual Radio Networks and as managing editor of MSNBC’s first Washington, D.C. online news bureau cemented his understanding of fact-finding, topical reporting, and serving broad audiences.
Survey Method and Data Collection
As in our original Wisdom of Crowds® Business Intelligence Market Study, we constructed a survey instrument to collect data and used social media and crowd-sourcing techniques to recruit participants.

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

Data Quality
We carefully scrutinized and verified all respondent entries to ensure that the study includes only qualified participants.
Executive Summary
Executive Summary
- Operations, Finance, and Executives are the top drivers of BI (pp. 22-27).
- Executives are the most likely primary targets for business intelligence, followed by middle managers, individual contributors and line managers (pp. 28-33).
- “Better decision-making” and "improved operational efficiency" are the top objectives for BI (pp. 34-40).
- "Better decision-making," “improved operational efficiency,” and "growth in revenues" are the top achievements realized through BI (pp. 41-45).
- The penetration of business intelligence continues to improve over time (pp. 46-55).
- Fewer than 20 percent of organizations report having a CDO and less than 15 percent report a CAO. CAOs are more successful at BI than CDOs (pp. 56-62).  
- There is movement but no strong consolidation or expansion trend in the number of BI tools used in organizations (pp. 63-67).
- Reporting, dashboards, data integration, data warehousing, and data preparation are top technologies and initiatives strategic to business intelligence (pp. 68-73).
- More than three-quarters of organizations rank themselves “highest” or “above average” in their agreement with, “Data is treated as truth with common application of data, filters, rules, and semantics.” (pp. 74-78).
- More than three-quarters of organizations rank themselves “highest” or “above average” in their agreement with, “Relevant insights are created reliably and consistently across the enterprise with closed loop processes ensuring timely concerted action.” (pp. 79-83).
- Our core measure of "success with business intelligence" improved in 2020; key contributors and obstacles deal with issues of sponsorship, culture, and collaboration (pp. 84-96).
- Half of respondent organizations plan to increase BI investment above 2019 levels. Forty percent will maintain current budgeting, and 9 percent will decrease budgets (pp. 97-106).
- Respondents indicate that their current business intelligence tools have been in place five years or less; 26 percent say tools have been in place for more than six years (p. 107-109).
- Industry sales and acquisition performance is high and unchanged; Industry value is on an upward trend; quality and usefulness measures are at all-time highs; technical support performance has diminished; BI vendor consulting is the worst performing metric; vendor integrity rebounds; vendor recommend ratings are at an all-time high; overall vendor performance is in a consistent range (pp. 110-119).
- Vendor rankings begin on p. 120.
Study Demographics
Our 2020 survey base provides a cross-section of data across geographies, functions, organization sizes, and vertical industries. We believe that, unlike other industry research, this supports a more representative sample and better indicator of true market dynamics. We constructed cross-tab analyses using these demographics to identify and illustrate important industry trends.

Geography
About 60 percent of respondents work at North America-based organizations (including the United States, Canada, and Puerto Rico). EMEA accounts for 28 percent of respondents; the remainder are distributed across Asia Pacific and Latin America (fig. 1).

Figure 1 – Geographies represented
Functions

Our 2020 sample base includes a mix of functions (fig. 2). Information Technology accounts for the largest group (31 percent), followed by Finance (23 percent), Executive Management (14 percent), and BICC (12 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 2020, Technology organizations lead our vertical industry distribution (13 percent). Manufacturing represents 9 percent, Financial Services 8 percent, and Education and Healthcare each provide 6 percent of our sample (fig. 3).

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

Vertical Industries Represented

Figure 3 – Vertical industries represented
Organization Size
Our sample base includes a mix of organizations of different sizes in 2020 (based on global headcount). Small organizations (1-100 employees) represent about 20 percent of respondents, mid-size organizations (101-1,000 employees) represent about 37 percent, and large organizations (>1,000 employees) account for the remaining 43 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). Our results show a breadth of influence and, in 2020, survey respondents say Operations, Finance, and Executive Management are the most influential roles. Each of these is at least 63 percent likely to “often” drive BI and 85-90 percent is likely to at least “sometimes” drive BI. Operations and Executive Management are the top drivers in many of our flagship studies, and Finance exerted increasing influence over time. While functional influence may roll up to a centralized program or strategy, we observe that BI deployments and influence are widely distributed in organizations.

Figure 5 – Functions driving business intelligence
Functions Driving Business Intelligence 2013-2019

Across eight years of data, functional drivers of BI (ordered by 2020 ranking) jockey in degree of influence (fig. 6). Over time, Operations respondents cluster the most as the top influencer. We also observe that Finance grows 2020 influence noticeably compared to the previous year. We observe that the third most likely influencer, Executive Management, loses influence from a high reached as far back as 2015, as has Sales and IT, which also saw peak influence in earlier years. Notably, Marketing, a mid-tier priority by rank, is nonetheless near peak influence. R&D and HR are strong performers relative to earlier years.

Figure 6 – Functions driving business intelligence 2013-2020
Change in Functions Driving BI 2019-2020

Fig. 7 shows another instructive view of influence by function, this time measuring change in functional driver influence year over year from 2019-2020. This year’s study shows that Manufacturing respondents in our sample grew importance by 38 percent, followed by R&D (25 percent), HR (21 percent), and BICC (20 percent). We see less dramatic increases in IT (13 percent), Sales (11 percent), Strategic Planning (8 percent), Finance (8 percent), and Marketing (6 percent). Two audiences of traditional emphasis, Operations and Executive Management, are close to flat year over year.

Figure 7 – Change in functions driving BI 2019-2020
Functions Driving Business Intelligence by Major Geography

Functional influence of business intelligence varies interestingly by geography (fig. 8). Among obvious standouts, we observe that, for example, Asia-Pacific respondents place more emphasis on several lower-ranked influencers, notably BICC, HR, Manufacturing, and IT. Likewise, Latin-American respondents give singular importance to sales. Comparing EMEA with North American respondents, we observe mostly similar scores of functional influence between the two regions, with only minor tradeoffs across the most influential drivers.

Figure 8 – Functions driving business intelligence by geography
Functions Driving Business Intelligence by Industry
The influence of different functional role drivers of BI varies markedly and sometimes predictably across industries (fig. 9). In 2020, Operations-driven organizations cluster, and Financial Services and Business Services lead. Retail/Wholesale as well as different service verticals have strong Finance interest. Retail/Wholesale organizations see strong influence among Executive Management and Sales leaders but weaker influence among BICC or R&D audiences. Customer Service influence is strongest in the Government sector, while Marketing and Manufacturing are predictably among the top drivers in Technology enterprises.

Figure 9 – Functions driving business intelligence by industry
Functions Driving Business Intelligence by Organization Size

Multiple functional drivers of BI often gain influence as organization size increases (fig. 10). Part of this phenomenon is predictable, since growing headcount creates titles of broader importance. Examples of scale creating influence include roles such as Finance, IT, BICC, HR, and Manufacturing. Areas where small organizations see functional driver importance similar to larger peers include Operations, Executive Management, Sales, Marketing, and R&D. The top seven functional drivers in organizations (Operations, Finance, Executive Management, Sales, IT, Customer Service, and Marketing), are at least “important” to organizations of any size.

Figure 10 – Functions driving business intelligence by organization size
User Roles Targeted for Business Intelligence

In 2020, executives remain the most likely primary (67 percent) and overall users of business intelligence, followed by a tier of middle managers, individual contributors, and line managers, all of which are about 80 percent or more likely to be primary or secondary targeted users (fig. 11). Targeting thereafter trails off. Customers are about 50 percent likely to be targeted as primary or secondary users, a figure that falls to 35 percent for partners and just 22 percent for suppliers.

Figure 11 – Targeted users for business intelligence
Targeted Users for Business Intelligence Through 2019-2020

Fig. 12 shows the year-over-year change in targeting of users for business intelligence. The top four target audiences, executives, middle managers, individual contributors, and line managers, increase in 2020 (ranging from about 2 percent for line managers to a high 7 percent for individual contributors). Though we expected that, over time, less-served audiences of customers, partners, and suppliers would gather attention as audiences for BI, all three audiences are close to flat and decline slightly year over year. We still consider external democratization of business intelligence to be important, though we might expect progress at a faster rate.

Figure 12 – Targeted users for business intelligence 2019-2020
Targeted Users for Business Intelligence by Geography
Executives are the most likely targets for business intelligence across all geographies, particularly in Latin America and North America (fig. 13). We find Asia-Pacific organizations proportionately less likely to target executives, most likely target middle managers and, along with EU organizations, most likely target line managers. We find all regions, led by Asia Pacific and Latin America, similarly likely to target customers, albeit in lower numbers. Asia-Pacific respondents most likely target partners and suppliers.

Figure 13 – Targeted users for business intelligence by geography
User Targets for Business Intelligence by Organization Size
Organizations of any size, particularly mid-sized enterprises (101-1,000 employees), most likely target executives as BI users in 2020, (fig. 14). Very large organizations (> 10,000) most likely target middle managers, individual contributors, and line managers; targeting these titles decreases consistently among all smaller organization groupings. Small (1-100 employees) and very large organizations most likely target customers (a finding consistent with earlier studies). Organizations of any size are only about 10 percent or less likely to target partners and suppliers.

![Targeted Users for Business Intelligence by Organization Size](image)

**Figure 14 – Targeted users for business intelligence by organization size**
User Targets for Business Intelligence by Vertical Industries
In our 2020 sample, all vertical industries report that they, by far, most likely target executives for business intelligence enablement (fig. 15). Over time, targeting executives is an almost singular exercise at enterprises, and this group remains the audience of choice. Perhaps more interesting, respondents in Retail/Wholesale, Healthcare, Financial Services, and Technology organizations report middle managers as the second most important audience for BI. Individual contributors and line managers are secondary targets in Manufacturing.

Figure 15 – Targeted users for business intelligence by industry
Targeted Users by Success with Business Intelligence

Organizations that are “completely successful” with BI are proportionally most likely to enable most or all potential target audiences (fig. 16). In our 2020 sample, we also observe that “somewhat unsuccessful and unsuccessful” BI organizations place a disproportionate emphasis on executives and perhaps middle managers at the expense of other roles. With minor exceptions, we can say that multiple audience targeting is a trait of successful BI organizations.

Figure 16 – Targeted users for business intelligence by success with BI
Objectives for Business Intelligence

In 2020 (and throughout the history of our study), the non-specific goal of “making better decisions” sits atop respondents' business intelligence objectives (fig. 17). We associated this objective with organizations seeking general improvements, wherever they may be found, through the use of business intelligence. A second tier of quantifiable objectives includes "improved operational efficiency/cost savings" and "growth in revenues," which are now "critical" to a base of 30 percent or more respondents. “Increased competitive advantage” is the next most important goal, considered "critical" or "very important" to about 60 percent of respondents. Least important is "compliance/risk management" which, coincidentally, was an early promoted benefit of adopting business intelligence.

![Business Intelligence Objectives](image)

**Figure 17 – Business intelligence objectives**
Business Intelligence Objectives 2017-2020

Across the last four years of our study, objectives for business intelligence remained mostly steady by rank (fig. 18). In 2020, “improved operational efficiency” narrowly outpaces “growth in revenues” compared to 2019. (This narrow tradeoff also occurred in 2018-2019.) Overall sentiment declines slightly across all measures in 2020.

Figure 18 – Business intelligence objectives 2017-2020
Percent Change in BI Objectives 2017-2018

Fig. 19 provides another instructive view of year-over-year attitudes toward BI objectives. Here we observe in detail that the BI objective of "better decision-making" is flat to slightly lower in 2020 compared to 2019, as is “improved operational efficiency.” We see slightly larger declines in sentiment for “increased competitive advantage” (-4 percent), “compliance/risk” (-5 percent), and “enhanced customer service” (-5 percent). Interestingly, the largest decline in sentiment (-7 percent), is in “growth in revenues,” which nonetheless remains an important objective.
Business Intelligence Objectives by Geography

Business intelligence objectives are fairly alike regardless of geography, with some exceptions (fig. 20). “Better decision-making” is the most important BI objective across all geographical regions in 2020, most so North America. North American respondents are a bit more likely than the overall sample to prioritize “improved operational efficiency.” Asia-Pacific respondents are a bit more likely to emphasize “enhanced customer service” and “compliance/risk.” Latin America is most interested of all regions in “increased competitive advantage” and “enhanced customer service.”

Figure 20 – Business intelligence objectives by geography
Business Intelligence Objectives by Function

In 2020, all functions place the greatest emphasis on the importance of "better decision-making," often by a significant margin over other objectives (fig. 21). Unsurprisingly, Operations respondents are most interested in improved efficiencies, and Executive Management focus most on “growth in revenues.” “Enhanced customer service” is a top interest of IT (to the exclusion of other objectives), in this case in the form of helpdesk and service levels. Except for “better decision-making,” Finance respondents often show the least interest in BI objectives.

Figure 21 – Business intelligence objectives by function
Business Intelligence Objectives by Vertical Industry

By industry, "better decision-making" is the top pick across industries, and all sentiment is in the range of “very important” to “critical” (fig. 22). Perhaps more telling, Manufacturing, Consumer Services, and Technology industry respondents have the most interest in “improved operational efficiency.” Margin-thin Retail/Wholesale most likely focuses on "growth in revenues" and "increased competitive advantage.” Expectedly, Financial Services respondents have the most interest in “risk/compliance.” Government respondents have the lowest response to all BI objectives.

![Business Intelligence Objectives by Industry](image)

Figure 22 – 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) are sometimes the second-most interested audience (fig. 23). Interest in “compliance/risk” most notably increases as organization headcount grows. Organizations of different sizes all place the highest emphasis on "better decision-making," all with mean importance well above the level of "very important." We note that all six objectives have mean scores above 3.0, or "important" to all organizations regardless of size.

![Business Intelligence Objectives by Organization Size](http://www.dresneradvisory.com)

Figure 23 – Business intelligence objectives by organization size
Business Intelligence Achievements
Beginning in 2017, we asked respondents to augment their view of "BI objectives" by gauging their perceived level of "BI achievements" (fig. 24). By this measure, we find some minor distinctions between intent and ongoing accomplishment. In 2020, for example, "better decision-making" and "improved operational efficiency" are the top choices by both measures. "Growth in revenues," however, is the third most important objective among respondents (fig. 17, p. 34) but the fifth most likely achievement. Other things being equal, this tells us that organizations are more effective at improving efficiency than garnering revenue despite their stated objectives. Likewise, we observe that “improved customer service” is more likely to be an achievement than its ranking defines as a priority. Over time, we expect this polling will help identify distinctions between specific organizational goals and the difficulty of modeling and managing different processes successfully.

Figure 24 – Business intelligence achievement
Business Intelligence Achievement 2018-2020

Fig. 25 shows organizational measures of perceived achievement over time. Estimations of achievement in 2020 are fairly close to those during 2018-2019. In 2020, achievement for “better decision-making,” “improved operational efficiency,” and compliance/risk management” all improve slightly, while the remaining objective achievements are flat or decline slightly. While sampling differences may account for some differences between 2020 and earlier studies, we observe that the most consistent level of achievement over time is “better decision-making.”

Business Intelligence Achievement 2018-2020

Figure 25 – Business intelligence achievement 2018-2020
Business Intelligence Achievements by Function

Viewed by function, all organizational roles claim the greatest achievements in "better decision-making" (fig. 26). After this, achievements are more likely to vary by function. In 2020, for example, BICC, IT, Operations, and Finance rank “improved operational efficiency” as the second most likely achievement, while Marketing/Sales ties “growth in revenues” as the second most likely. Executive Management and BICC rank "increased competitive advantage" as their second most-realized achievement.

Business Intelligence Achievement by Function

![Business Intelligence Achievement by Function](image)

**Figure 26 – Business intelligence achievement by function**
Business Intelligence Achievements by Industry

Viewed by industry, all respondents claim their greatest number of achievements are in "better decision-making" (fig. 27). In 2020, several industries including Financial Services, Technology, Consumer Services, Healthcare, and Manufacturing list “improved operational efficiency” as the area of second-great achievement.

Retail/Wholesale point to “growth in revenue” as second best in terms of achievement, while Education and Government respondents report that “enhanced customer service” is the secondary achievement.

Figure 27 – Business intelligence achievement by industry
Business Intelligence Achievements by Organization Size

Measured by organization size, respondents at all organizations clearly identify "better decision-making" as their most realized BI achievement (fig. 28). Somewhat predictably, we observe that very large organizations (>10,000 employees) identify “improved operational efficiency” as their second most likely achievement. Further, that this finding is consistent across all organizations but declines slowly as organization headcount decreases. Very large organizations also most realize “growth in revenues,” which slowly decreases with headcount. Small organizations (1-100 employees) most realize “enhanced customer service” as an achievement.

![Business Intelligence Achievement by Organization Size](image-url)

**Figure 28 – Business intelligence achievements by organization size**
Penetration of Business Intelligence Solutions
In an ongoing and positive development, the penetration of business intelligence (as a percentage of total employees) continues to improve over time. Fig. 29 compares penetration of BI through the years 2015 and 2020 and finds low-level penetration decreasing as higher levels climb. Between 2019 and 2020, the lowest level (< 10 percent) declined most (from 30 percent to 24 percent), while the next four levels of penetration increased by small amounts. The very top level of (> 81 percent) declined by about one percentage point. Between 2015 and 2020, we observe that the two lowest levels of penetration declined, while others held or improved.

Figure 29 – Business intelligence penetration 2015-2020
Expansion Plans for Business Intelligence Through 2021

Beyond current deployment, respondents describe bullish plans for expanding BI in future time frames (we consider the 12-month period the most likely to be supportable and budgeted) (fig. 30). In this 12-month time frame, respondents expect to reduce sub-10 percent penetration by more than half, from 24 percent to 11 percent, while they expect all other levels of penetration will improve. In the longest 36-month view, respondents expect sub-10 percent penetration will fall below 10 percent, while penetration at the very highest level (> 80 percent) will improve from 14 percent today to 26 percent.

Expansion Plans for Business Intelligence through 2023

Figure 30 – Expansion plans for business intelligence through 2023
Current Business Intelligence Penetration by Geography
Arguably the most mature among BI markets, North America and EMEA report less low-level penetration compared to other regions (fig. 31). In 2020, well more than half of respondents in North America and EMEA work at organizations with greater than 20 percent penetration, compared to about 30 percent or more in Latin America and 43 percent in Asia Pacific. Also, almost 40 percent of North America and EMEA respondent organizations report BI penetration levels of 41 percent or greater.

**Penetration of Business Intelligence Today by Geography**

![Penetration of Business Intelligence Today by Geography](image)

*Figure 31 – Penetration of business intelligence today by geography*
Planned Business Intelligence Penetration by Geography

A view of future BI plans by geography reveals variations but globally supports growing expectations in 12, 24, and 36-month time frames (fig. 32). North America, followed by EMEA, expects increases in penetration at the highest level of > 80 percent, while gains in Latin America at this level are flat. Asia-Pacific respondents actually report growing levels of the lowest (< 10 percent) penetration rate, possibly in anticipation of startups at organizations without BI today.

Figure 32 – Expansion plans for business intelligence through 2023 by geography
Current Business Intelligence Penetration by Function

As measured by the top three levels of penetration, the most penetrated BI users by function in 2020 are in Executive Management, Operations, and the BICC (fig. 33). Marketing/Sales reports the highest penetration at levels of 61 percent or more. At the other end of the spectrum, Finance reports the most low-level penetration (less than 21 percent) at more than half of organizations, and little high-level penetration. R&D and IT respondents also report relatively low high-level penetration.

Penetration of Business Intelligence Today by Function

Figure 33 – Penetration of business intelligence today by function
Planned Business Intelligence Penetration by Function

Expansion plans at different levels of BI penetration vary by function, though all functions expect to see at least a bit less “low level,” and some more “high-level” BI penetration over coming time frames (fig. 34). Operations expects the greatest reduction of low-level penetration in 24 and 36-month time frames. By comparison, Marketing/Sales expects more of the status quo at low and high levels of penetration with some improvement in the middle. Finance respondents see penetration mostly unchanged at low levels but improved at the highest (> 81 percent) level.

Figure 34 – Expansion plans for business intelligence through 2023 by function
Current Business Intelligence Penetration by Vertical Industry
Both high and low levels of BI penetration vary across different vertical industries in 2020 (fig. 35). Currently, the best performing industry is Financial Services, with the lowest low (< 10 percent) and greatest high (> 80 percent) BI penetration. Consumer Services reports the next most BI penetration at levels of 61 percent or more. At the low end of performance by industry, Retail/Wholesale reports the most sub-10 percent penetration and very little penetration of 61 percent or more.

Penetration of Business Intelligence Today by Industry

Figure 35 – Penetration of business intelligence today by industry
Planned Business Intelligence Penetration by Vertical Industry

In our 2020 sample, expansion plans for business intelligence vary unevenly by industry (fig. 36). Most clearly, 12, 24, and 36-month estimations of improved high-level (> 80 percent) penetration are highest among respondents in the Government and Financial Services industries. Consumer Services is possibly the strongest overall performer at multiple levels. In coming time frames, Retail/Wholesale reports little improvement at low levels and some improvements at high and middle levels of penetration.

Expansion Plans for Business Intelligence through 2023 by Industry

Figure 36 – Expansion plans for business intelligence through 2023 by industry
Current Business Intelligence Penetration by Organization Size

As we reported in every year of our study, small organizations of 1-100 employees have more BI penetration at higher levels and less low-level penetration compared to all larger peers (fig. 37). While overall headcount almost ensures this score, we also expect small organizations, likely to be newer and comprised of more information workers, would find fewer barriers of cost or deployment and more immediate benefits than larger and older companies. Nonetheless, in 2020, we see strong high-level BI penetration at very large organizations (> 10,000 employees), much higher than at large or mid-sized peers.

Figure 37 – Penetration of business intelligence today by organization size
Planned Business Intelligence Penetration by Organization Size

Along with being the most penetrated today, small organizations (1-100 employees) have the steepest expectations for future high-level BI penetration in coming time frames (fig. 38). All other organizations expect improvements at all levels, albeit at less optimistic levels. Very large organizations (> 10,000 employees) have improving expectations, particularly at the 11-20 percent and 21-40 percent levels.

**Expansion Plans for Business Intelligence through 2023 by Organization Size**

Figure 38 – Expansion plans for business intelligence through 2023 by organization size
Chief Data and Chief Analytics Officers
Beginning in 2016, we asked our audience whether their organizations had appointed a chief data officer (CDO) or chief analytics officer (CAO). We understand these appointments cause changes in the technology and business architecture of organizations and that these roles and titles evolve in their definition.

Enterprises with Chief Data or Chief Analytics Officers
The ongoing uptake and longevity of chief data and chief analytics officers remains quite modest but shows improvement between 2019 and 2020 (fig. 39). This year, fewer than 20 percent of organizations report having a CDO and fewer than 15 percent report a CAO. By another measure, the number of named CDOs grows by about 20 percent year over year. In the longer term, both titles appear to rebound from lower numbers reported in 2018 and 2019. Traction and tenure favors CDOs over CAOs over time.

Figures 39 – Enterprises with chief data or chief analytics officers in place
Plans to Implement Chief Data or Chief Analytics Officers

Among the large majority of organizations that have no CDO or CAO, adoption plans for coming time frames are modest for both roles (fig. 40). Less than 6 percent of organizations say they will name a CDO this year (about 4 percent will name a CAO), and only about 10 percent or less will name a CDO or CAO this year or next. Well more than two-thirds of all organizations currently have no plans to appoint either title.

![Figure 40 – Plans to implement chief data or chief analytics officer roles](image-url)
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. 41). By this measure, success favors the chief analytics officer in 2020. This year, we find that CAOs are "extremely effective" 38 percent of the time and "somewhat effective" another 59 percent of the time. By comparison, CDOs are "extremely effective" 33 percent of the time and "somewhat effective" another 52 percent of the time. Notably, less than 10 percent say CAOs are "somewhat ineffective" or "completely ineffective," (about 15 percent for CDOs), indicating that respondents regard the presence of either title very highly.

**Effectiveness of Chief Data and Chief Analytics Officers**

![Graph showing effectiveness of Chief Data and Chief Analytics Officers](image)

Figure 41 – Effectiveness of Chief Data and Chief Analytics officers
Presence of Chief Data and Chief Analytics Officer by Success with BI
We might assume that both CDOs and CAOs would accompany higher estimations of success with business intelligence and, indeed, the titles correspond with perceived success with BI in 2020 (fig. 42). Only about 6 percent of organizations with a CAO or both a CDO and CAO are “somewhat unsuccessful” or “unsuccessful.” Interestingly, the number of “somewhat unsuccessful” or “unsuccessful” BI organizations increases to about 12 percent with “CDO only,” not far behind the failure rate of 16 percent for organizations with “neither” a CDO or CAO. In 2020, we can say generally that success most favors organizations with a CAO.

**Success with Business Intelligence by CDO / CAO Presence**

![Bar chart showing success with BI by CDO/CAO presence](chart.png)

Figure 42 – Success with business intelligence by CDO / CAO presence
Business Intelligence Achievements by Presence of CDO / CAO

We asked respondents to describe their level of achievement of individual BI objectives in the presence of a chief data officer, chief analytics officer, both, and neither (fig. 43). This chart reveals an interesting mixed experience of CAO / CDO introduction and achievement. First, we find that “better decision-making” hinges least on the presence of either title and performs about as well with “neither” as any other combination. Second, achievement in all other measures is highest both CAO and CDO titles present. Third, we observe that the presence of a CDO is the second-best indicator of achievement against all other measures except “compliance/risk management,” where a “CAO only” provides the next best achievement.

Figure 43 – Business intelligence achievement by presence of CDO / CAO presence
Enterprises with Chief Data or Chief Analytics Officers by Organization Size

The presence of chief data officers and/or chief analytics officers in 2020 is more likely to be longer tenured, large-organization phenomena but also extends downstream to smaller enterprises (fig. 44). Very large organizations (>10,000 employees) account for the greatest number of five-plus-year CDO and CAO appointments, as do smaller organizations. But newer appointments of less than one year are more likely at small organizations (1-100 employees) and are reported at organizations of any size. We also observe that very large organizations are considerably more likely overall to have a CDO than a CAO, and that small organizations are about equally likely overall to have a CDO or CAO.

Figure 44 – Enterprises with chief data or chief analytics officers by organization size
Enterprises with Chief Data and Chief Analytics Officers Reporting Structure

Among organizations with a CAO or CDO, both titles are by far most likely to report to the CEO (and thus may be considered strategic and worthy of C-level status) (fig. 45). By a small margin, chief analytics officers are a bit more likely to report to the CIO than are CDOs. The opposite is true in the case of Finance, where more CDOs than CAOs report to Finance leadership. It is worthwhile to note that Marketing, often mentioned as the “tip of the spear” of analytic activities, is by far least likely to have reporting oversight of the CAO, and even less, the CDO.

Figure 45 – Chief data and chief analytics officer reporting structure
Number of Business Intelligence Tools in Use

Number of Business Intelligence Tools in Use 2013 to 2020

Across eight years of study, we see a somewhat constrained range in the number of business intelligence tools in use by organizations—accompanied by somewhat improved awareness over time (fewer "don't know") (fig. 46). Generally, we observe the number of organizations with only one tool in use declines slightly during the years 2014-2018, but returns to above 20 percent in 2019-2020. The range of use of two, three, or four or more tools also remains in a fairly close range over time. For example, the number using one or two tools remains between about 45-50 percent from 2013-2020, and the number using between one and three stays between about 65-70 percent. Thus, we see no strong consolidation or expansion trends during this time. We also note this chart does not account for the effects of service-based and/or role-based options for BI tools that are easily implemented and perhaps paid for with departmental or project budgets.

Figure 46 – Number of business intelligence tools in use 2013-2020
Number of Business Intelligence Tools by Geography
Organizations in all geographic regions might employ one or many BI tools. Respondents in Asia Pacific are most likely to use one (> 40 percent), one or two (> 70 percent), or up to three BI tools (> 80 percent) in 2020 (fig. 47). Respondents in all other regions are more likely to use four or more BI tools, led by Latin America (26 percent), North America (26 percent) and EMEA (21 percent). Lack of awareness is 10 percent or less in any region.

Figure 47 – 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 2020. Executive Management respondents are most likely (33 percent) to report one BI tool in use, though a large majority of executives says their organization uses more than one (fig. 48). The most likely users of four or more BI tools include R&D (32 percent), BICC (31 percent), Marketing/Sales (27 percent), and IT (26 percent). Executive Management and BICC respondents are the most aware of the number of tools in use; Operations and R&D are far more likely to “not know” the number of tools in use. While function can dictate the number of BI tools, there are nonetheless wide variations in tool use within roles.

Figure 48 – Number of business intelligence tools in use by function
Number of Business Intelligence Tools by Vertical Industry

Measured by industry, between 19-27 percent of any vertical uses one BI tool only (fig. 49). In 2020, Financial Service respondents are most likely (39 percent) to use four or more tools. Retail/Wholesale respondents are most likely (85 percent) to use up to three but not more than three BI tools. Awareness of the number of tools in use is lowest in Consumer Services and Higher Education. While BI tool use varies by industry, there can be wide variations in numbers within specific industries.

Figure 49 – Numbers of business intelligence tools in use by industry
Number of Business Intelligence Tools by Organization Size

High organizational headcount historically correlates to greater numbers of business intelligence tools in use, and this is clearly true again in 2020 (fig. 50). Among very large organizations, only 10 percent use only one BI tool, while 42 percent of the same very large organizations report four or more BI tools in use. Very large organizations are unsurprisingly less aware (17 percent) of the number of tools in use compared to smaller peers (<10 percent). As organization size decreases, the number of organizations using one BI tool increases, while the number using four or more tools decreases.

Figure 50 – Number of business intelligence tools in use by organization size
Technologies and Initiatives Strategic to Business Intelligence

Familiar BI technologies—reporting, dashboards, data integration, data warehousing, and data preparation—top the list of technologies and initiatives strategic to business intelligence (of 41 topics under our study) in 2020 (fig. 51). Second-tier initiatives include self-service, advanced visualization, data discovery, data storytelling, and cloud. The lowest priorities in 2020 include voice and video analytics, RPA, edge computing, complex event processing, IoT, and social media analysis.

![Technologies and Initiatives Strategic to Business Intelligence](http://www.dresneradvisory.com)

**Figure 51 – Technologies and initiatives strategic to business intelligence**

http://www.dresneradvisory.com Copyright 2020 – Dresner Advisory Services, LLC
Technology Priorities 2015-2018

Over time, most technology priorities show positive momentum, and some peak in 2020 while others fall back from earlier highs (fig. 52). The top three (reporting, dashboards, and data integration) are most tightly clustered over time, all with > 4.0 (“very important”) status. Priorities at all-time high levels of importance include reporting, data integration, data warehousing, data preparation, data storytelling, cloud, and enterprise planning, among others. Higher priorities that fell off top interest include end-user self-service, advanced visualization, and data discovery. Interestingly, many of the aforementioned lower but more touted emergent technologies, including IoT, social media analysis, open source, and natural language have less momentum in 2020 than in years past.

Figure 52 – Technology priorities 2015-2020
Technologies and Initiatives Strategic to Business Intelligence by Geography

By region, North America leads interest areas of multiple top priorities including reporting, data warehousing, end-user self-service, cloud, data storytelling, and user governance (fig. 53). Latin American respondents give the highest overall scores to dashboards and advanced visualization, while Asia Pacific names data preparation, enterprise planning, and data discovery (and most lower-ranked priorities). Apart from geography-specific GDPR, EMEA respondents give below-average scores to most BI priorities in 2020.

Figure 53 – Technologies and initiatives strategic to business intelligence objectives by geography
Technologies and Initiatives Strategic to Business Intelligence by Function

As we might expect, functional attitudes toward BI technologies and initiatives can relate to specific daily roles and responsibilities (fig. 54). However, interest in many or most technologies and initiatives clusters well across multiple functions. These include familiar topics such as data integration, data warehousing, data preparation, and end-user self-service. Reporting is the top priority of all functions in 2020. R&D shares top interest in reporting with multiple other functions. Dashboards and strategic planning get top scores from respondents in Finance.

Figure 54 – Technologies and initiatives strategic to business intelligence by function
Technologies and Initiatives Strategic to Business Intelligence by Vertical Industry

Vertical industries describe a range of interest in different business intelligence initiatives and priorities (fig. 55). Some technologies cluster well across industries while others show outliers. For example, Retail/Wholesale respondents give standout scores to sales planning and in-memory analytics. Technology respondents give relatively high scores to cloud, while HCM (“people analytics”) is by far most interesting to Healthcare respondents. Government respondents are often least interested in BI technologies and initiatives by industry.

Figure 55 – Technologies and initiatives strategic to business intelligence by industry
Business intelligence priorities vary by organization size, and very large organizations (> 10,000 employees) lead interest in nearly all technologies and initiatives in 2020 (fig. 56). One exception is reporting, most interesting to mid-sized organizations in 2020. The same mid-sized organizations (101-1,000 employees) tend to have the lowest interest in most technology initiatives. Cloud / software-as-a-service remains most interesting to small organizations with 1-100 employees. Small organizations are much less interested in traditional enterprise technologies like data warehousing and enterprise planning. Objectives that are tightly grouped regardless of organization size include reporting, dashboards, data integration, and advanced visualization.

![Technologies and Initiatives Strategic to Business Intelligence Objectives by Organization Size](image)

**Figure 56 – Technologies and initiatives strategic to business intelligence by organization size**
Business Intelligence and the State of Data

In 2020, 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 quickly apply better decisions that are aligned with strategic goals.

Figs. 57-61 relate to respondents’ achievement/agreement with the statement, “Data is treated as truth with common application of data, filters, rules, and semantics.” In 2020, about half of respondents relate their organizations’ adherence to this statement as “above average,” and another 28 percent give themselves the “highest” score for this ability (fig. 57). Less than one-quarter of respondents say their performance is only “average” or “below average.”

![Maturity in Common Trust in Data/Governance](image-url)

Figure 57 – Maturity in common trust in data/governance
Common Trust in Data by Geography
Measured by geography, we observe that Asia-Pacific respondents are most confident in maturity and common trust in data/governance, with a weighted mean score of 3.2, the most “highest” assessments, and no “below average” scores (fig. 58). All other geographies post weighted mean scores of 3.0. EMEA respondents (followed by North America) give the most distributed range of maturity scores. Latin American respondents are least likely to give themselves the “highest” score but are the second most likely (after Asia Pacific), to rate their organizations at least “above average.”

Figure 58 – Maturity in common trust in data-/ governance by geography
Common Trust in Data by Function

Measured by function, respondents in Operations and Marketing/Sales are most confident in maturity and common trust in data/governance, with a similar weighted mean score of 3.1 (fig. 59). Marketing/Sales also gives the most distributed assessment of maturity, indicating select core workers aligned with high trust in data and governance. The next most “confident” functions in 2020 are IT and BICC, followed by R&D, and Executive Management. Minor differences noted, weighted mean confidence across all functions falls into a notably narrow range of “above average” self-assessment.

Figure 59 – Maturity in common trust in data/governance by function
Common Trust in Data by Industry

In 2020, Financial Services and Business Services respondents are most confident in maturity and common trust in data/governance, with weighted mean scores all very close to 3.1, indicating “above average” confidence (fig. 60). Manufacturing and Education respondents form a second tier of slightly lower confidence, which thereafter drops noticeably among Retail/Wholesale and Government respondents. The latter results might indicate environments that include widely distributed control of data, disparate applications of record, and siloed enterprise data.

Figure 60 – Maturity in common trust in data/governance by industry
Common Trust in Data by Organization Size
Measured by organization size, mid-sized organizations (101-1,000 employees) followed by small organizations (1-100 employees) are most confident in maturity and common trust in data/governance in 2020 (fig. 61). Mid-sized organizations report the highest weighted mean score along with the most “highest” self-assessments. Mid-sized and small organizations are more likely to report at least “above average” or at least “average” maturity. We expect this result is due in part to fewer distributed enterprise applications and repositories and more closely located human resources in smaller organizations. A very narrow range of weighted mean scores, however, indicates that maturity in common trust in data/governance is not widely distributed by organization size.

Figure 61 – Maturity in common trust in data/governance by organization size
Insight Creation and Execution

Figs. 62-66 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 2020, 55 percent of organizations relate their adherence to this statement as “above average,” and another 23 percent give themselves the “highest” score for this ability (fig. 62). Just 23 percent of respondents say their performance is only “average” or “below average.”

Maturity in Insight Creation and Execution

![Maturity in Insight Creation and Execution](image-url)

Figure 62 – Maturity in insight creation and execution
Insight Creation and Execution by Geography

Measured by geography, we observe that Latin American and Asia-Pacific respondents are most confident (by a very small margin) in maturity in insight creation and execution, with weighted mean scores of 3.0, and more “highest” assessments compared to other geographies (fig. 63). North America and EMEA post very slightly lower scores. All geographies give near-equal assessments of “above average,” indicating that self-assessment of maturity in insight creation and execution only weakly correlates to geographic region.

Figure 63 – Maturity in insight creation and execution by geography
Insight Creation and Execution by Function

Measured by function, respondents across all functions give similar weighted mean scores (between 2.9 and 3.1) to maturity in insight creation and execution (fig. 64). Respondents in Operations, BICC, and Marketing/Sales give the most “highest” scores, possibly indicating select audiences of top-level insight creation. Operations, Executive Management, and R&D give similar scores of at least “above average” maturity, possibly indicating wider departmental competency.

Figure 64 – Maturity in insight creation and execution by function
Insight Creation and Execution by Industry

In 2020, Financial Services and Business Services respondents are most confident in maturity in insight creation and execution, with weighted mean scores of 3.2 and 3.1 respectively (fig. 65). These two industries, along with Retail/Wholesale, report the most “highest” scores. Technology, Consumer Services, Education, Manufacturing, and Healthcare form a second tier of slightly lower confidence, which thereafter drops noticeably among Retail/Wholesale, and Government respondents. (This industry profile is similar to that for maturity in common trust in data/governance, fig. 60, p. 77.)

Figure 65 – Maturity in insight creation and execution by industry
Insight Creation and Execution by Organization Size

With weighted mean scores between 2.9 and 3.0, all organizations of different sizes report similar levels of maturity in insight creation and execution (fig. 66). Very large, followed by small organizations, report slightly more “highest” maturity scores compared to mid-sized and large peers. Small organizations (1-100 employees) and large organizations (1,001-10,000 employees) report more combined “highest” and “above average” scores. The narrow range of weighted mean scores, however, indicates that maturity in common trust in data/governance is not widely distributed by organization size.

Figure 66 – Maturity in insight creation and execution by organization size
Success with Business Intelligence

Our core measure of "success with business intelligence" improves somewhat in 2020, a rebound from gradual declines during the years 2016-2019 (fig. 67). Thirty-two percent of organizations report being "completely successful" with business intelligence in 2020 compared to 28 percent in 2019. Eighty-six percent report either "completely successful" or "somewhat successful" results in 2020, slightly below the 2017 high of 89 percent. That said, weighted mean score in 2020 is within a rounding difference of the 3.24 mark seen in 2017. Amid a mix of events and expectations, we see only mild fluctuations in reported success with BI across the last seven years of study.

Figure 67 – Success with business intelligence 2015-2020
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. 68). The top result (as in 2017, 2018, and 2019) is "user feedback/satisfaction" (81 percent), followed by "customer feedback/satisfaction" (40 percent, down from 51 percent in 2019). "System/application activity" is the next most-cited measure, followed by "return on investment" and "number of deployed users." By a large margin, respondents tell us to engage with users and measure their satisfaction rather than focusing on system activity or raw numbers of users.

Figure 68 – Measures of success with business intelligence
Contributors to Success with Business Intelligence

In 2020, we asked respondents to choose from a selection of contributors to success with business intelligence (fig. 69). 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.” We suggest that these contributors reflect thoughtful groundwork in the form of planning, executive sponsorship, and business transformation that values a data-centric organization and includes user involvement and feedback. It is interesting that these contributors rank ahead of “reliable, trustworthy data,” and well ahead of issues specific to tools and technology.

![Contributors to Success with Business Intelligence](image)

Figure 69 – Contributors to success with business intelligence
Obstacles to Success with Business Intelligence

In 2020, we also asked respondents to choose from a selection of obstacles to success with business intelligence (fig. 70). This year, the most-cited contributors are almost direct opposites of the contributors listed in fig. 69 (previous page) and include: “a culture that doesn’t fully understand or value fact-based decision-making,” “lack of support from senior management or other BI champions,” and “poor communication/collaboration between those developing/supporting BI solutions and those using it.” Though this is the first year we asked these questions, the contrary answers to these two separate questions align neatly. We also note that while technology and tool issues are not considered major obstacles to BI success, organizations see the “lack of data literacy education” as more of an obstacle to success than it is a contributor (fig. 69, previous page).

Obstacles to Success with Business Intelligence

<table>
<thead>
<tr>
<th>Obstacle</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A culture that doesn’t fully understand or value fact-based decision-making</td>
<td>55.8%</td>
</tr>
<tr>
<td>Lack of support from senior management or other BI champions</td>
<td>49.4%</td>
</tr>
<tr>
<td>Poor communication/collaboration between those developing/supporting BI solution and those using it</td>
<td>48.1%</td>
</tr>
<tr>
<td>Unreliable, untrustworthy data</td>
<td>45.5%</td>
</tr>
<tr>
<td>Lack of skilled, expert resources</td>
<td>45.5%</td>
</tr>
<tr>
<td>Lack of data literacy education</td>
<td>44.2%</td>
</tr>
<tr>
<td>Business objectives or needs were not understood or met</td>
<td>33.8%</td>
</tr>
<tr>
<td>Lack of technology / tool education</td>
<td>24.7%</td>
</tr>
<tr>
<td>Poor self-service capabilities</td>
<td>23.4%</td>
</tr>
<tr>
<td>Lack of a specific technology</td>
<td>22.1%</td>
</tr>
<tr>
<td>Poor solution / tool ease of use</td>
<td>14.3%</td>
</tr>
<tr>
<td>Limited access to BI solutions and technology</td>
<td>14.3%</td>
</tr>
</tbody>
</table>

Figure 70 – Obstacles to success with business intelligence
Success with Business Intelligence by Organization Size

Perceived success with business intelligence varies somewhat inconsistently by organization size (fig. 71). Small (1-100 employees), large (1,001-10,000 employees), and very large organizations (> 10,000 employees) are evenly (about 35 percent) likely to claim "completely successful" BI success, compared to 27 percent for mid-sized organizations (101-1,000 employees). Very large organizations are a bit less likely to report combined "completely successful" and "somewhat successful" results (80 percent) compared to 86-90 percent of all smaller organizations. About 20 percent of respondents at very large organizations say they are “somewhat unsuccessful” or “unsuccessful” at BI.

Figure 71 – 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 2020 (fig. 72). In those organizations that are "completely successful" with BI, all objectives except "enhanced customer service" and "compliance/risk management" are at or above an adjusted mean value of 4.0 ("very important"). Thus, a holistic embrace of BI objectives reflects success, though "better decision-making" and "improved operational efficiency" remain the foremost guideposts. Organizations that consider themselves unsuccessful are less emphatic in all areas and possibly more likely to see more “soft” than “hard” benefits of performance.

![Business Intelligence Objectives by Success with BI](image)

**Figure 72 – Business intelligence objectives by success with BI**
Success with Business Intelligence by Targeted Users

In 2020, we see some evidence that downstream attention to non-traditional targeted users brings success to organizations (fig. 73). Most notably, “completely successful” organizations place a bit less emphasis on executive audiences compared to “somewhat successful” and “unsuccessful” peers, and a bit more on all other roles, particularly line managers, customers, partners, and suppliers.

Figure 73 – Success with business intelligence by targeted users
Success with Business Intelligence and Technology Priorities

Organizations that are "completely successful" with business intelligence (and to a lesser degree those that are "somewhat successful") pay more attention to multiple BI-related technology priorities than do lower-performing peers (fig. 74). The diversity of attention in high-performing organizations is remarkably broad and ranges from the most basic (reporting, dashboards) to the more obscure priorities (CEP, IoT, edge computing). Standout areas of investment for "completely successful" BI organizations include "data integration" and "end-user self-service." By comparison, "somewhat successful" and "unsuccessful" organizations under-invest in several areas, notably "data integration" and "embedded BI."

Figure 74 – Technologies and initiatives strategic to business intelligence by BI success
Success with Business Intelligence and Number of BI Tools

In 2020, about one-quarter of organizations that are “completely successful” with business intelligence use just one BI tool, and about half use one or two BI tools (fig. 75). A similar number of “somewhat successful” BI organizations use one tool, but these organizations are more likely to use two or more tools. Organizations that are only “somewhat unsuccessful” or “unsuccessful” with BI are most likely (32 percent) to use four or more BI tools.

**Number of Business Intelligence Tools in Use by Success with BI**

![Number of Business Intelligence Tools in Use by Success with BI](image)

*Figure 75 – Number of business intelligence tools in use by success with BI*
Success with Business Intelligence and Common Trust in Data

Fig. 76 measures success with BI against respondents’ achievement/agreement with the statement, “Data is treated as truth with common application of data, filters, rules, and semantics.” In 2020, success with BI closely correlates with maturity in common trust in data/governance. More than 40 percent of “completely successful” organizations give themselves the “highest” maturity self-assessment. This “highest” score declines to 21 percent among “somewhat successful” organizations and just 5 percent of “somewhat unsuccessful” or “unsuccessful” organizations. Combined “highest” and “above average” BI success also declines with diminishing maturity in common trust in data/governance.

Figure 76 – Maturity in common trust in data/governance by success with BI
**Success with Business Intelligence and Insight Creation and Execution**

Fig. 77 measures success with BI against 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 2020, success with BI is closely correlated with maturity in insight creation and execution. More than 35 percent of “completely successful” organizations give themselves the “highest” maturity self-assessment. This “highest” score declines to 17 percent among “somewhat successful” organizations and below 2 percent of “somewhat unsuccessful” or “unsuccessful” organizations. Combined “highest” and “above average” BI success also declines with diminishing maturity in insight creation and execution.

**Maturity in Insight Creation and Execution by Success with BI**

![Graph showing maturity in insight creation and execution by success with BI](image)

*Figure 77 – Maturity in insight creation and execution by success with BI*
Success with Business Intelligence and Penetration of Users

Figure 78 compares penetration of business intelligence today with success with BI. In 2020, this comparison yields a fragmented landscape with weak correlation. Where we would normally expect higher levels of success associated with greater levels of penetration, we see both low (<10 percent) and high (61-80 percent) penetration similarly associated with “somewhat unsuccessful” and “unsuccessful” BI organizations. We see that “completely successful” BI organizations have the greatest penetration at higher 41-60 percent and 81 percent or more levels. We observe elsewhere that BI expertise congregates differently from one organization to the next, where some focus by role or department and others more broadly enable. In any case, 2020 does not offer clear links between BI success and the degree to which BI enables all employees.

Figure 78 – Penetration of business intelligence today by success with BI
Business Intelligence Achievements by Success with BI

As we would expect, high-achieving organizations are far more likely to be successful at multiple BI objectives (fig. 79). In 2020, "completely successful" organizations execute best at “better decision-making” (weighted mean 4.6) and “improved operational efficiency/cost savings” (4.2). These are the only measures above 4.0 or “very important.” Levels of BI success thereafter decline across all measures among “somewhat successful,” “somewhat unsuccessful,” and “unsuccessful” organizations. We also observe that “somewhat successful” organizations perform a bit better at "growth in revenues" than in “enhanced customer service.” We can assume that “somewhat unsuccessful” and "unsuccessful" organizations are less likely to attempt to meet various BI objectives.

![Business Intelligence Achievement by Success with BI](image)

**Figure 79 – 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. 80). In 2020, just over half of respondent organizations plan to increase BI investment above 2019 levels. Forty percent will maintain current budgeting, and about 9 percent will decrease budgeting. (We do not know the extent to which BI expansion might consist of departmental spending or the adoption of BI subscription services.)

![Budget Plans for Business Intelligence](image-url)
Budget Plans for Business Intelligence 2017-2019

By percentage, budget changes for business intelligence across four years of data are somewhat consistent (fig. 81). 2020 sees a year-over-year shift with about 5 percent fewer organizations increasing BI budgets and about 4 percent decreasing BI budgets. In each of the past four years, however, about 50-55 percent of organizations increased BI budgets, while between 5-9 percent decreased BI budgets.

**Figure 81 – Budget plans for business intelligence 2017-2020**
Budget Plans for Business Intelligence by Geography

Between 49- and 58 percent of organizations in all geographic regions plan to increase BI spending in 2020 (fig. 82). Spending increases are most likely in Asia Pacific and Latin America, followed closely by North America and EMEA. More than 20 percent of organizations in Latin America plan to decrease BI budgets, compared to 10 percent or less in all other regions.

Figure 82 – Budget plans for business intelligence by geography
Budget Plans for Business Intelligence by Function

In 2020, more than 60 percent of BICC respondents say they will increase BI spending compared to last year (fig. 83). We consider this a sign of ongoing departmental enablement of BI. Executive Management and IT are the only other functions where more than half of respondents expect BI budget growth in 2020. Interestingly, Operations is least likely to increase BI budgets in 2020 (41 percent). Operations is also most likely to decrease BI budgets in 2020 (26 percent). Fourteen percent of Marketing/Sales expect BI budget decreases. All other functions are less than 10 percent likely to decrease BI budgets.

Figure 83 – Budget plans for business intelligence by function
Budget Plans for Business Intelligence by Vertical Industry

In 2020, Financial Services, Consumer Services, Retail/Wholesale, and Technology organizations are most likely (54-61 percent) to increase budgets for business intelligence (fig. 84). Respondents in Business Services are also more than 50 percent likely to increase budgets. Education respondents (35 percent) are least likely to increase budgets (36 percent). Business Services and Technology organizations are most likely (12-15 percent) to decrease BI budgets.

Figure 84 – Budget plans for business intelligence by industry
Budget Plans for Business Intelligence by Organization Size

In 2020, increases in BI spending become somewhat more likely as global headcount increases (fig. 85). Very large organizations (>10,000 employees) are about 49 percent likely to increase spending, compared to 56 percent of large organizations (1,001-10,000 employees), 52 percent of mid-sized organizations (101-1,000 employees) and 43 percent of small organizations (1-100 employees). About 12 percent of both very large and small organizations plan to decrease BI budgets, compared to 6 percent of large and 10 percent of mid-sized organizations.

Figure 85 – Budget plans for business intelligence by organization size
Budget Plans for Business Intelligence by Penetration of BI Solutions

In 2020, BI spending plans do not correlate neatly with existing BI penetration (fig. 86). We can say generally that organizations with less than 10 percent BI penetration are similarly likely to increase, maintain, or decrease BI budgets. Organizations with the most penetration at the top two levels (61 percent or more) are more likely to maintain or decrease BI budgets in 2020. Organizations with the greatest top-level penetration (> 80 percent) are the most likely to keep budgets the same.

![Budget Plans for Business Intelligence by BI Penetration](image)

**Figure 86 – Budget plans for business intelligence by BI penetration**
Budget Plans for Business Intelligence by Success with BI

Organizations that are more successful with business intelligence are incrementally more likely to increase or maintain the same levels of BI spending in 2020 compared to last year (fig. 87). Forty-five percent of "completely successful" organizations will increase budgets this year, compared to 30 percent of "somewhat successful" and 24 percent of "somewhat unsuccessful" and "unsuccessful" organizations. As success decreases, organizations are more likely to decrease year-over-year budgets: "unsuccessful." "Somewhat successful" organizations are almost 40 percent likely to decrease BI spending, compared to 25 percent or less of "completely successful" organizations.

Figure 87 – Budget plans for business intelligence by success with BI
Business Intelligence Achievements by BI Budget Plans

Generally, we would expect high-achieving organizations to be the most likely to increase spending on discrete BI achievements "across the board" (fig. 88). In 2020, organizations with higher levels of achievement against individual BI objectives are indeed likely to increase budgets. In the case of “better decision-making,” for example, organizations with achievements above 4.0 (higher than “above average”) increase or maintain budgets compared to organizations with fewer achievements. While somewhat correlated, success and budgets do not follow an entirely linear progression of “more success” and “higher budgets.” Generally, we believe that business intelligence achievement requires strategic intent and investment that is reflected in budget priorities (fig. 51, p. 68).

Figure 88 – Business intelligence achievements by BI budget plans

http://www.dresneradvisory.com Copyright 2020 – Dresner Advisory Services, LLC
Technologies and Initiatives Strategic to Business Intelligence by BI Budget Plans

The percentage of organizations increasing BI budgets logically increases proportionately as they view individual initiatives as more critical (fig. 89). For example, organizations increasing budgets see reporting more critically than those decreasing spending. Obvious as this is, we also observe that initiatives beginning with “end-user self-service” start to fall below the level of “very important” among organizations increasing BI budgets. One needs to look all the way down the list to HCM, text analytics, and natural language analytics to see interest fall below 3.0 or the level of “important.” Those increasing spending in 2020 favor the great majority of all but the lowest ranked technologies and initiatives.

Figure 89 – Technologies and initiatives strategic to business intelligence by BI budget plans
Business Intelligence Product Longevity and Replacement

Longevity of Business Intelligence Products
In general, respondents indicate that their current business intelligence tools are in place five years or less, with about 26 percent saying tools are in place for more than six years (fig. 90). 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.

![Longevity of Current BI Tool](image)

Figure 90 – Longevity of current BI tool
Current Business Intelligence Products Replaced by Another
Beginning in 2018, we asked respondents whether their current BI product replaced another BI product (fig. 91). In 2020, the net new product replacement rate of 27 percent is largely identical to what we found in 2019. Again this year, 73 percent of respondents say replacement of another product was not the outcome of BI tool or service acquisition, compared to 76 percent in 2018. This scenario might include instances where organizations implemented a product where none existed before. Alternately, an organization might implement a new product to serve a select audience or specific function with new capabilities.

Figure 91 – Current BI product replaced by another BI product 2018-2020
Reasons BI Products Are Replaced

Of the 27 percent of respondent organizations that indicate their current BI product replaced another (fig. 92), the primary reasons cited for doing so are functionality (76 percent) and modernization (52 percent). Product reliability is less of a concern, cited as the primary reason for less than one-third of product replacement. Notably, cost ranks low as the likely primary reason (27 percent) for replacing an existing BI product, and corporate standards are the primary reason for 20 percent of product replacements.

Figure 92 – Reasons for BI product replacement
Industry and Vendor Analysis
Industry and Vendor Analysis
In this section, we review business intelligence vendor and market performance, using our trademark 33-criteria evaluation model.

Scoring Criteria
The criteria for the various industry and vendor rankings are grouped into seven categories including sales/acquisition experience, value for price paid, quality and usefulness of product, quality of technical support, quality and value of consulting, integrity, and whether the vendor is recommended.
Industry Performance

Sales/Acquisition Experience

Year over year (2019-2020), we observe nearly unchanged performance in measures of industry sales and acquisition (fig. 93). This continues a 2019 falloff from peak levels reached during 2017-2018. Expressed another way, sales and acquisition performance is positive (in the range of "very good") and fairly consistent during the years 2014-2020, including a peak period in 2017-2018. The best experiential performers in 2020 are traditionally the strongest: "product knowledge" and "professionalism." A slight 2020 improvement is observed in areas of "professionalism" and "responsiveness."

Figure 93 – Industry performance — sales and acquisition experience: 2014-2020
Value
End users report a rebound in scores for “value” in 2020 (from 4.16 to 4.21) compared to 2019 (fig. 94). This result is equal to the 2018 all-time high. Viewed over seven years of data, industry value performance remains on an uptrend with a trend line that remains above 4.0 (representing "very good" performance) throughout.

Figure 94 – Industry performance — value 2014-2020
Quality and Usefulness of Product

In 2020, most measures of industry quality and usefulness sit below all-time highs mostly reached in 2017-2018 (fig. 95). Four areas sit at or near all-time high scores for quality and usefulness that reflect product maturity in 2020: “completeness of functionality,” “integration with third-party technologies,” “overall usability,” and “reliability of technology.” Conversely, the lowest scores for quality and usefulness in 2020 are for “customization and extensibility” and “ease of upgrade/migration to new versions,” which may result in part from acquired and combined product rollouts.

Figure 95 – Industry performance — quality and usefulness of products: 2014-2020
Technical Support

In 2020, all measures of industry technical support sit near all-time low scores that first appeared in a 2019 decline (fig. 96). Compared to minor volatility during the years 2014-2018, 2019 and 2020 appear more dramatic and "across the board." More alarming, scores for "continuity of personnel," "responsiveness," and "time to resolve problems" remain below a score of 4.0, or below traditional "very good" performance. In total, these results may indicate that industry respondents should review resources and investments and monitor responsiveness in support of customer technical issues.

Figure 96 – Industry performance — technical support: 2014-2020
Consulting
In 2020, BI consulting is the lowest-performing area of vendor and market performance (fig. 97). Across seven years of data, consulting performance slowly improves during the period 2014-2017, declines noticeably in 2018, and experiences a steep drop in 2019 that only somewhat improves in 2020. Almost every attribute we measure reaches an all-time high in 2017 but capitulates to all-time low measurements in 2019 and a modest recovery in 2020. We cannot immediately assign a reason to this across-the-board decline in vendor consulting satisfaction, though the findings of the last two years merit further examination. Perhaps a telltale sign, the weakest areas of vendor consulting include "continuity" and "value," (from historic highs of "very good" to lows of a bit better than “good” in 2020), which suggests attention to resources and the completion of engagements to desired outcomes.

![Industry Performance - BI Vendor Consulting: 2014-2020](image_url)

**Figure 97 – Industry performance — BI vendor consulting: 2014-2020**
Integrity
Vendor integrity—measured as honesty and truthfulness in all dealings—rebounds closer to form in 2020 following a drop in 2019 (fig. 98). This follows slow steady growth during the years 2014-2018 and a high of 4.39, followed by a 3 percent decline to 4.26 in 2019 and a rebound to 4.3 this year. We note that the scores in this view are rather compressed; coupled with consistent and ongoing scores well above "very good" keep this finding within the range of past performance.

Figure 98 – Industry performance — integrity: 2014-2020
Recommended

2020 industry performance—viewed by the measure of customers willing to recommend their vendor—remains essentially flat, declining almost imperceptibly compared to 2019 (fig. 99). A 2020 score of 4.78 and a strong seven-year positive trend of well above "very likely," is very close to our highest allowable score of 5.0, leaving little room for improvement.

Figure 99 – Industry performance — recommended: 2014-2020
Performance Improvements
Another view of vendor performance is overall scores, which show a series of small steady gains during the years 2014-2018, mildly reversed in 2019 and 2020 (fig. 100). In the long term, the number of respondents that say overall performance “improves” 2014-2020 remains remarkably consistent in a range of 4-5 percent, while declines in performance become increasingly rare, suggesting that vendors historically pay attention to their products even in a positive sales climate. It will be interesting to compare vendor performance in 2021, when sales are more uncertain due to COVID-19.

Figure 100 – Overall industry performance improvement: 2014-2020
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

In 2016, we dispensed with market segmentation and now rely upon our Customer Experience and Vendor Credibility models as a means of presenting relative vendor ratings. As a result, we no longer include a peer average for individual vendor rating charts. Instead, this is replaced (where possible) with a year-over-year comparison for each vendor.

Based on our scoring methodology, all vendors perform at a level that is considered more than “adequate” for all criteria categories.

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. 101). 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 101 – Customer experience model
Vendor Credibility Model
The vendor credibility model considers how customers “feel” about their vendor (fig. 102). 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 102 – 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

<table>
<thead>
<tr>
<th>Sales/acquisition experience (12-2 o’clock)</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Professionalism</td>
</tr>
<tr>
<td>o Product knowledge</td>
</tr>
<tr>
<td>o Understanding our business/needs</td>
</tr>
<tr>
<td>o Responsiveness</td>
</tr>
<tr>
<td>o Flexibility/accommodation</td>
</tr>
<tr>
<td>o Business practices</td>
</tr>
<tr>
<td>o Contractual terms and conditions</td>
</tr>
<tr>
<td>o Follow-up after the sale</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quality and usefulness of product (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Customization and extensibility</td>
</tr>
<tr>
<td>o Ease of upgrade/migration to new versions</td>
</tr>
<tr>
<td>o Online forums and documentation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quality of technical support (8-9 o’clock)</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Professionalism</td>
</tr>
<tr>
<td>o Product knowledge</td>
</tr>
<tr>
<td>o Responsiveness</td>
</tr>
<tr>
<td>o Continuity of personnel</td>
</tr>
<tr>
<td>o Time to resolve problems</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quality and value of consulting services (9-10 o’clock)</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Professionalism</td>
</tr>
<tr>
<td>o Product knowledge</td>
</tr>
<tr>
<td>o Experience</td>
</tr>
<tr>
<td>o Continuity</td>
</tr>
<tr>
<td>o Value</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Integrity (11 o’clock)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Whether vendor is recommended (12 o’clock)</th>
</tr>
</thead>
</table>

http://www.dresneradvisory.com
Alteryx Detailed Score

With improvements in product scores for 2020, Alteryx remains below or in line with the overall sample for most measures. It is a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model and maintains a perfect recommend score.

Figure 103 - Alteryx detailed score
Amazon Detailed Score

Figure 104 – Amazon detailed score

For 2020, Amazon has substantial improvements across most measures, especially for product. It is generally in line with the overall sample and considered a Technology Leader in the Customer Experience and a Trust Leader in the Vendor Credibility model. It is considered best in class for reliability of technology and maintains a perfect recommend score.
Figure 105 – Board detailed score

With scores generally above or in line with the overall sample, Board has key improvements in overall value and several sales measures. It is considered a Technology Leader in the Customer Experience Model and an Overall Leader in the Vendor Credibility Model. It maintains a perfect recommend score.
In 2020 Dimensional Insight’s scores remain well above the overall sample. It continues to be an overall leader in both Customer Experience and Vendor Credibility models and has increased performance for most measures and its overall score. It is best in class for sales flexibility/accommodation, integration of components within its product, overall usability, and support continuity of personnel. It maintains a perfect recommend score.
With scores above the overall sample, Domo has improvements to overall value, all consulting measures, as well as several key support and sales measures. It is ranked as an overall leader in both the Customer Experience and Vendor Credibility models and maintains a perfect recommend score.
Google Detailed Score

For 2020, Google is generally in line with or below the overall average. While it has improvements across most customer touch-points, it declines in virtually all product measures. It is considered a Contender in the Customer Experience Model and an overall leader in the Vendor Credibility Model.
IBM Detailed Score

In 2020, IBM has key improvements across all categories of measurement. It is considered a Technology Leader in the Customer Experience Model and a Contender in the Vendor Credibility Model.
In 2020, Infor/Birst's scores are generally below the overall sample with declines across a number of categories of measurement but with improvements in technical support and consulting. It is considered a contender in both Customer Experience and Vendor Credibility models.
Information Builders Detailed Score

With scores consistently above the entire sample, Information Builders is an overall leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. In 2020, it improves across a number of measures including sales, product, and consulting. It is best in class for sales product knowledge, sales responsiveness, product scalability, and product ease of administration.

Figure 111 – Information Builders detailed score
In the first year of inclusion, Keyence’s scores are generally above the overall sample, with several key exceptions. It is considered an Overall Leader in the Customer Experience Model and a Trust leader in the Vendor Credibility Model. It has a perfect Recommend score.
Figure 113 – Logi Analytics detailed score

With scores generally above the overall sample, Logi Analytics is an Overall Leader in both Customer Experience and Vendor Credibility models. For 2020, it has substantial improvements across most categories of measurement, including sales, value, and product.
In 2020 Google acquired Looker. Looker is an overall leader in Customer Experience Model. In the Vendor Credibility model, it is considered a Trust Leader. Although most measures remain above the overall sample, scores in most categories of measurement, and its overall score, decline compared to last year.
Microsoft Detailed Score

Figure 115 – Microsoft detailed score

In 2020, Microsoft has improvements in performance across most measures including sales and product. It is considered a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model.
MicroStrategy Detailed Score

In 2020, MicroStrategy has a general decline in performance across most measures and its overall score. It's scores are generally in line with the overall sample and is considered a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. It has a perfect recommend score.
Oracle’s scores remain well below the overall sample. However, it sees improvement across a number of measures in 2020 including sales, product, and technical support. It is the sole outlier in both Customer Experience and Vendor Credibility models.
Pyramid Analytics Detailed Score

With scores consistently above the overall sample, Pyramid Analytics is an overall leader in both Customer Experience and Vendor Credibility models. In 2020, it has performance increases in key categories of measurement including value, technical support, and consulting services. It is best in class for technical support responsiveness and time to resolve problems. It maintains a perfect recommend score.
With scores generally in line with the overall sample, Qlik has key improvements across most categories of measurement including sales, value, product, technical support, and consulting services. It is considered a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. It maintains a perfect recommend score.
In 2020, RapidMiner has key improvements in many categories of measurement, including sales, product, and technical support. With scores well above the overall sample, it is best in class for sales understanding business/needs, product robustness/sophistication of technology, completeness of functionality, ease of administration, consulting product knowledge, and consulting continuity and value. It is considered an overall leader in both Customer Experience and Vendor Credibility models.
Salesforce Detailed Score

With scores generally below the overall sample, Salesforce has an improvement in overall value and recommend. It is considered a Contender in the Customer Experience Model and a Trust leader in the Vendor Credibility Model.
For 2020, SAP has a decline in most categories of measurement including sales, value, product/technology, and technical support. However, several consulting measures and integrity increase compared to last year. It is considered a Contender in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model.
In 2020, SAS has a sharp increase in performance across many categories of measurement including sales, value, technical support, consulting, and integrity. For 2020 it has a perfect recommend score. It is considered a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model.
Sigma Computing Detailed Score

For its first year of inclusion in the report, Sigma Computing is generally above the overall sample for sales, value, technical support, consulting services, and integrity. It is considered an Overall Leader in both Customer Experience and Vendor Credibility models. It is best in class for product ease of installation and has a perfect recommend score.

Figure 124 - Sigma Computing detailed score
Sisense Detailed Score

**Sisense**

![Sisense Detailed Score Diagram](image)

**Figure 125 – Sisense detailed score**

In 2020 Sisense remains an overall leader in both Customer Experience and Vendor Credibility models and continues the trend of improvement for virtually every measure. It is best in class for sales business practices, contractual terms and conditions; follow up after the sale, overall value, product integration with third-party technologies; online training, forums and documentation, consulting professionalism; experience, and overall integrity. It maintains a perfect recommend score.
Tableau Detailed Score

Figure 126 – Tableau detailed score

In 2019, Salesforce acquired Tableau. With scores generally above or in line with the overall sample, Tableau is considered a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. In 2020, it has improvements in several categories of measurement including sales, overall value, technical support, integrity, and recommend.
In its first year of inclusion in the report, Targit is generally above the overall sample and is considered an Overall Leader in both Customer Experience and Vendor Credibility models. It is considered best in class for technical support product knowledge and has a perfect recommend score.
In 2020, TIBCO Software is generally in line with the overall sample and is considered a Technology Leader in the Customer Experience Model and a Trust Leader in the Vendor Credibility Model. It has improvements across a number of categories of measurement including sales, overall value, product and technical support and also has a perfect recommend score.

Figure 128 – TIBCO Software detailed score
In its first year of inclusion in the report, Zoho is generally above or in line with the overall sample. It is considered an Overall Leader in both Customer Experience and Vendor Credibility models.
Other Dresner Advisory Services Research Reports

- “Flagship” Wisdom of Crowds® Analytical Data Infrastructure Market Study
- “Flagship” Wisdom of Crowds® Enterprise Planning market Study
- BI Competency Center
- Big Data Analytics
- Cloud Computing and Business Intelligence
- Data Catalog
- Data Pipelines
- Data Preparation
- Data Science and Machine Learning
- Embedded Business Intelligence
- IoT Intelligence®
- IT Analytics
- Sales Planning
- Small and Mid-Sized Enterprise Business Intelligence
Dresner Advisory Services - Wisdom of Crowds Survey Instrument

Please enter your contact information below

First Name*: _________________________________________________
Last Name*: _________________________________________________
Title: _________________________________________________
Company Name*: _________________________________________________
Street Address: _________________________________________________
City: _________________________________________________
State: _________________________________________________
Zip: _________________________________________________
Country: _________________________________________________
Email Address*: _________________________________________________
Phone Number: _________________________________________________
URL: _________________________________________________

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

( ) Yes
( ) No

What major geography do you reside in?*

( ) North America
( ) Europe, Middle East and Africa
( ) Latin America
( ) Asia Pacific
Please identify your primary industry*

( ) Advertising
( ) Aerospace
( ) Agriculture
( ) Apparel & Accessories
( ) Automotive
( ) Aviation
( ) Biotechnology
( ) Broadcasting
( ) Business Services
( ) Chemical
( ) Construction
( ) Consulting
( ) Consumer Products
( ) Defense
( ) Distribution & Logistics
( ) Education (Higher Ed)
( ) Education (K-12)
( ) Energy
( ) Entertainment and Leisure
( ) Executive search
( ) Federal Government
( ) Financial Services
( ) Food, Beverage and Tobacco
( ) Healthcare (Payer)
( ) Healthcare (Provider)
( ) Hospitality
( ) Insurance
( ) Legal
( ) Manufacturing
( ) Mining
( ) Motion Picture and Video
( ) Not for Profit
( ) Pharmaceuticals
( ) Publishing
( ) Real Estate (Commercial)
( ) Real Estate (Residential)
( ) Retail and Wholesale
( ) Sports
( ) State and Local Government
( ) Technology
( ) Telecommunications
( ) Transportation
( ) Travel
( ) Utilities
( ) Other - Please specify below

Please type in your industry

______________________________________________
How many employees does your company employ worldwide?

( ) 1-100
( ) 101-1,000
( ) 1,001-2,000
( ) 2,001-5,000
( ) 5,001-10,000
( ) More than 10,000

What function do you report into?

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

( ) Business Intelligence Competency Center
( ) Executive Management
( ) Finance
( ) Human Resources
( ) Information Technology (IT)
( ) Marketing
( ) Operations (e.g., Manufacturing, Supply Chain, Services)
( ) Research and Development (R&D)
( ) Sales
( ) Strategic Planning Function
( ) Other - Write In
Please specify the function that you report to:

__________________________________________________________________________________

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

( ) All the time
( ) Most of the time
( ) Some of the time
( ) Infrequently
( ) Never

Does your organization have a Chief Data Officer or Chief Analytics Officer in place?

<table>
<thead>
<tr>
<th></th>
<th>For less than 1 year</th>
<th>1-3 years</th>
<th>3-5 years</th>
<th>More than 5 years</th>
<th>Don't have one</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Data Officer (CDO)</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Chief Analytics Officer (CAO)</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
</tbody>
</table>
Do you anticipate having a CDO or CAO in the future?

<table>
<thead>
<tr>
<th></th>
<th>No Plans</th>
<th>This Year</th>
<th>Next Year</th>
<th>Distant Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Data Officer (CDO)</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Chief Analytics Officer (CAO)</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
</tbody>
</table>

To which role does the CDO or CAO report?

<table>
<thead>
<tr>
<th></th>
<th>CEO</th>
<th>CFO</th>
<th>CMO</th>
<th>CIO</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Data Officer (CDO)</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Chief Analytics Officer (CAO)</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
</tbody>
</table>

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

_________________________________________________

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

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

( ) Extremely Effective
( ) Somewhat Effective
( ) Somewhat Ineffective
( ) Completely Ineffective

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

( ) Extremely Effective
( ) Somewhat Effective
( ) Somewhat Ineffective
( ) Completely Ineffective

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

( ) Completely Agree
( ) Agree Somewhat
( ) Disagree Somewhat
( ) Disagree
Which of the following factors contributed to your organization's success with business intelligence?

[ ] Support from senior management or other BI champions

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

[ ] Business objectives or needs were understood and met

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

[ ] Use of specific technology

[ ] Reliable, trustworthy data

[ ] Availability of skilled, expert resources

[ ] Available data literacy education

[ ] Widespread access to BI solutions and technology

[ ] Available technology / tool education

[ ] Self-service capabilities

[ ] Solution / tool ease of use

[ ] Other - Write In: _________________________________________________

[ ] Other - Write In: _________________________________________________

How do you determine BI success?

[ ] Return on investment (ROI) model

[ ] User feedback/satisfaction

[ ] Customer feedback/satisfaction

[ ] Number of deployed users
[ ] Lack of support from senior management or other BI champions
[ ] A culture that doesn't fully understand or value fact-based decision-making
[ ] Business objectives or needs were not understood or met
[ ] Poor communication/collaboration between those developing/supporting BI solution and those using it
[ ] Lack of a specific technology
[ ] Unreliable, untrustworthy data
[ ] Lack of skilled, expert resources
[ ] Lack of data literacy education
[ ] Limited access to BI solutions and technology
[ ] Lack of technology / tool education
[ ] Poor self-service capabilities
[ ] Poor solution / tool ease of use
[ ] Other - Write In: ____________________________________________
[ ] Other - Write In: ____________________________________________

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

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.

<table>
<thead>
<tr>
<th></th>
<th>10%</th>
<th>15%</th>
<th>20%</th>
<th>25%</th>
<th>30%</th>
<th>35%</th>
<th>40%</th>
<th>Over 40%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Headcount</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
<tr>
<td>External Consulting Services</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
<tr>
<td>Software Purchases</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
<tr>
<td>Software Maintenance</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
<tr>
<td>Software Subscriptions</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
</tbody>
</table>
Which function drives your business intelligence initiatives?

<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Competency</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Center/Center</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>of Excellence</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Customer</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Service/Support</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Sales</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Finance</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Research and</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Development</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>(R&amp;D)</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Information</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Technology</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>(IT)</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Human Resources</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Executive</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Management</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Marketing</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Strategic</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Planning</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Function</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
</tbody>
</table>
Where has business intelligence helped to achieve business goals?

<table>
<thead>
<tr>
<th></th>
<th>High Achievement</th>
<th>Moderate Achievement</th>
<th>Acceptable Achievement</th>
<th>Not Yet Attempted</th>
<th>Not Yet Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better Decision-making</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Compliance / Risk Management</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Growth in Revenues</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Improved Operational Efficiency / Cost Savings</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Enhanced Customer Service</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Increased Competitive Advantage</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
</tbody>
</table>
What does your organization expect to achieve with business intelligence?

<table>
<thead>
<tr>
<th></th>
<th>Critical</th>
<th>Very Important</th>
<th>Important</th>
<th>Somewhat Important</th>
<th>Unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better Decision-making</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
<tr>
<td>Compliance / Risk Management</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
<tr>
<td>Growth in Revenues</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
<tr>
<td>Improved Operational Efficiency / Cost Savings</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
<tr>
<td>Enhanced Customer Service</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
<tr>
<td>Increased Competitive Advantage</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
</tbody>
</table>
Who are the targeted consumers of business intelligence within your organization?

<table>
<thead>
<tr>
<th></th>
<th>Primary</th>
<th>Secondary</th>
<th>Future Plans</th>
<th>No Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Executives</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Individual Contributors</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>and Professionals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line Managers</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Middle Managers</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Partners/Affiliates</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>Suppliers</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Under 10%</th>
<th>11 - 20%</th>
<th>21 - 40%</th>
<th>41 - 60%</th>
<th>61 - 80%</th>
<th>81% or More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>In 12 Months</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>In 24 Months</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
<tr>
<td>In 36 Months</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
<td>(</td>
</tr>
</tbody>
</table>
How many business intelligence products are currently used in your organization today?

( ) Don't know

( ) 1

( ) 2

( ) 3

( ) 4

( ) 5

( ) 6

( ) 7

( ) 8

( ) 9

( ) 10 or more

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

<table>
<thead>
<tr>
<th>Alignment with Mission: My organization's mission is clearly defined, actionable, embraced by all levels of the organization, and is supported, informed, and reinforced by metrics.</th>
<th>Completely Agree</th>
<th>Somewhat Agree</th>
<th>Somewhat Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td></td>
</tr>
</tbody>
</table>
### Transparency & Accountability:

General transparency & accountability are accepted as cultural tenets, with full alignment with regulations (e.g. GDPR) and public transparency and accountability beyond minimum legal requirements.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

### Insight Creation and Execution:

Relevant insights are created reliably and consistently across the enterprise with closed loop processes ensuring timely, concerted action.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

### Relationships, Agreements, Politics, Conflict Resolution:

There are established and effective mechanisms for resolving conflicts and identifying potential conflicts ahead of time.

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>time.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Data Literacy:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is widespread semantic understanding across the organization with data literacy measured and managed for improvement.</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
<tr>
<td><strong>Common Trust in Data/Governance:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data is treated as truth with common application of data, filters, rules and semantics.</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
<tr>
<td><strong>Completeness and Diversity of Information:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All relevant sources of information are included in analyses across the organization as a matter of course - data, text, images - internal and external, with cross-linking of all data sources streamlined.</td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
<tr>
<td><strong>Process Automation:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>()</td>
<td>()</td>
<td>()</td>
</tr>
</tbody>
</table>
Embedding:
Insight automation and embedding is pervasive - enabling no distraction from core functional activity.

<table>
<thead>
<tr>
<th>Value, Entrepreneurship, and Monetization: The value of data and analytics programs is comprehensively understood and reported, with monetization inline with company policy, legal requirements, fully transparent and reported to CFO in annual reports as a strategic part of the business.</th>
</tr>
</thead>
<tbody>
<tr>
<td>()</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Ability to Write to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical</td>
</tr>
<tr>
<td>()</td>
</tr>
<tr>
<td>Transactional Applications</td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>Advanced Visualization</td>
</tr>
<tr>
<td>Big Data (e.g., Hadoop)</td>
</tr>
<tr>
<td>Cloud (Software-as-a-Service)</td>
</tr>
<tr>
<td>Cognitive BI (e.g., Artificial Intelligence-based BI)</td>
</tr>
<tr>
<td>Collaborative Support for Group-based Analysis</td>
</tr>
<tr>
<td>Complex Event Processing (CEP)</td>
</tr>
<tr>
<td>Dashboards</td>
</tr>
<tr>
<td>Data Catalog</td>
</tr>
<tr>
<td>Data Discovery</td>
</tr>
<tr>
<td>Data Integration</td>
</tr>
<tr>
<td>Data Preparation</td>
</tr>
<tr>
<td>and Blending</td>
</tr>
<tr>
<td>------------------------------------</td>
</tr>
<tr>
<td>Data Storytelling</td>
</tr>
<tr>
<td>Data Warehousing</td>
</tr>
<tr>
<td>Edge Computing</td>
</tr>
<tr>
<td>Embedded BI</td>
</tr>
<tr>
<td>End-User &quot;Self-Service&quot;</td>
</tr>
<tr>
<td>Enterprise Planning / Budgeting</td>
</tr>
<tr>
<td>GDPR (General Data Protection Regulation)</td>
</tr>
<tr>
<td>Governance</td>
</tr>
<tr>
<td>HCM / People Analytics</td>
</tr>
<tr>
<td>In-Memory Analysis</td>
</tr>
<tr>
<td>Integration</td>
</tr>
<tr>
<td>with Operational Processes</td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>Internet of Things (IoT)</td>
</tr>
<tr>
<td>IT Analytics</td>
</tr>
<tr>
<td>Location Intelligence / Analytics</td>
</tr>
<tr>
<td>Machine Learning, Data Mining, Advanced Algorithms, Predictive</td>
</tr>
<tr>
<td>Marketing Analytics</td>
</tr>
<tr>
<td>Mobile Device Support</td>
</tr>
<tr>
<td>Natural Language Analytics (natural language query/ natural language generation)</td>
</tr>
<tr>
<td>Open Source Software</td>
</tr>
<tr>
<td>Prepackaged Vertical / Functional</td>
</tr>
</tbody>
</table>
## Analytical Applications

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Report</strong></td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td><strong>Robotic Process</strong></td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td><strong>Automation (RPA)</strong></td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td><strong>Analysis</strong></td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td><strong>Sales Planning</strong></td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td><strong>Search-based Interface</strong></td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td><strong>Social Media Analysis</strong></td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td><strong>(Social BI)</strong></td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td><strong>Streaming Data Analysis</strong></td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td><strong>Text Analytics</strong></td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td><strong>Video Analytics</strong></td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td><strong>Voice Analytics</strong></td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
</tbody>
</table>

### Business Intelligence Vendor Ratings

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

( ) 1010data

*Please rate your experience with the vendor's performance in each category. Rate each category on a scale of 1 to 5, with 5 being the highest rating. You can also leave any comments you have in the designated space provided. Please note that your ratings and comments will be kept confidential and will not be shared with the vendor. Thank you for your cooperation.*
( ) Adaptive Insights (Workday)
( ) Altair (Datawatch)
( ) Alteryx
( ) Amazon (i.e., QuickSight)
( ) AnswerRocket
( ) Arcplan (Longview)
( ) Big Squid
( ) BIME (Zendesk)
( ) Board
( ) Cloudera (Arcadia Data)
( ) Cubeware
( ) Dataiku
( ) Datameer
( ) DataRobot
( ) Dimensional Insight
( ) Domo
( ) Dundas
( ) Exago
( ) FICO
( ) GoodData
( ) Google Analytics
( ) Grow
( ) H2O.ai
( ) IBM
( ) iDashboards
( ) Incorta
( ) InetSoft
( ) Infor (Birst)
( ) Information Builders (IBI)
( ) Infragistics (Reveal)
( ) Izenda
( ) Jedox
( ) Keyence
( ) Klipfolio
( ) KNIME
( ) Logi Analytics (including Zoomdata and JReport)
( ) Looker
( ) Microsoft
( ) MicroStrategy
( ) Narrative Science
( ) OmniSci
( ) OpenText (Actuate)
( ) Oracle
( ) Panorama
( ) Pentaho (Hitachi Vantara)
( ) Phocas
( ) Pyramid Analytics
( ) Qlik
( ) RapidMiner
( ) Salesforce.com
( ) SAP
( ) SAS Institute
( ) Sigma Computing
( ) Sinequa
( ) Sisense
( ) Tableau
( ) TARGIT
( ) ThoughtSpot
( ) TIBCO (Spotfire, Statistica, Alpine Data, Jaspersoft)
( ) Yellowfin
( ) Yseop
( ) Zoho
( ) Other - Write In: ____________________________________________

Please specify the product name and version for the selected vendor
______________________________________________________________

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

( ) Less than 1 year
( ) 1-2 years
( ) 3-5 years
( ) 6-10 years
( ) More than 10 years

Did this product replace another BI product?
( ) Yes ( ) No

Which product did it replace?
_________________________________________________

Why was it replaced?

<table>
<thead>
<tr>
<th></th>
<th>Primary Reason</th>
<th>Secondary Reason</th>
<th>Was Not a Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Functionality</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Corporate Standard</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Modernization</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Product Reliability</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
</tbody>
</table>

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?

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

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?
<table>
<thead>
<tr>
<th>Feature</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Adequate</th>
<th>Poor</th>
<th>Very Poor</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robustness/Sophistication of Technology</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Completeness of Functionality</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Reliability of Technology</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Scalability</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Integration of Components within Product</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Integration with Third-party Technologies</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Overall Usability</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Ease of Installation</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Ease of Administration</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Customization and Extensibility</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Ease of Upgrade/Migration to New Versions</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Online Training, Forums and Documentation</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
</tbody>
</table>

How would you characterize the vendor's technical support?
<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Very Good</th>
<th>Adequate</th>
<th>Poor</th>
<th>Very Poor</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionalism</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Product Knowledge</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Continuity of Personnel</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Time to Resolve Problems</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
</tbody>
</table>

How would you characterize the vendor's consulting services?

<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Very Good</th>
<th>Adequate</th>
<th>Poor</th>
<th>Very Poor</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionalism</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Product Knowledge</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Experience</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Continuity</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Value</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
</tbody>
</table>

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

____________________________________________

____________________________________________

____________________________________________