September 28, 2023

Dresner Advisory Services, LLC

2023 Edition

Wisdom of Crowds®
Small and Midsize Business Intelligence Market Study Excerpt

Wisdom of Crowds® Series

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Survey Method and Data Collection

For this SME study, we sampled data sets from the 2023 Wisdom of Crowds® Business Intelligence Market Study. Dresner Advisory Services defines "small enterprise" as an organization with 1-100 employees, "midsize enterprise" as an organization with 101-1,000 employees, and "large enterprise" as an organization with more than 1,000 employees. We constructed the study from a survey instrument to collect data and used social media and crowdsourcing techniques to recruit participants. This year's sample is divided close to evenly between SME (1-1,000 employees) and large (>1,000 employees) enterprises for comparative purposes.

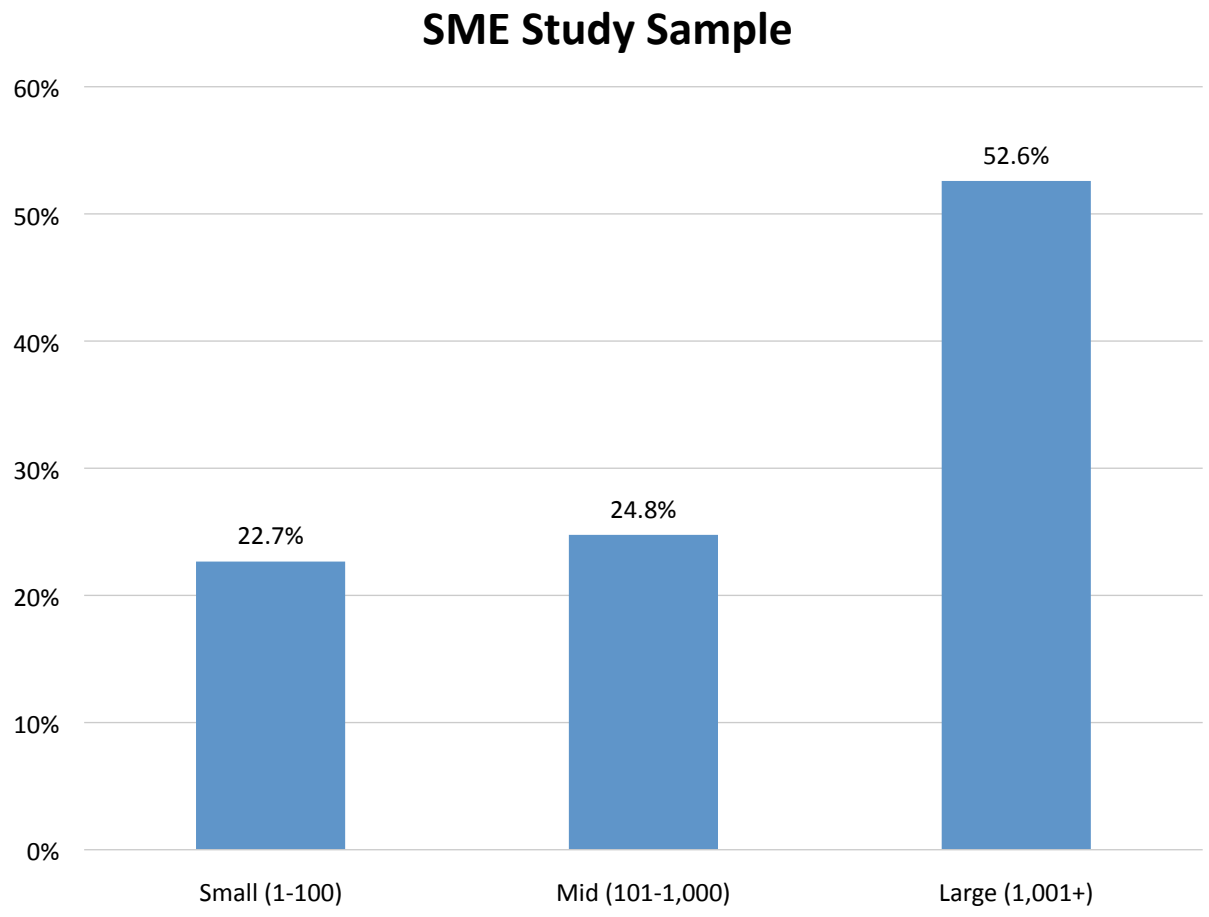

Figure 1 – SME study sample

Executive Summary

- Like large organizations, small and midsize enterprises prioritize a wide span of BI technologies and initiatives and focus first on fundamental tools. After they fulfill top priorities, SMEs are less likely to focus on multiple additional technologies and initiatives, particularly those that lend themselves to enterprise scale. Historic trending nonetheless finds ongoing, new, and multiple areas of growing interest for SMEs.
- The most common functional drivers of BI in organizations of any size are found in *operations, executive management*, and *finance*. Small organizations are relatively more influenced by *executive management and sales* and *marketing*. Large organizations more often involve *IT* and *HR* influence.
- Though top BI target audiences are similar, small organizations are significantly more likely than midsize and large peers to target *customers* and relatively more likely to target *partners/affiliates* and *suppliers*. SME targeting of executives and managers has cooled, compared to other roles.
- Over time, objectives for BI are increasingly similar in importance to organizations of different sizes.
- SME achievements in BI are comparably successful to those in large peer organizations. Success generally improved over time.
- Small organizations report overall higher average levels of BI penetration by headcount than larger organizations and have the most aggressive future plans. Penetration is improving over time.
- The likelihood of claiming success with business intelligence programs decreases incrementally with lower global headcount but is historically very successful across enterprises of any size.
- Measures of success vary by organization size and over time.
- Budget plans for BI business intelligence are similarly on the rise or unreduced regardless of organization size. Organizations of different sizes report different budget allocation priorities.
- Data literacy varies in detail in organizations of different size and is somewhat higher overall in SMEs versus large organizations, though not to a dramatic degree.
- SME BI vendor ratings are shown.

Technology Priorities Changing

Like large organizations, small and midsize enterprises prioritize a wide span of BI technologies and initiatives (fig. 2). Organizations of any given size pay the most attention to fundamental BI tools and processes including *data quality, reporting, dashboards*, and *data visualization* (and more recently, *data security* and *cloud software as a service*). After the top six priorities, importance scores tend to migrate higher in large versus small and midsize organizations. The technologies ranked in 7th to 10th place, *data integration, data warehousing, governance*, and *enterprise planning*, are priorities that intuitively correspond to enterprise scale and show some of the largest deltas between large versus small organizations. The pattern of scale continues throughout all remaining priorities, where large enterprises are at least slightly more interested than smaller peers (with the lone exception of *low code / no code*). Even so, a majority of technology priorities are nonetheless at least *important* to all organizations of any size, with differences in greater and lesser degrees.

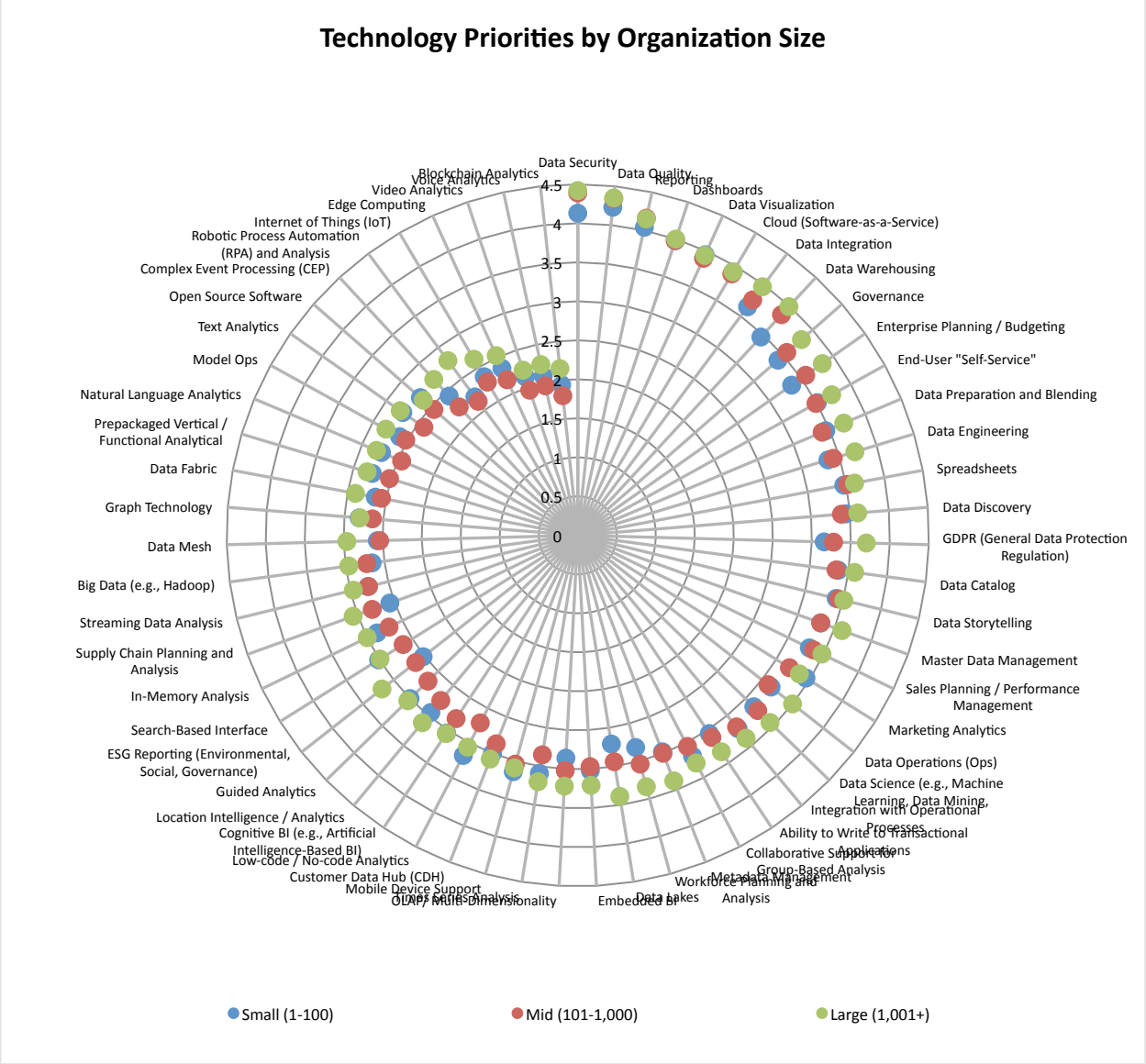

Figure 2 – Technology priorities by organization size

Figs. 3-4 show the ebb and flow in importance of SME technology priorities across the 11 years of our study. The findings are divided into two tiers for easier viewing.

In the top tier of SME technology priorities, 11 years of data reveal a mostly positive-trending record of importance (fig. 3). The top three priorities (*reporting, dashboards,* and *data visualization*) clustered well with uniform *very important* criticality across the history of our study. Other priorities including *data catalog* and *master data management* are at or near peak importance in 2023. Of separate interest is the long tail of increasing importance over time toward certain priorities, most notably *cloud software as a service, ability to write to transactional applications, data preparation and blending, enterprise planning / budgeting,* and *governance*. Visible but less dramatic time trends are for *data warehousing* and *end-user self-service*. These trending increases over time correspond to findings in other Dresner Advisory reports and confirm growing enterprise adoption by organizations of any size.

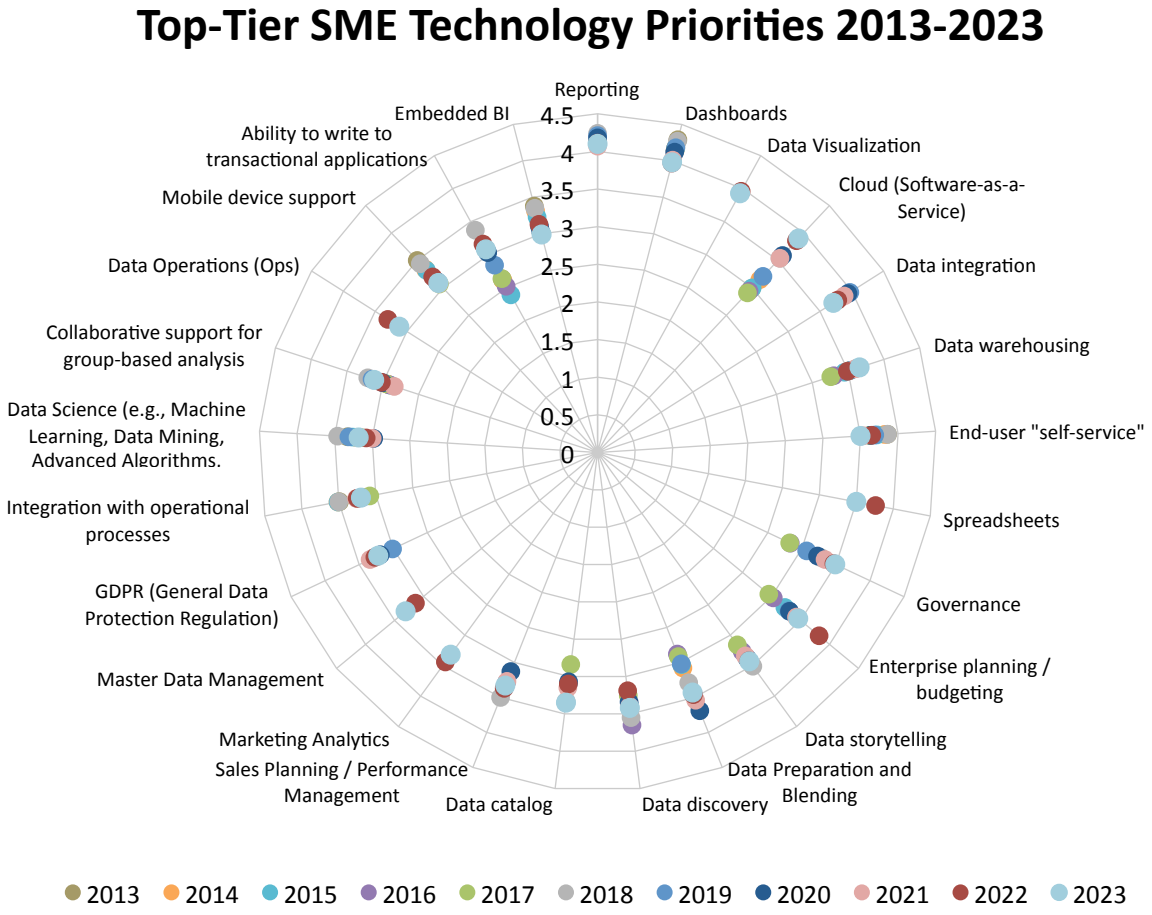

Figure 3 – Top-tier SME technology priorities 2013-2023

In a second tier of lower-ranked SME technology priorities, 11 years of data reveal sometimes sustained and sometimes reversing trends in importance (fig. 4). For example, *metadata management, time series analysis*, and *OLAP* show sustained, close to peak interest over time and extending into 2022-2023. Some other priorities, notably *big data, location intelligence,* and *search-based interface*, reached peak interest in 2018 or proximate years, and since declined in importance to users. In all, 2023 interest in a majority of second-tier priorities ranges from *important* to somewhat less than important.

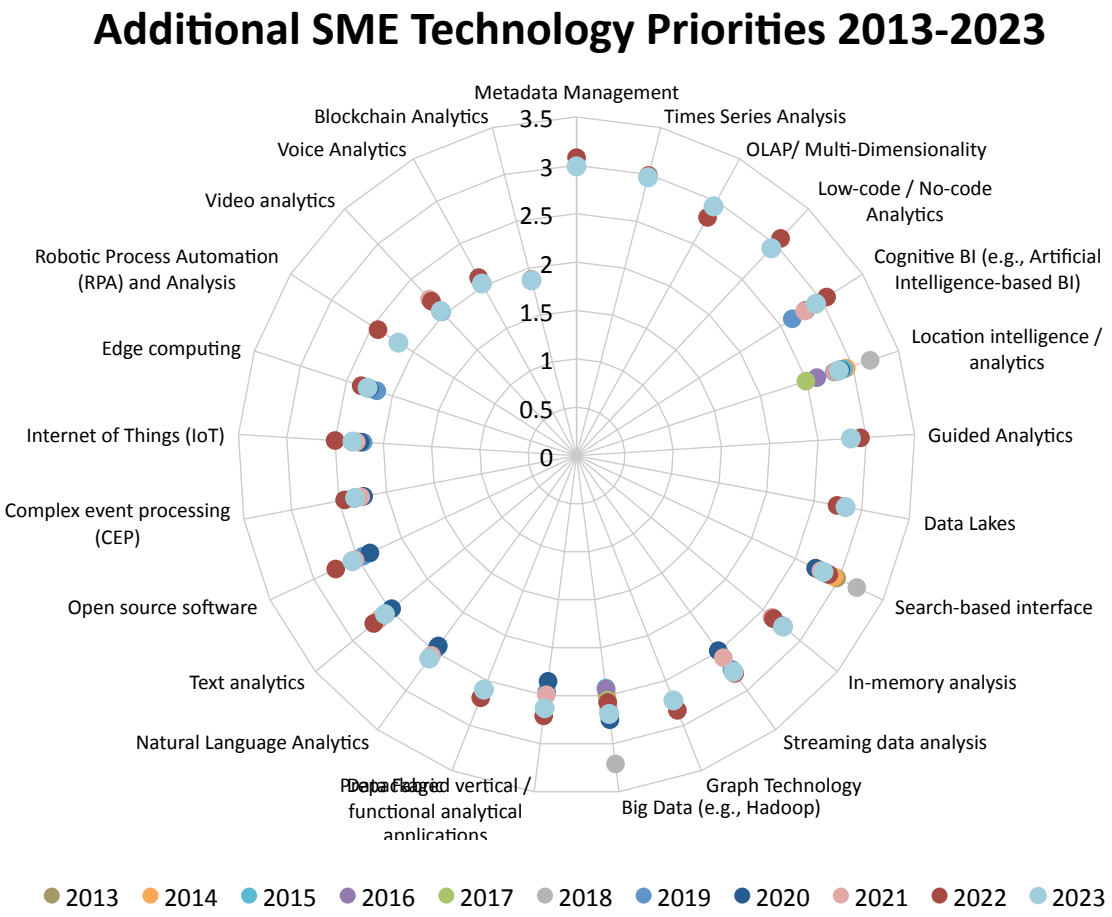

Figure 4 – Additional SME technology priorities 2013-2023

Departments/Functions Driving Business Intelligence

Our 2023 survey compares the functions that drive business intelligence initiatives within organizations of different sizes. We asked respondents to specify whether a given function drives business intelligence "always," "often," "sometimes," "rarely," or "never." We used this to create a weighted average on a one-to-five scale (shown on an *overall* basis in fig. 5). This year, *operations, executive management*, and *finance* are the most influential in organizations of all different sizes. But we also see deviations by size, some distinct and others more nuanced. For example, *large organizations* are more often led by *operations, finance, IT*, and *human resources*, while *small organizations* are relatively more influenced by *executive management, sales,* and *marketing*.

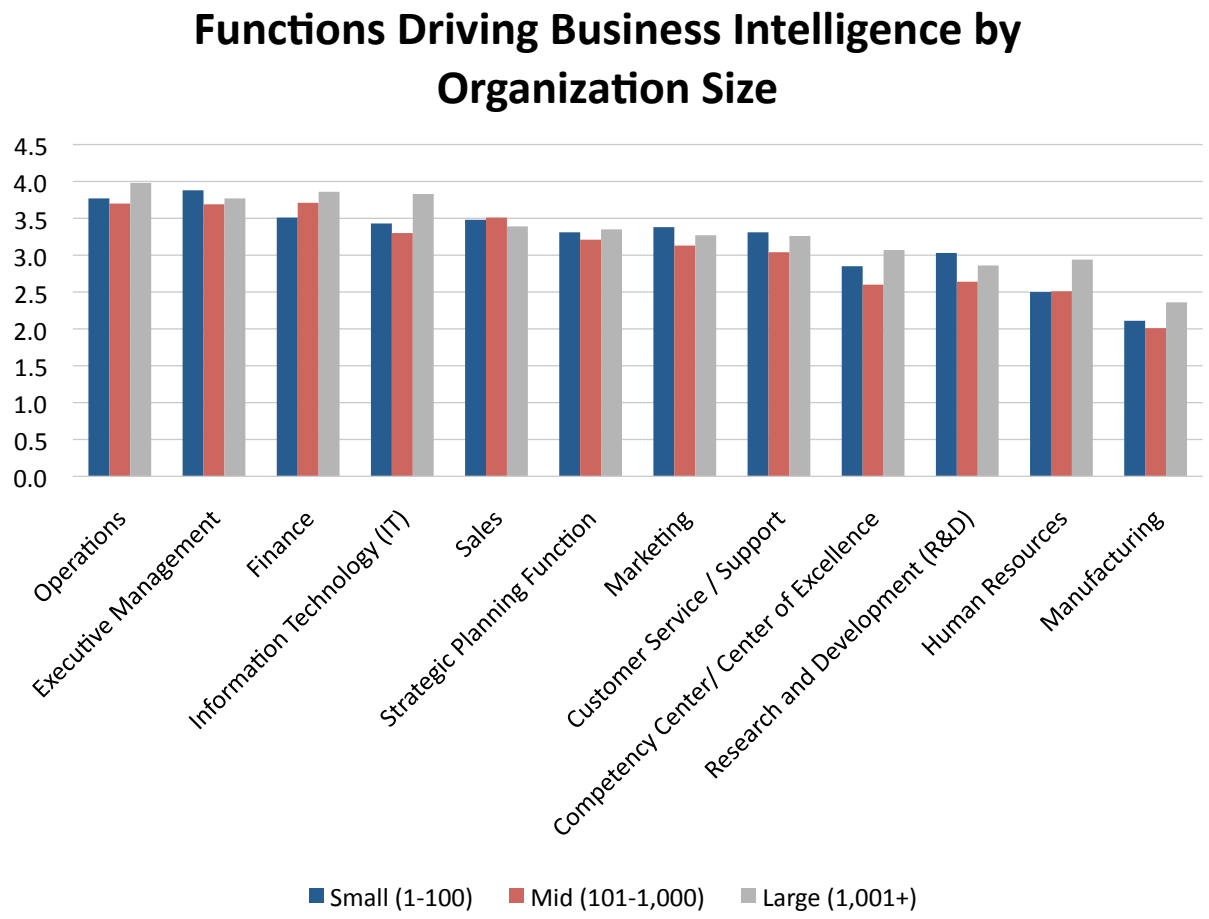

Figure 5 – Functions driving business intelligence by organization size

Over time, functional drivers of SME sentiment gather and lose importance in often irregular fashion (fig. 6). For example, *R&D* and *human resources* are at peak levels of influence. The three top SME drivers (*executive management, operations,* and *sales*) are below peak influence, perhaps an indication of existing penetration and newer emphasis on other functional areas. *Marketing* and *strategic planning* are somewhat below historic high levels of importance, while remaining functions are at near average relative influence.

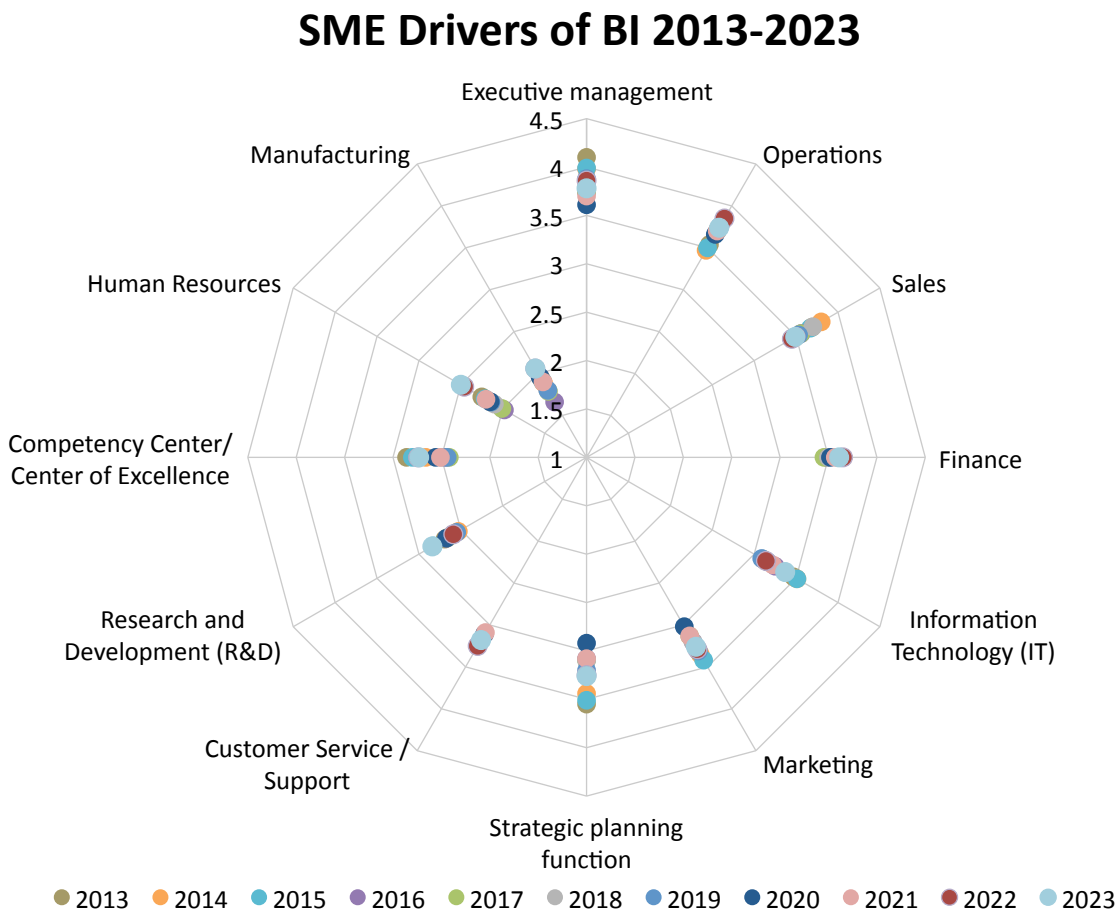

Figure 6 – SME drivers of BI 2013-2023

User Roles Targeted for Business Intelligence

Our survey asked which functions/roles are targeted with business intelligence solutions according to organization size (fig. 7). All organizations most often target *executives*, followed by *middle managers, individual contributors, and professionals. Line managers* are the next most targeted. These functions are distinguished by relatively higher emphasis in large and midsize, versus small organizations. In sharp contrast, small organizations are significantly more likely to target *customers* and relatively more likely to target *partners/affiliates* and *suppliers* in lesser numbers.

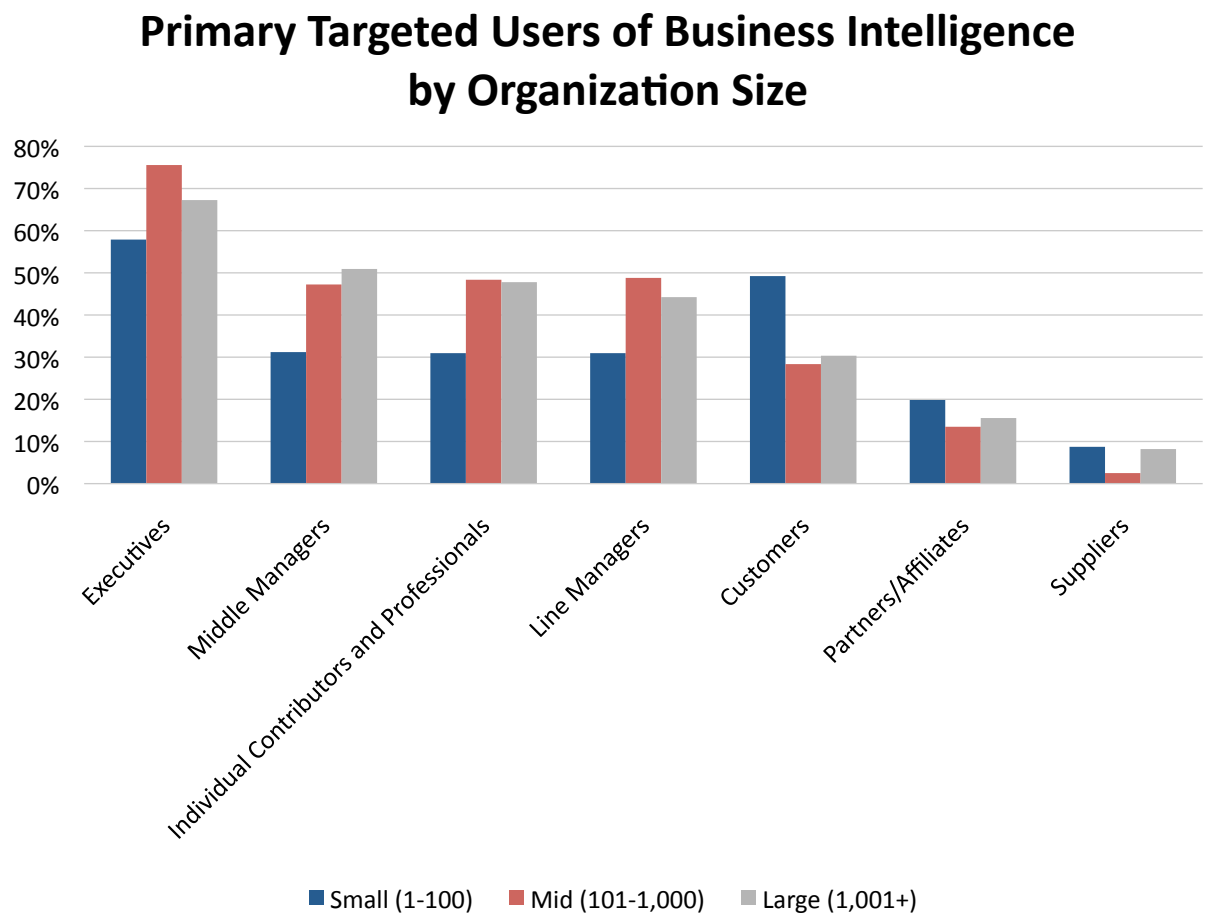

Figure 7 – Primary targeted users for business intelligence by organization size

Despite a slight rebound in 2022-2023, across 11 years of study, BI targeting of *executives* and *middle managers* at SMEs incrementally cools, quite possibly in the wake of earlier rollouts to high-ranking management constituencies (fig. 8). By contrast, targeting of *line managers, individual contributors and professionals,* and *customers* increase noticeably and steadily throughout the history of the study. These latter directional shifts began most noticeably around the 2018 time frame. The chart also illustrates the relatively low but increasing emphasis on *partners/affiliates* and steadily lower emphasis on *suppliers*. (Fig. 9 combines small and midsize organizations, which report some differences in sentiment, partly caused by different middle management headcounts.)

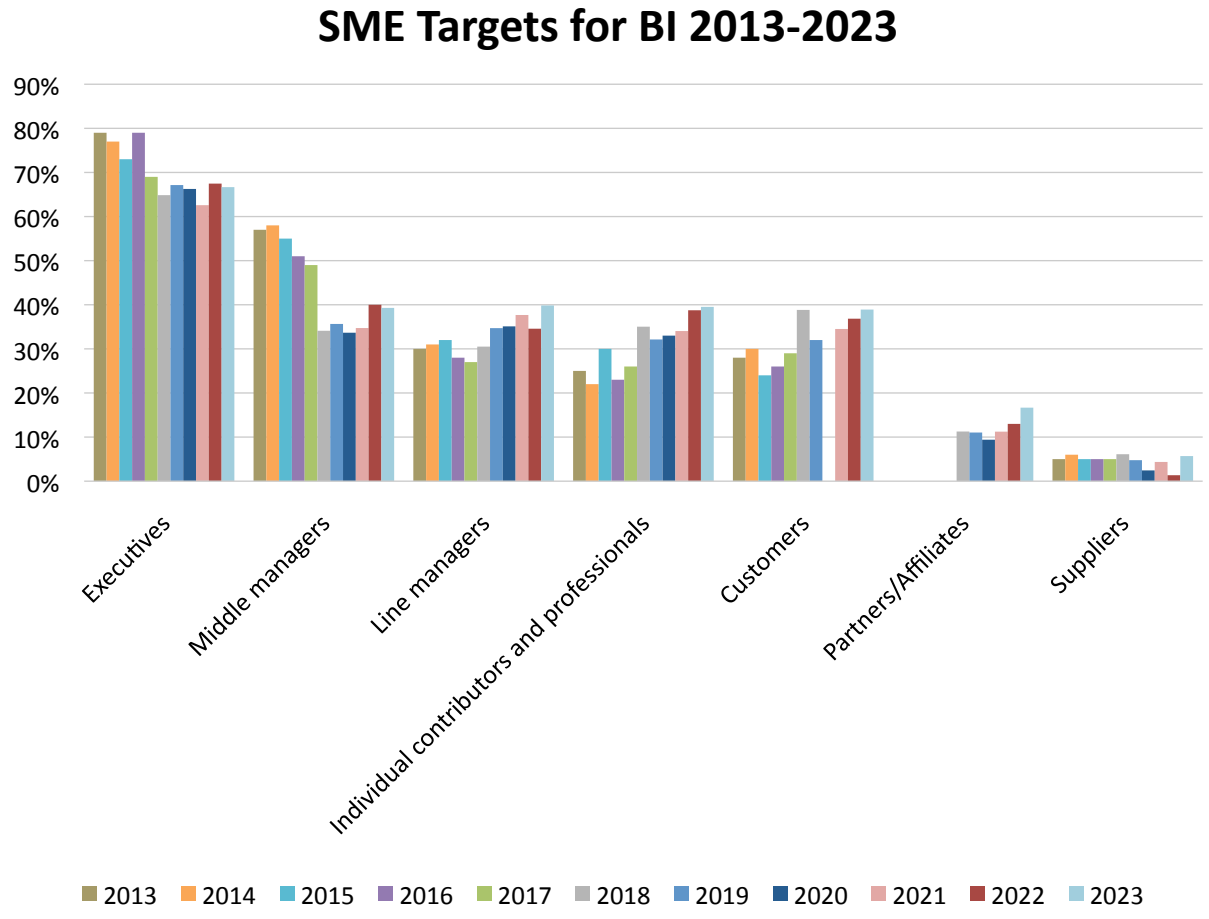

Figure 8– SME targets for BI 2013-2023

Objectives for Business Intelligence

Importance rankings for BI objectives reflect some relative but not dramatically different priorities across organizations of different sizes in 2023 (fig. 9). Organizations of any size prioritize *better decision making* over all other choices (all with weighted mean >4.0 or >*very important*). Thereafter, the most obvious departures are relatively high attention within small organizations to *growth in revenues* and *increased competitive advantage*. Compared to earlier studies, large organizations are approaching closer to equal emphasis with small peers when addressing *increased competitive advantage* and *enhanced customer service*. Emphasis on *compliance / risk management* intuitively increases with organization size. To an extent, we observe that SMEs are historically more inclined to be more outwardly focused than organizations that must manage more cost-driven operational processes.

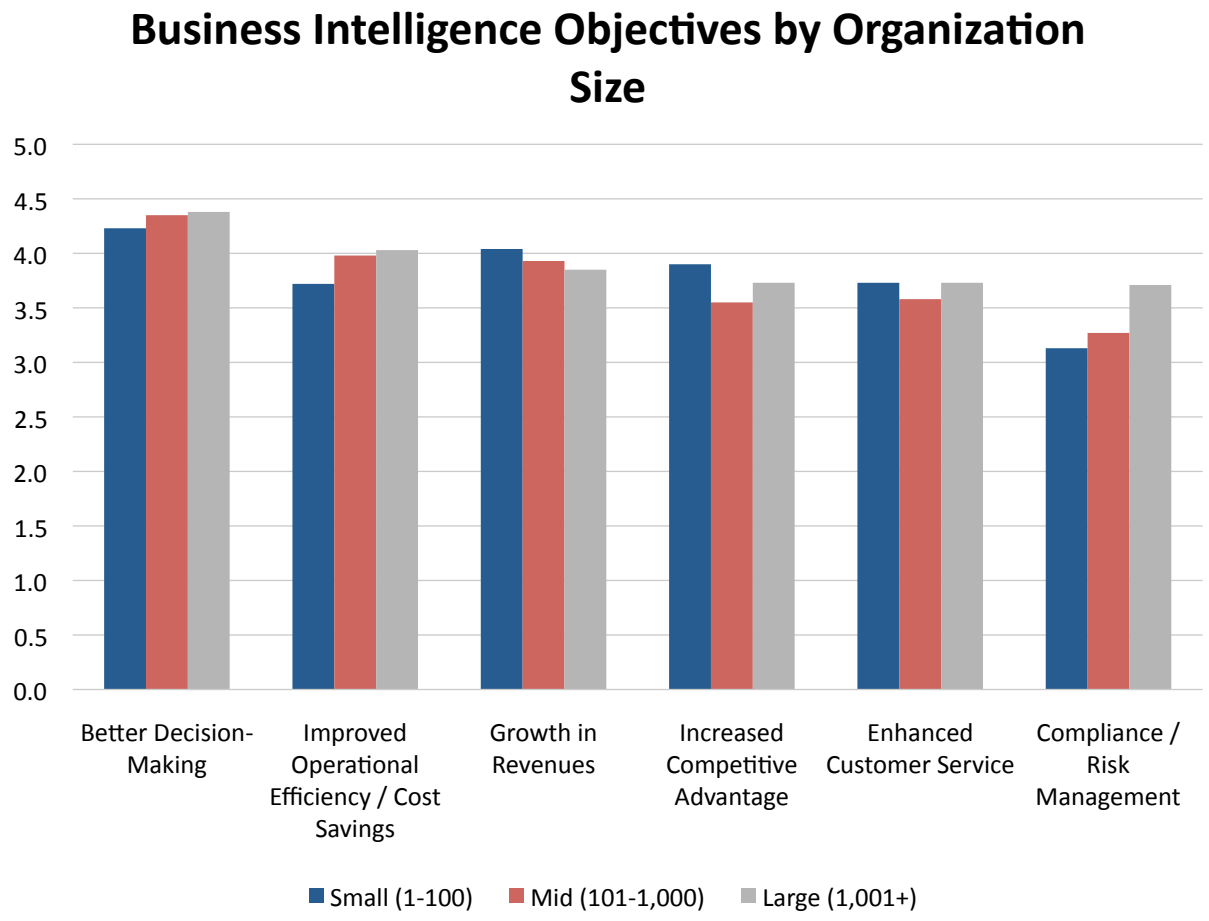

Figure 9 – Business intelligence objectives by organization size

Year-over-year SME sentiment toward all BI objectives in 2023 is close to average in a fairly constrained 11-year history, and no areas are at all-time-high importance (fig. 10). Most objectives saw a slight increase in 2022 that reversed only very slightly this year. The only BI objective that rose in importance year over year is *growth in revenues*, which is near but slightly below an all-time-high level of importance. *Better decision making* remains most important and stands at almost exactly the same above *very important* levels every year since 2015. All areas trailing *better decision making* (with the exception of *compliance / risk management),* are currently at weighted-mean levels of 3.7-4.0, at or approaching the 4.0 value that signifies *very important*.

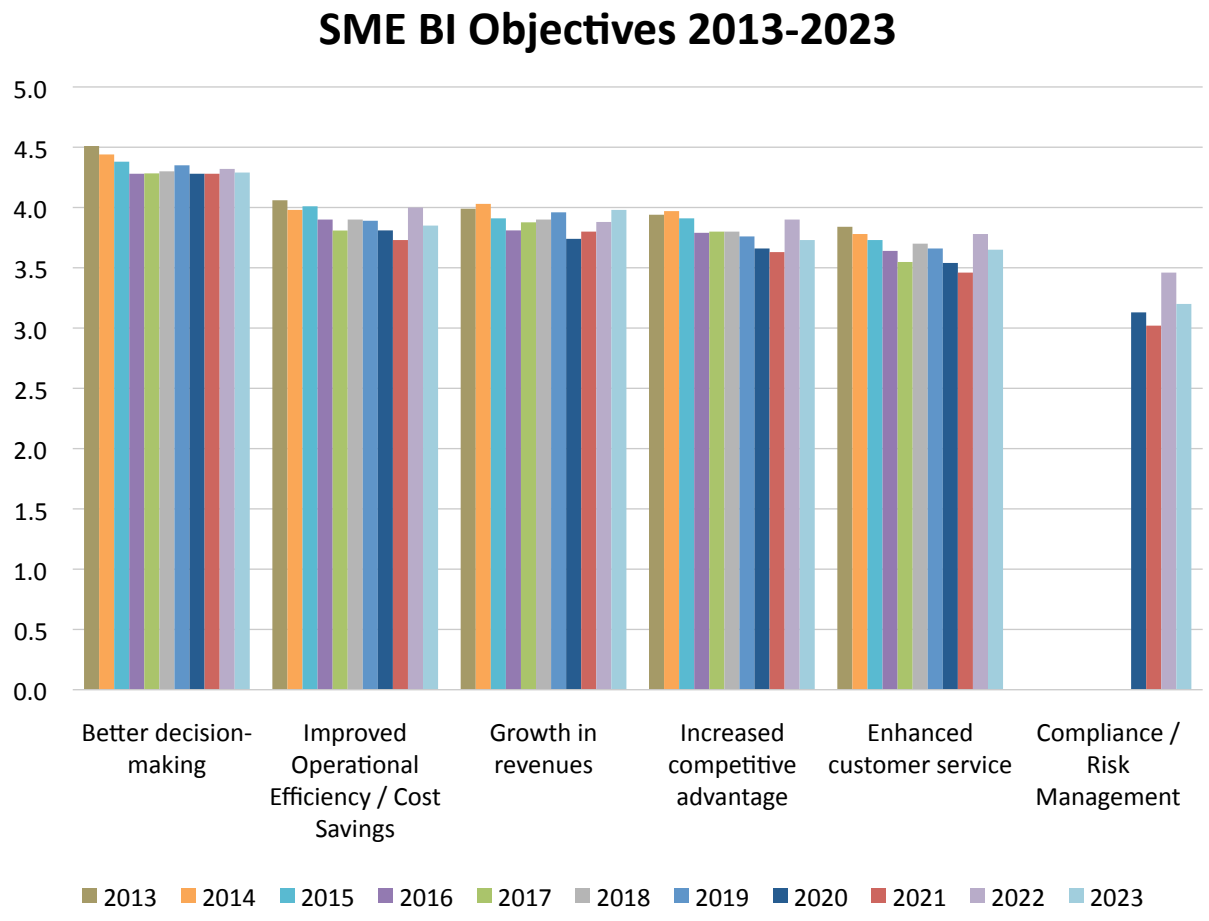

Figure 10 – SME BI objectives 2013-2023

Achievements with Business Intelligence

We asked respondents to reflect on BI achievements realized up until 2023 (separately from their BI objectives shown in previous charts) (fig. 11). Viewed by organization size, small organizations trail the performance of large peers only slightly in the area of *operational efficiency* and more dramatically in *compliance / risk management*. Small organization achievement is very close to or slightly ahead of large peers in areas of *growth in revenues, enhanced customer service*, and *increased competitive advantage*. Midsize organization achievement levels are comparable to smaller and larger peers for the top three objectives, and trail peer performance most noticeably in *enhanced customer service* and *increased competitive advantage*.

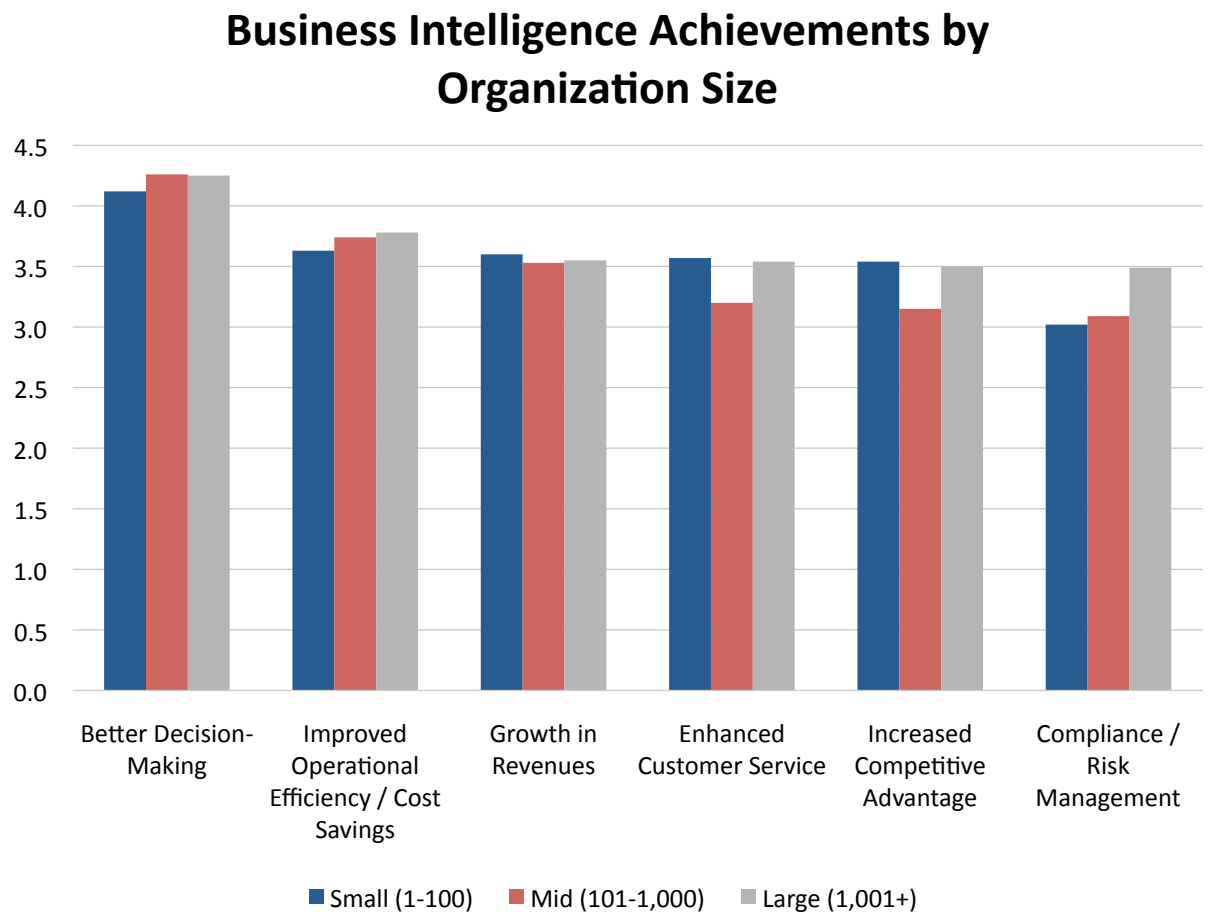

Figure 11 – Business intelligence achievements by organization size

A historic review of the last six years of SME achievements finds mostly flat to increasing levels of success (fig. 12). Most visibly, we observe year-over-year upticks in four of six measures: *better decision making, improved operational efficiency / cost savings, enhanced customer service,* and *growth in revenues*. By comparison, achievement measures for *increased competitive advantage* are flat year over year, and achievements in *compliance / risk management* decline very slightly.

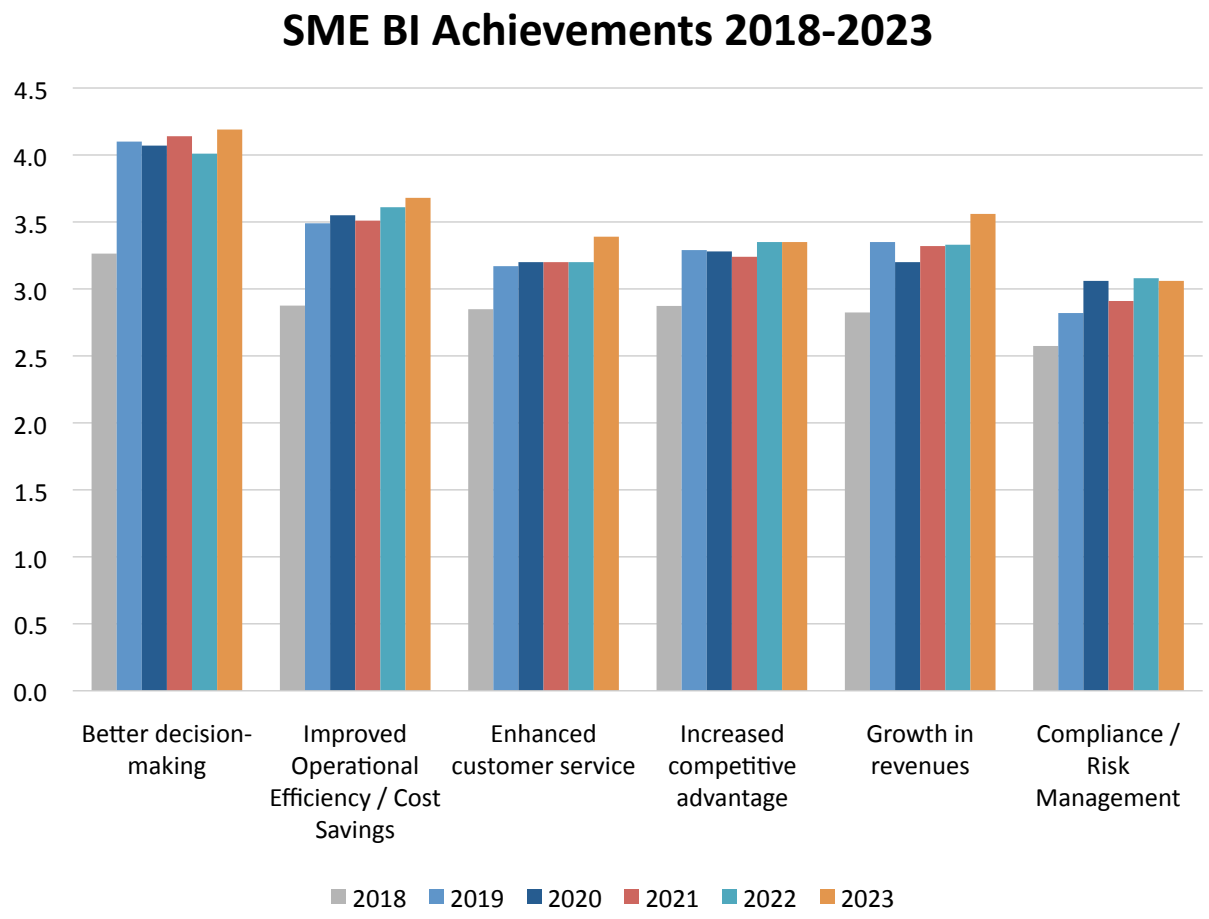

Figure 12 – SME BI achievements 2018-2023

Penetration of Business Intelligence

The majority of small organizations report BI penetration of 41 percent or higher, a notably larger level of penetration than large businesses in the same range (fig. 13). Though small businesses fare better than large ones, they are statistically favored by the fact that more key roles are concentrated in their 1-100 headcount, making them more highly penetrated by default. By comparison, large businesses say they are less than 15 percent penetrated at the highest > 80 percent level, and a majority 58 percent report 40 percent or lower penetration. Midsize organizations fare no better than large, with 61 percent reporting 40 percent or lower penetration, and less than 15 percent reporting 81 percent or greater penetration.

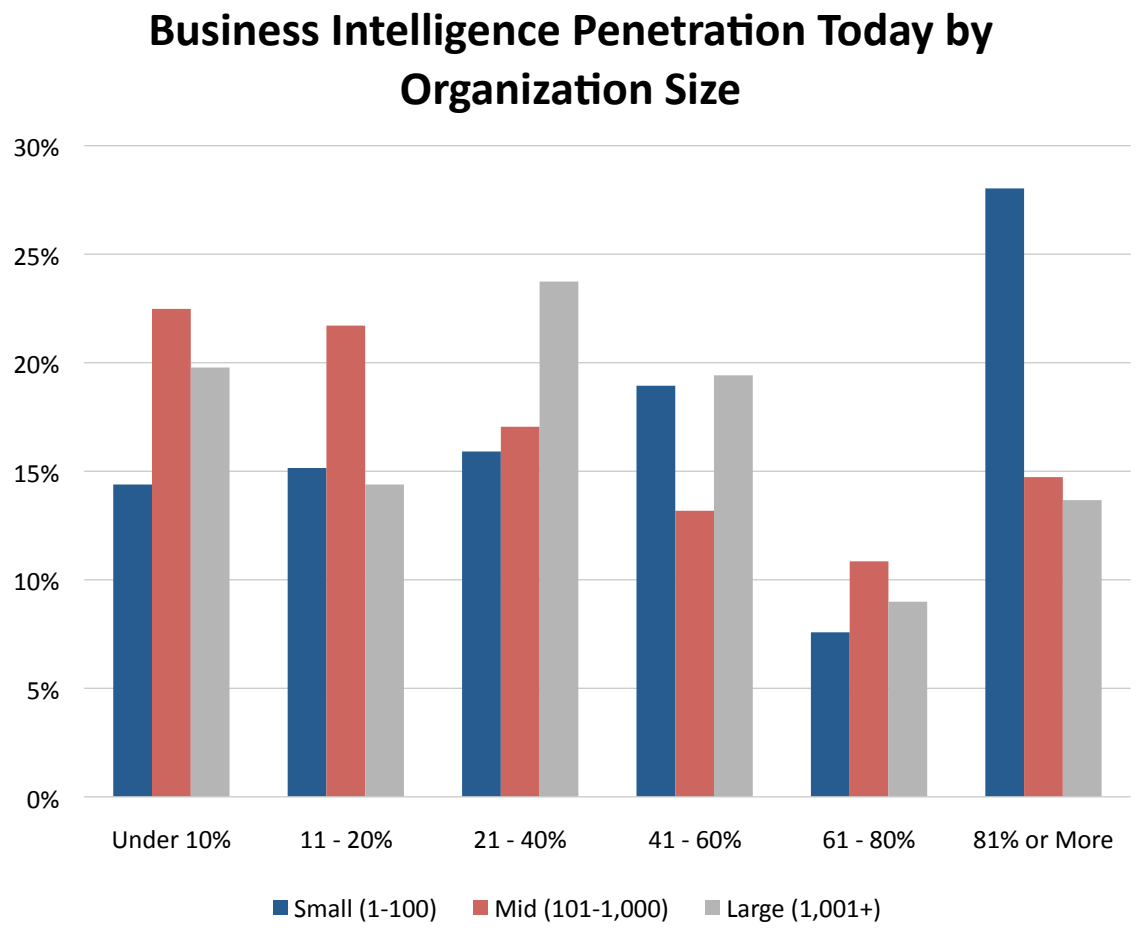

Figure 13 – Business intelligence penetration today by organization size

In addition to high existing BI penetration, small organizations much more aggressively plan to attain higher levels of BI penetration in 12, 24, and 36-month time frames (fig. 14). We best observe this finding in rising percentages at the highest levels of penetration (shown in gold in the chart below) and corresponding smaller percentages at the lowest three levels of penetration. In part, this reflects the agility of small organizations to adopt at lower cost and accept risk more readily than larger peers. To a proportionately lesser extent, the sentiment to increase high-level penetration also extends to midsize and large peers. Both midsize and large organizations, however, are likely to pursue a more conservative approach to deployments and expect a more distributed spectrum of improvements across multiple levels of future penetration.

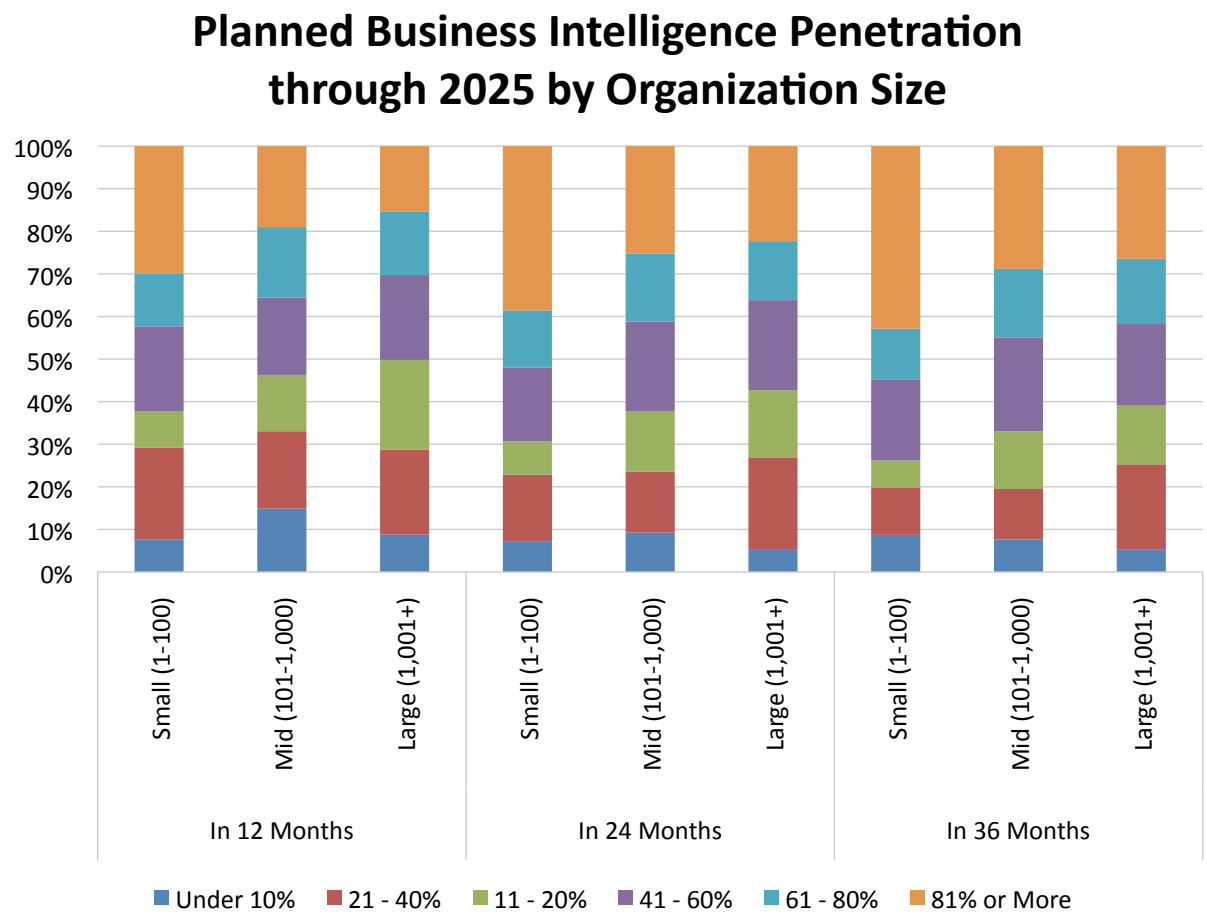

Figure 14 – Planned business intelligence penetration through 2025 by organization size

Year over year, SMEs report the greatest 2023 improvements at reducing low-level BI penetration (>20 percent) and corresponding increases in 2023 penetration between 21 percent and 80 percent (fig. 15). The biggest year-over-year SME gains are at the 21-40 and 41-60 percent levels. There is a flattening minimal reduction at the highest 81 percent or more level. Over the last 10 years of our study, the biggest improvement was reducing the sub-10 percent penetration level. While trends are not linear, we also observe two periods of improvements at the > 21 percent levels, the latest beginning in around 2019 and carrying into the current year.

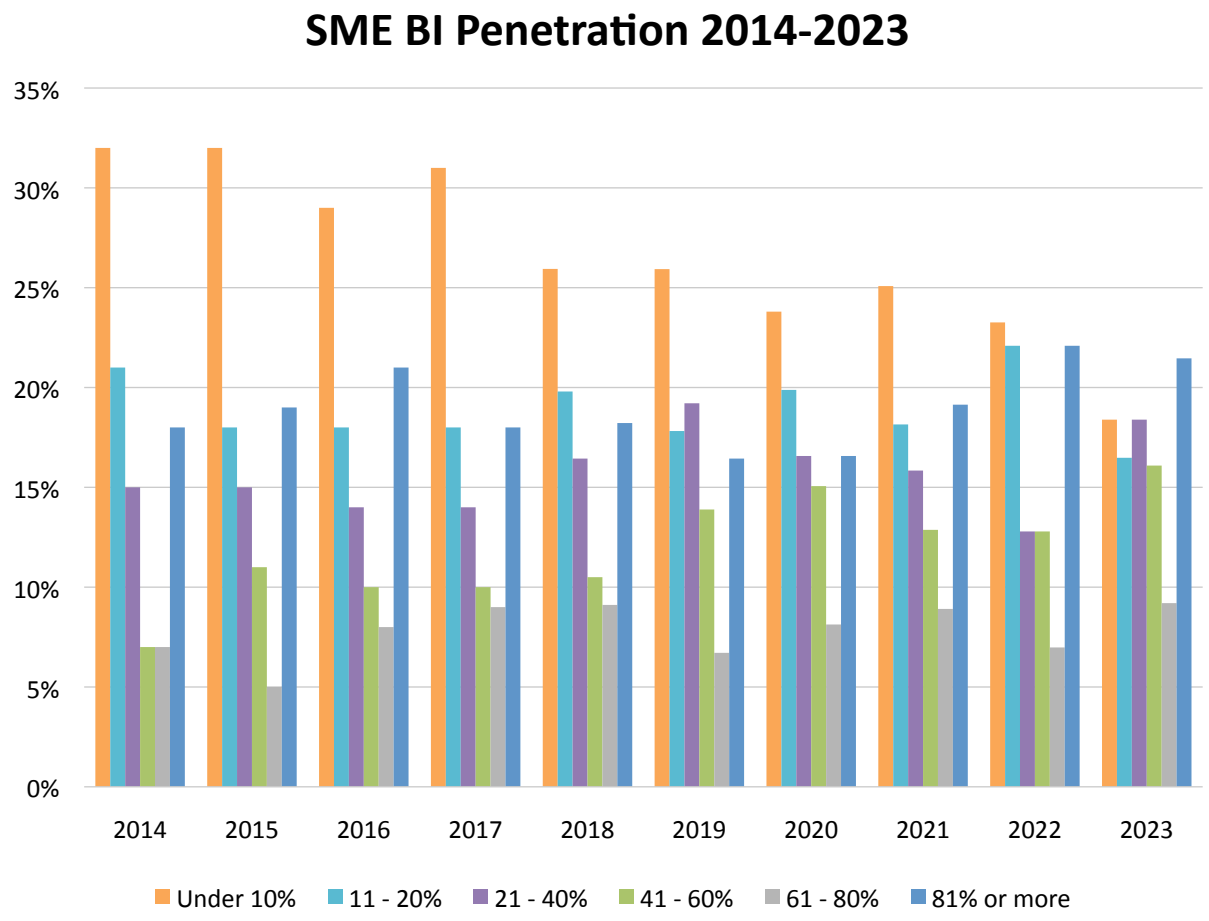

Figure 15 – SME BI penetration 2014-2023

SME Success with Business Intelligence

The likelihood of claiming success with business intelligence programs in 2023 increases incrementally with global headcount (fig. 16). (This finding reverses a similar incremental trend seen in the last two SME studies.) This year, the percentage reporting *completely successful* BI initiatives is almost identical at small (34 percent), midsize (34 percent), and large enterprises (35 percent). Increasingly success appears more noticeably among those reporting *somewhat* successful BI initiatives in small (52 percent) versus large organizations (57 percent). The likelihood of *somewhat unsuccessful* and *unsuccessful* BI initiatives is lowest in large organizations (8 percent), compared to midsize (15 percent) and small organizations (14 percent).

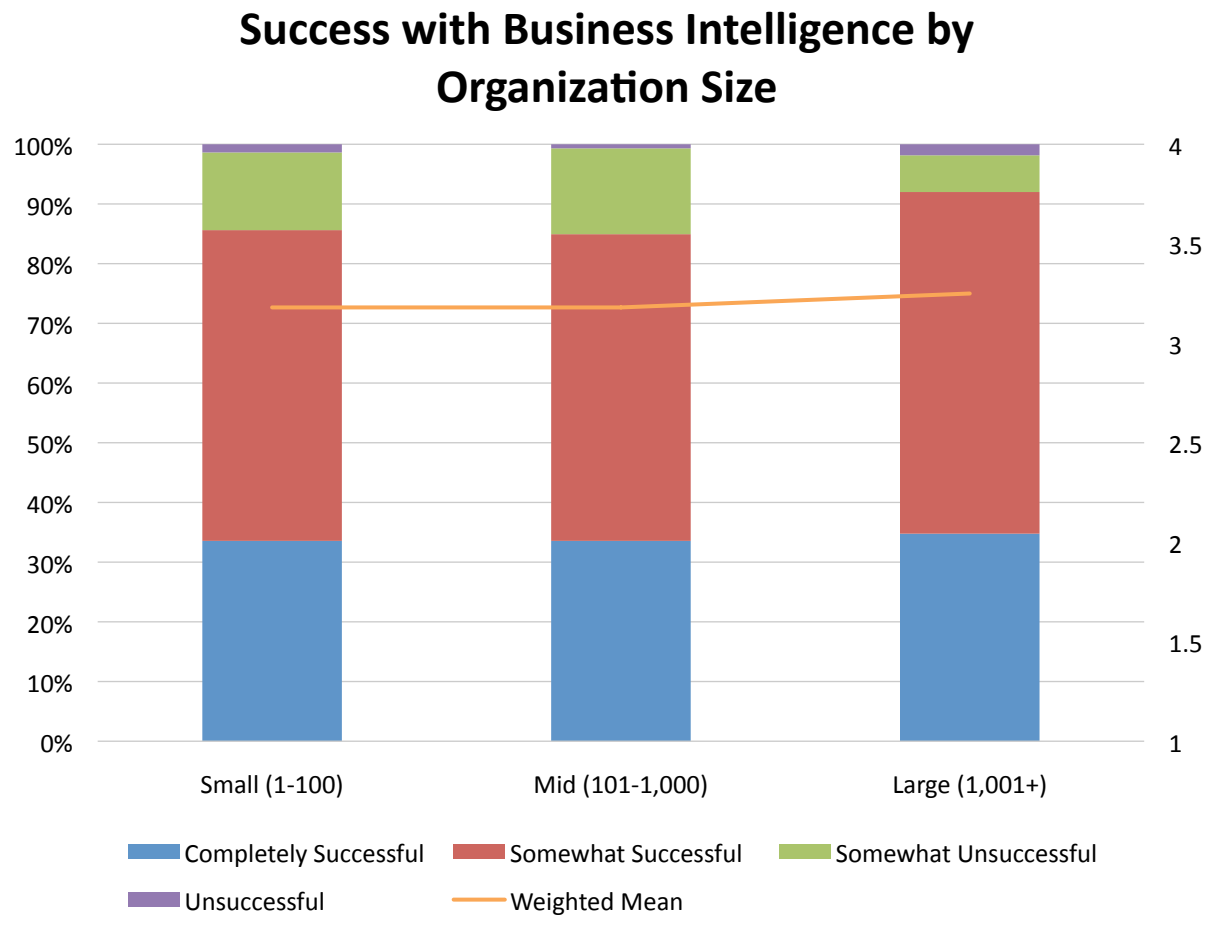

Figure 16 – Success with business intelligence by organization size

SME BI is on a historic and long successful path that rarely ranges into estimations of less than successful results (fig. 17). In 2023, 86 percent of respondents report either *completely successful* or *somewhat successful* BI endeavors, a figure that never fell below 82 percent throughout the 11-year history of our survey. Weighted-mean success this year stands at 3.2, only slightly below the peaks of some previous years. Negative measures of *somewhat unsuccessful* and *unsuccessful* BI organizations fell slightly year over year. While complete success seems an unrealistic norm for all organizations, we might attribute ups and downs to factors including actual performance, raised expectations, or new categories of demand.

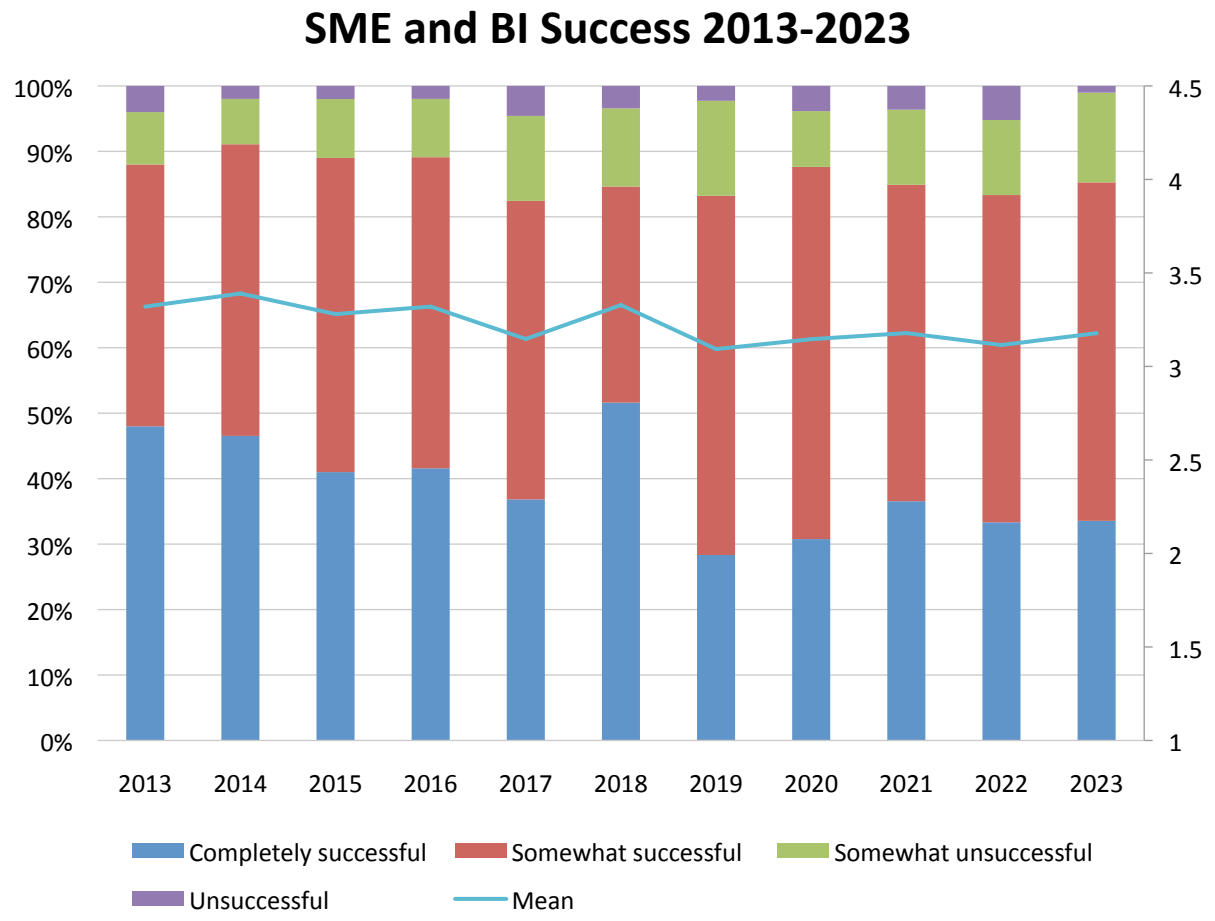

Figure 17 – SME and BI success 2013-2023

Beginning in 2017, we added discrete non-exclusive methods of measuring BI success in SME and large organizations (fig. 18). In 2023, all organizations of any size most often judge success by *user feedback/satisfaction,* a preferred measure that scales in importance with organization headcount. As befits their scale, small organizations in 2023 are more likely than all larger peers to measure success by *customer feedback/satisfaction* and *return on investment,* metrics that might also be easier for smaller organizations to measure. Midsize organizations tend to measure success closer to large organization behavior or somewhere in between. While large organizations most often seek user feedback/satisfaction to measure success, a less-optimal statistic finds they (perhaps by necessity) are more likely than smaller peers to rely on *system / application activity* and *number of deployed users*.

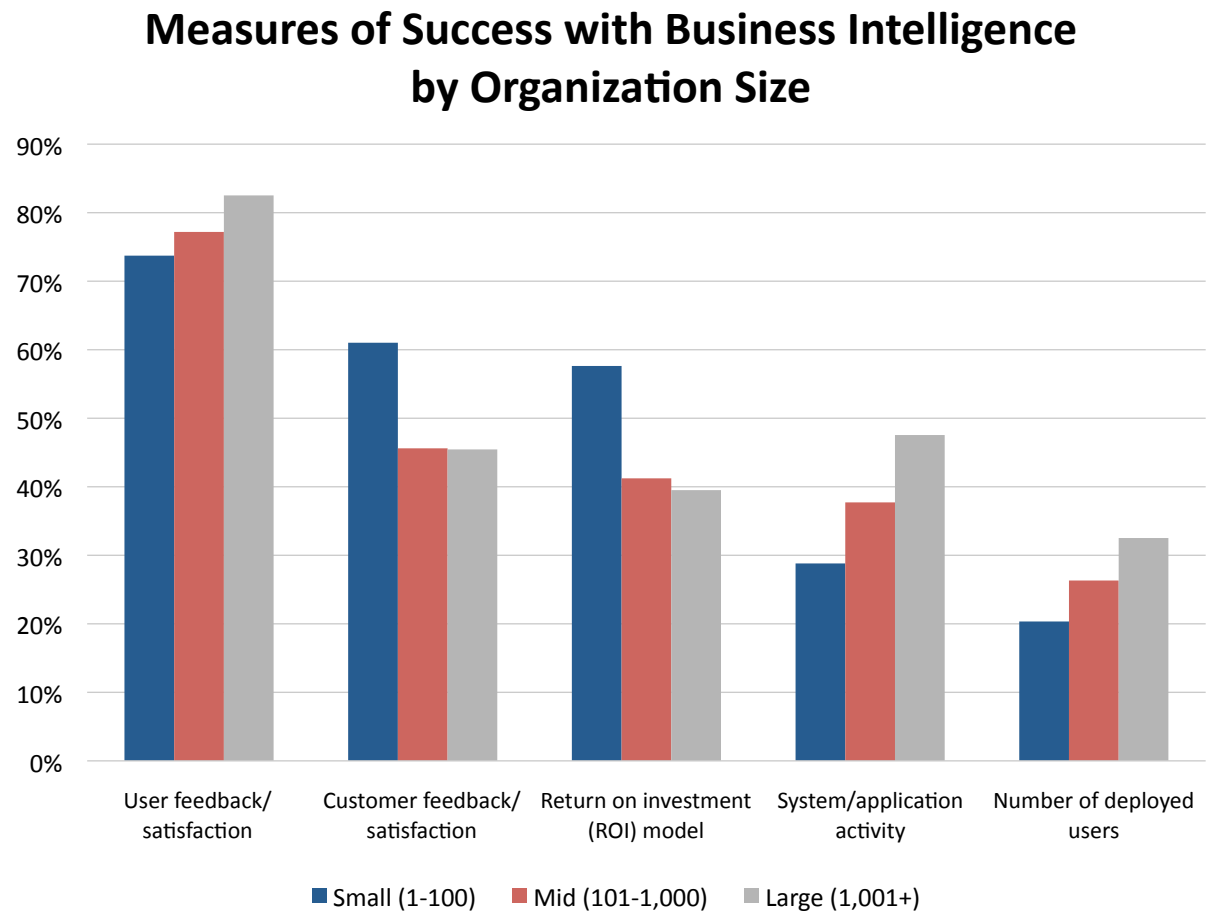

Figure 18 – Measures of success with business intelligence by organization size

Viewed across the years 2017-2023, we find SME measures of success ebb and flow from year to year but usually hold rank (fig. 19). The exception this year is a reversal of a one-year rise in emphasis on *system / application activity*, a measure we would otherwise expect to lose emphasis over time. The long history mostly reveals growing emphasis on ROI and reduced emphasis on system measures. This year, as always, *user feedback / satisfaction* remains the top measure, used by more than 70 percent of SMEs, and slightly off its 2022 high. Except as noted, other measures including *customer feedback/satisfaction, return on investment*, and *number of deployed users* are within average bounds.

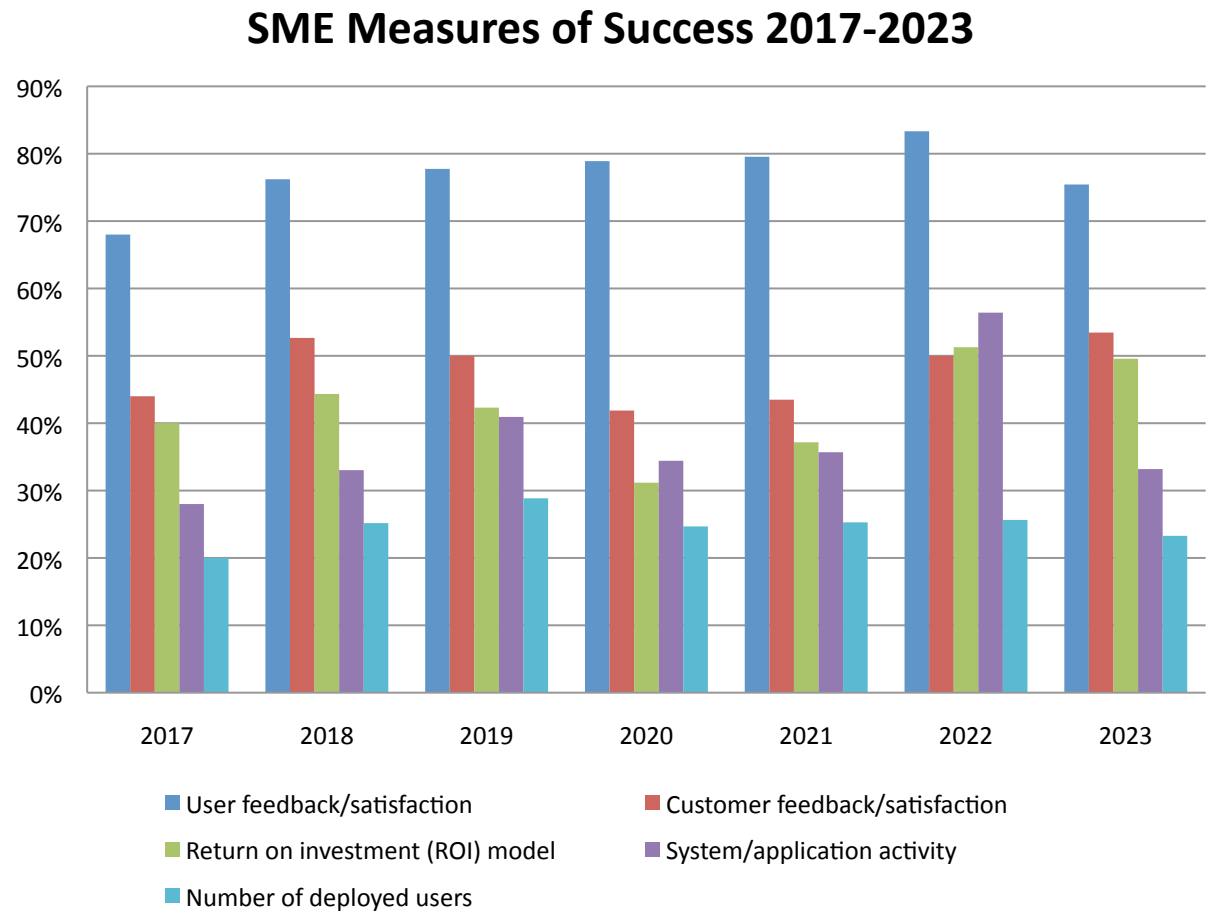

Figure 19 – SME measures of success 2017-2023

Business Intelligence Market Models for SMEs

We use two models for examining and understanding the business intelligence market. Using quadrants, we plotted aggregated user sentiment into x and y axes. These ratings reflect the opinions of SME organizations, in contrast to a broader community reflected in our "flagship" 2023 Wisdom of Crowds Business Intelligence Market Study Report.

Customer Experience Model for SMEs

The Customer Experience Model considers the real-world experience of customers working with BI products daily (fig. 20). For the x axis, we included all vendor touch points—including the sales and acquisition process, technical support, and consulting services—into a single "sales and service" dimension. On the y axis, we plotted customer sentiment surrounding product, derived from 12 product and technology measures we use to rank vendors. On the resulting four quadrants, we plotted 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.

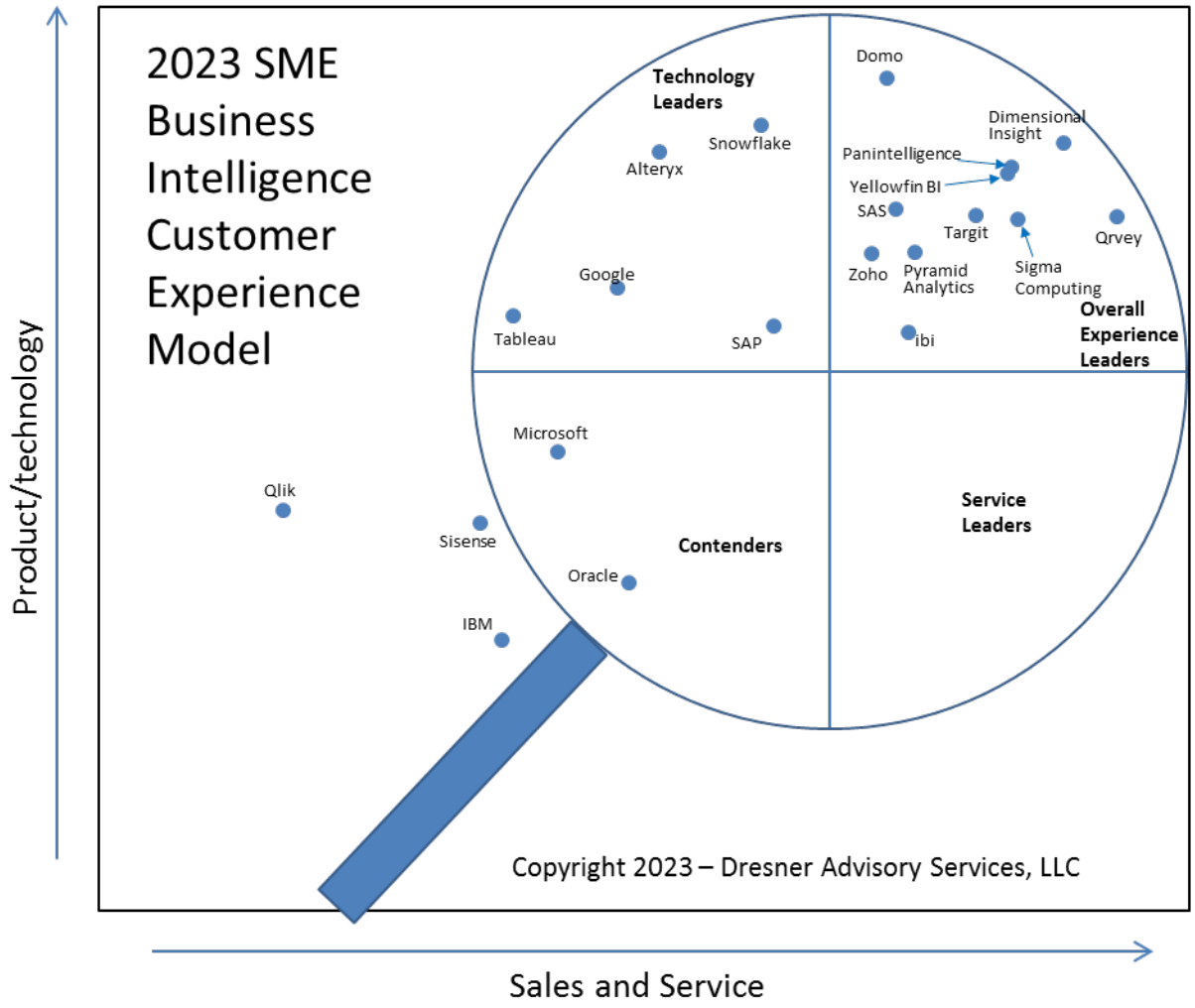

Figure 20 – Vendor rankings based on Customer Experience Model for SMEs

Vendor Credibility Model for SMEs

The Vendor Credibility Model considers how customers "feel" about their vendor (fig. 21). The x axis plots perceived value for the price paid. The y axis combines 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.

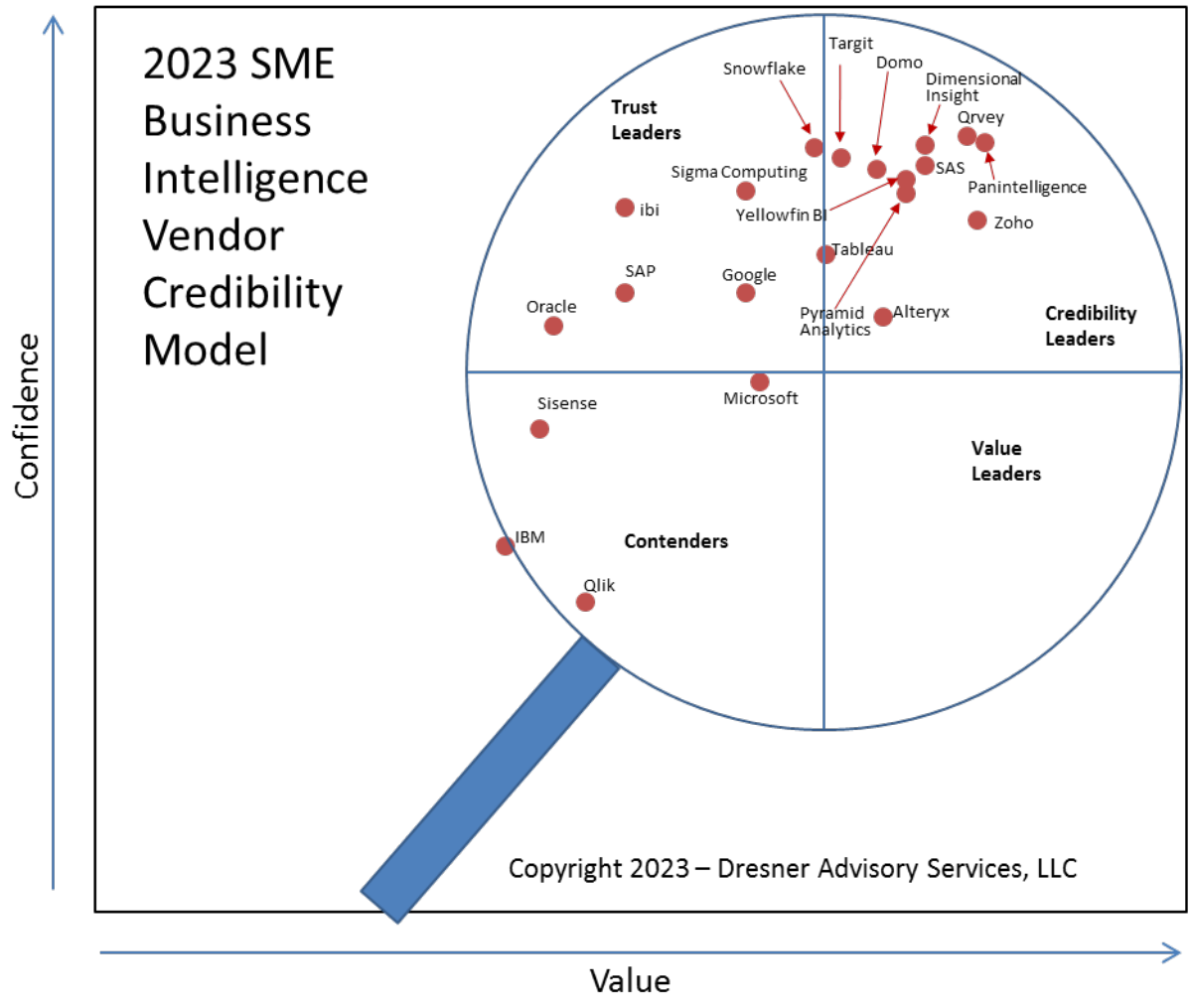

Figure 21 – Vendor rankings based on Vendor Credibility Model for SMEs

About Howard Dresner and Dresner Advisory Services

The Wisdom of Crowds® Small and Midsize Enterprise 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 has 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 has 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 research reports, we engage with a global community to redefine how research is created and shared. Other research reports include:

- Wisdom of Crowds® Flagship BI Market Study
- AI, Data Science, and Machine Learning
- Data Engineering
- Data Catalog
- Data Governance
- Embedded BI
- Guided Analytics
- Self-Service BI

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

About Jim Ericson

Jim Ericson is Vice President and Distinguished Analyst 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.