Analytics & Data Warehousing Reader Challenges & Priorities Survey

Business Applications 2013

Respondent company size

52% from companies with over 1,000 employees (similar to past years' surveys)


Pie chart: Respondent company size

- 13% — 50,000 or more
- 4% — 25,000 - 49,999
- 8% — 10,000 - 24,999
- 8% — 5,000 - 9,999
- 19% — 1,000 - 4,999
- 10% — 500 - 999
- 17% — 100 - 499
- 21% — 1 - 99
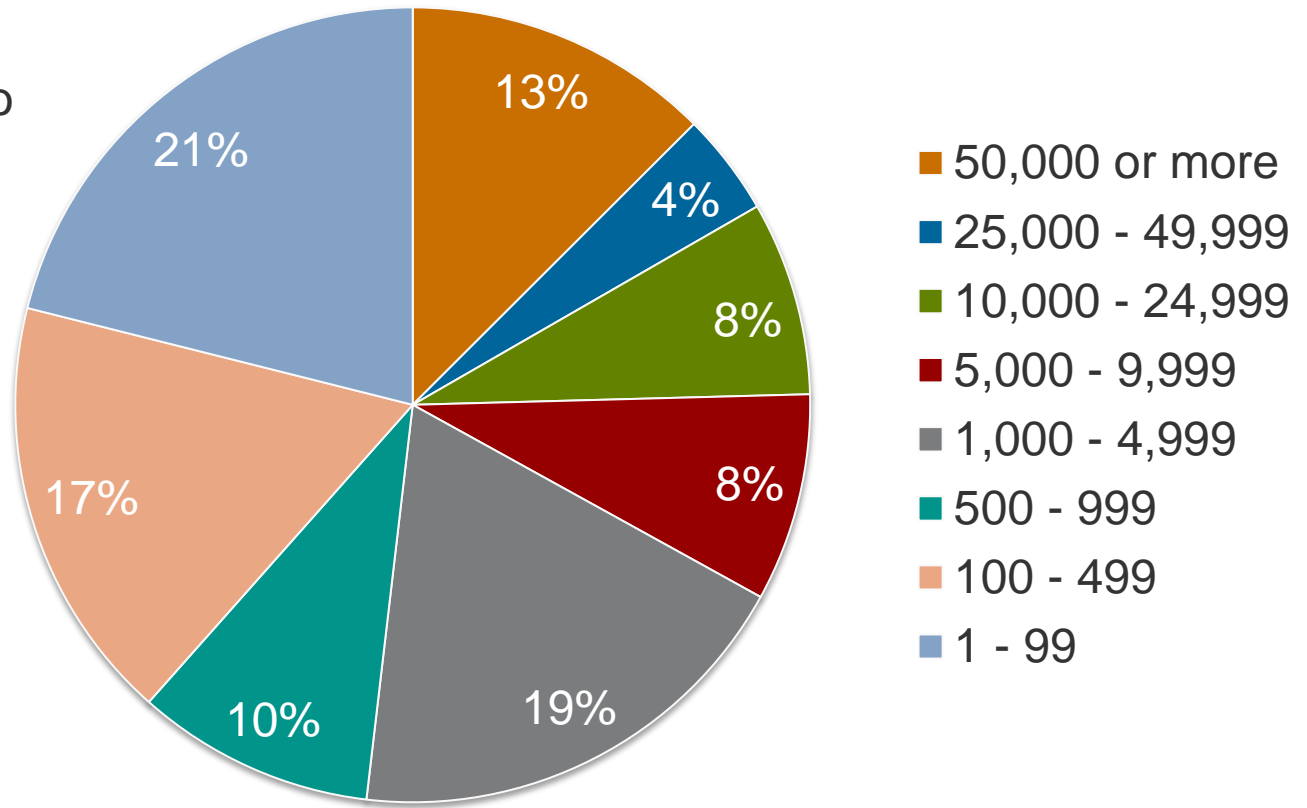
N = 887

Respondent title breakdown

Titles include…
- CEO
- CFO
- CMO
- COO
- Corporate/ business executive
- Corporate/ business manager
- Business analyst
- Functional analyst

Business manager/ professional
24%

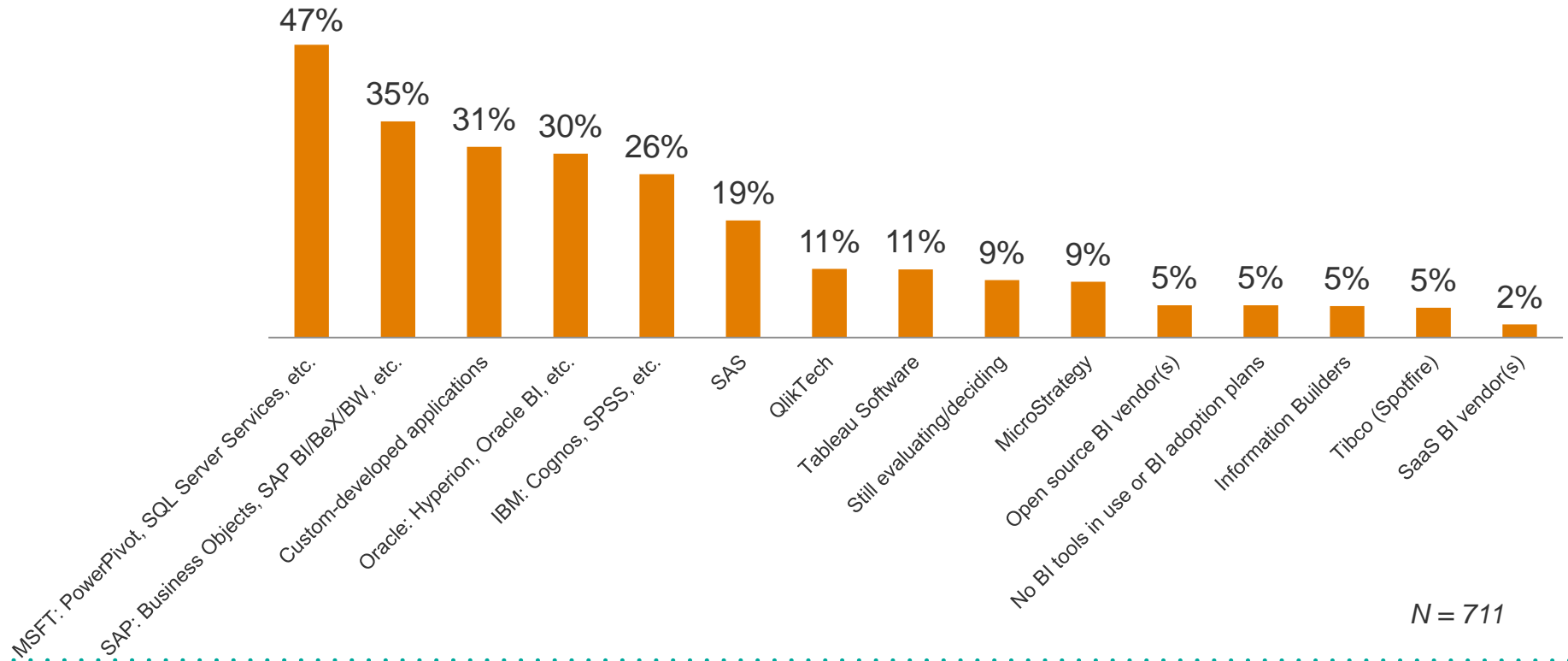IT/BI/analytics/data warehousing/data management professional
76%
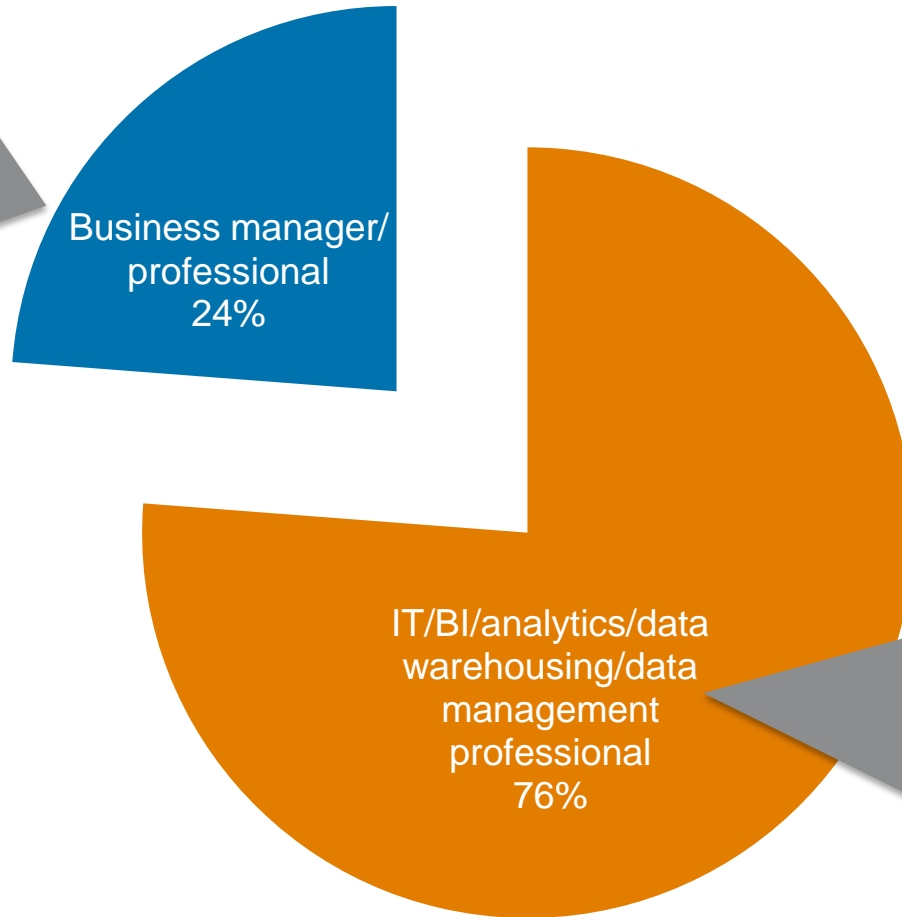
Titles include…
- CIO/CTO
- IT director/VP
- BI director/VP
- BI manager
- Application manager
- Data services manager
- Data warehouse manager
- Data/information architect
- Database administrator
- Database/syste ms manager

N = 887

Top BI/business analytics vendors

- MSFT is in use by many companies, but at some, it may be a departmental or point use case (note: This was a multi-select question).
- Custom-developed apps saw a significant increase from previous years' surveys (13%).
- 14% are still evaluating or have no BI tools in use.

Which vendors or technologies does your organization use or plan to use for BI/business analytics?

Vendor	%
MSFT: PowerPivot, SQL Server Services, etc.	47%
SAP: Business Objects, SAP BI/BeX/BW, etc.	35%
Custom-developed applications	31%
Oracle: Hyperion, Oracle BI, etc.	30%
IBM: Cognos, SPSS, etc.	26%
SAS	19%
QlikTech	11%
Tableau Software	11%
Still evaluating/deciding	9%
MicroStrategy	9%
Open source BI vendor(s)	5%
No BI tools in use or BI adoption plans	5%
Information Builders	5%
Tibco (Spotfire)	5%
SaaS BI vendor(s)	2%

N = 711

Top factors in BI purchase decisions

- Integrating with enterprise applications jumped from #3 to #1 compared to previous years, followed by cost and best technology fit.
- Usability also saw a big rise in importance.

What were the top 3 factors in evaluating and selecting the BI tools that your organization uses or plans to use?
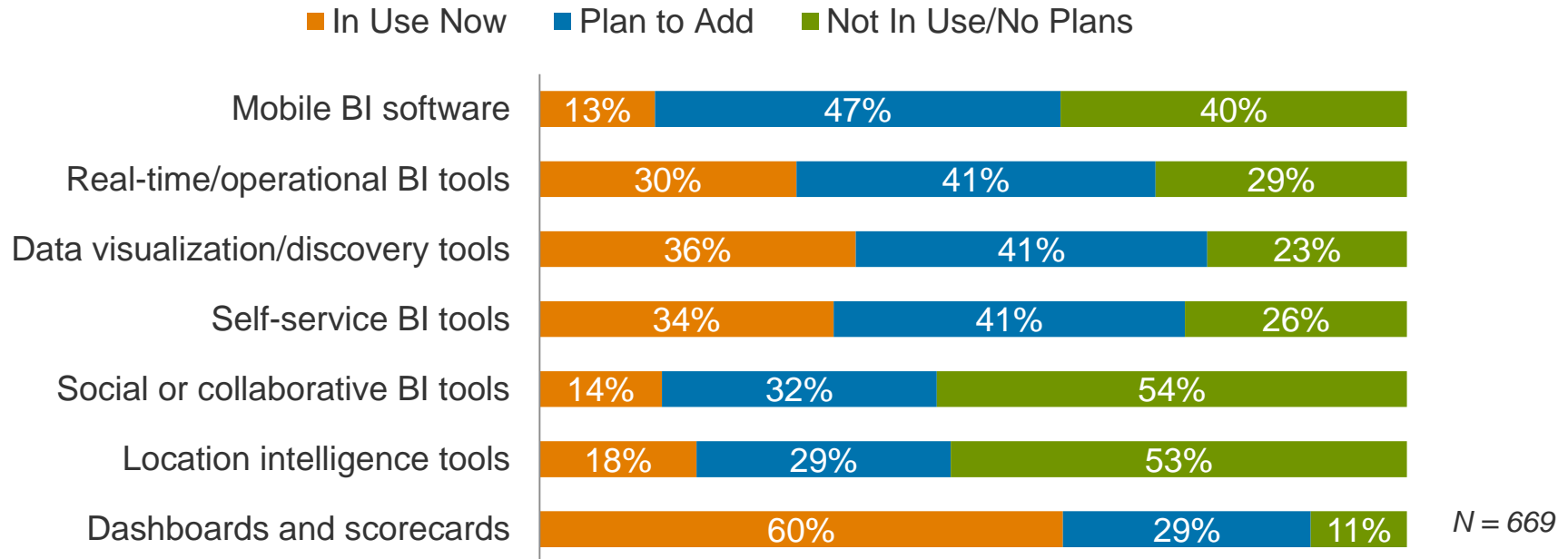
Factor	2013 Rank	2011 Rank
Integration with enterprise applications	1 ⬆	3
Cost	2 ⬇	1
Best technology fit for our requirements	3 ⬇	2
Usability/ease of use	4 ⬆	7
ROI	5 ⬇	4
Ease of implementation	6 ⬇	5
Customization capabilities	7 ⬆	9
Corporate standard or preferred vendor	8 ⬇	6
Vendor support and maintenance	9 ⬇	8

N = 681

BI features in use now and future plans

- Just under half the respondents plan to add mobile BI software within the year.
- Operational BI, data visualization and self-service BI also scored high on the list of technologies companies are planning to add.
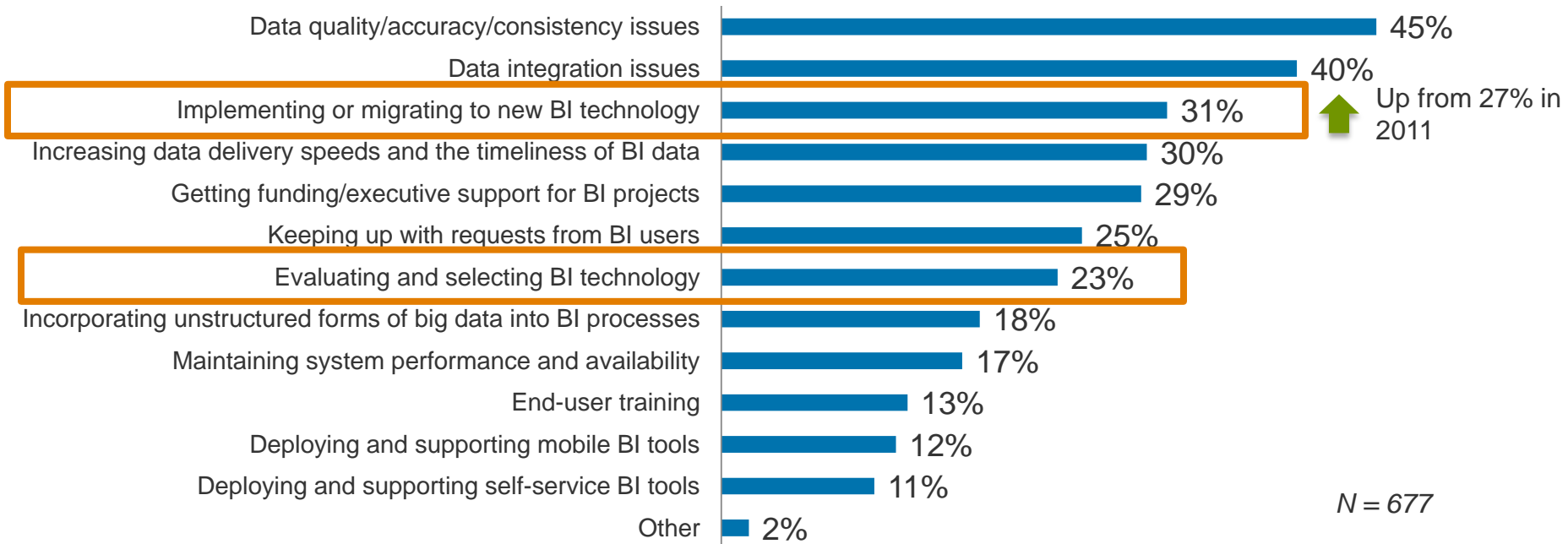
Which of these BI technologies does your organization use now or plan to add within the next 12 months?

■ In Use Now ■ Plan to Add ■ Not In Use/No Plans

	In Use Now	Plan to Add	Not In Use/No Plans
Mobile BI software	13%	47%	40%
Real-time/operational BI tools	30%	41%	29%
Data visualization/discovery tools	36%	41%	23%
Self-service BI tools	34%	41%	26%
Social or collaborative BI tools	14%	32%	54%
Location intelligence tools	18%	29%	53%
Dashboards and scorecards	60%	29%	11%

N = 669

Top-ranked BI challenges

- As BI programs expand, data quality and data integration issues continue to pose major headaches for users.

- Sizable percentages of the respondents indicated they are in the BI project consideration or deployment/migration planning phases. For some, this implies that their existing BI solutions are not meeting their current needs.

What do you expect to be your biggest BI-related challenges over the next 12 months?

Challenge	Percentage
Data quality/accuracy/consistency issues	45%
Data integration issues	40%
Implementing or migrating to new BI technology	31%
Increasing data delivery speeds and the timeliness of BI data	30%
Getting funding/executive support for BI projects	29%
Keeping up with requests from BI users	25%
Evaluating and selecting BI technology	23%
Incorporating unstructured forms of big data into BI processes	18%
Maintaining system performance and availability	17%
End-user training	13%
Deploying and supporting mobile BI tools	12%
Deploying and supporting self-service BI tools	11%
Other	2%

Up from 27% in 2011 (Implementing or migrating to new BI technology)
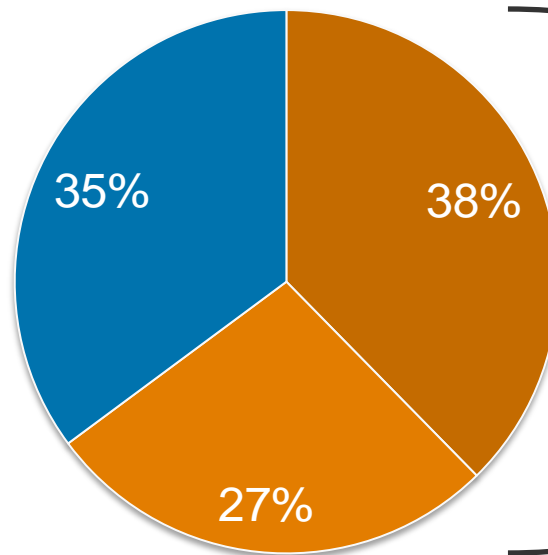
N = 677

BI organizational structure

- As BI becomes more pervasive throughout the enterprise, BI teams are becoming more centralized, cross-functional.

Has your organization set up a business intelligence competency center or another form of a centralized BI team?

Legend:
- ■ Yes
- ■ Plan to do so within the 12 months
- ■ No, and no plans to create one

Pie chart values: 38%, 27%, 35%

Nearly 2/3 have/plan to add a centralized BI team

N = 680

Notable difference in analytics use, 2013 vs. 2011

- Seeing a massive shift in advanced analytics projects currently underway:
  - 86% of respondents are currently using advanced analytics or plan to in the next year compared to only 51% two years ago.

What kinds of advanced analytics is your organization doing now or planning to do within the next year?
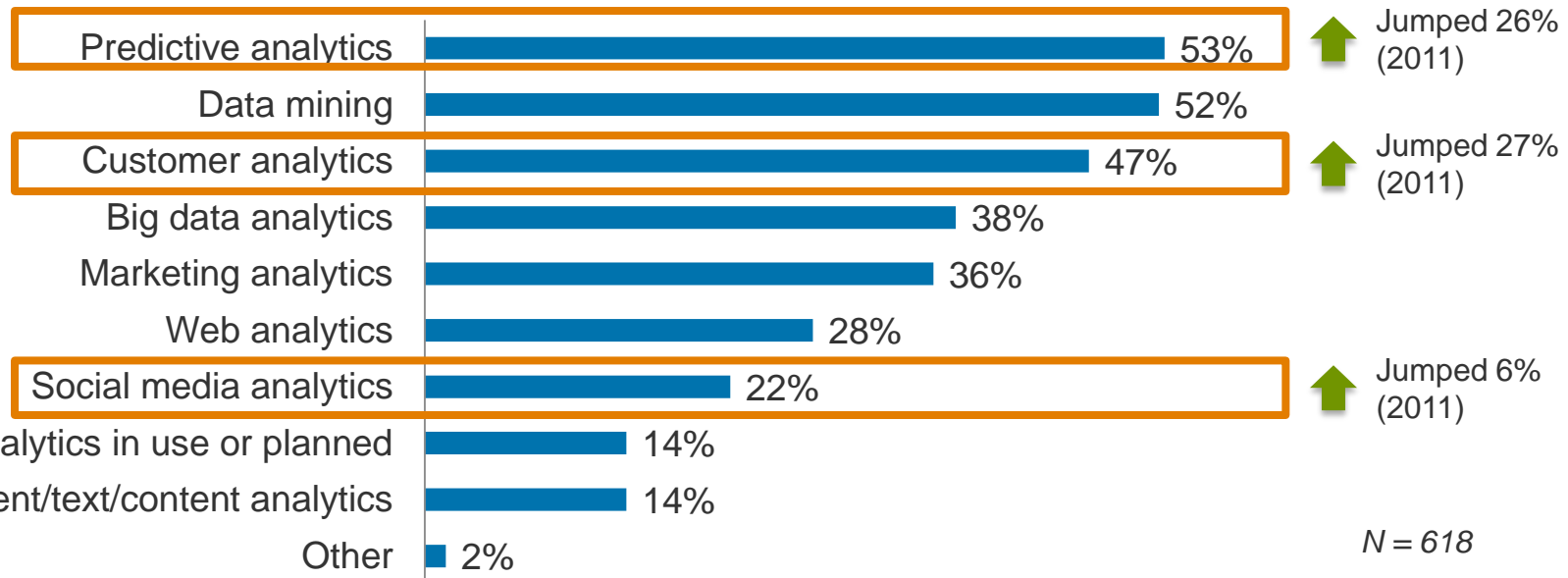
■ 2011 ■ 2013

No advanced analytics in use or planned

49%

14%
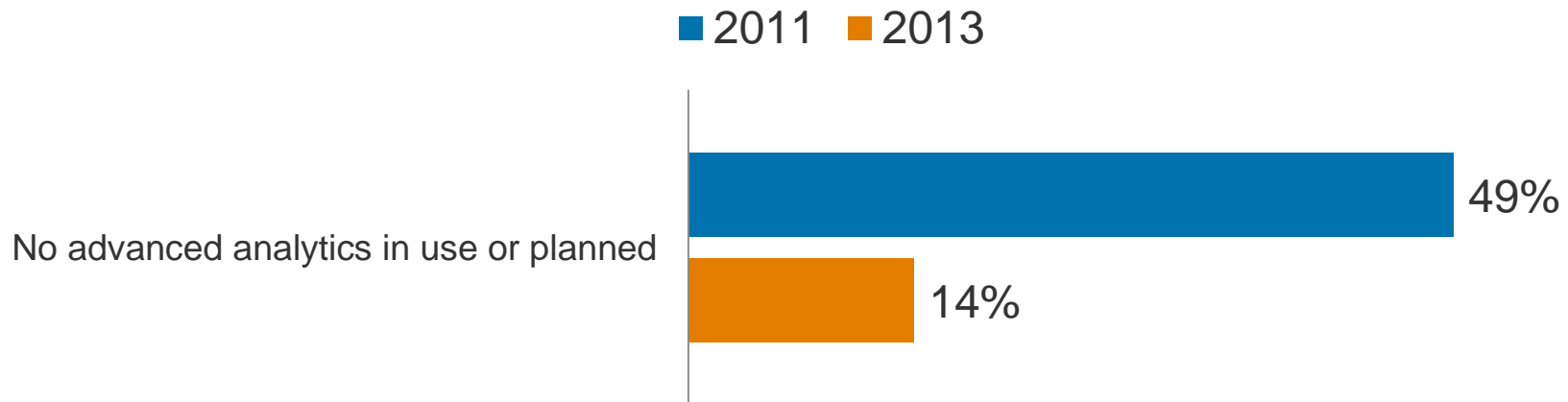
N = 618

Types of analytics in use

- Analytics adoption is becoming more sophisticated with some more advanced forms gaining strong traction among users.
- While predictive analytics moved up two spaces from 2011 to take the lead, customer analytics adoption has more than doubled in the past two years.
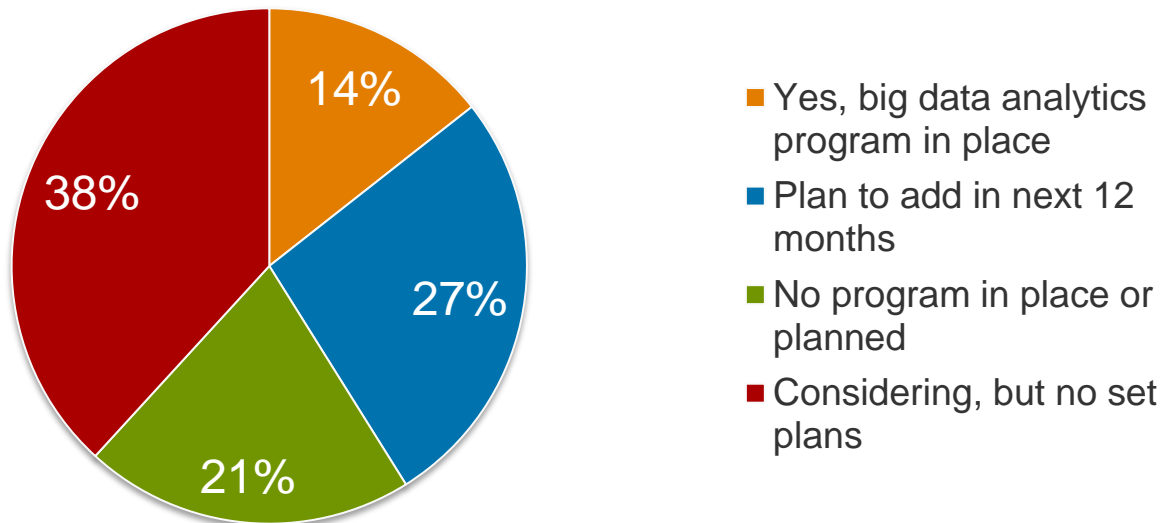
What kinds of advanced analytics is your organization doing now or planning to do within the next year?

Analytics type	Percentage	Note
Predictive analytics	53%	Jumped 26% (2011)
Data mining	52%	
Customer analytics	47%	Jumped 27% (2011)
Big data analytics	38%	
Marketing analytics	36%	
Web analytics	28%	
Social media analytics	22%	Jumped 6% (2011)
No advanced analytics in use or planned	14%	
Sentiment/text/content analytics	14%	
Other	2%	

N = 618

Big data management and analytics planned programs

- More than 3/4 of respondents do not currently have an established big data management and analytics program in place.
- The fact that so many are still in the consideration phase suggests that there is still a lot of confusion around how best to embark on such an initiative.

Do you have a big data management and analytics program under way in your organization or plan to implement one within the next year?
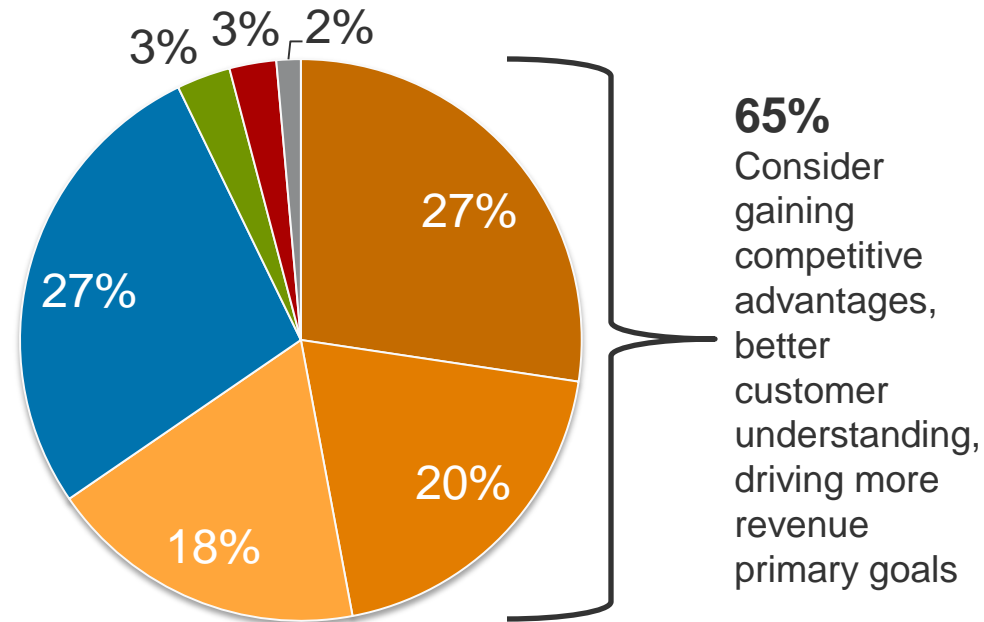

Pie chart values:
- 14% — Yes, big data analytics program in place
- 27% — Plan to add in next 12 months
- 21% — No program in place or planned
- 38% — Considering, but no set plans

N = 540

Big data analytics business drivers

- Improved efficiency and competitive insight top the list of big data analytics business drivers, which (despite a weakened climate) would explain the stronger than average growth levels.

- Nearly 2 out of 3 respondents (65%) referred to a revenue-generating type of driver, which when coupled together, make it a higher priority than improving efficiency alone.

What is the primary goal of your organization's big data analytics program?

- ■ Using big data to gain competitive advantages over business rivals
- ■ Better understanding customer needs, preferences and buying decisions
- ■ Driving increased revenue/finding new revenue opportunities
- ■ Improving organizational efficiency and profitability
- ■ Using system/network log data to help improve IT operations
- ■ Other
- ■ Tracking sentiment toward our company and products on social networks

3% 3% 2%

27%

27%

20%

18%

65%
Consider gaining competitive advantages, better customer understanding, driving more revenue primary goals
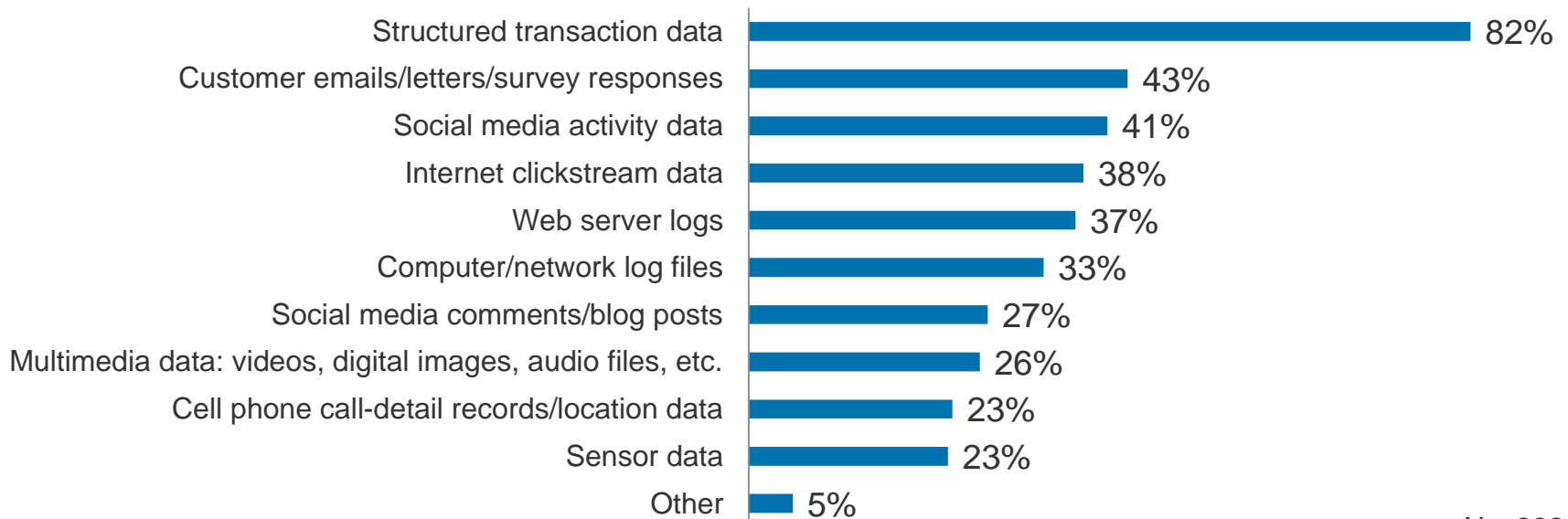
N = 223

Types of data incorporated in big data programs

- Transactional data still ranks as the #1 type of data collected.
- Not surprisingly, customer and social media data are gaining strong traction.

What types of data does your organization collect or plan to collect as part of its big data program?

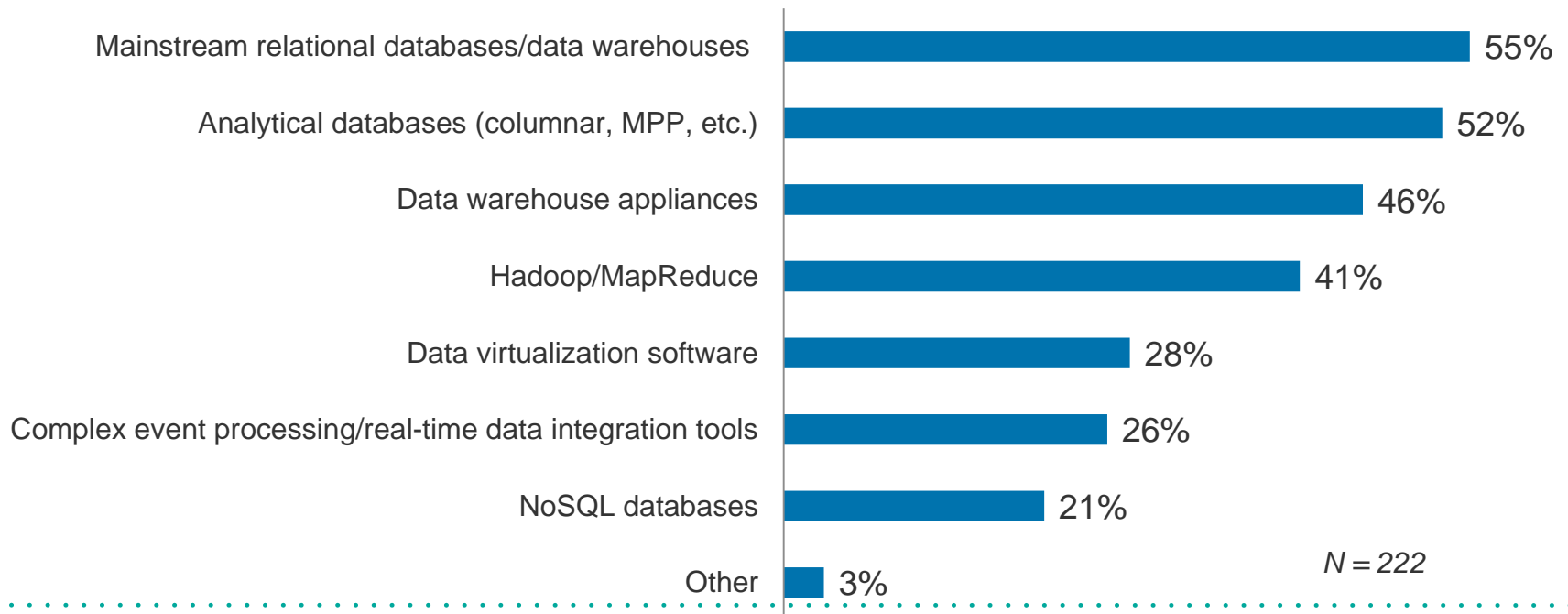| Type	Percentage
Structured transaction data	82%
Customer emails/letters/survey responses	43%
Social media activity data	41%
Internet clickstream data	38%
Web server logs	37%
Computer/network log files	33%
Social media comments/blog posts	27%
Multimedia data: videos, digital images, audio files, etc.	26%
Cell phone call-detail records/location data	23%
Sensor data	23%
Other	5%

N = 222

Big data supporting architecture

- Mainstream RBDMS/data warehouses are still the #1 choice to support big data environments.
- However, respondents also realize the need to expand beyond current systems to further capitalize on big data's potential impact.

What technologies does your organization use or plan to use to support its big data environment?

Technology	Percentage
Mainstream relational databases/data warehouses	55%
Analytical databases (columnar, MPP, etc.)	52%
Data warehouse appliances	46%
Hadoop/MapReduce	41%
Data virtualization software	28%
Complex event processing/real-time data integration tools	26%
NoSQL databases	21%
Other	3%

N = 222

Big data analytics adoption hurdles

- Lack of budget, proven ROI, top the list of obstacles preventing companies from gaining stronger support for big data analytics projects.

What is the biggest reason why your organization isn't moving forward on a big data analytics program at this point?
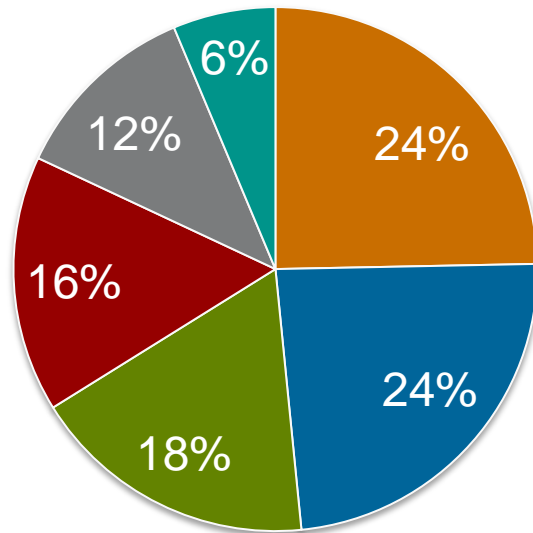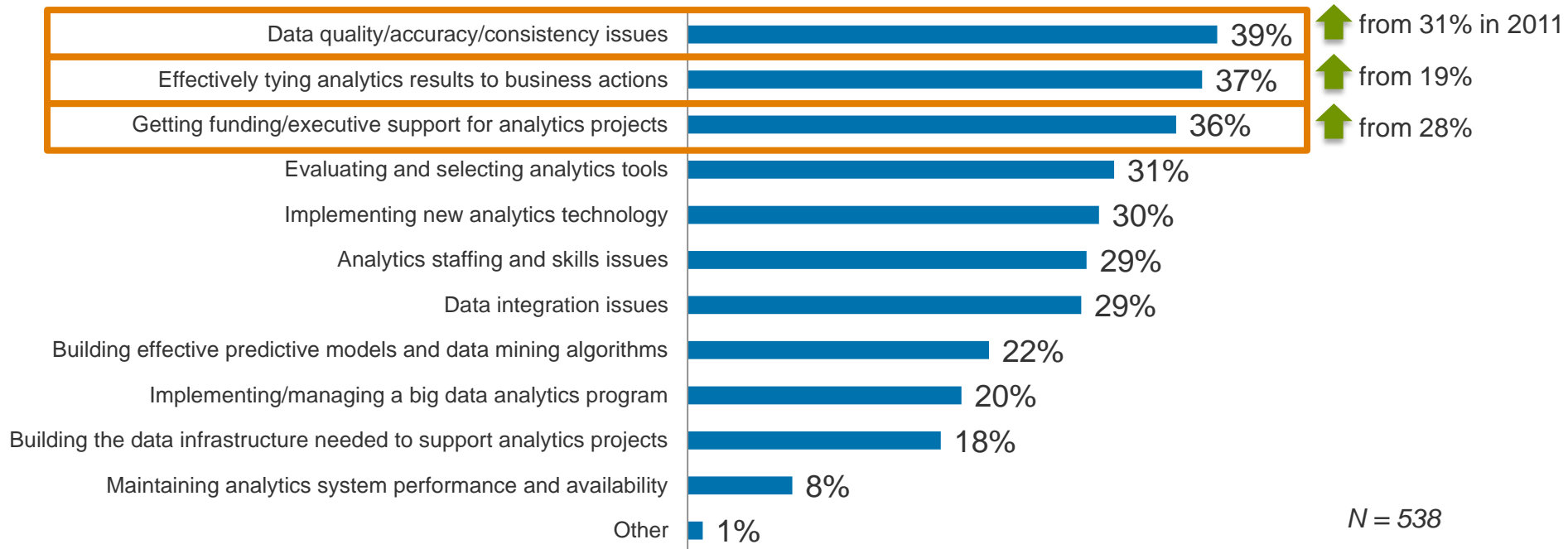

- No money available in budget
- Lack of business case/potential ROI
- No need – we don't create or collect big data
- Lack of internal big data management/analytics skills
- Concerns about maturity/reliability of big data technologies
- Other

N = 316

Top analytics-related challenges

- As expected, data quality concerns top the list of challenges.
- Also on the rise: Gaining executive support/funding for analytics projects - which could be a result of heightened scrutiny w/r/t budget spending.
- Difficulty implementing new analytics technologies is also on the rise.

What do you expect to be your biggest analytics-related challenges over the next 12 months?

Challenge	%	Change
Data quality/accuracy/consistency issues	39%	⬆ from 31% in 2011
Effectively tying analytics results to business actions	37%	⬆ from 19%
Getting funding/executive support for analytics projects	36%	⬆ from 28%
Evaluating and selecting analytics tools	31%	
Implementing new analytics technology	30%	
Analytics staffing and skills issues	29%	
Data integration issues	29%	
Building effective predictive models and data mining algorithms	22%	
Implementing/managing a big data analytics program	20%	
Building the data infrastructure needed to support analytics projects	18%	
Maintaining analytics system performance and availability	8%	
Other	1%	

N = 538

Data warehousing adoption trends

- Surprising to note that only a little over half of respondents report that they currently have at least one data warehouse installed.
- With a further 33% planning or considering a data warehousing implementation, this market is clearly still in growth mode.

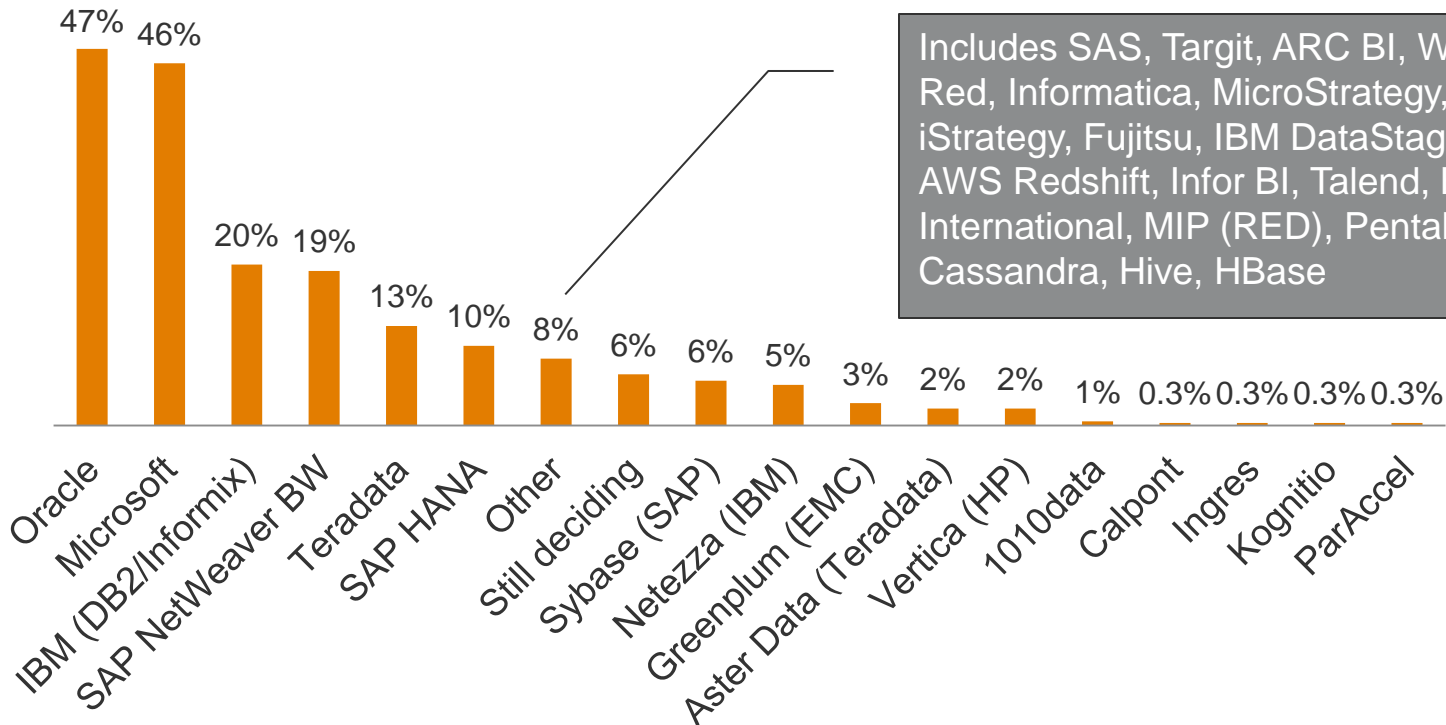*Does your organization have a data warehouse or multiple data warehouses installed, or does it plan a deployment within the next year?*

33% planning or considering

- Yes
- Plan to deploy in the next 12 months
- Considering, but no definite plans
- No data warehouse, and no plans to implement one

N = 586
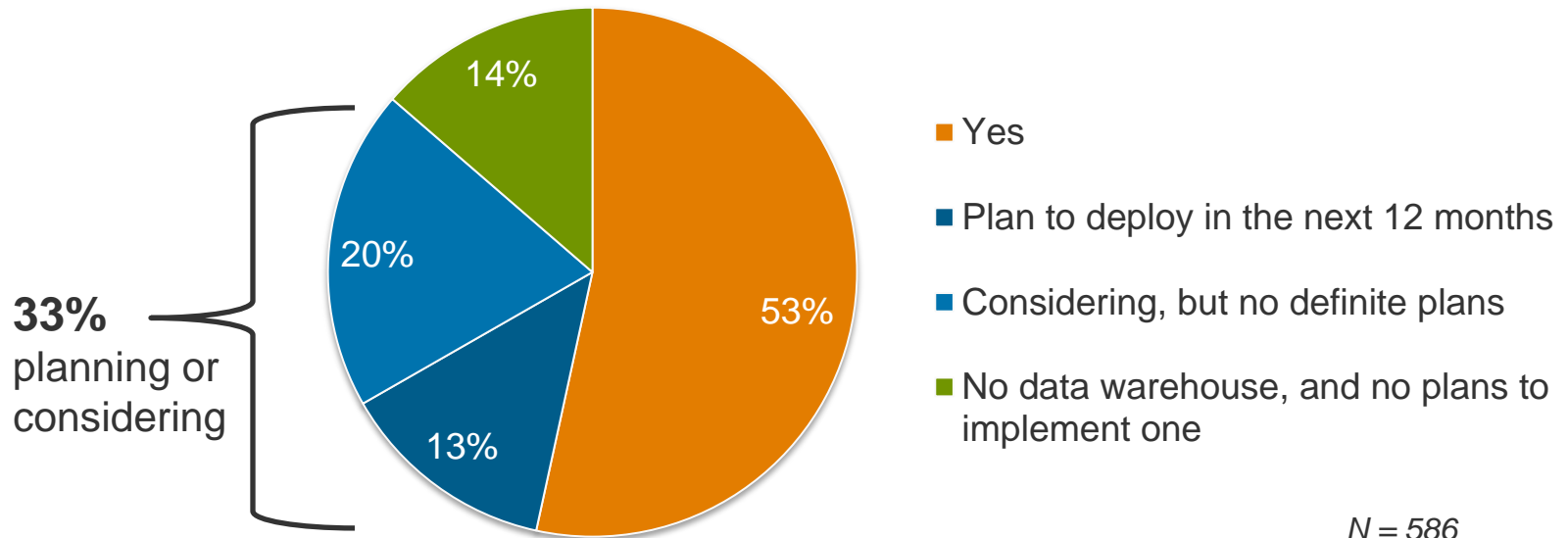
Top data warehousing vendors

- Oracle and MSFT continue to dominate in the data warehousing space, however, SAP HANA is quickly gaining traction.

Which vendors do you currently use, or plan to use, for data warehousing?

47% 46% 20% 19% 13% 10% 8% 6% 6% 5% 3% 2% 2% 1% 0.3% 0.3% 0.3% 0.3%

Oracle | Microsoft | IBM (DB2/Informix) | SAP NetWeaver BW | Teradata | SAP HANA | Other | Still deciding | Sybase (SAP) | Netezza (IBM) | Greenplum (EMC) | Aster Data (Teradata) | Vertica (HP) | 1010data | Calpont | Ingres | Kognitio | ParAccel

Includes SAS, Targit, ARC BI, WhereScape Red, Informatica, MicroStrategy, Endeca, iStrategy, Fujitsu, IBM DataStage, MySQL, AWS Redshift, Infor BI, Talend, BOARD International, MIP (RED), Pentaho, Cassandra, Hive, HBase
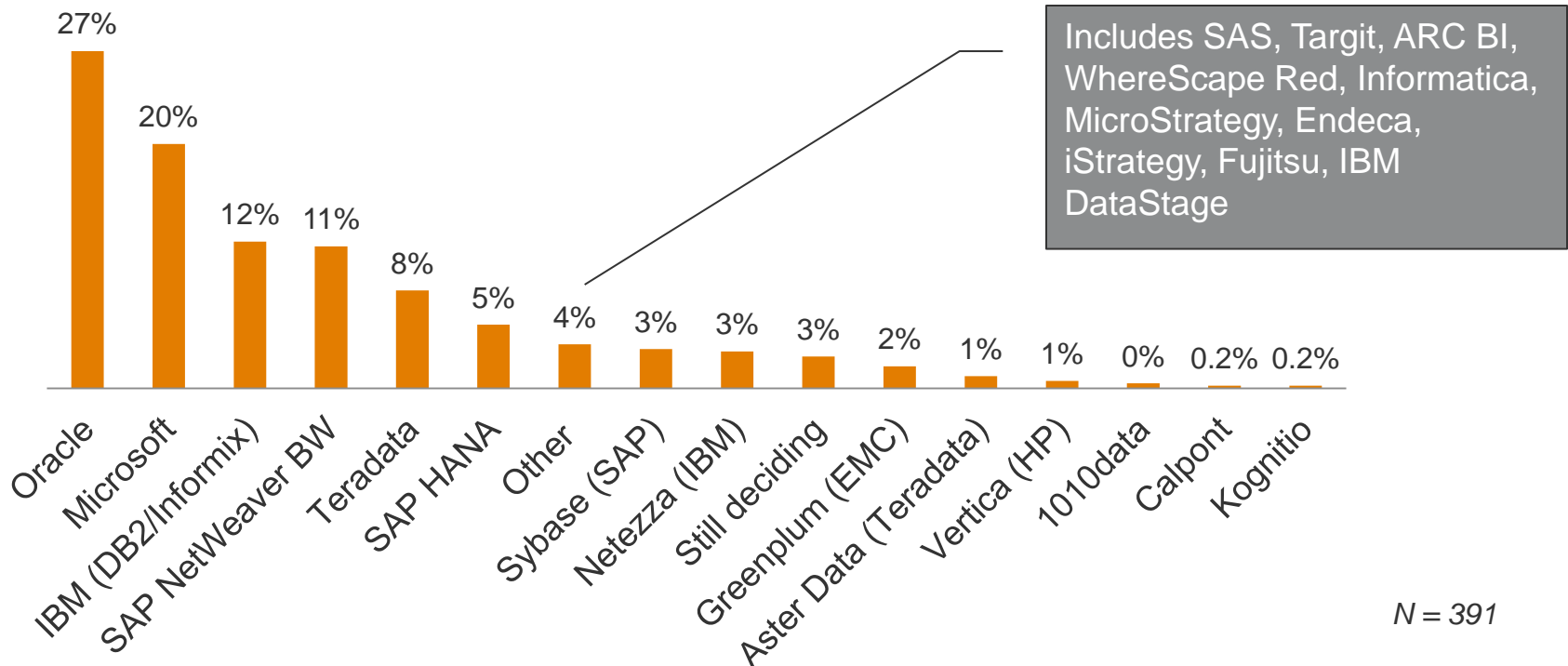
N = 391

Top data warehousing vendors (1k+ employees)

- Oracle takes a lead against MSFT in the data warehousing space for 1,000+ company size organizations.

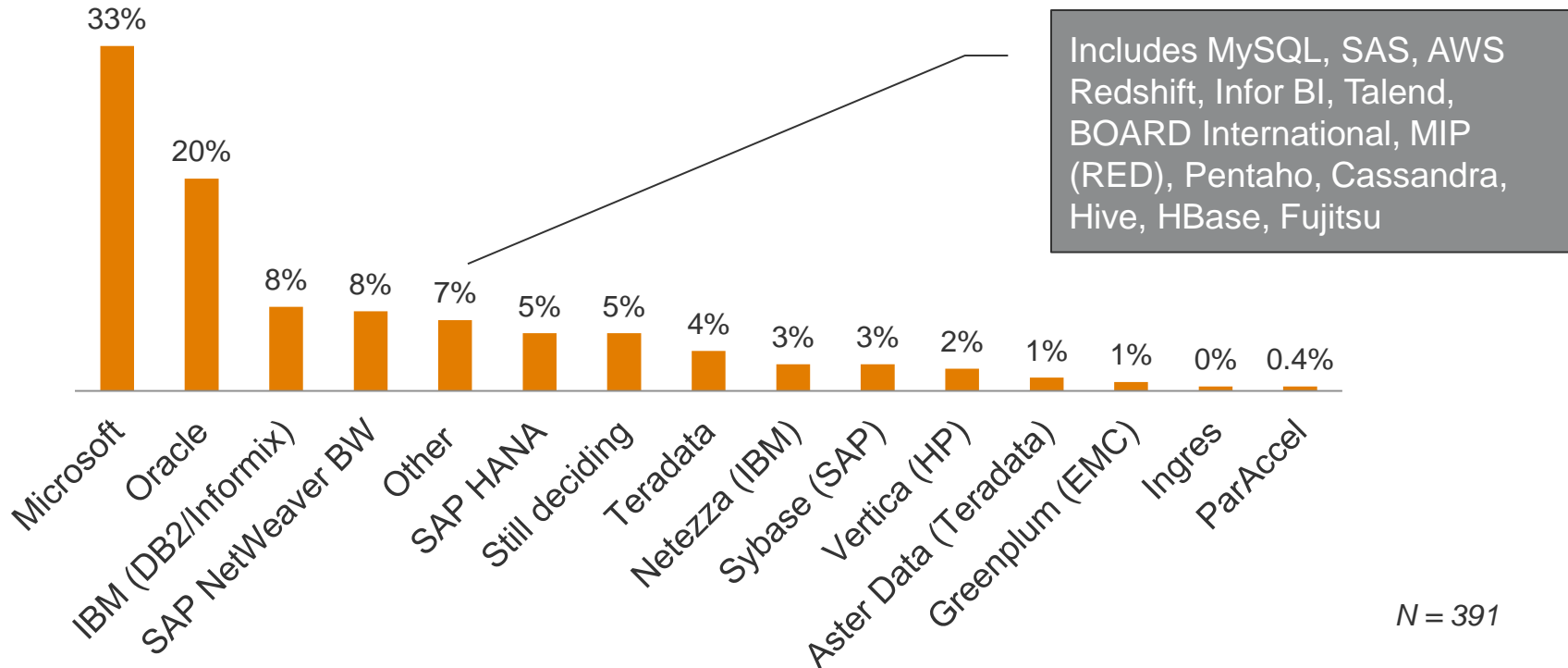*Which vendors do you currently use, or plan to use, for data warehousing?*

Includes SAS, Targit, ARC BI, WhereScape Red, Informatica, MicroStrategy, Endeca, iStrategy, Fujitsu, IBM DataStage

Vendor	%
Oracle	27%
Microsoft	20%
IBM (DB2/Informix)	12%
SAP NetWeaver BW	11%
Teradata	8%
SAP HANA	5%
Other	4%
Sybase (SAP)	3%
Netezza (IBM)	3%
Still deciding	3%
Greenplum (EMC)	2%
Aster Data (Teradata)	1%
Vertica (HP)	1%
1010data	0%
Calpont	0.2%
Kognitio	0.2%

N = 391

Top data warehousing vendors (100-1k emp.)

- MSFT takes a lead against Oracle in the data warehousing space for 100 – 1k company size organizations.

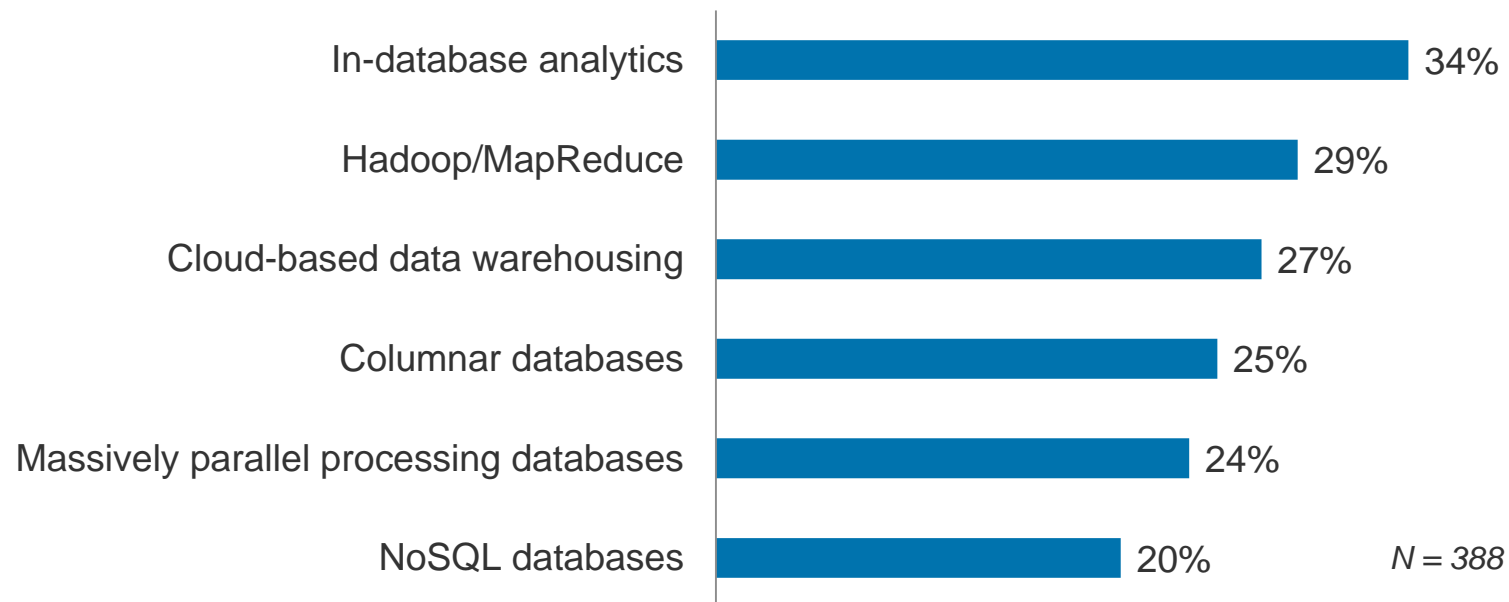*Which vendors do you currently use, or plan to use, for data warehousing?*

Includes MySQL, SAS, AWS Redshift, Infor BI, Talend, BOARD International, MIP (RED), Pentaho, Cassandra, Hive, HBase, Fujitsu

Vendor	%
Microsoft	33%
Oracle	20%
IBM (DB2/Informix)	8%
SAP NetWeaver BW	8%
Other	7%
SAP HANA	5%
Still deciding	5%
Teradata	4%
Netezza (IBM)	3%
Sybase (SAP)	3%
Vertica (HP)	2%
Aster Data (Teradata)	1%
Greenplum (EMC)	1%
Ingres	0%
ParAccel	0.4%

N = 391

In-database analytics is #1 data warehouse technology respondents plan to add

- Significant investments planned for both in-database analytics and Hadoop.
- This data shows further evidence that SAP HANA is fast-growing in popularity.
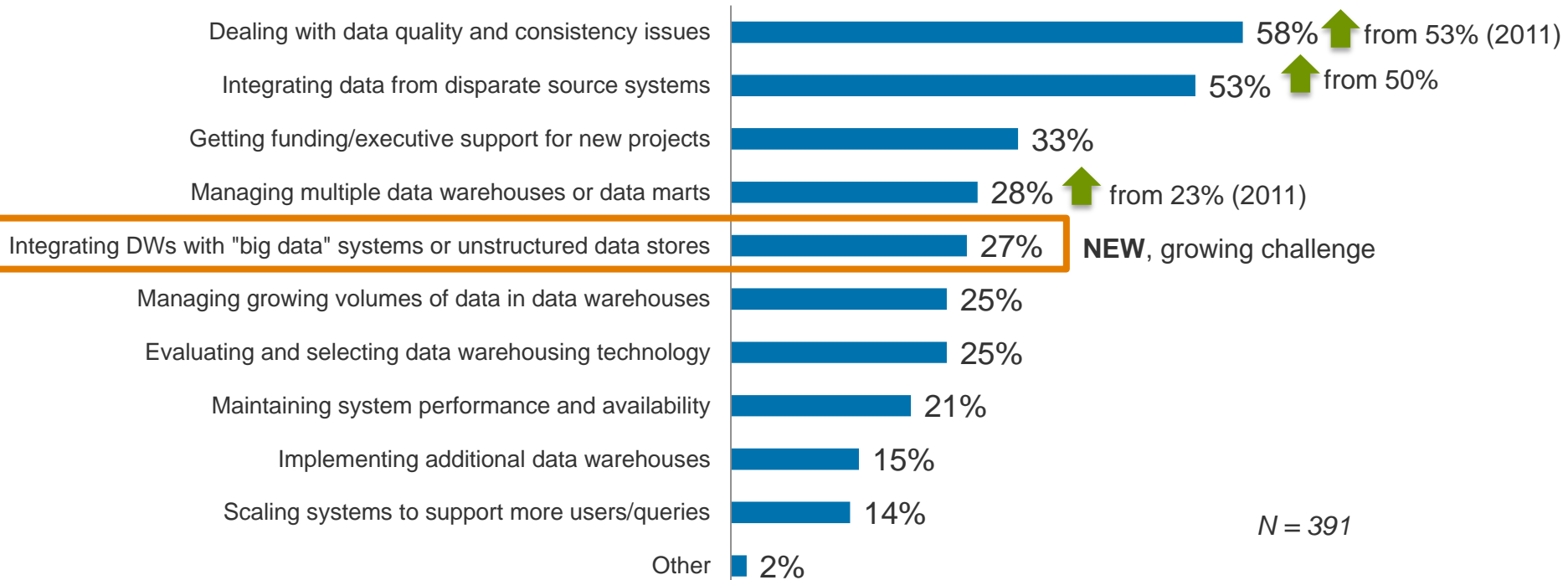
Which of these new or emerging technologies related to data warehousing does your organization plan to deploy in the next 12 months?

Technology	Percentage
In-database analytics	34%
Hadoop/MapReduce	29%
Cloud-based data warehousing	27%
Columnar databases	25%
Massively parallel processing databases	24%
NoSQL databases	20%

N = 388

Biggest data warehousing challenges

- Data quality issues still rank as the biggest DW challenge users anticipate in the coming year.
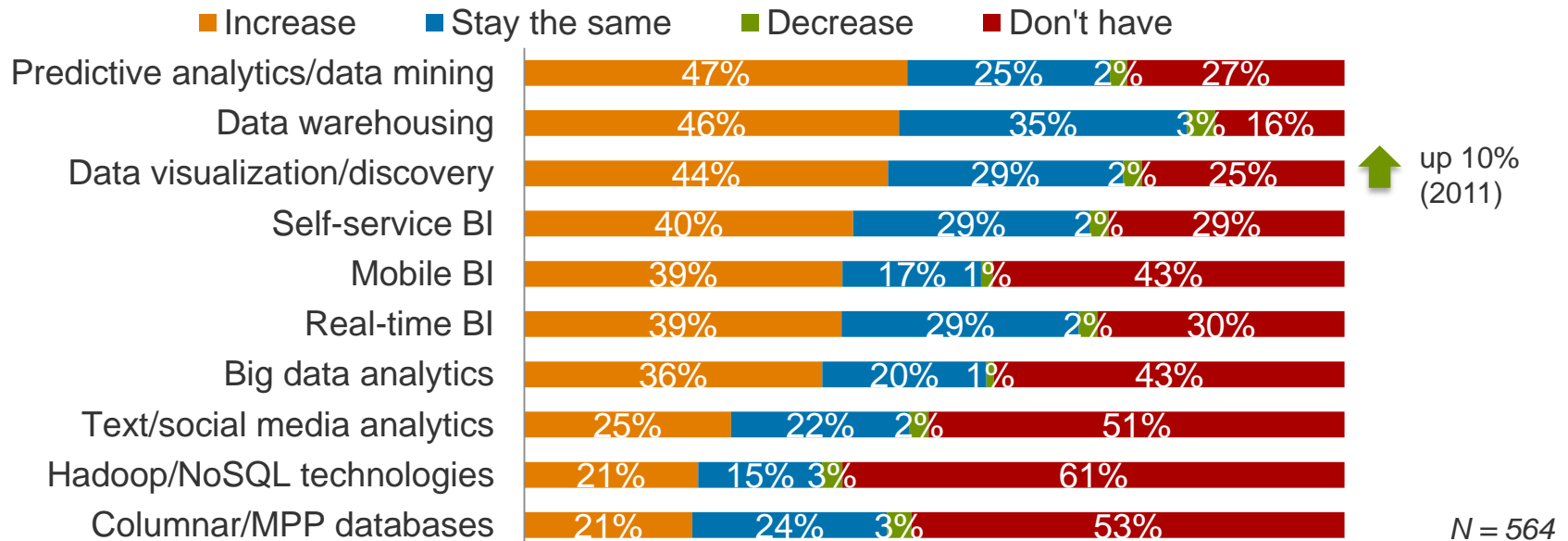- The onslaught of data from new and varied sources is clearly a contributing factor.

What do you expect to be your biggest data warehousing challenges over the next 12 mos?

Challenge	Percent	
Dealing with data quality and consistency issues	58%	⬆ from 53% (2011)
Integrating data from disparate source systems	53%	⬆ from 50%
Getting funding/executive support for new projects	33%	
Managing multiple data warehouses or data marts	28%	⬆ from 23% (2011)
Integrating DWs with "big data" systems or unstructured data stores	27%	**NEW**, growing challenge
Managing growing volumes of data in data warehouses	25%	
Evaluating and selecting data warehousing technology	25%	
Maintaining system performance and availability	21%	
Implementing additional data warehouses	15%	
Scaling systems to support more users/queries	14%	
Other	2%	

N = 391

Upcoming spending intentions

- Spending increases planned in many areas.
- Most notable increase is planned investment in data visualization/discovery technologies which jumped 10% from 2011.
- Companies also planning to add self-service, mobile and real-time functionality.

Over the next 12 months, how do you expect your organization's spending to change in the following technology areas?

| Technology Area	Increase	Stay the same	Decrease	Don't have
Predictive analytics/data mining	47%	25%	2%	27%
Data warehousing	46%	35%	3%	16%
Data visualization/discovery	44%	29%	2%	25%
Self-service BI	40%	29%	2%	29%
Mobile BI	39%	17%	1%	43%
Real-time BI	39%	29%	2%	30%
Big data analytics	36%	20%	1%	43%
Text/social media analytics	25%	22%	2%	51%
Hadoop/NoSQL technologies	21%	15%	3%	61%
Columnar/MPP databases	21%	24%	3%	53%

up 10% (2011)

N = 564

Hardware investment plans

- A robust infrastructure is an essential factor in optimizing BI/analytics performance.
- As is evidenced by the fact that 2/3 of our readers plan to add to/upgrade their existing server hardware in the coming 12 months or are considering new purchases.

Does your organization plan to buy new server hardware in the next 12 months or upgrade existing servers to support your BI, analytics and data warehousing systems?

- Yes, new purchases or upgrades planned
- Considering purchases/upgrades, but no set plans
- No

34%

33%

33%

66% planning or considering
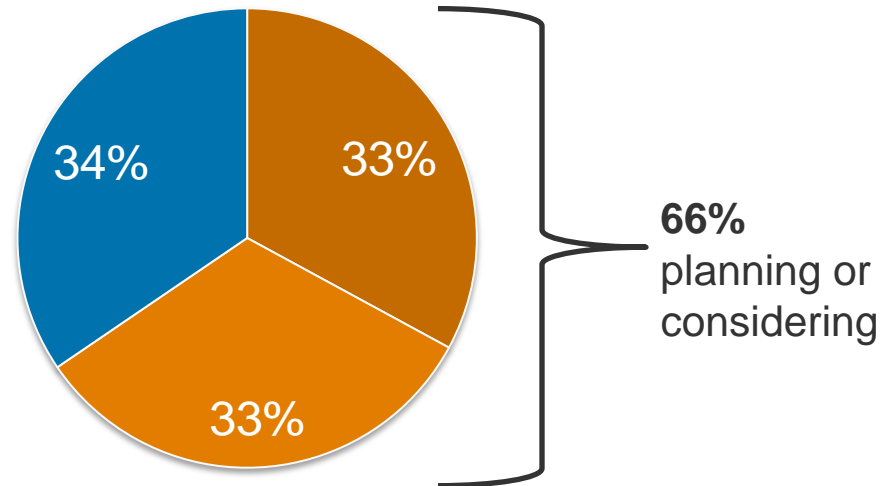
N = 565

Current/future cloud adoption trends

- The cloud continues to play a critical role in supporting BI, analytics, and DW initiatives with 3 out of 5 respondents reporting that they are planning, considering or actively using the cloud.
- Also interesting to note that a majority of users (32%) are still in the consideration phase which could be indicative of lingering skepticism toward cloud security.

Does your organization run or plan to run any part of its BI, analytics and data warehousing systems in the cloud?

■ Yes, active cloud user

■ Plan to start using the cloud in the next 12 months

■ Considering, but no set plans

■ No

15%

13%

32%

41%

60% planning, considering, or actively using

N = 559
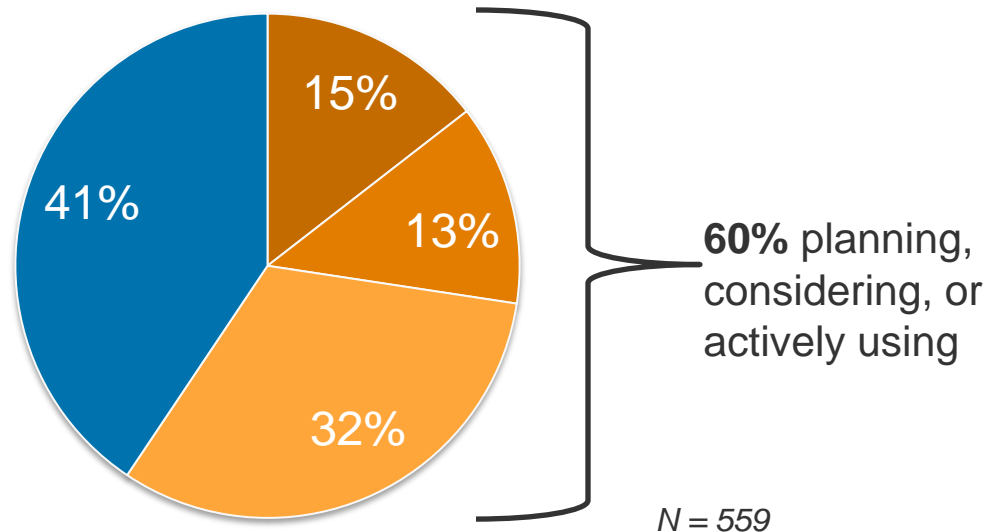
Key takeaways/trends to watch

- Integration continues to be a major factor influencing BI purchasing decisions.
- As BI becomes more pervasive throughout the enterprise, BI teams are becoming more centralized, cross-functional.
- 47% of readers plan to add mobile BI in the coming year.
- Significant investments planned for data visualization/discovery technologies as well as in-database analytics and Hadoop.
- More than ¾ of respondents do not currently have an established big data management and analytics program in place.
- Lack of budget, proven ROI, top the list of obstacles preventing companies from gaining stronger support for big data analytics projects.
- 2/3 of our readers plan to add to/upgrade their existing server hardware, or are considering new purchases, to support BI/analytics in the coming 12 months.
- The cloud is gaining traction but some skepticism still remains.