

USING
BIG DATA + ANALYTICS
TO DRIVE BUSINESS TRANSFORMATION

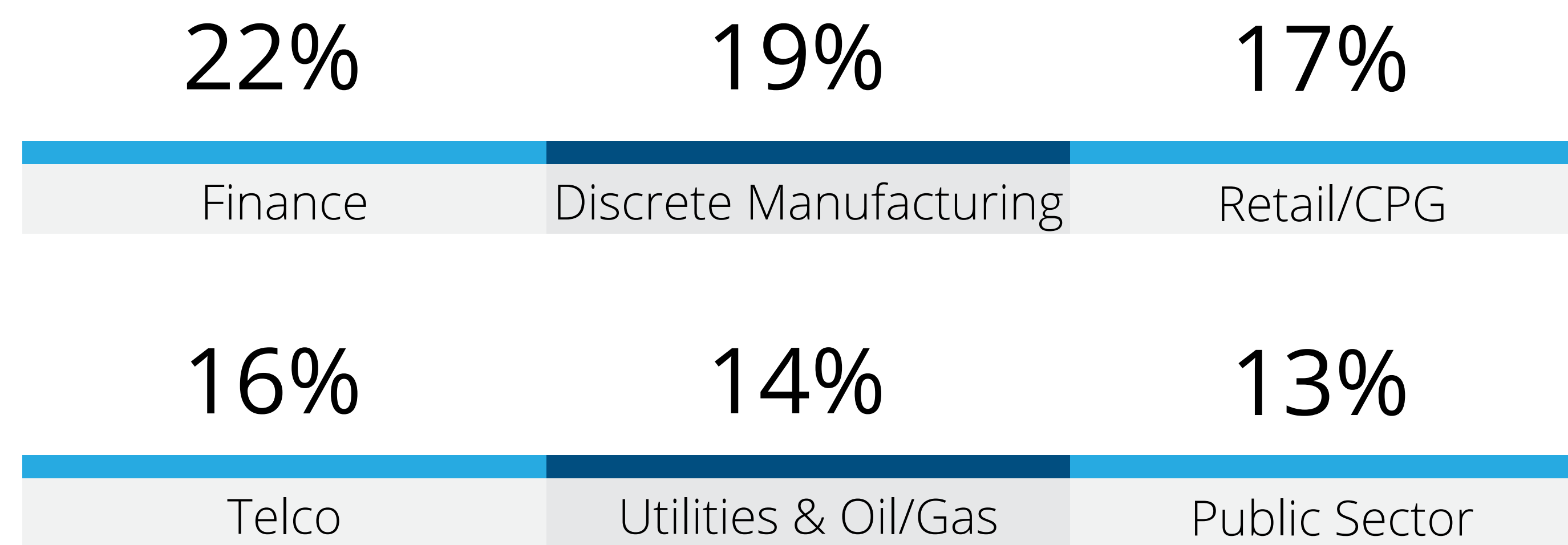
In this Study

IDC recently conducted a survey sponsored by SAP and Intel to discover how organizations are successfully using Big Data and analytics. The survey evaluated the relevance of Big Data and analytics to business transformation and was used to identify best practices from the most mature organizations.

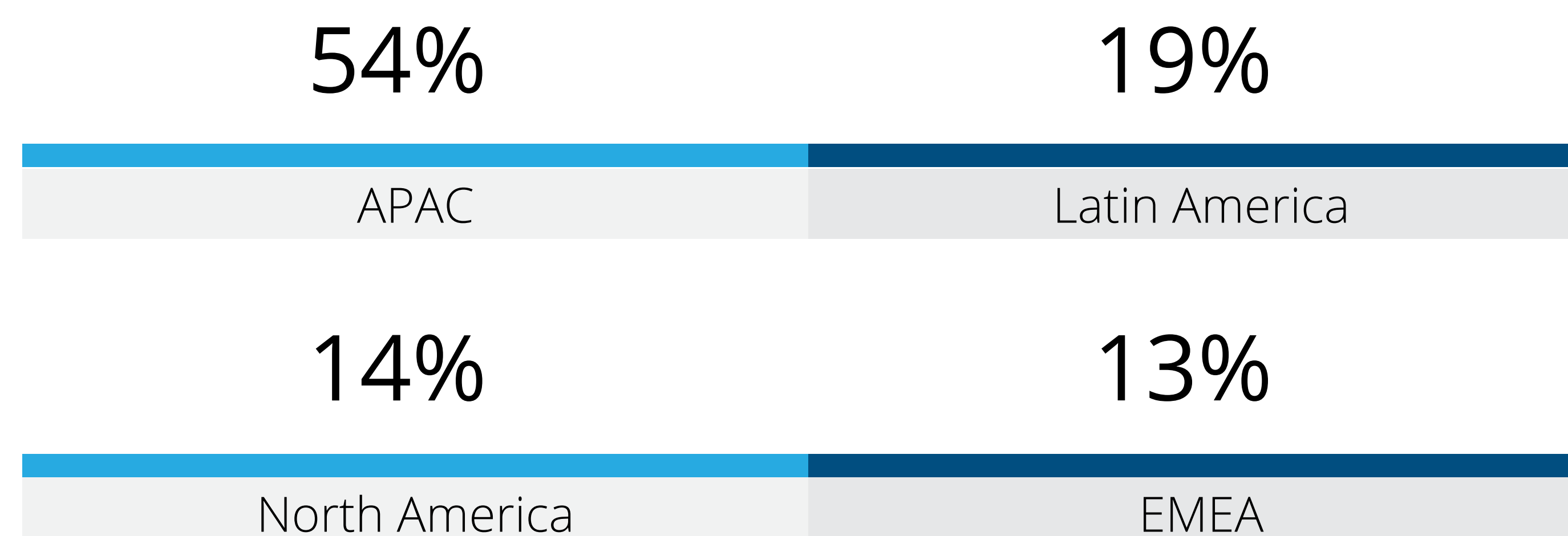
1,810 interviews were conducted in three phases between July 2014 and February 2015. The survey took place in Brazil, China, France, Germany, Italy, Kenya, Kuwait, Oman, Mexico, the Netherlands, Nigeria, the Nordics, Portugal, Qatar, Saudi Arabia, Spain, South Africa, UAE, the U.K., and the U.S.

IDC evaluated the results using IDC's Big Data Maturity model, a methodology that benchmarks organizations' competence across five dimensions: people, process, technology, data, and intent. Based on this model, IDC looked at the most mature organizations and identified what benefits they achieved from Big Data and analytics. We called these organizations the "Big Data Innovators" and looked at what they do differently to the other respondents. These differences become useful lessons around increasing maturity in Big Data and analytics and driving further success.

Industry



Region



Quarterly Returns By



Executive Summary

Business Transformation Enabled by Technology Innovation



Many industries are in the process of radical transformation – music, media, entertainment, and transport are leading the way, pioneering new and disruptive business models. Financial services, retail, telecoms, and manufacturing are closely following, transforming to consumer-led, personalized, operationally efficient sales and delivery models.

We call this widespread transformation “digital transformation” because it is led by the digitization of processes which in turn lead to widespread access to information. This information goes far beyond the type of information businesses are accustomed to using to generate insights. This information is vast on volume, broad in the variety of data types it encompasses, and often needs to be integrated and analyzed in real-time so people can take immediate action in response to it. One example is sensor data and transactional data coming together in use cases for the Internet of things. Such information, and the technologies and tools used to manage and drive insights from it, are known as “Big Data”.

Since 2007, IDC has been predicting and analyzing the Information and Communications Technology (ICT)... shift to the *3rd Platform, as we call it, for innovation and growth – built on cloud, mobile, social and Big Data technologies. The 3rd Platform will provide the technological underpinning of digital transformation.

For businesses to survive in this brave new world, they will need a nuanced Big Data strategy to navigate the complexities.

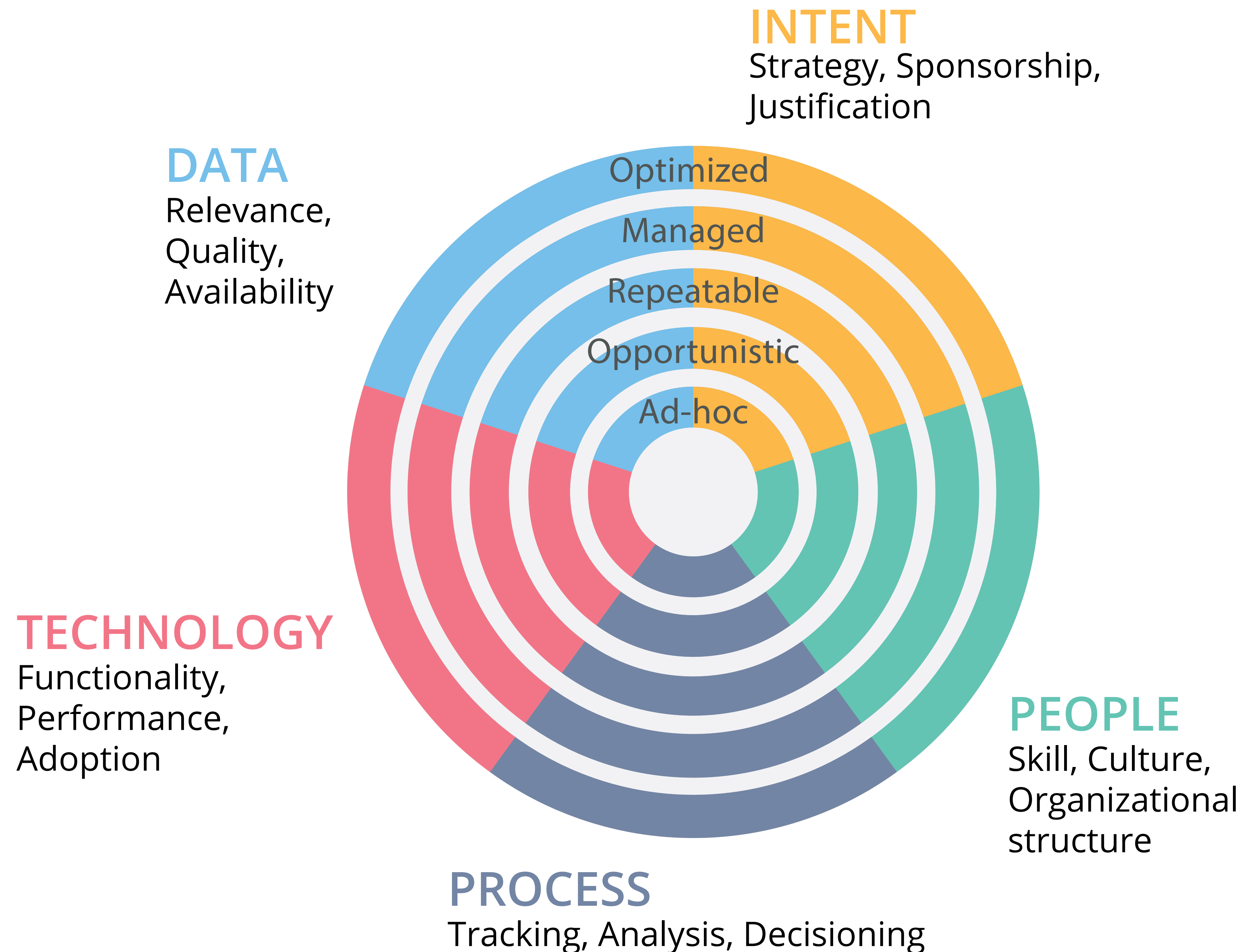
* <http://www.idc.com/prodserv/3rd-platform/>

Big Data Maturity Underpins Transformation

Organizations can truly transform and innovate by leveraging Big Data. With new insights, they can take a forward-looking view of the business or organization, building on the insight they already have of history through the rear view mirror.

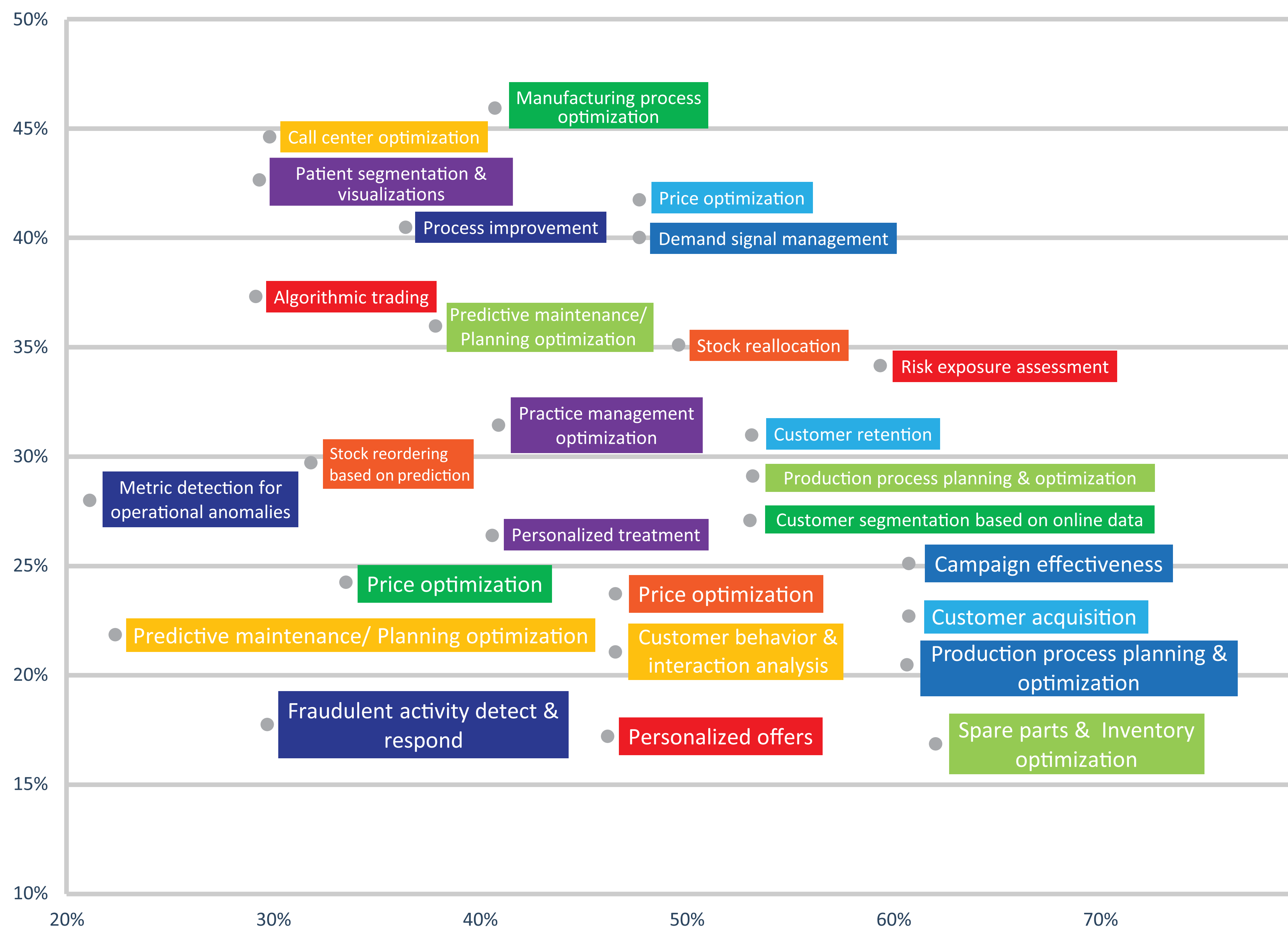
Big Data has a “**snowball**” effect: as organizations use it successfully, whether to drive improvements and efficiencies, or to effectively analyze and predict new products and markets, this success will drive further success.

IDC’s research consistently shows that an organization’s ability to drive transformation with Big Data is directly correlated with its organizational maturity. Thus, organizations that are more mature in terms of their strategy technologies, Processes, and people will derive the most business value from their Big Data projects.



Key Big Data Use Cases

Evaluating, planning for the next 12-24 months



Currently exists or will be in operation in 6 months



How to Advance in Big Data Maturity

IDC's Big Data Maturity Model

To assist organizations in assessing their current capabilities and to evaluate gaps in reaching higher levels of Big Data maturity and competence, IDC developed a Big Data maturity framework that identifies the five stages and five critical measures as well as the outcomes and actions required for organizations to effectively move through the maturity model stages. The diagram above depicts the summary of the five maturity stages as well as their key characteristics.

Understanding all the stages and measures is important because organizations often focus only on one specific measure, which creates an imbalance in the overall organization wide ability to support or automate decision-making processes.

This Big Data maturity imbalance delays realization of that maturity stage's business value potential. For instance, organizations with deep expertise in technology can find they are unprepared for the efforts needed to change business behavior; those with ample human resources for analytics may find they are lacking access to relevant, on-time data; and those unable to articulate or measure the benefits of the solution can find they are without ongoing funding support. These market realities point to the need to create a balanced Big Data program that addresses all five key measures of maturity.



Source: IDC, Big Data MaturityScape, 2014

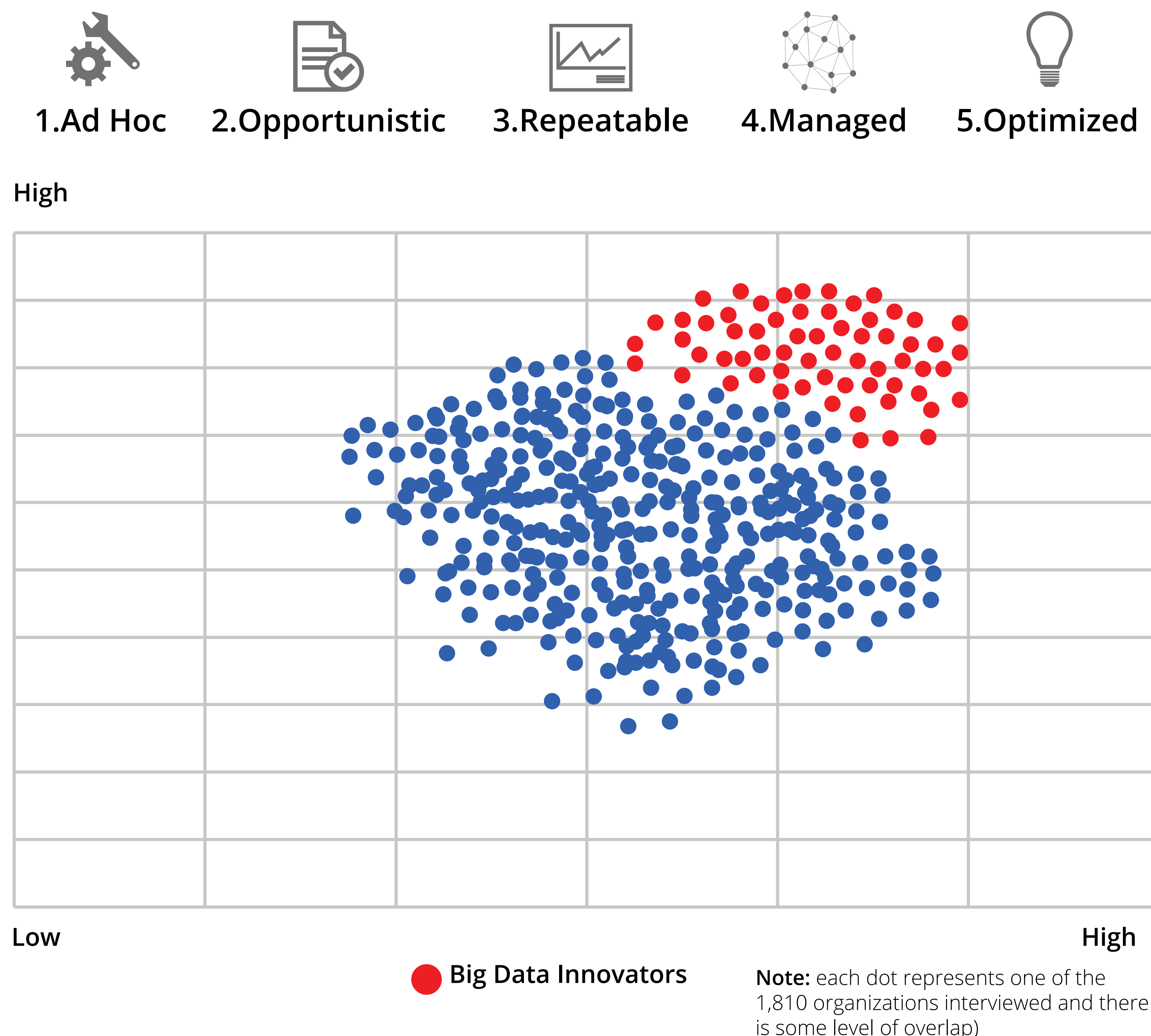
Big Data Innovators

Big Data and analytics maturity varies across the organizations interviewed, with IDC's benchmarking assessment showing that most organizations **(93%) are sitting at the Opportunistic and Repeatable** stages of IDC's Big Data Maturity. The Opportunistic stage is characterized by uncoordinated approaches to Big Data and analytics projects, so there is still plenty of work to be done in terms of improving skills, better data governance, and executive engagement to drive business outcomes.

Of the 1,810 organizations interviewed worldwide, IDC identified **59 organizations that fit into the category of advanced organizations** in terms of Big Data maturity.

EMEA had the highest levels of maturity with 3.9% of respondents recognized as Big Data Innovators, ahead of worldwide 3.3%. This was followed by the Americas and Asia Pacific.

More than half of the Big Data Innovators were from Financial industries (34%) and Telecoms (20%). B2B industries are typically advanced in Big Data and analytics usage because they have longstanding data volume challenges and customer service opportunities.



Key Characteristics of Big Data Innovators

-  1 Are more likely to see technology as critical to business transformation and innovation.
-  2 Believe that supplying the business with Big Data analytics capabilities will improve the ability of IT to play a more significant role in enabling business transformation
-  3 Find that executive management and non-executive management are both visibly involved in promoting and encouraging the use of Big Data and analytics solutions
-  4 Are more likely to have an enterprise budget in place for Big Data and analytics
-  5 Tend to deliver ROI for a typical Big Data project deployment in less than 6 months
-  6 Are externally oriented and focus on profitable innovation
-  7 Show significantly higher adoption levels of advanced analytics technologies (predictive and real-time capabilities)
-  8 Show significantly higher adoption levels of new data management technologies
-  9 Have higher penetration of a range of front-end user query and analysis tools
-  10 Have more timely, trusted, complete, high quality, granular, secure data

A woman with long blonde hair is sitting at a desk, writing in a notebook with a black pen. She is wearing a blue top. To her left is a white mug on a saucer. In the foreground, a laptop keyboard is visible. The background is slightly blurred, showing an office environment. A semi-transparent blue rectangle is overlaid on the right side of the image, containing the title text.

What Can we Learn From the Big Data Innovators?

1 Big Data Innovators

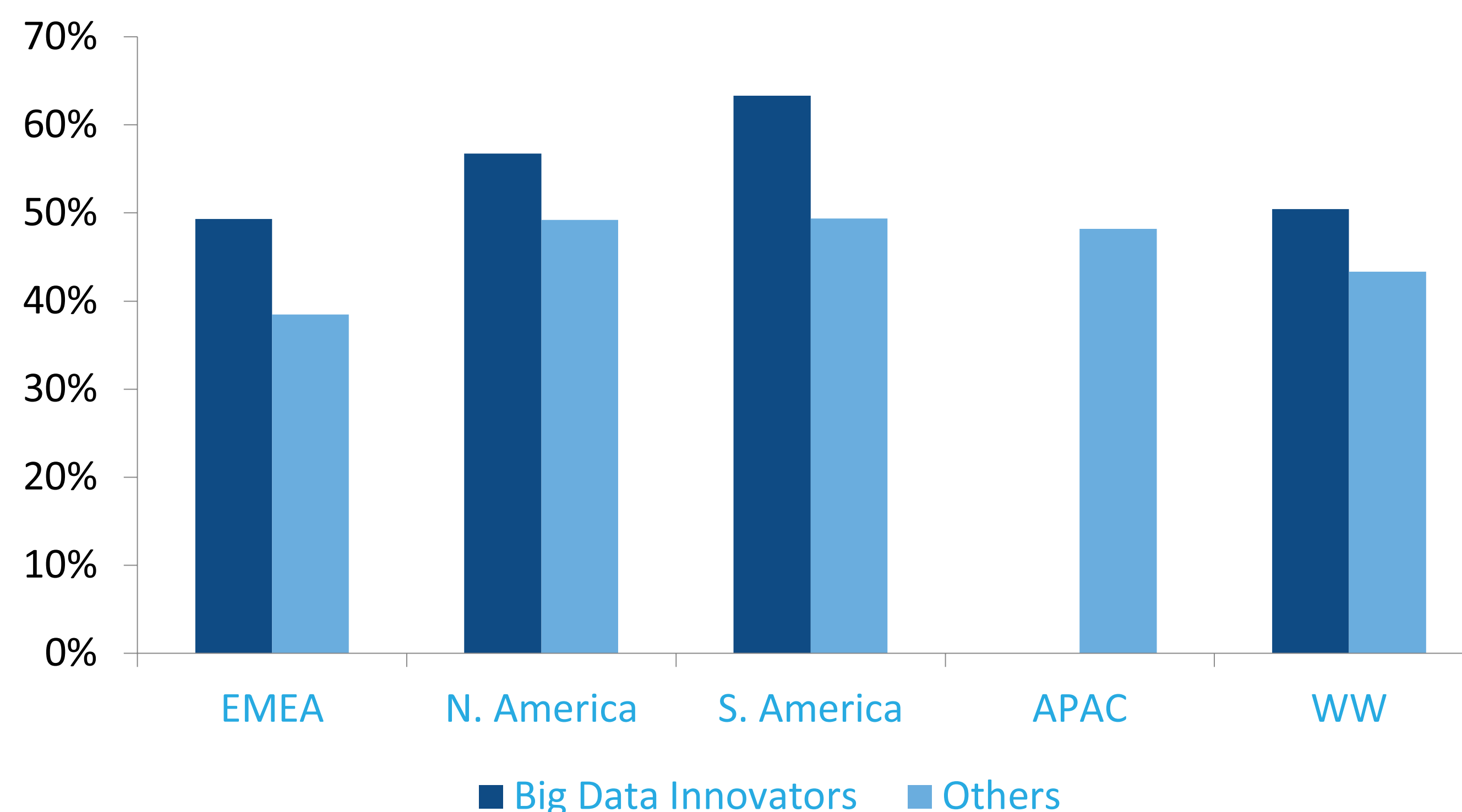
Are more likely to see technology as critical to business transformation and innovation

Q. How would you describe the perception of technology being critical to driving business transformation and innovation in your organization?

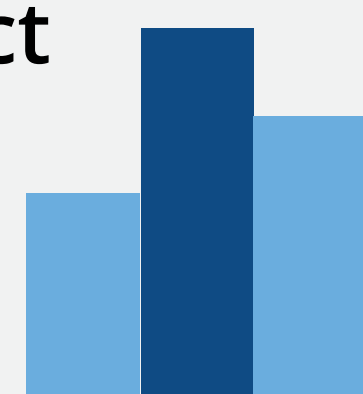
50% of Big Data Innovators worldwide indicated that technology is critical to driving business transformation and innovation. This compares to only **43%** of the other respondents.

The Big Data innovators are not only more mature in terms of Big Data and analytics, they are also generally more outward looking, more focused on innovation, and more likely to recognize the need to investigate possibilities of a technology-led transformation.

Source: IDC Big Data End-User Survey for SAP and Intel 2015, n=1810



Quick fact



Many industries have already been transformed beyond recognition by technology, such as media and telecoms; others, like retail, financial services and manufacturing are already feeling the benefits of increasing digitization. Technology is essential to support the business agility – the ability to reflect external change with internal evolution – that transforming industries will require.

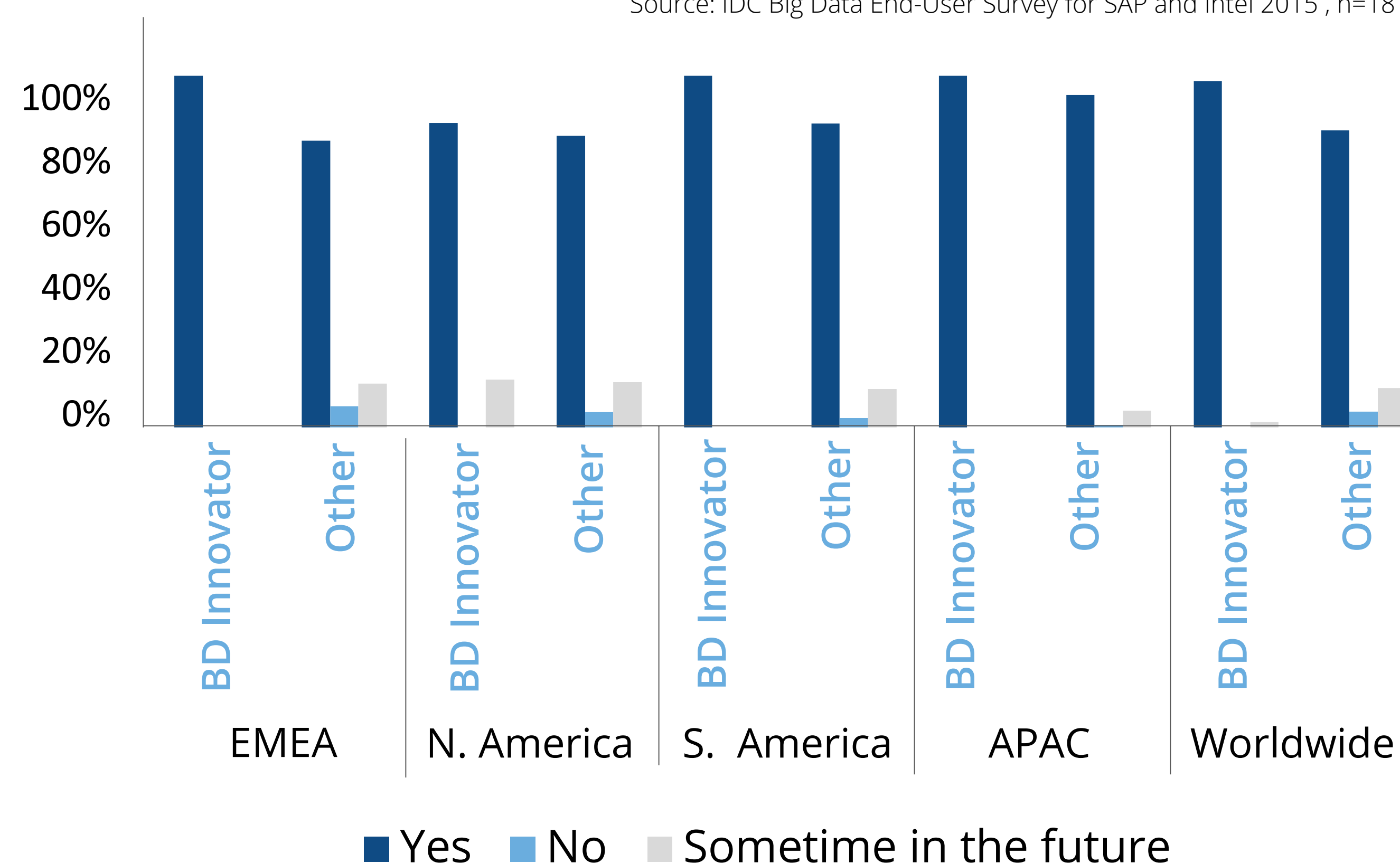
2 Big Data Innovators

Believe that supplying the business with Big Data analytics capabilities will improve the ability of IT to play a more significant role in enabling business transformation

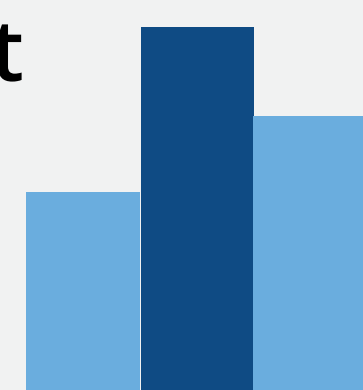
Q. Do you believe that supplying the business with Big Data analytics capabilities will improve the ability of IT to play a more significant role in enabling business transformation?

98% of Big Data Innovators worldwide believe that delivering Big Data analytics capabilities improves the ability of IT to play a more significant role in enabling business transformation.
For other respondents the figure was **84%**

Source: IDC Big Data End-User Survey for SAP and Intel 2015, n=1810



Quick fact



Big Data Analytics, when implemented successfully, has the highest potential to impact top-line and bottom-line growth of any technology area. However, the path to success is rarely smooth – some project failures are to be expected. Organizations that achieve the best results from Big Data analytics believe in its potential and are not distracted or discouraged from their initiatives by small failures.

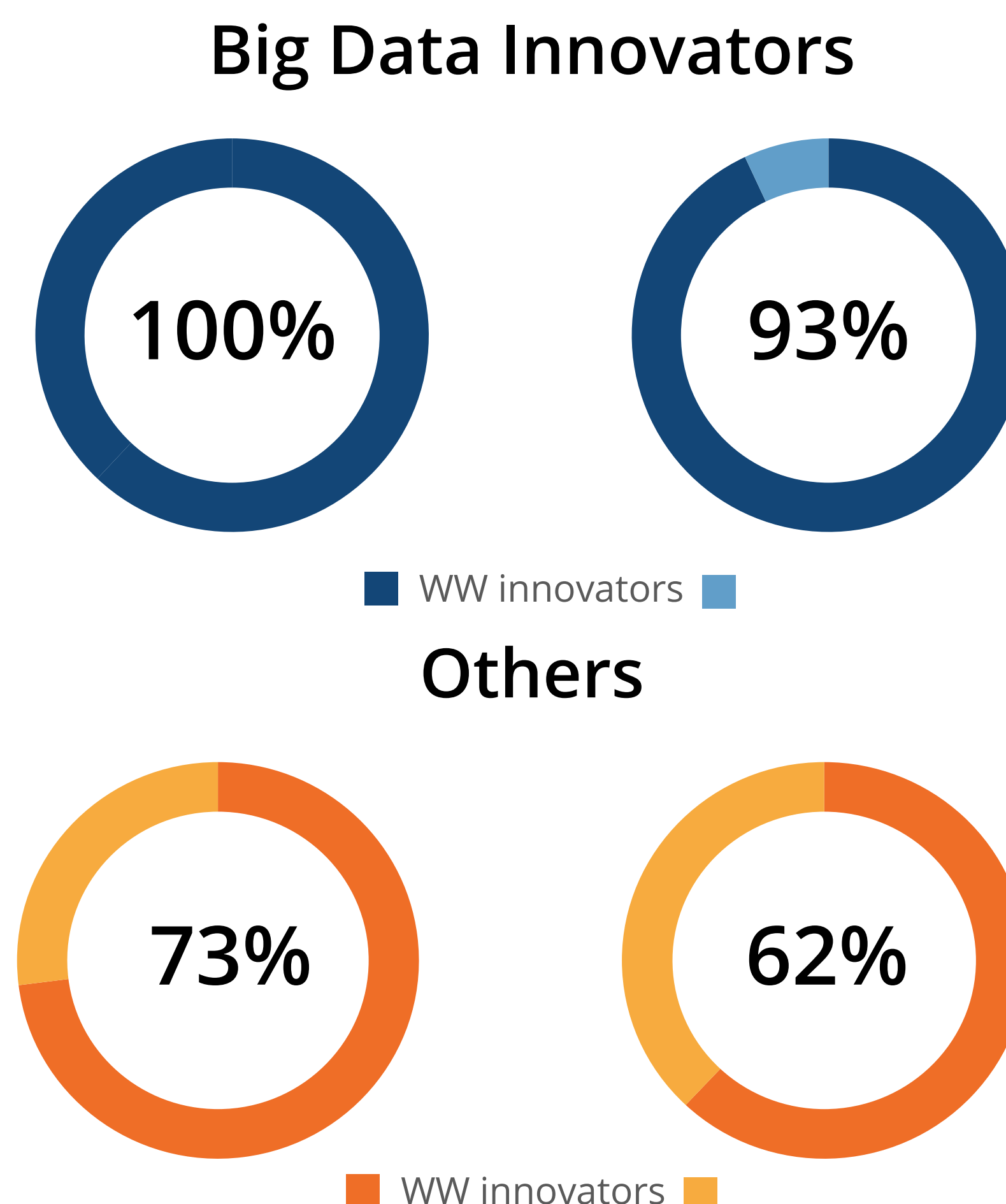
3 Big Data Innovators

Find that executive management and non-executive management are both visibly involved in promoting and encouraging the use of Big Data and analytics solutions

Q. How involved are the following managers in promoting and encouraging the use of your organization's Big Data Analytics solutions?

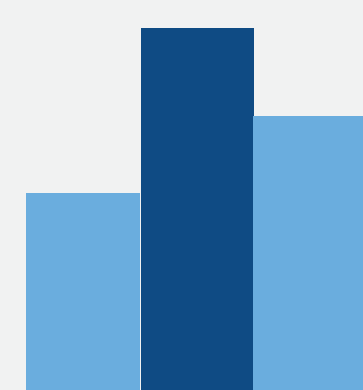
100% of Big Data Innovators have executive management actively involved in Big Data analytics projects, and **93%** of them have non-executive management also involved. For the Other respondents, the figures were **73%** and **62%** for executive and non-executive management respectively.

Big Data and analytics projects always require a senior executive sponsor, a person with a business need for information to support decision-making who believes in the project and who has a budget. The senior executive is vital to getting the project started, but once the project is underway, non-executive management become very important to the ongoing adoption of the system.

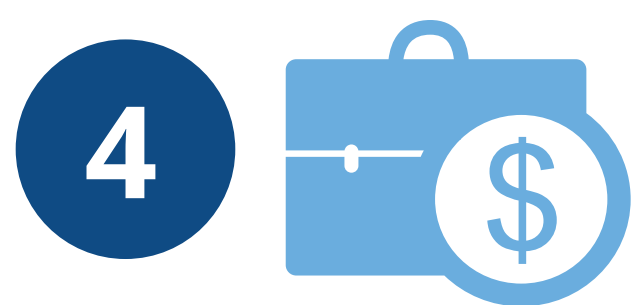


Source: IDC Big Data End-User Survey for SAP and Intel 2015 , n=1810

Best Practice



IDC recommends that all Big Data initiatives start with a senior executive sponsor who believes in the project and has a business need. However, non-executive management are vital for driving ongoing adoption of Big Data and analytics in day-to-day business: addressing adoption in this key community will drive adoption more broadly across the organization.



Big Data Innovators

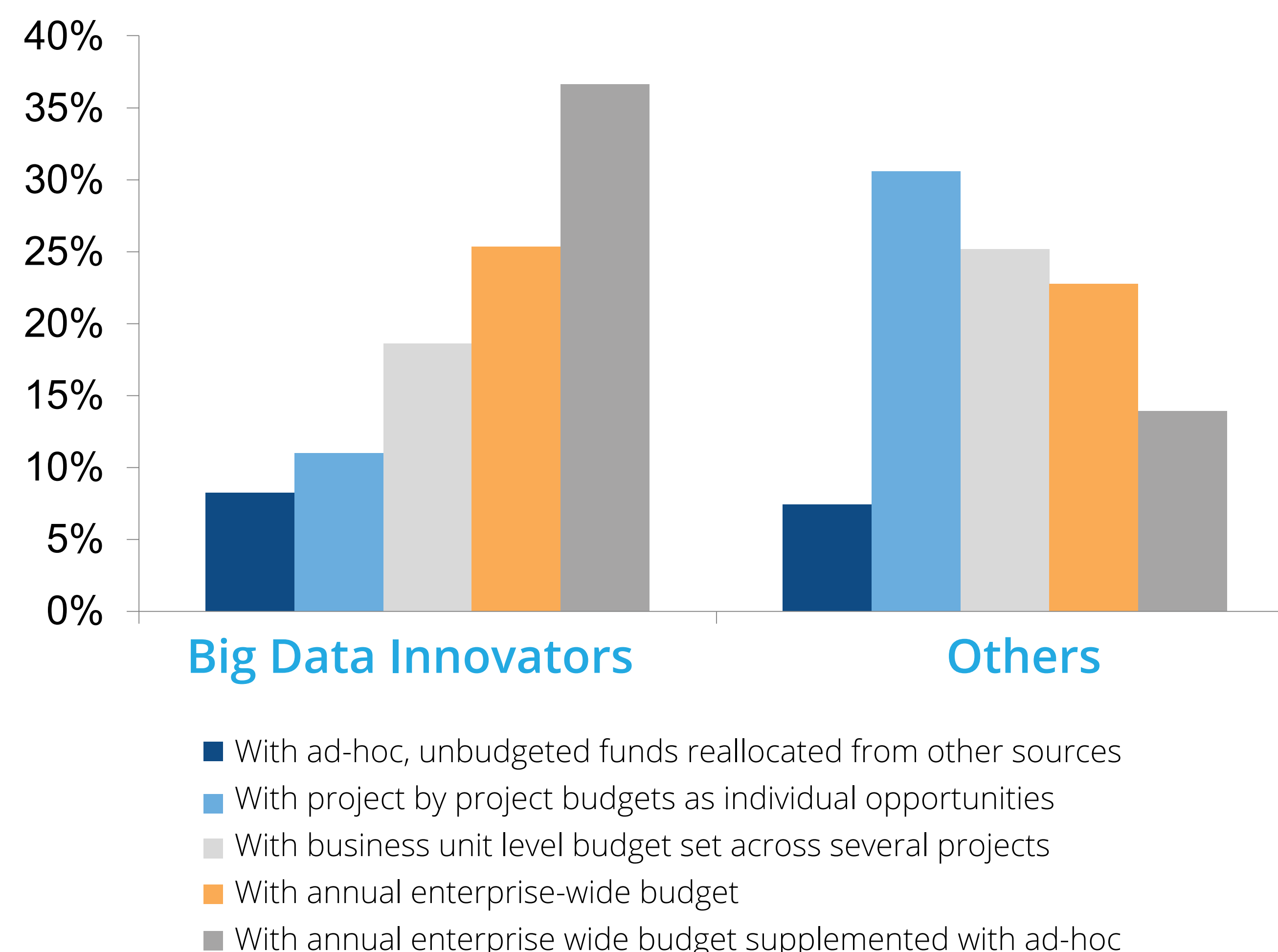
Are more likely to have an enterprise budget in place for Big Data and analytics

Q. How does your organization fund and budget its Big Data Analytics activities?

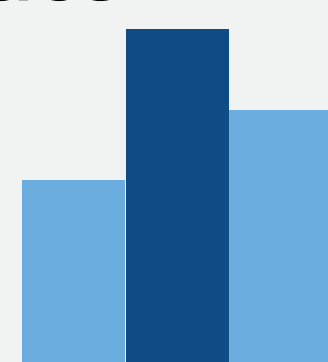
37% of Big Data Innovators have an annual enterprisewide budget supplemented with ad hoc funding for Big Data and analytics projects, compared to only **14%** of other respondents.

As organizations mature, their budgets are set in an increasingly more planned, centralized, and strategic manner. Big Data Innovators set an enterprise budget for Big Data and analytics projects and supplement it with discretionary budget as required.

Source: IDC Big Data End-User Survey for SAP and Intel 2015, n=1810



Best Practice



IDC recommends that budget is set for Big Data and analytics across the organization, but with the flexibility of ad hoc funding for additional projects where appropriate. This combination of an enterprisewide budget supplemented with ad hoc funding is the ideal, as it allows the organization to meet both strategic and tactical requirements.

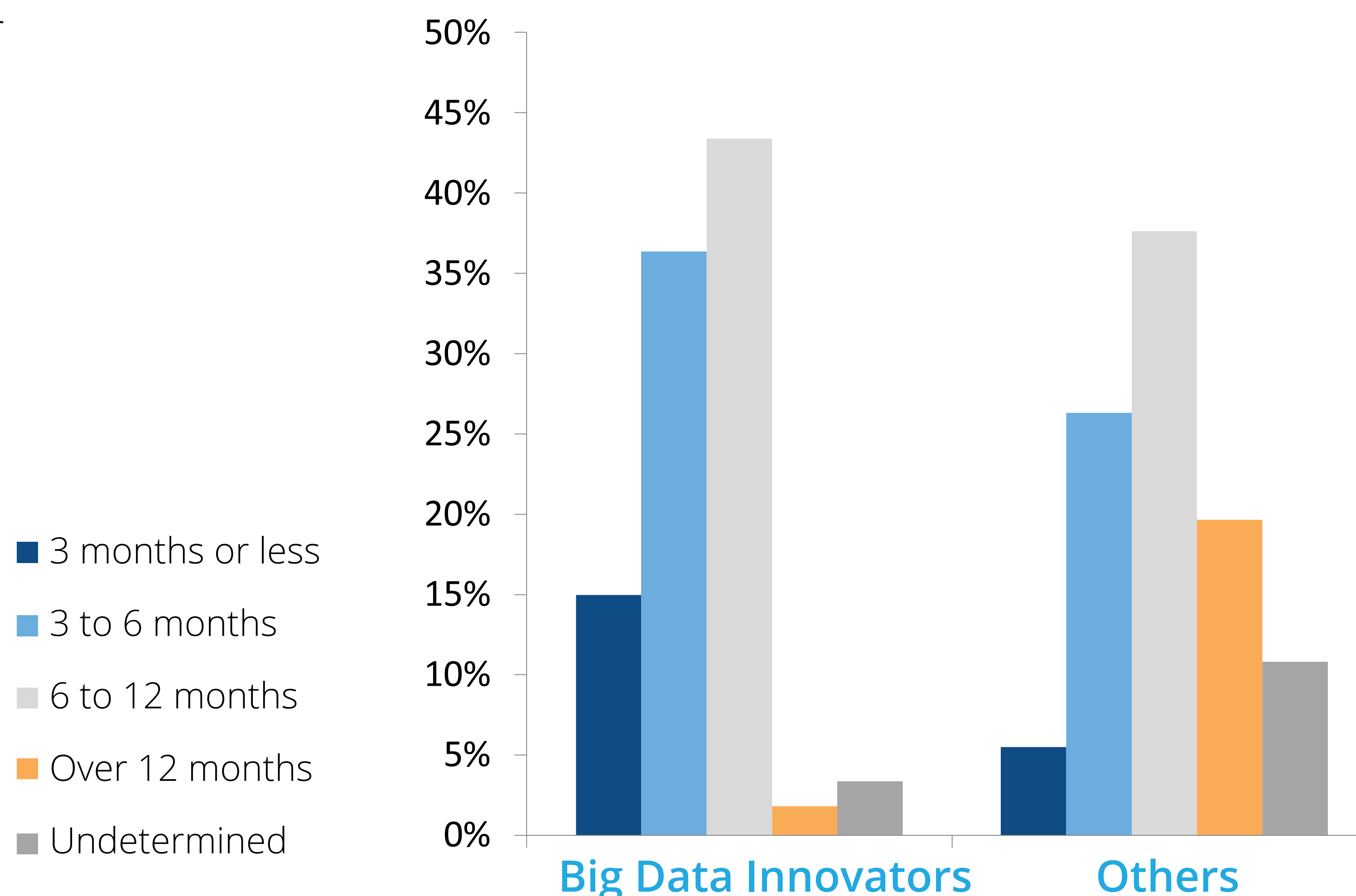
5 Big Data Innovators

Tend to deliver ROI for a typical Big Data Project deployment in less than 6 months

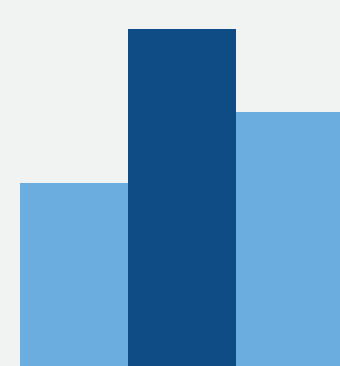
Q. What is the average time to ROI of a typical Big Data project deployment?

51% of Big Data Innovators deliver ROI for a typical Big Data project deployment in less than 6 months compared to **32%** of other respondents.

Source: IDC Big Data End-User Survey for SAP and Intel 2015, n=1810



Best Practice



Aim to deliver quick wins from Big Data projects so that business users remain enthusiastic and involved. Our research has shown that gaining ROI from a Big Data project generally indicates success – and Big Data success breeds further success. Also, fast ROI often helps drive adoption, because it helps maintain business momentum for the Big Data program. Therefore, the faster the ROI, the better.

6 Big Data Innovators

Are extremely oriented and focus on profitable innovation

Q. What are the top three drivers that are forcing your organization to evolve its business?



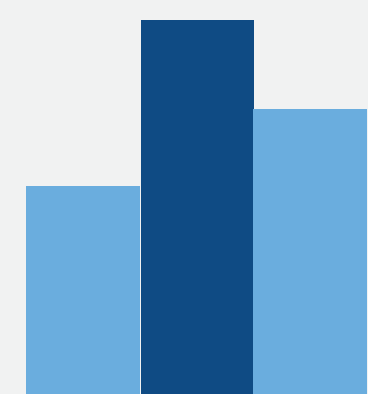
Improving operational efficiency

was highlighted as the primary driver forcing Big Data Innovators worldwide to evolve their businesses. These companies also indicated a strong requirement to improve profitability.

Improving operational efficiency was highlighted as the primary drive for forcing Big Data Innovators worldwide to evolve their businesses. The companies also indicated a strong requirement to improve the profitability which is closely linked to the third key driver for transformation - becoming customer centric. Customers are increasingly expecting a more individualized and value added experience when interacting with the businesses they purchase from.

Note: results reflect the responses from Big Data Innovators only
Source: IDC Big Data End-User Survey for SAP and Intel 2015 , n=1810

Quick Fact



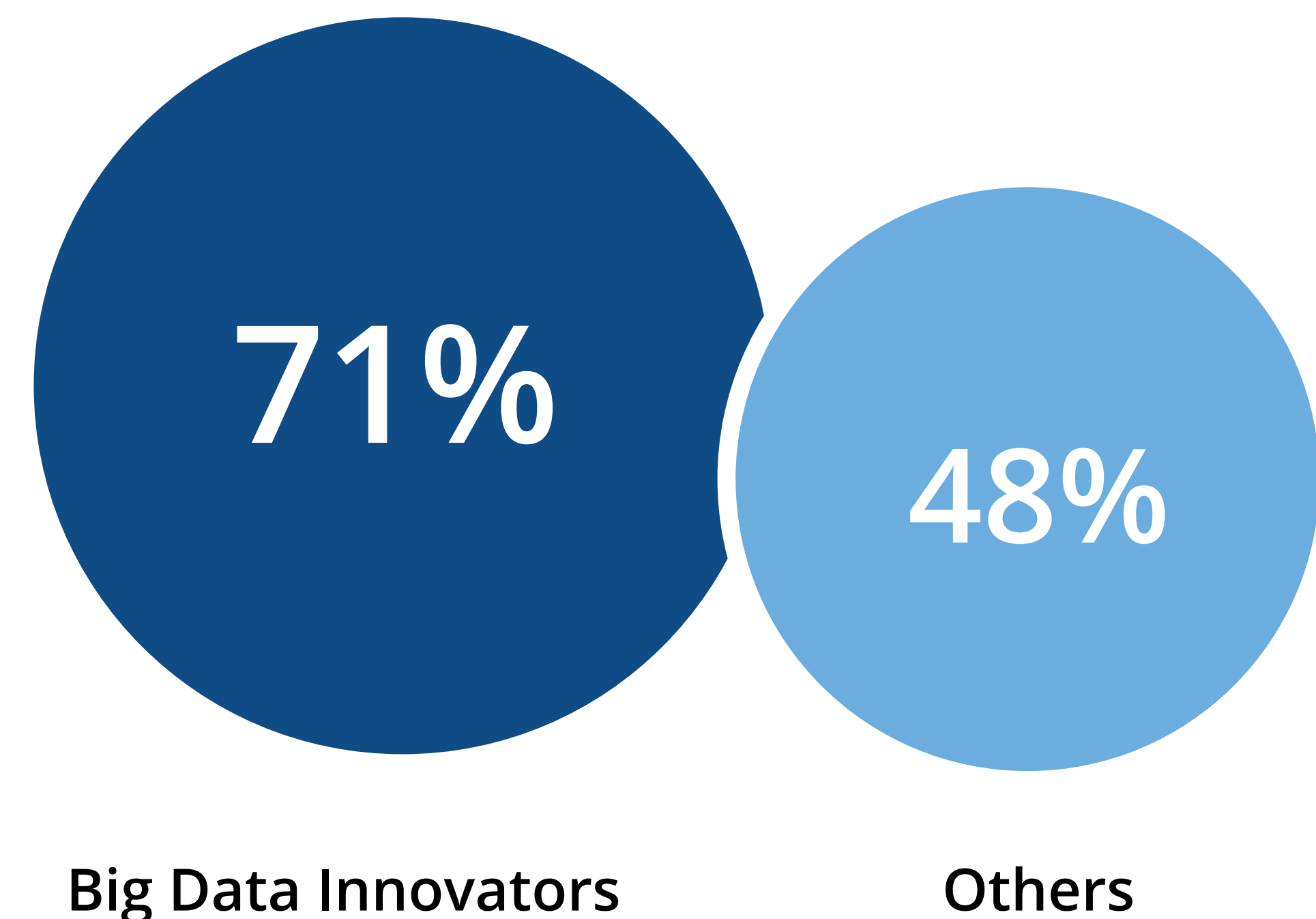
Business executives indicate that being able to respond to changing market dynamics quicker is becoming a huge competitive differentiator. The ability to get access to data and information in real time can therefore have a significant impact on specific business outcomes. However, as part of this it is clear that that organizations need to be externally oriented in terms of their focus – by looking at the market dynamics and using these to drive innovation, while at the same using Big Data to deliver company profitability.

7 Big Data Innovators

Show significantly higher adoption levels of advanced analytics technologies (predictive and real-time capabilities)

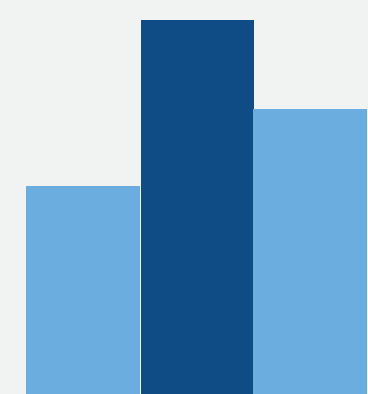
Q. What types of business analytics tools are utilized within your organization for Big Data

71% of Big Data Innovators utilize advanced and predictive analytics technologies as part of their Big Data strategy, compared to only **48%** of others



Source: IDC Big Data End-User Survey for SAP and Intel 2015 , n=1810

Best Practice



IDC recommends organizations identify the key use cases where real-time analytics would drive the necessary competitive advantage and create the business case to deploy these technologies accordingly. The use cases for real-time analytics are broadening from the customer domain (next best offer, personalized campaigns, etc.), into the risk and compliance areas (fraud detection and regulatory compliance) as well as finance (profitability analysis and scenario planning).



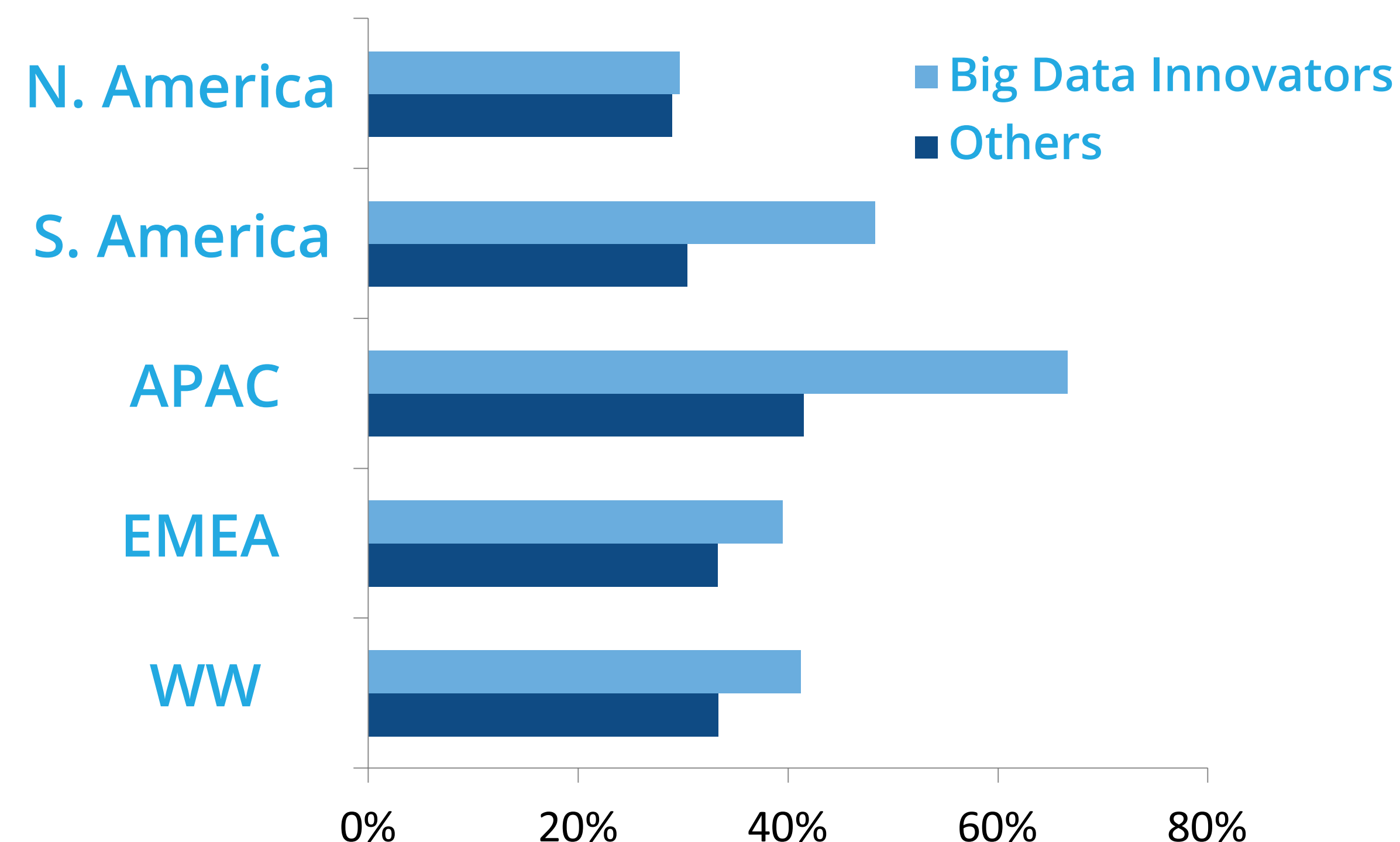
Big Data Innovators

Show higher adoption levels of in-memory databases

Q. What types of data management approaches are utilized in your organization for Big Data?

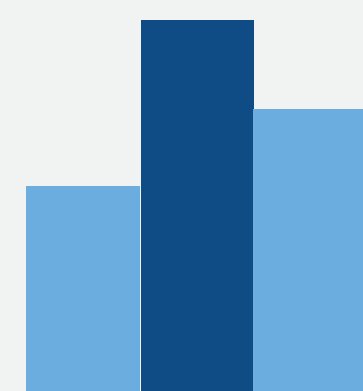
41% % of Big Data Innovators worldwide have adopted in-memory database technologies as part of their Big Data strategy, compared to only **33%** of others.

The difference in adoption levels was most prominent in APAC at **67%** with Big Data Innovators and **42%** among others.



Source: IDC Big Data End-User Survey for SAP and Intel 2015 , n=1810

Quick Fact

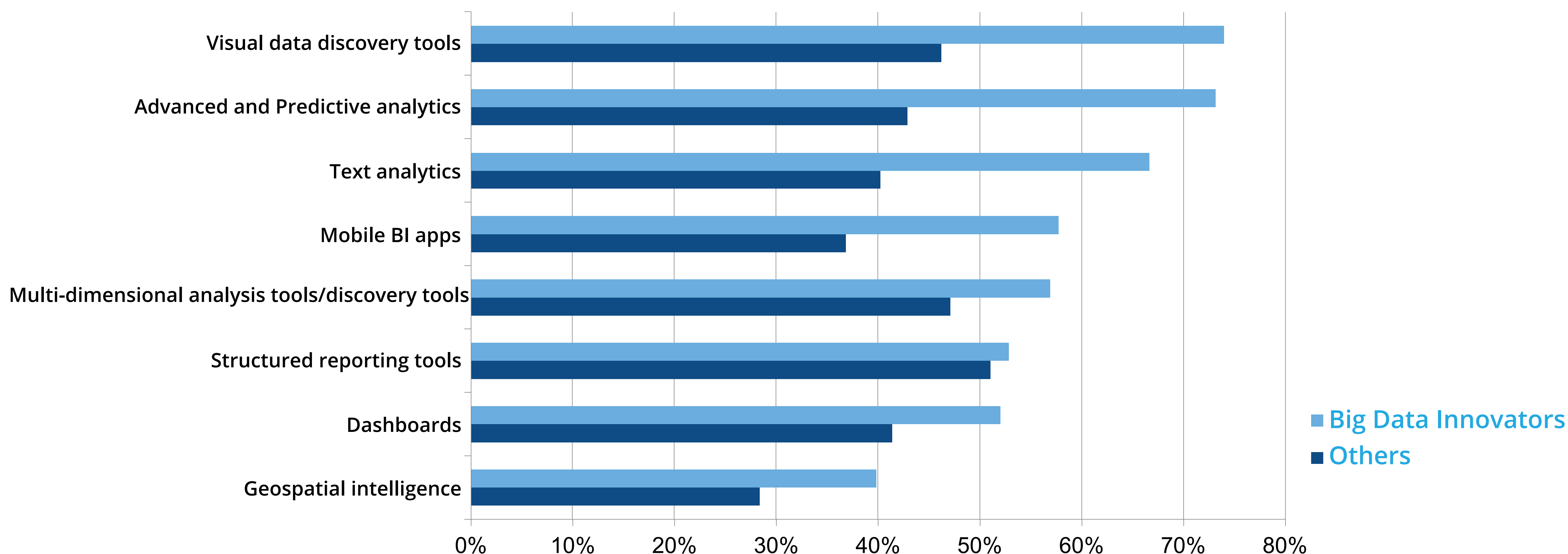


The days of the enterprise standard database are long over; Big Data platforms need to integrate a range of different data types, by storing each data type in the right data management system. This requires technological evolution beyond data warehousing. Big Data Innovators realize the potential of Big Data and have committed to this evolution, implementing new platforms and building new skill sets.

9 Big Data Innovators

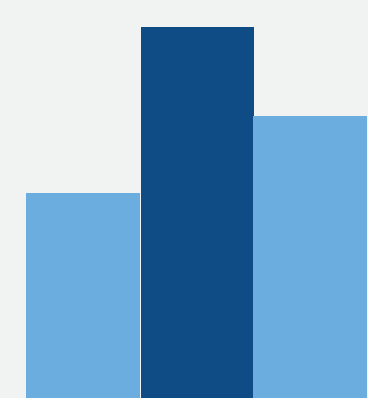
Have a higher penetration of a range of front-end user query and analysis tools

Q. What types of data management approaches are utilized in your organization for Big Data?



Source: IDC Big Data End-User Survey for SAP and Intel 2015 , n=1810

Best Practice

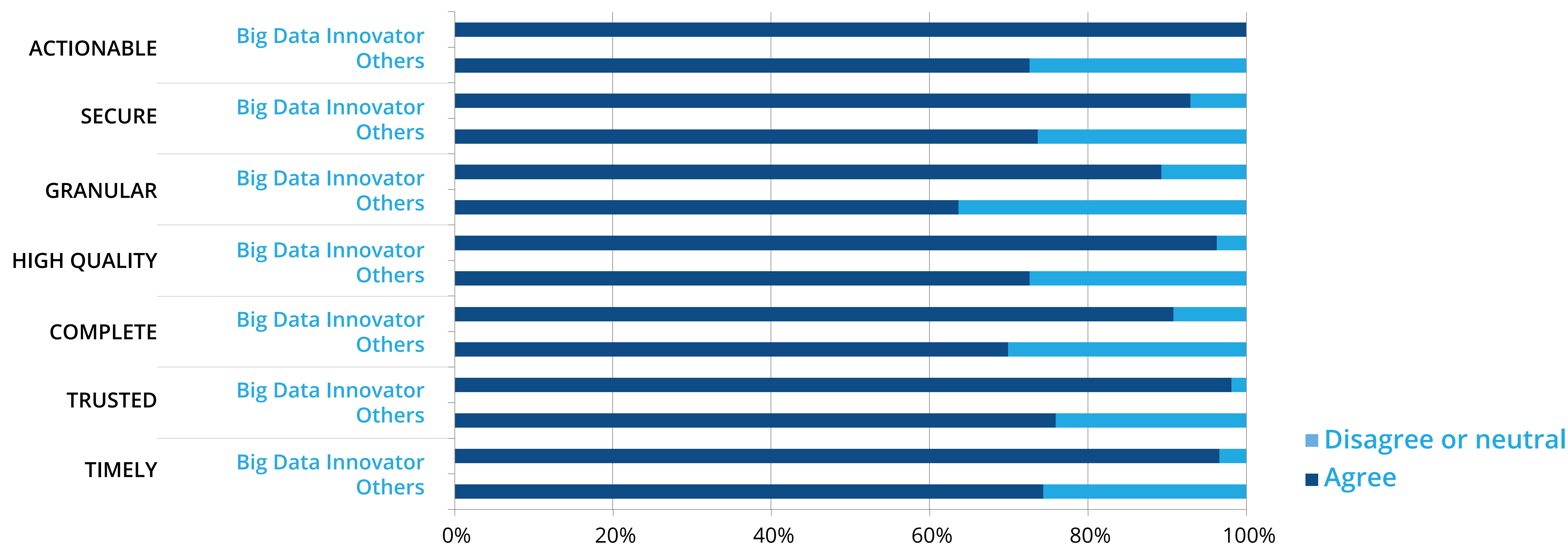


IDC recommends that organizations should drive end-user adoption by allowing end users to select the tools that work best for their data and the task in hand; with support and guidance but not dictation from the IT department. The business users must take the lead. The more end users have access to analytics, the greater the value of Big Data systems to the organization, and the greater the impact of data-driven decision-making on the top- and bottom-line

10 Big Data Innovators

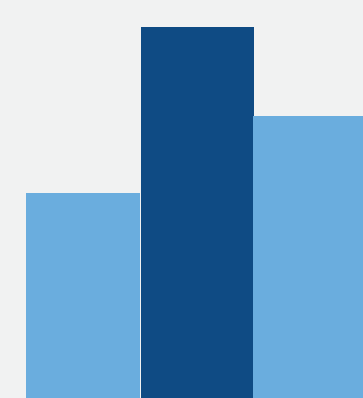
Have more timely, trusted, complete, high quality, granular, and secure data

Q. To what extent do you agree with the following characteristics of the data available in your organization to support decision making?



Source: IDC Big Data End-User Survey for SAP and Intel 2015, n=1810

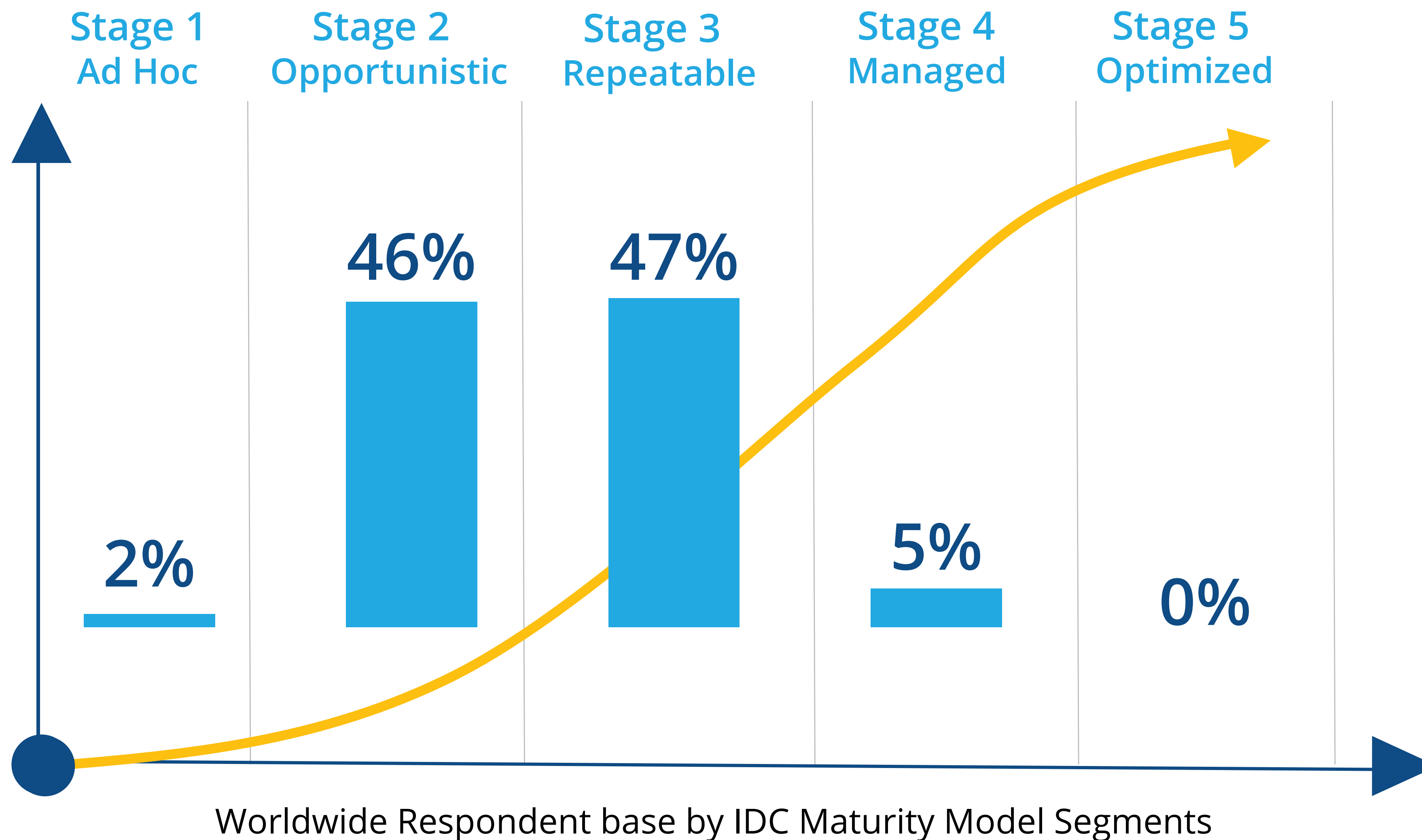
Best Practice



IDC recommends organizations evaluate business users' data needs and target their efforts on delivering the right latency and quality of data in order to maximize adoption. It is vital for data to reflect the end users' needs for analytical systems. Far more important than the precise latency of the data is its fitness for purpose. If a retail analyst needs hourly data, then daily will not suffice. Sometimes 95% accuracy in data is sufficient, whereas for transactions generally 99.99% is required.

Big Data Maturity Worldwide

Worldwide Respondent base by IDC Maturity Model Segments



The maturity levels for respondents are concentrated in the opportunistic and repeatable stages. All organizations have potential to improve their practice and effectiveness in Big Data and analytics

The challenges in gaining value from Big Data and analytics have increased over time. New data sources like machine data, sensor data, system log data, and social media information, mean that the level of relative maturity compared to the potential of Big Data and analytics can actually decrease over time, because more data is available to integrate and analyze.

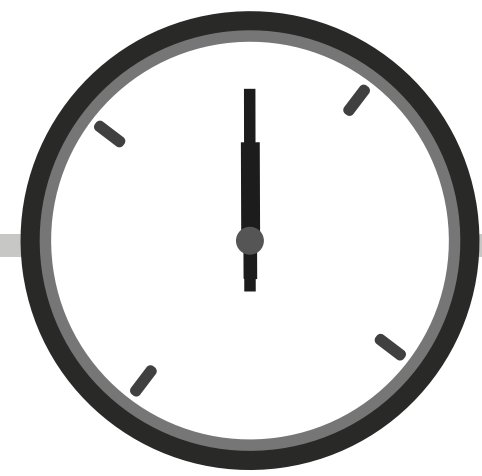
Source: IDC Big Data End-User Survey for SAP and Intel 2015 , n=1810



Essential Guidance

Essential Guidance

Progress along the stages of the Big Data maturity model by focusing on each of the five measures of the model in concert with one another, with a coordinated progression along all of the five measures. IDC recommends actions based on timescales:



Now:

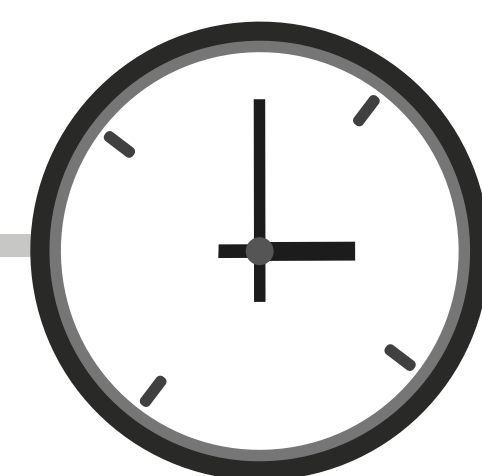
Assess the business and IT BDA "as is" situation.

Identify opportunities to use existing data, technology, and analytics in new ways.

Explore opportunities to use new low-cost public cloud and open source options as they emerge.

Identify relevant technology and analytics skills among existing staff, peers, and vendors.

Experiment with proof-of-concept and prototype projects.



Next 1 to 2 years:

Use early quantifiable wins to demonstrate potential and justify budget allocations.

Evaluate existing technology and its shortcomings.

Assess skill gaps and plan to hire and/or externally source professional services.

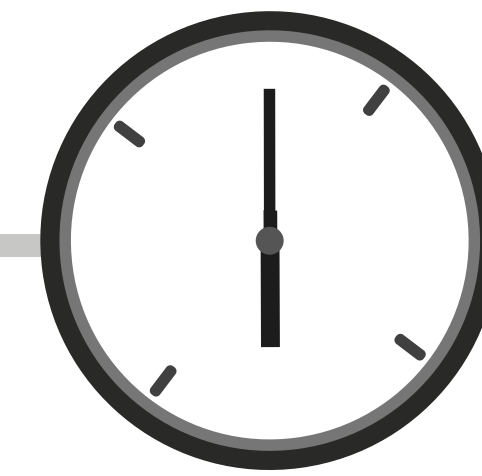
Identify business sponsors and champions that will support and promote Big Data projects.

Expand projects and begin to define architectural standards.

Merge Big Data into security and governance policies.

Incorporate new data sources.

Budget for workload-specific technology.



Next 3 to 5 years:

Ensure that both performance management and experimentation and discovery use cases are supported with appropriate technology, staff, data, processes, and funding.

Engage in business process reengineering in response to new insights from Big Data Solutions.

Assess progress and adjust internal investment priorities to match evolving requirements.

Ensure balanced resource allocation across all dimensions of the solutions.

Maintain a closed-loop learning environment based on data-driven decision making and expert judgment.