Data & Analytics Study

Executive summary outlining the 2022 research findings

FOUNDRY

Formerly IDG Communications

The pandemic propelled D&A initiatives, now the real work begins. 55% will increase data-focused budgets this year, spending an average of $12.3 million on initiatives including training and technology.
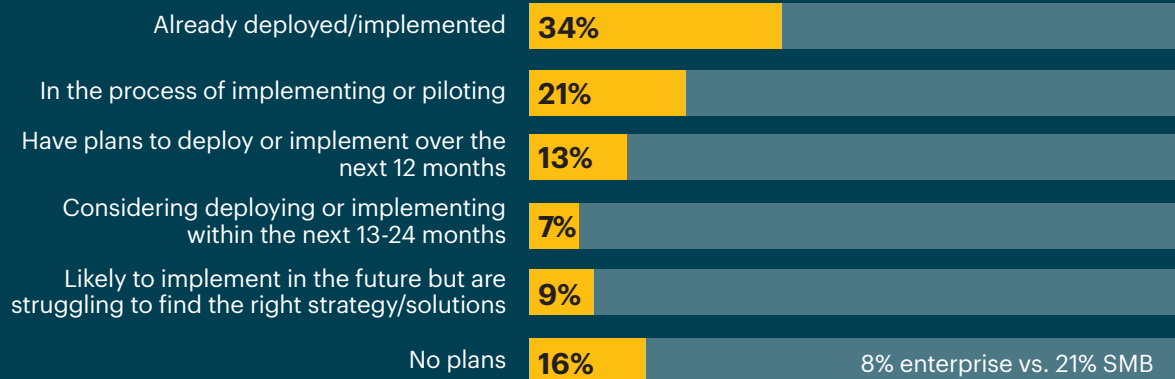
If you're looking for silver linings to the global pandemic, the proliferation of data-driven initiatives could count as one of them. While all industries have understood for nearly a decade the power of data and analytics, the pandemic pushed many organizations to follow-through with their data-driven aspirations to gain visibility into mired supply chains, manage change more effectively and strategize better. Today they're beginning to reap the benefits of those projects, but also realizing the challenges.

Today, 84% of organizations have either already deployed or have data-driven projects on their

roadmaps, and nearly two-thirds (63%) say they have introduced new revenue opportunities and/or lines of business over the last three years due to data and analytics. Still nearly one in 10 of those IT leaders face obstacles in seeing these projects come to fruition.

With so much data now available from nearly every corner of the business, the key to new growth lies with being well-positioned to analyze this data. As a result, companies are continuing to make necessary investments in the D&A technologies and skill sets they need to compete in the marketplace.

Status of data-driven projects

Already deployed/implemented	**34%**
In the process of implementing or piloting	**21%**
Have plans to deploy or implement over the next 12 months	**13%**
Considering deploying or implementing within the next 13-24 months	**7%**
Likely to implement in the future but are struggling to find the right strategy/solutions	**9%**
No plans	**16%** 8% enterprise vs. 21% SMB

Organizations are also deploying data-driven initiatives to improve internal business processes, customer insights, and the service and support they provide to those customers, while improving IT operations and information security/cybersecurity.

For these reasons, 55% of IT decision-makers surveyed by Foundry for the 2022 Data and Analytics Report plan to increase investment in data-focused initiatives in the next 12-18 months, up from 44% a year ago. These companies will spend an average $12.3 million in the coming year on data-driven initiatives (including software, services, training, consulting, and other related costs). The number is even higher in some industries, such as financial services, which plans to invest on average $23 million on data-focused investments in the next 12 months. All industry IT decision-makers agree they will likely split budgets between re-training and hiring people with the appropriate skill sets (46%) and purchasing new tools and technologies (52%).

Data and analytics ranks second among top initiatives expected to drive the most IT investment in 2022 close behind cybersecurity, according to the 2022 State of the CIO research. What's more, data science/analytics is one of the top three tech-related skills CIOs plan to hire for over the next six to 12 months.

The 2022 Data and Analytics Report surveyed 872 IT decision-makers (ITDMs) from around the globe to gain a better understanding of organizations' data-driven initiatives, investments, challenges, and strategies.

The study uses the term "data" to describe large volumes of a wide variety of information collected across the enterprise from various internal and external sources, including transactional data from applications/databases, social media data, mobile device data, unstructured data/documents, and machine-generated data. The term "data-driven" projects or initiatives refers to projects that are undertaken with the goal of generating greater value from existing data.

$12.3M average
spent on data-driven initiatives over the next 12 months

$19.1M	$5.6M
1,000+ company size	**<1,000 company size**

Better business processes, customer service drive data and analytics initiatives
While the urgency for data-driven initiatives has increased, their intended goals have remained the same. Similar to last year's survey, half of decision-makers surveyed say they want to improve/automate their internal business processes, followed by improving customer insight and engagement (46%), and customer service/support (43%). From an operational standpoint, 43% aim to improve/automate their IT operations and 36% seek to improve their existing products. When it comes to information security/cybersecurity, 36% seek to improve this area.

Top business goals driving investments for data-driven initiatives

1. Improve/automate internal business processes
2. Improve customer insight and engagement
3. Improve customer service/support
4. Improve/automate IT operations
5. Improve existing products
6. Improve information security/cybersecurity

Rich pools of data await analysis in each of these areas. IT leaders most often look to transactional data (54%), such as sales, returns and credits, to analyze consumer behavior. One-third of decision-makers (33%) utilize machine-generated data from logs, sensors, telemetry, networks, security software and IoT devices, which helps improve operations. A nearly equal number of respondents (32%) rely on customer profiles information, business documents and customer surveys as data sources. Some 31% gather data from customer interactions, such as emails, chats and call transcripts for analysis.

Data quality

is the #1 data-driven initiative causing the most pain for organizations today

Turning raw data into actionable intelligences is easier said than done. Organizations are struggling with poor data quality (41%) and data security and governance issues (38%) in the process. Integrating data from multiple sources remains a challenge for almost a third of respondents

(31%), same with data analysis, cited by 35% of IT decision-makers.

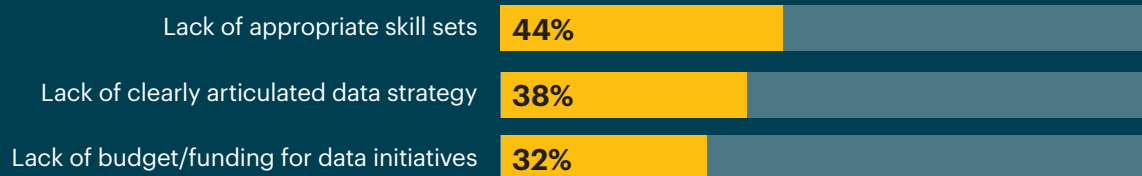**Sidelined by budget, strategy and buy-in constraints**

Companies that have no plans to pursue data-driven projects (16% of respondents) cite myriad funding and strategy roadblocks. For large organizations with more than 1,000 employees, pandemic-related initiatives often took precedent over data-driven projects (21%), such as facilitating remote work. Small and mid-size businesses most often cited they lacked the budget to carry out data driven initiatives (26%). Regardless of their size, some organizations won't pursue data-driven initiatives because they still need either a clearly articulated data strategy (14%), the technology to implement it (13%), executive buy-in (13%) or the right skill sets (12%) in order to fulfilling data-driven initiatives.

Still, some companies have moved forward with data and analytics projects despite these challenges. Of those who have gone ahead, almost half say they are still missing the appropriate skill sets (44%), more than a third still don't have a clear data strategy (38%), and 32% face constrained budgets for these initiatives which are getting in the way of their organization making further data-driven progress.

Wanted: The right skill sets

The biggest obstacle to most data-driven initiatives today is cultivating the appropriate skill sets to analyze and interpret data, especially

Challenges getting in the way of data-driven progress

Lack of appropriate skill sets	**44%**
Lack of clearly articulated data strategy	**38%**
Lack of budget/funding for data initiatives	**32%**

Skills most in need to support data & analytics initiatives

41%	39%	37%	37%	37%
Analytics training	Data management	Data security	Business intelligence	Data integration

on the business side. Nearly one-third of survey respondents (31%) say that data and analytics solutions are available for all or most users, but they require specialized skills, such as data science, artificial intelligence or machine learning skills. Some 41% of organizations surveyed say data and analytics solutions can only be used by a few skilled teams, such as analytics teams and IT departments. Just one in five (21%) have data and analytics solutions that are available and easy for all users to leverage. In response, 83% of respondents agree that providing self-service tools to make data more accessible to business users is a top priority.

In response, organizations are looking to hire people who can train non-technical employees to use analytics (41%), nearly tied with the need for data architects (42%), which was most often cited by large organizations with more than 1,000 employees. Data management, data security and data integration skills are also in high demand (37% each).

Investing in data & analytics tools

Many organizations have already adopted more traditional data and analytics tools. Half of IT decision-makers (50%) currently use business intelligence platforms and another 34% are planning to invest in a BI platform in the next one to two years. Similarly, 47% of respondents currently use relational databases, but another 19% plan to make the investment in the next 12-24 months.

Decision-makers are also showing increased interest in cloud-based enterprise data warehouses, which allows users to integrate and share previously siloed data on a cloud platform with unlimited scale and concurrency. More than a quarter of respondents (28%) have already adopted enterprise data warehouse technology and 22% are planning to adopt. Data science and machine learning platforms are seeing 28% adoption, with 27% planning to adopt.

If IT decision-makers have their way, many analytic workloads will soon run in the cloud, if they aren't already. Today, 27% of organizations' analytics

Currently using for analytical processing

1. Business intelligence platform
2. Relational database
3. Enterprise data warehouse
4. Data science and machine learning platform
5. Document database

Most important vendor criteria

1

Data reporting and visualization capabilities

2

Security/ governance capabilities

3

Integration into existing infrastructure

4

Self-service analytics for non-technical users

5

Data integration and transformation pipeline

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workloads are running in the cloud, on average, which hasn't changed much since last year's survey. However, 62% of this year's respondents expect to increase the number of analytics workloads in the cloud to 36% by next year.

What decision-makers want from data-focused vendors

When these IT decision-makers evaluate features in data and analytics tools, they're most often looking for data reporting and visualization capabilities (36%), security and governance capabilities (31%) and integration into their existing infrastructure (31%). Vendors that can offer self-service analytics for non-technical users, along with and a data-integration and transformation pipeline, were also favored by more than a quarter of respondents (26%).

Hot technologies for data-driven initiatives

When it comes to AI and machine learning technologies, more than half of companies have deployed predictive analytics or are planning to deploy it in the next 12 months (54%). It's use of historical data, statistical algorithms and machine learning techniques help organizations create a crystal ball-like best assessment of what will happen in the future.

Anomaly detection, which uses machine learning to identify data points that don't fit normal patterns, is also very popular with nearly a third of IT decision-makers (31%) either using or planning to use the technology. Descriptive analytics and natural language processing round out the top four AI and ML technologies in demand, at 29% and 28%, respectively.

Top AI and machine learning in demand

Technologies

1. Predictive analytics
2. Anomaly detection
3. Descriptive analytics
4. Natural language processing

Applications

1. Process automation
2. Decision support
3. Customer analysis
4. Virtual agents or chatbots

AI and machine learning applications are equally important. Half of organizations surveyed already use process automation applications or plan to deploy in the next 12 months (50%). Decision support applications have or will be deployed by more than a third of organizations over the next year, and customer analysis (segmentation, churn modeling and value modeling) is in use at 33% of organizations. Virtual agents or chatbots, and fraud detection apps round out the top five AI/ML applications in use, with 29% and 25% adoption, respectively.

Conclusion

Organizations that were propelled by the pandemic to implement or pilot test data-driven projects last year now have them deployed and are beginning to see the benefits as well as the challenges, such as lack of a clearly articulated data strategy, executive buy-in and especially with finding the appropriate skill sets to glean the most value out of data and analytics tools.

Still, investment in the data and analytic space continues to increase as it has become vital to remaining competitive in the marketplace. Organizations will spend on average $12.3 million on data initiatives in the next 12 months.

IT decision-makers are purchasing or looking into user-friendly business intelligence tools, cloud-based enterprise data warehouses and AI/ML platforms that give them access to predictive analytics, anomaly detection, process automation and decision support.

About the survey

The 2022 Data & Analytics study analyzed data from a Foundry online questionnaire given to 872 IT decision-makers between March and April 2022. All survey respondents are involved in the purchase process for major IT or security products and services. Respondents represent companies primarily in the U.S (61%), with some in the Asia-Pacific region (24%) and in Europe (14%). These companies come from a variety of industries, including technology, manufacturing, financial services, professional services, healthcare, government, education and retail. The average company has 12,498 employees

Examining the marketplace

Research is an invaluable way for marketers to better understand customers and prospects, with the goal of building quality connections. At Foundry this is one way we are focused on building bridges between tech buyers and sellers. Our first-party relationships with the most important tech buyers and influencers around the world, allows us to apply value across our customers marketing stack. Our research portfolio explores our audiences' perspectives and challenges around specific technologies — from analytics and cloud, to IoT and security — and examines the changing roles within the IT purchase process, arming tech marketers with the information they need to identify opportunities.

To see what research is available, visit **FoundryCo.com/tools-for-marketers**. For a presentation of full results from any of these studies, contact your Foundry sales executive or go to **FoundryCo.com/contact-us**.

Buying process

Each year we take a deep dive into the enterprise IT purchase process to learn more about who is involved and who influences decision-making, what sources purchasers rely on to keep up to date with technology — and throughout the purchase process — and how they want to engage with the vendors they are working with. Visit **FoundryCo.com/customerjourney** for more information.

Role and Influence of the Technology Decision-Maker
This survey is conducted to gain insight into the evolving role and influence of IT decision-makers in today's corporations. The research identifies key decision-makers and examines their involvement during each stage of the tech purchase process and the primary influences and information sources they rely on.

Customer Engagement
This survey examines the role content consumption plays in the purchase process for major technology products and services, and provides insights for tech marketers to map their engagement touch-points to customers' information needs. The survey looks at how a wide variety of content types are consumed, discussed and shared throughout the stages of the tech purchase process and how that maps to marketing and sales alignment.

Technology insights

Each year we explore the technologies that are top of mind among our audiences to understand the business challenges, drivers, and adoption within the enterprise. These research studies are designed to help IT marketers understand what their customers are focused on and where the market is moving.

Role and priority studies
- CIO Tech Poll: Tech Priorities
- State of the CIO

Technology-specific studies
- Data & Analytics
- Cloud Computing
- Digital Business
- Security Priorities

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