

Transforming Your Business Through Artificial Intelligence



By James Kobiulus

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About the Author



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About TDWI Research

TDWI Research provides industry-leading research and advice for data and analytics professionals worldwide. TDWI Research focuses on modern data management, analytics, and data science approaches and teams up with industry thought leaders and practitioners to deliver both broad and deep understanding of business and technical challenges surrounding the deployment and use of data and analytics. TDWI Research offers in-depth research reports, commentary, assessments, inquiry services, and topical conferences as well as strategic planning services to user and vendor organizations.

About the TDWI Best Practices Reports Series

This series is designed to educate technical and business professionals about new business intelligence technologies, concepts, or approaches that address a significant problem or issue. Research for the reports is conducted via interviews with industry experts and leading-edge user companies and is supplemented by surveys of business intelligence professionals.

To support the program, TDWI seeks vendors that collectively wish to evangelize a new approach to solving business intelligence problems or an emerging technology discipline. By banding together, sponsors can validate a new market niche and educate organizations about alternative solutions to critical business intelligence issues. To suggest a topic that meets these requirements, please contact TDWI Senior Research Directors James Kobielus (jkobielus@tdwi.org) or Fern Halper (fhalper@tdwi.org).

Acknowledgments

TDWI would like to thank many people who contributed to this report. First, we appreciate the many users who responded to our survey, especially those who agreed to our requests for phone interviews. Second, our report sponsors, who diligently reviewed outlines, survey questions, and report drafts. Finally, we would like to recognize TDWI's production team: James Powell, Lindsay Stares, Rod Gosser, and John Bardell.

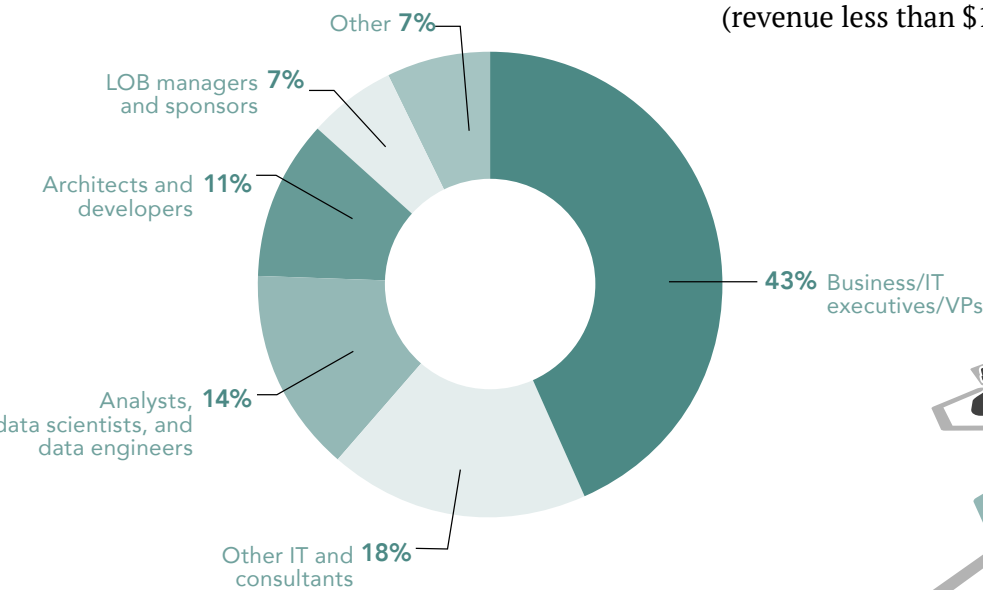
Sponsors

Alteryx, MongoDB, SAP, and Snowflake sponsored the research and writing of this report.

Research Methodology and Demographics

Report purpose. For years, TDWI research has focused on AI as a core enabler for business automation, decision support, and operational efficiency. This BPR examines the principal scenarios in which AI-powered intelligent applications are being used to transform business processes and thereby improve their performance, efficiency, effectiveness, agility, and other outcomes. This BPR assists executives (CIOs, CTOs, CAOs) with responsibility for digital transformation to understand the role and benefits of AI in this task and the state of AI use by their colleagues. It also helps C-level executives’ direct reports and other stakeholders identify potential challenges they may face and the best practices that will help them best leverage AI technologies to carry out digital business transformation projects and thereby realize key business objectives.

Position

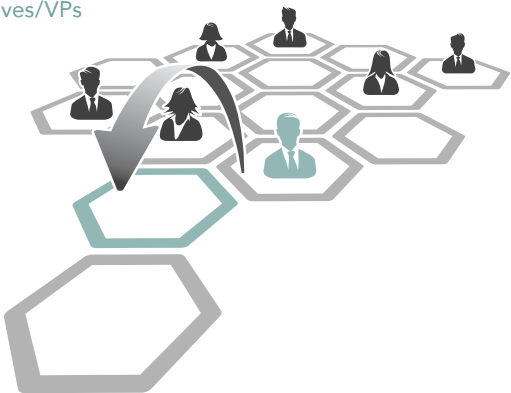


Survey methodology. In February 2024, TDWI sent an invitation via email to the analytics and data professionals in our database, asking them to complete an online survey. The survey collected data from 268 respondents; 158 of them completed the entire survey. For this research, all responses are valuable and are included in this report’s sample for analysis.

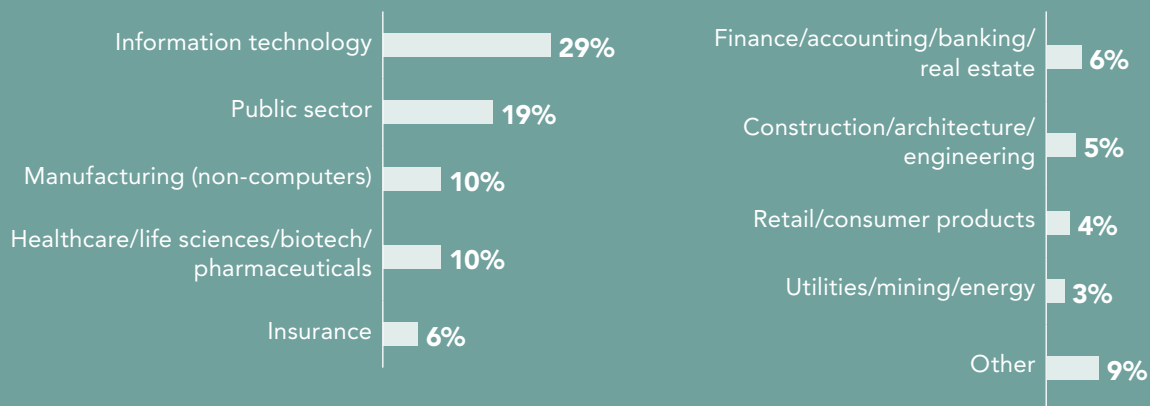
Survey demographics. Respondents act in a variety of roles. These include corporate executives and directors, data analysts, LOB managers, architects, engineers, and business analysts.

Respondents came from a range of industries, with the highest number coming from information technology, which includes software and internet companies, telecommunications, computer manufacturing, and professional consulting.

Survey respondents reside primarily in the United States. Respondents come from enterprises of all sizes: around one-quarter from large enterprise (revenue greater than \$1 billion), around one-quarter from midsize businesses (revenue between \$100 million and \$999 million), and almost one-half from small businesses (revenue less than \$100 million).

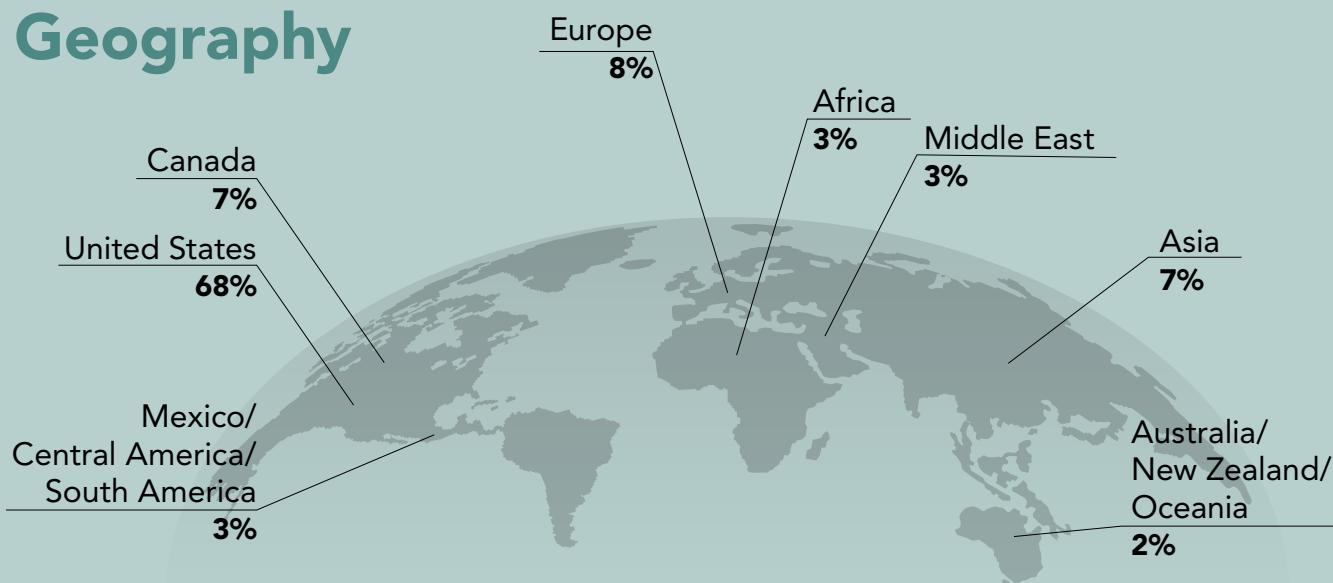


Industry

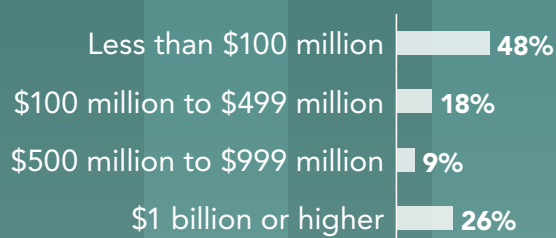


("Other" consists of multiple industries, each represented by less than 2% of respondents.)

Geography



Company Size by Revenue



Based on 159 respondents.

Executive Summary

AI is a key contributor to success in modern organizations. This TDWI Best Practices Report uses results from a recent survey of data management and analytics professionals to illuminate trends, considerations, and opportunities associated with successful implementation of AI in enterprise digital business transformation initiatives.

Key findings include:

- **Respondents have diverse operating and funding models for AI in digital business transformation.** Businesses vary widely in how they manage AI through their organizational structures and how they fund it. Slightly more than one in five centralize AI operations and funding. A slightly higher number have no real operating model for AI. Most of the remaining respondents are roughly evenly split between three alternative operating/funding models for AI involving decentralized and hub-and-spoke arrangements.
- **Robust enterprise platforms for AI in digital business transformation are beginning to take shape.** Enterprises are implementing a growing stack of AI technologies to drive digital business strategy, including such key infrastructure as machine learning, predictive analytics, natural language processing, generative AI using LLMs, deep learning, responsible/ethical AI, recommendation engines, speech recognition, AutoInsights, AutoML, affective computing and sentiment analysis, mobile AI, IoT analytics, computer vision, edge AI, and robotics AI. However, AI's back-end enterprise pipelines
- are still largely fragmented. Also, respondents' operationalization of AI in their back-end processes is still immature, with few having integrated their DataOps, MLOps, and DevOps teams, processes, or practices to accelerate building, testing, deployment, and governance of AI applications in production environments.
- **Respondents are addressing a wide range of strategic objectives in AI-led digital business transformation.** Chief among these are increasing operational efficiency, improving data-driven decision making, enhancing the customer experience, increasing revenue, enabling greater agility and adaptability, and accelerating innovation.
- **Enterprise guardrails for responsible AI in digital business transformation are a work in progress.** Platforms, processes, and tools for mitigating AI risks are still spotty in the enterprise. Many organizations have not yet implemented robust guardrails for ensuring governance, ethics, privacy, safety, security, and compliance of responsible AI applications in production.
- **Enterprises are just taking the first necessary steps to track AI's strategic payoff in digital business transformation.** However, many have not yet begun to establish formal processes to collect and report quantitative business-impact metrics.

What Is AI?

Artificial intelligence (AI) is an evolving set of tools, platforms, and methodologies for building systems that implement intelligent processes. At its core, AI:

- Relies on an ever-growing array of advanced algorithms, including both those that come from the domain of computer science and those from the data science community, including such data-driven algorithms as artificial neural networks, large language models, supervised and unsupervised machine learning, and reinforcement learning
- Automates intelligent processes to such a degree that the need for manual attention, judgment, and supervision is greatly reduced
- Accelerates intelligent processes beyond what humans can achieve unassisted, being able to process more data, a more complex set of variables, and more dynamic circumstances than the human mind can keep pace with
- Augments humans' organic powers of cognition, reasoning, natural language processing, predictive analysis, and pattern recognition
- Adapts its models to fresh data, to interactions with humans, and to changing contexts in order to hone its ability to emulate human cognition
- Emulates natural human conversation with such fidelity that it can drive avatars and impersonate flesh-and-blood individuals

- Brings algorithmic intelligence into everyday decision support and other applications through chatbots, copilots, and other virtual intelligent assistants

What Is the Role of AI in Transforming Business Processes and Decision-Making?

Every business is becoming a digital business.

Digital business transformation is the use of digital technologies to fundamentally change how businesses operate, create and deliver value, engage with internal and external stakeholders, and differentiate and innovate in their competitive arenas. It relies on a thorough integration of digital technologies to create an operating model that is largely or entirely online, 24x7, multichannel, scalable, and robust, though many hybrid digital/analog operating models are fundamental to successful initiatives. Key technologies at the heart of many organizations' digital business transformations include cloud computing, AI, big data analytics, mobile and edge computing, the Internet of Things, and hyperautomation.

Enterprises all over the world, in all industries, and of all sizes are implementing digital business transformation to varying degrees. Organizations have a wide range of priorities for these initiatives. TDWI asked survey respondents what their organizations' top priority outcomes for digital business transformation are in 2024. Their top

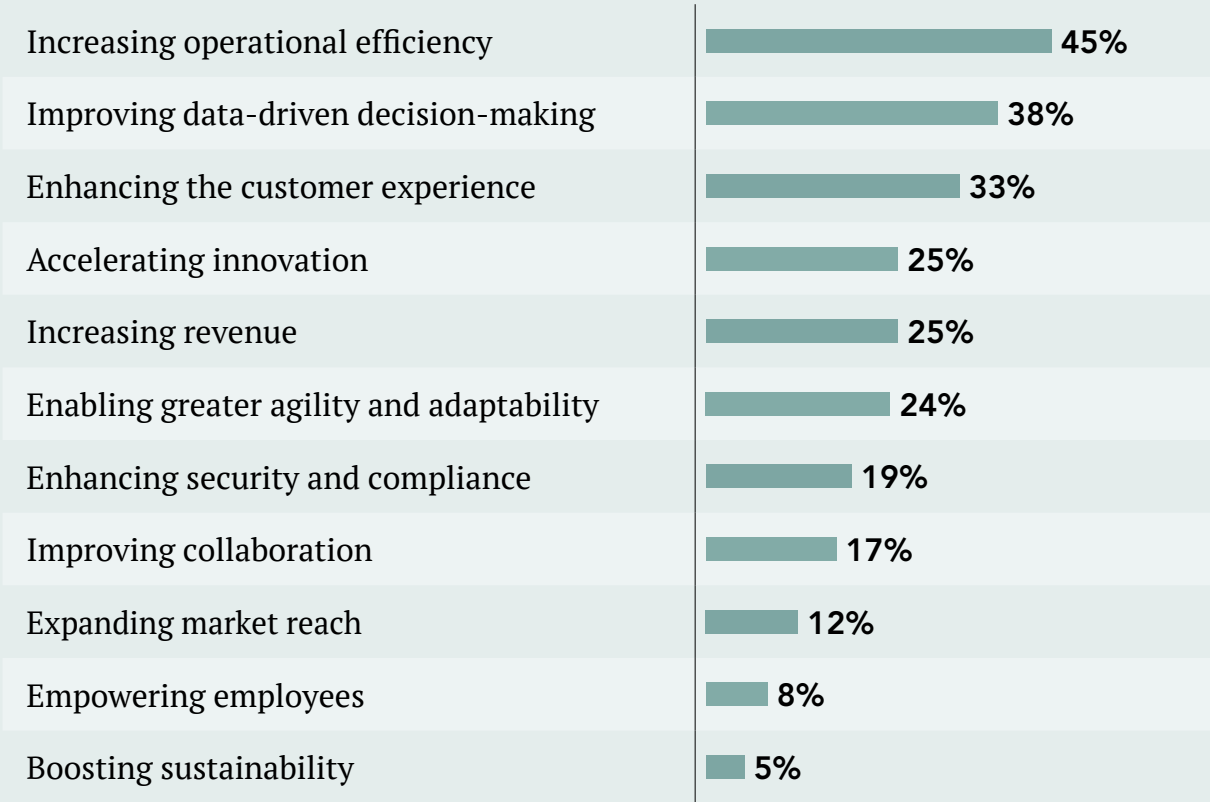
responses were (in descending order of frequency mentioned) increasing operational efficiency, improving data-driven decision-making, enhancing the customer experience, accelerating innovation, increasing revenue, and enabling greater agility and adaptability (see Figure 1). Examples of digital transformation include using analytics to understand consumer behavior and personalize the shopping experience, using Internet of Things (IoT) technologies to connect and monitor equipment and optimize operations, and using digital tools

such as GPS tracking and fleet management software to optimize routes and track shipments.

At the heart of digital business transformation are advances in cloud computing, mobile and edge computing, real-time stream and event processing, low-latency data fabrics, and other enabling platforms. Accelerated and abetted by AI advances, these technologies drive a continual feed of real-time data updates, contextual insights, optimized experiences, and fast results

Figure 1

What are your organization’s top priority outcomes for digital business transformation? (Select up to three.)



Based on 541 responses from 209 respondents.

into all business processes. TDWI asked the survey respondents how important AI is to the success of their organizations. Generally, they agreed that AI contributes to business success. Almost three-quarters of respondents said AI is very important or somewhat important for success. Slightly more than one in ten said it was somewhat or very unimportant (see Figure 2).

Business success increasingly depends on AI-driven platforms, processes, and pipelines. TDWI research consistently shows that enterprises are continuing to place a high priority on operationalizing the deployment and management of AI. They are putting a growing range of AI models to work in their organizations.

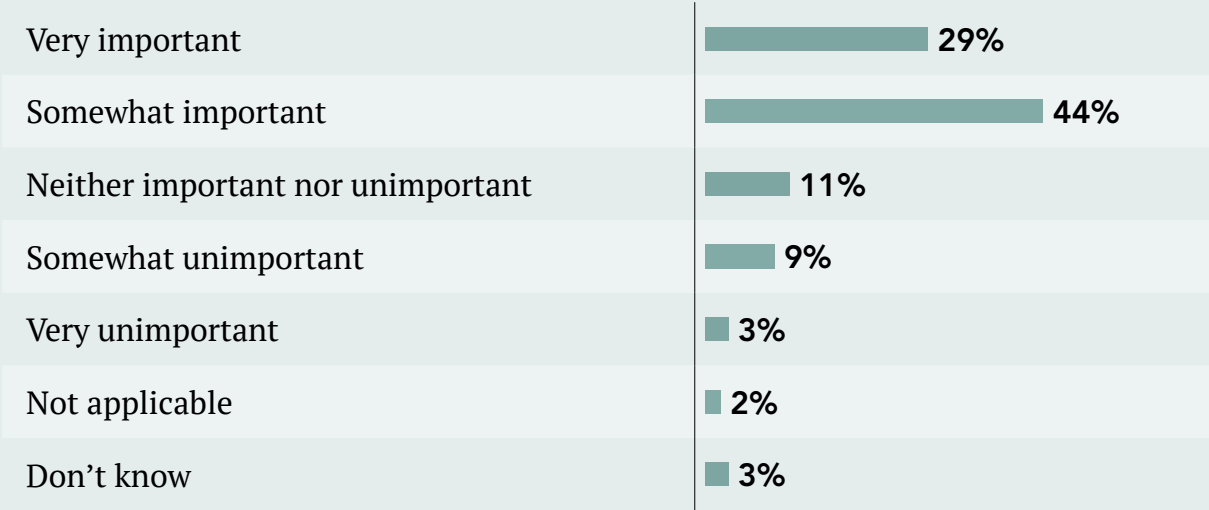
Organizations are making use of AI in different ways. Some are using AI tools for decision support

and augmented analytics to serve business users. Many are deploying AI to accelerate, automate, and optimize their internal processes. Organizations are also implementing AI as an embedded feature to supervise, monitor, optimize, and control manufacturing, logistics, supply chain, and IT infrastructure, as mentioned earlier.

Smart development of AI-driven applications is critical to realizing the maximum value from this technology. Often, organizations rely on data scientists to develop AI apps, often in collaboration with business analysts and subject matter experts. Inclusion of those business roles in the development cycle for AI—typically called citizen data scientists—is a trend that TDWI has been covering for several years.

Figure 2

How important is AI as an enabler, platform, or tool contributing to the success of your organization?



Based on 171 respondents.

In this regard, TDWI asked survey respondents what roles, functions, and personas their organizations are relying on to develop AI apps. Almost one-third of respondents report relying on data scientists and machine learning engineers. Other top roles for AI development (in descending order of mention) include business analysts and subject matter experts, software developers, and data engineers (see Figure 3).

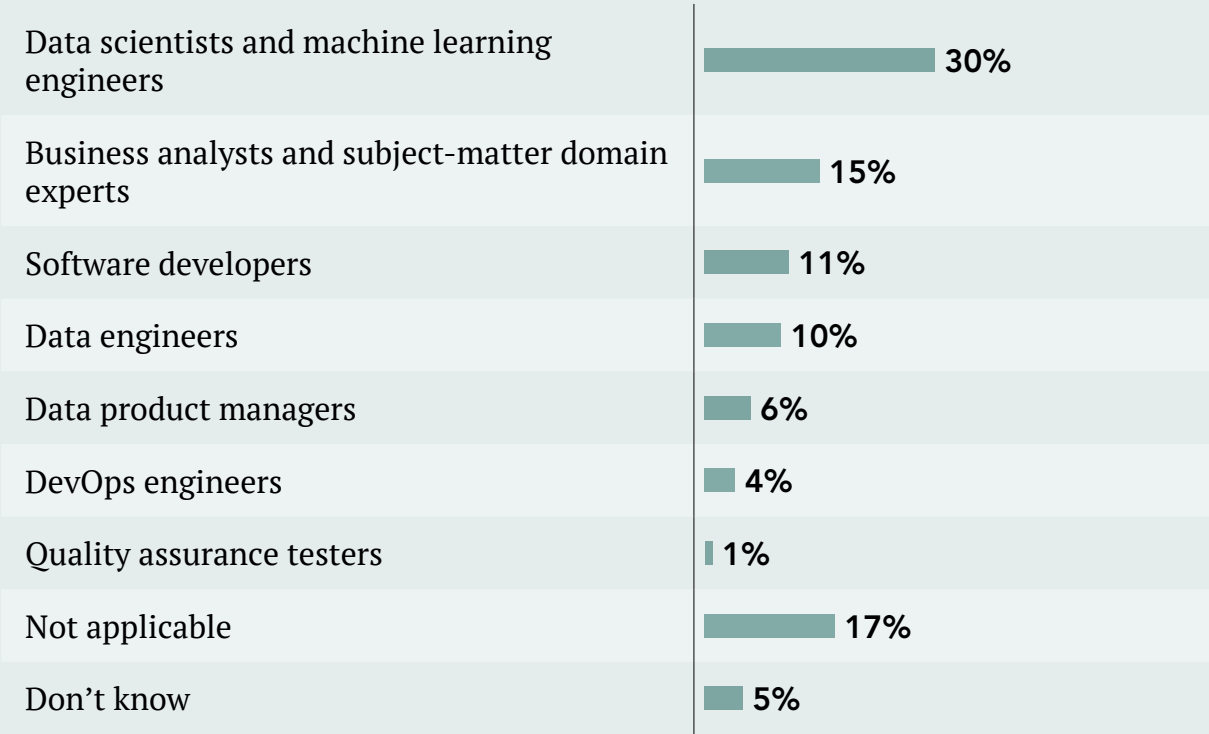
TDWI asked survey respondents what primary business outcomes are addressed by the use cases for which AI is currently implemented or planned for the coming year (see Figure 4). Many of the

top priorities involve strengthening enterprise security, resilience, and automation. In descending order of priority, respondents stated that they’re emphasizing improving operational efficiency, predicting or forecasting, augmented data-driven insights, and automating business processes, among other tasks. Abetted by rule-mining tools, AI can also identify existing processes and make recommendations for improvements in those processes, providing significant business value.

Enterprises are inconsistent in how they measure AI’s impact in the success of digital business transformation and other strategic initiatives.

Figure 3

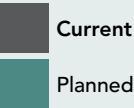
At your organization, what roles, functions, and personas are you relying on to develop AI applications?



Based on 166 respondents.

Figure 4

What are the primary business outcomes that are addressed by the use cases for which AI is currently implemented or planned for rollout in the coming year in your organization?



Based on 170 respondents. Ordered by combined “current” and “planned” responses.



TDWI asked survey respondents whether their organizations are measuring success related to their use of AI (see Figure 5).

Slightly more than 10% of respondents say they are measuring AI success in terms of quantifiable impact on revenues and/or costs. Around one in

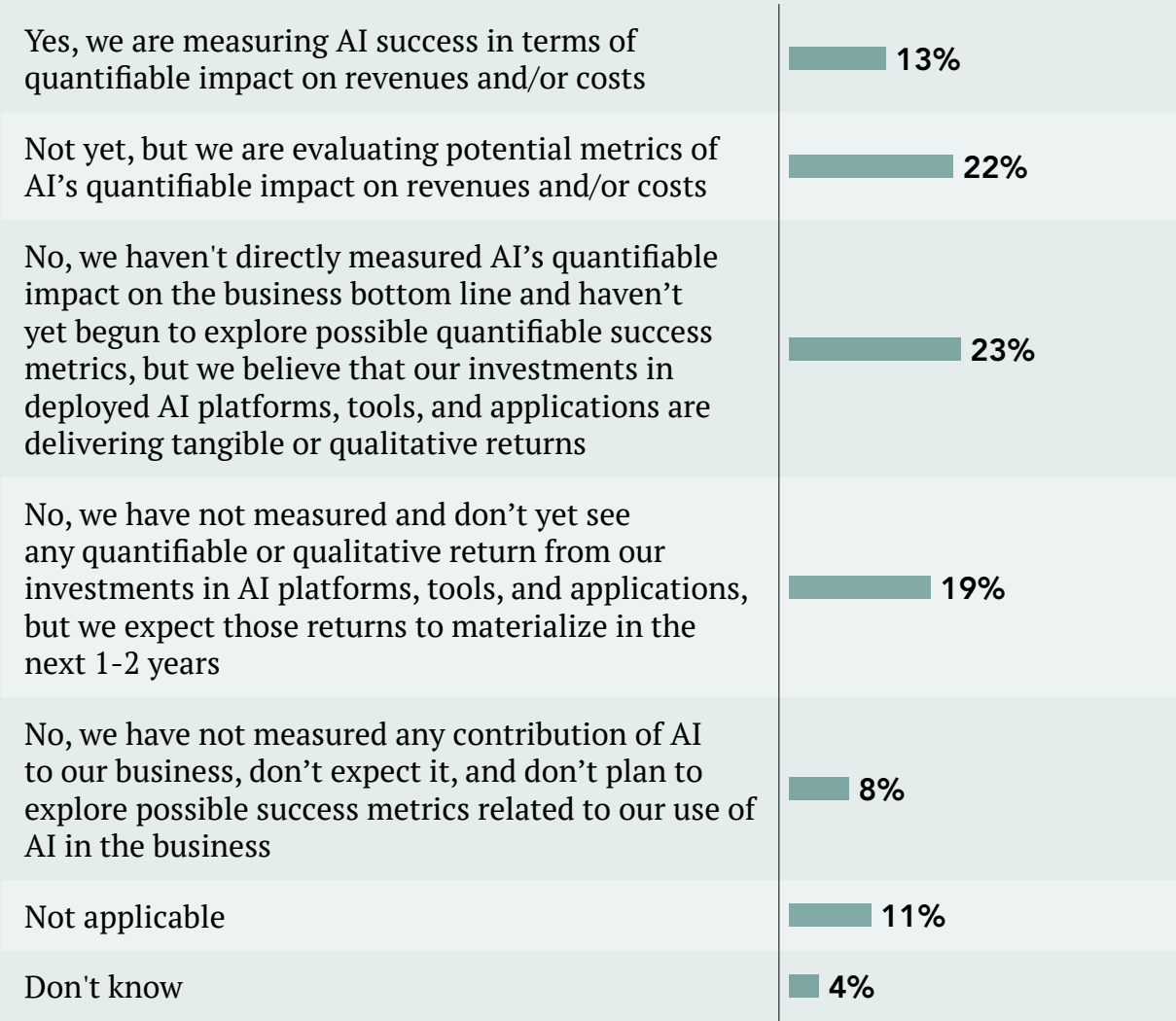
five say they are still evaluating potential metrics for AI’s quantifiable impact. A similar number say they haven’t directly measured AI’s impact on the business bottom line and haven’t yet explored possible metrics, but they believe their investments are delivering tangible or qualitative returns. Around 19% say they have not measured and don’t

yet see any quantifiable or qualitative return from their investments in AI, but they expect those returns to materialize in the next couple of years. Fewer than one in ten say they have not measured

any contribution of AI to their business, don't expect it, and don't plan to explore possible success metrics related to their use of AI.

Figure 5

Is your organization measuring success related to its use of AI?



Based on 160 respondents.

What Challenges Must Enterprises Address in Using AI for Digital Business Transformation?

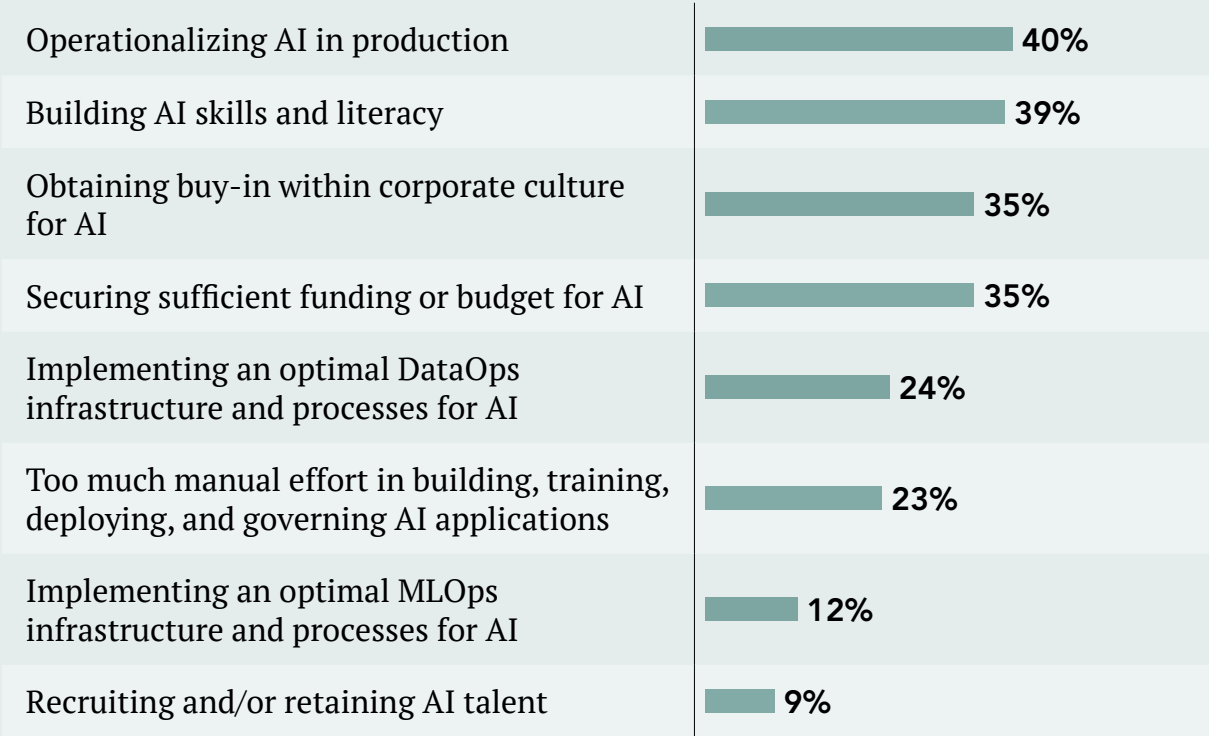
Enterprise success in using AI for digital business transformation depends on an organization’s ability to maximize the strategic value of this

technology and operationalize it efficiently and scalably across diverse technical and business functions. That, in turn, depends on an organization’s ability to successfully address a wide range of challenges related to AI’s deployment, management, and use.

TDWI asked survey respondents about their organizations’ biggest struggles and challenges with their AI practice in support of digital business transformation (see Figure 6). They reported that operationalizing AI in production has been their biggest struggle. Respondents cited this challenge

Figure 6

What have been your organization’s biggest struggles and challenges with its AI practice in support of digital business transformation? (Select up to three.)



Based on 353 responses from 163 respondents.

most frequently, followed (in descending order) by building AI skills and literacy (a close second), obtaining buy-in within corporate culture for AI, and securing sufficient funding or budget for AI.

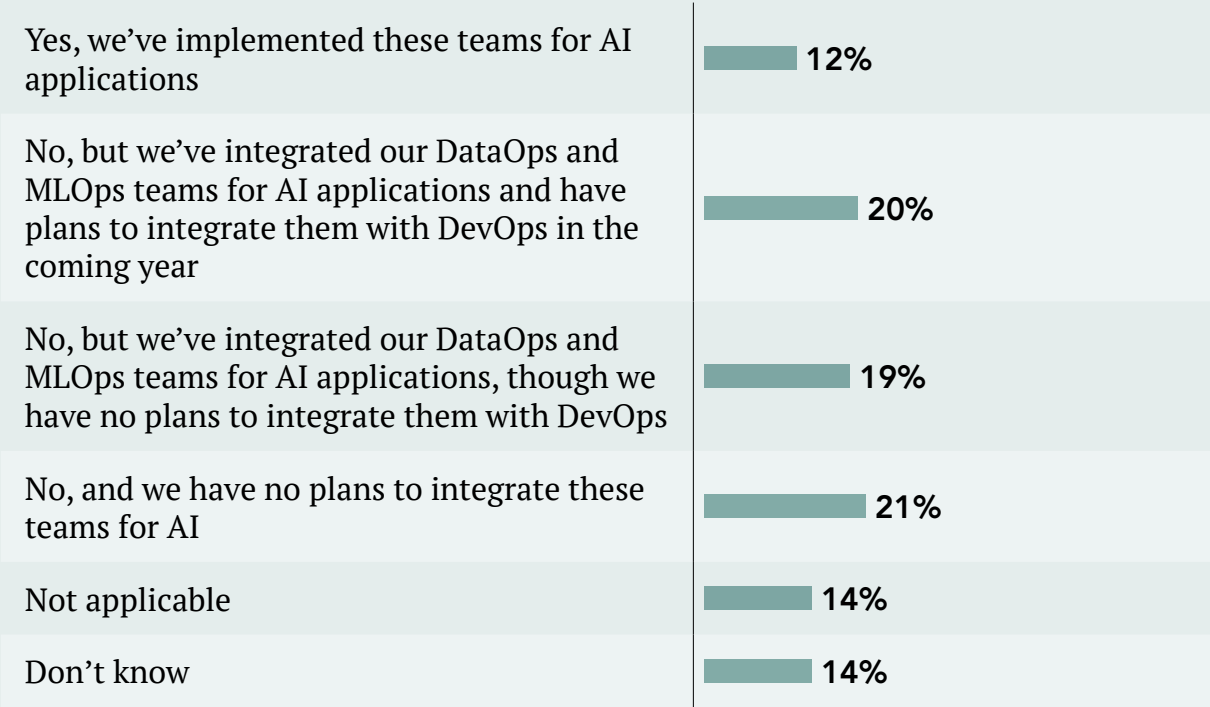
Organizations need to establish structured, repeatable internal processes behind their AI applications—especially data governance and model governance—to develop, deploy, optimize, and manage this technology effectively. A key operationalization challenge involves the implementation of practices, roles, and workflows—also known as pipelines—through which organizations develop, test, deploy, and govern

their AI applications. Key among these are the DataOps, MLOps, and DevOps pipelines and their intertwined involvement in delivering high-quality AI into business applications.

When enterprises integrate their DataOps, MLOps, and DevOps pipelines, they can improve the speed, efficiency, and productivity of these important back-end processes. TDWI asked survey respondents whether their organization implemented an integrated DataOps, MLOps, and DevOps pipeline to accelerate operationalization of AI applications in production environments (see Figure 7).

Figure 7

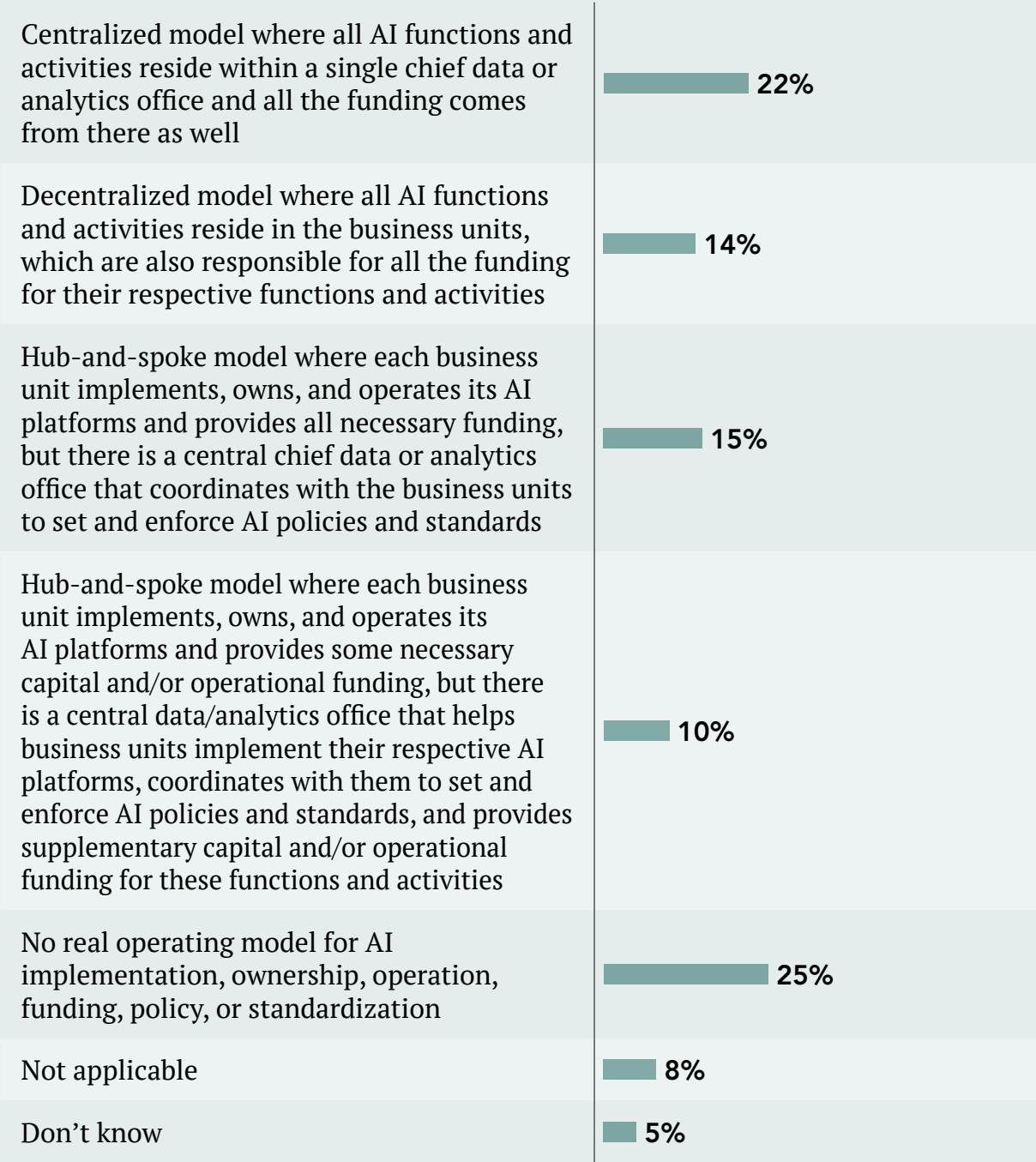
Has your organization implemented an integrated DataOps, MLOps, and DevOps team, process, or practice to accelerate the building, testing, deployment, and governance of AI applications in production environments?



Based on 166 respondents.

Figure 8

What kind of operating and funding model does your organization have for AI?



Based on 164 respondents.

Transforming Your Business Through Artificial Intelligence

We found that enterprise operationalization of AI in their back-end processes is still immature. Few enterprises—slightly more than one in ten respondents—report having an integrated DataOps, MLOps, and DevOps team, process, or practice. However, one in five have integrated MLOps and DataOps and plan to integrate DevOps. Another one in five have integrated MLOps and DataOps but have no plans to integrate with DevOps. Around one in five have no plans to integrate any of these teams, processes, or practices.

Enterprises are better prepared to address AI operationalization and other challenges if they have the right organizational model for managing AI as a component of their digital business transformation initiatives. Centralized and hub-and-spoke organizational models for funding, developing, and operationalizing innovative AI-driven apps are better suited to standardizing and scaling best practices across an enterprise; decentralized organizational models may be better at encouraging pockets of innovation and experimentation with AI-driven business transformation.

Enterprise operating and funding models for AI are as diverse as their corporate structures and business models. TDWI asked survey respondents what kind of operating and funding model their organizations have for AI (see Figure 8). Slightly more than one in five respondents have centralized AI operations and funding. A slightly higher number have no real operating model for AI. Most of the remaining respondents are roughly evenly split between three alternative operating/funding models for AI:

- A decentralized model where all AI functions and activities reside in the business units, which are also responsible for all funding

- A hub-and-spoke model where each business unit implements, owns, and operates its AI platforms (providing all necessary funding) and a central chief data or analytics office coordinates with the business units to set and enforce AI policies and standards
- A hub-and-spoke model where each business unit implements, owns, and operates its AI platforms (providing some funding) and a central data or analytics office helps business units implement their respective AI platforms, coordinates with them to set and enforce AI policies and standards, and provides supplementary capital and/or operational funding

Even when an enterprise has a well-established organizational and budgetary model for their AI practice, the technology's continual evolution challenges enterprise data, analytics, and IT professionals. Another key challenge is to identify and implement the optimal platforms, infrastructure, and tools for delivering AI applications into the business.

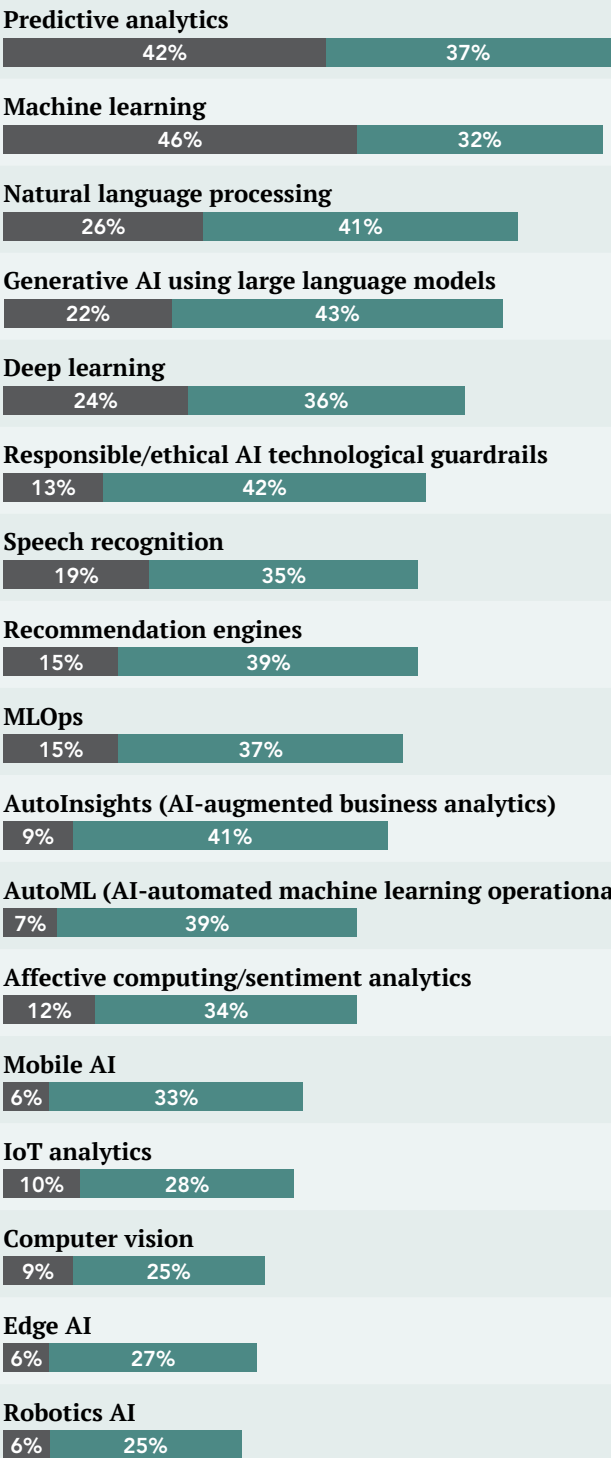
TDWI asked survey respondents which AI technologies their organizations have either currently implemented or are planning to roll out in the coming year (see Figure 9). They are implementing a deepening stack of AI technologies to drive digital business strategy. Chief among those current or planned AI deployments cited (in descending order of frequency of mention) are predictive analytics, machine learning, natural language processing, generative AI using LLMs, and deep learning. These results support previous TDWI research that indicates that many organizations are still starting out on their digital transformation journey using machine learning and predictive analytics as core supporting technologies.

Figure 9

Which AI technologies are either currently implemented or planned for rollout in the coming year in your organization?



Based on 170 respondents. Ordered by combined “current” and “planned” responses.



What Are the Key Success Factors in Using AI for Digital Business Transformation?

TDWI asked survey respondents what they consider key success factors for AI deployment in digital business transformation, and the responses ranged over many matters (see Table 1).

When it comes to platforms and infrastructure, enterprises recognize that adopting a full stack of the latest AI technology is only one factor in a successful digital business transformation. TDWI asked survey respondents to rate their agreement with various statements on the importance of adopting a full AI stack versus executing a well-thought-out implementation of AI in their organizations (see Figure 10).

Respondents agreed most with the statement that a well-thought-out AI implementation is an important contributor to success in business, but success is not necessarily contingent on their immediate adoption of the newest, most sophisticated AI.

Achieving successful deployment of AI in digital business transformation also depends on an enterprise's ability to develop AI applications for a wide range of decision support, process automation, generative content development, and other key use cases. That, in turn, depends on whether organizations provide the right tools so traditional AI developers can build powerful AI applications. It also depends on “democratizing”

access to suitable tools so non-traditional developers (e.g., business, engineering, creative, and other functions) can build innovative AI applications for diverse business needs.

Democratized development of business process automation applications through AI-enabled tools is an established trend. Indeed, robotic process automation (RPA) has become one of the principal enterprise use cases for AI. These tools enable knowledge workers to automate routine and repetitive tasks using AI-driven software “bots.” These bots can mimic human actions to interact with digital systems and software applications, executing tasks such as data entry, processing transactions, generating reports, and even responding to simple customer service queries.

RPA aims to increase efficiency, reduce errors, and free human employees to focus on more complex and strategic work. AI in an RPA context has traditionally been focused on the technology's use in inferring an application's underlying logic from artifacts that are externally accessible at the client level. In this regard, machine learning and other AI tools typically drive the screen scraping of UI presentation elements, optical character recognition of on-screen text, auto-sensing of browser-level control and domain object models, capture of human-user keystrokes and clicks, understanding of natural language text, and parsing of document object models.

TDWI asked survey respondents whether their organizations are democratizing AI application development by providing personnel with and/or encouraging them to use a new generation of self-service tools. One of the defining features of such tools is that they provide highly interactive, visual, interactive, no-code, or low-code interfaces.

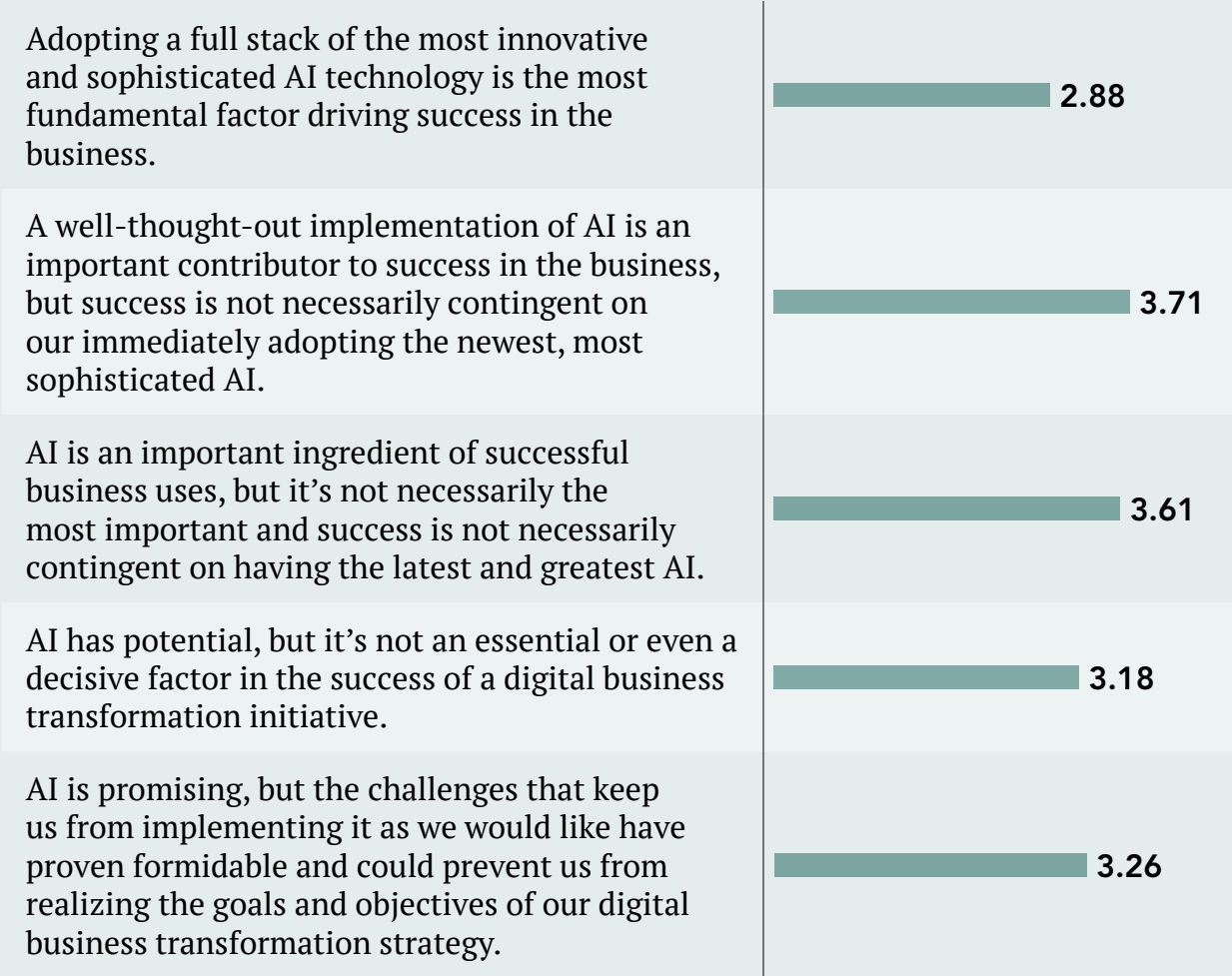
Table 1

Key success factors cited by survey respondents for deploying AI to support digital business transformation, summarized and edited for clarity.

Top-down enterprise commitment and executive sponsorship	<ul style="list-style-type: none"> • Clear and forward-thinking leadership from senior executives and top management to articulate a strategic vision for how AI aligns with the organization's goals and drives value • Management that recognizes the benefits of AI and the necessity of integrating AI to remain competitive in the field • Practical buy-in from key stakeholders • Support for setting up proper guidelines and guardrails
Strategic use cases, outcomes, and alignment	<ul style="list-style-type: none"> • Understanding of the business and not just automating for the sake of automating • Carefully analyzed processes, workflows, and pain points to identify high-impact use cases with demonstrable ROI • The right business problems are solved with AI; do not use AI to chase a business problem • Value alignment—the AI's behaviors, decision-making processes, and outputs are compatible with the core values, ethics, and social responsibilities of the organization • Embedded AI ethics frameworks • Proper tools are used in each business unit that increase productivity and accuracy • Pursuit of use cases that can scale to other functions within the organization • Business and executive users trust AI outcomes
Robust enterprise platforms, pipelines, and practices	<ul style="list-style-type: none"> • A data center with the necessary electrical supply • A modern data platform • Understanding the limitations of current tools; resources focused on most productive projects • Efficient integration of data-driven/AI systems into business operations to deliver customer-centric benefits • Understanding of existing workflows, systems, and data pipelines to properly integrate the AI solution without creating friction or silos • Access to data • Centralized center of excellence
Governance, security, and compliance guardrails	<ul style="list-style-type: none"> • Proper access and data security • Data governance • Data that is better than the competition's • Adoption of robust data policies • High-quality data
Democratized literacy, skills, usage, and development	<ul style="list-style-type: none"> • Education across all levels of employees; technology skill set development • Understanding of the technology, including limitations and opportunities • AI is democratized • People skills • Subject matter expert on staff or a competent consultant to help you along the path • Expertise to develop models that will be perceived as credible by C-suite executives • Data literacy to ensure proper use of AI
Metrics	<ul style="list-style-type: none"> • Appropriate and accurate models • Specific targets, including how the effort will increase ROI • Positive results in real-world implementation • Cost and productivity savings • Accurate and useful output, including from generative AI • Automation and accuracy

Figure 10

Please rate your agreement with the following statements on a scale of 1 to 5 where 1 is completely disagree and 5 is completely agree.



Based on 160 responses. Average overall agreement with each statement is shown.

Some of the most innovative new tools under this self-service umbrella incorporate prompt-driven generative code development to supplement visual low-code/no-code interfaces.

Respondents told us that democratization of AI development through self-service tools varies

widely across their organizations (see Figure 11). One in seven provide personnel with and/or encourage them to use self-service, visual, interactive, no-code (purely visual development), low-code (building apps with Python or other high-level language), and/or generative tools for AI app development. Around one in seven

don't encourage no-code tools but use the others. Slightly more than one in ten use all of these except low-code tools, and another one in ten provide and encourage use of all except generative tools. Slightly less than three in ten don't provide or encourage personnel to use any of those tools for AI development.

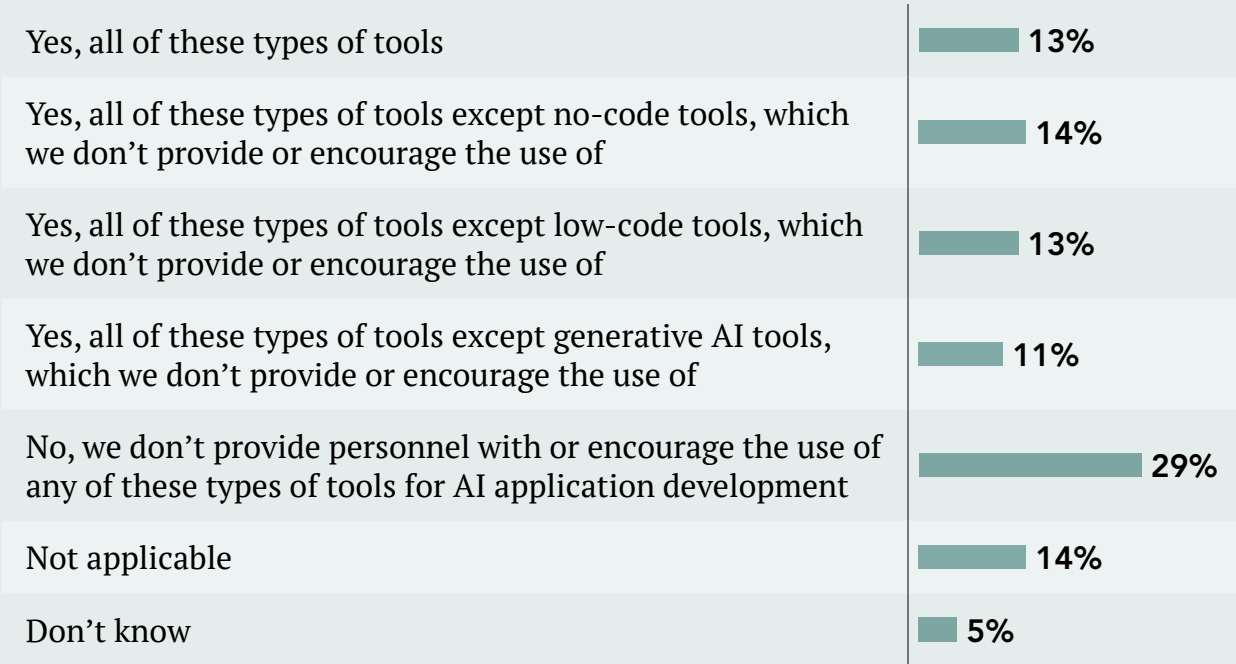
Another factor in successful AI deployment in digital business transformation is whether an enterprise has mitigated the potential downside risks. A key approach for doing this involves implementing the requisite guardrails for ensuring

the governance, security, and compliance of AI applications in production. Guardrails are also necessary for monitoring and controlling democratized development of AI-infused business process automation apps, such as RPA, lest they spawn an ungovernable range of "shadow" or "rogue" AI development throughout organizations.

Enterprise deployment of AI guardrails is still spotty at best. TDWI asked survey respondents whether their organizations are providing guardrail tools to mitigate poor data quality, bias, privacy, hallucinations, and other risks from AI in

Figure 11

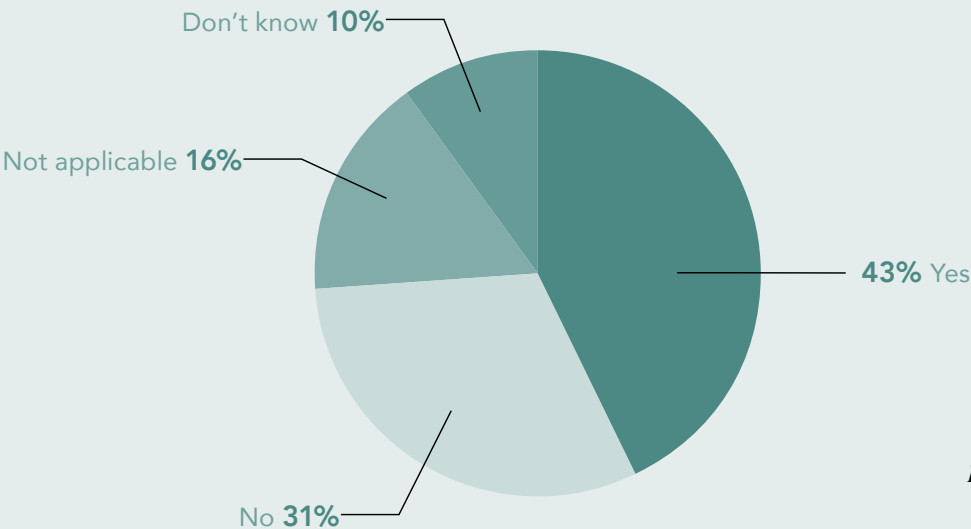
Is your organization democratizing AI application development by providing personnel with and/or encouraging them to use a new generation of self-service, visual, interactive, no-code (purely visual development), low-code (building apps with Python or other language), and/or generative tools for this purpose?



Based on 164 responses.

Figure 12

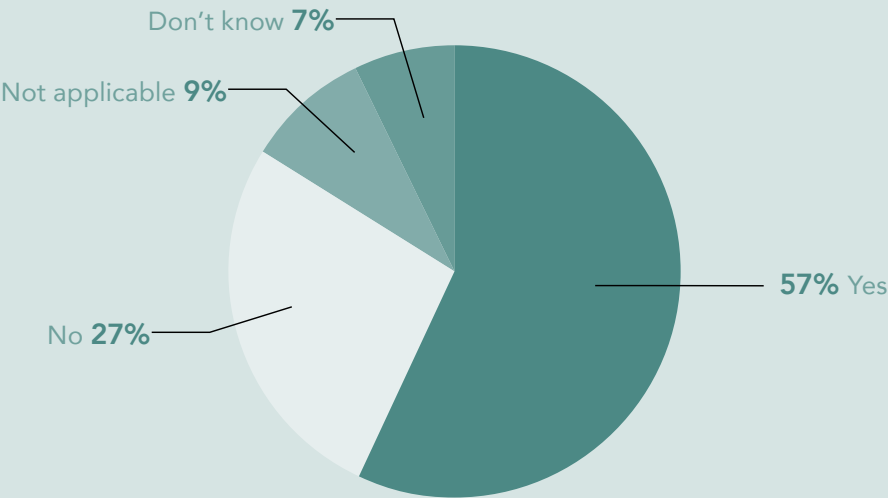
Is your organization providing governance/guardrail tools to mitigate poor data quality, bias, privacy, hallucinations, and other risks with AI in production environments?



Based on 166 respondents.

Figure 13

Is your organization addressing the need for AI skills, awareness, and other relevant subject matter within its data literacy programs?



Based on 164 respondents.

production environments (see Figure 12). Many respondents—more than two in five—report that their organizations have implemented such guardrails. However, nearly three in ten report not providing such tools.

Another success factor for AI in digital business transformation involves culture. An organization should establish a business culture that uses AI to maximum benefit and implements appropriate governance, compliance, security, and other guardrail policies rigorously in their everyday work. Infusing AI curricula into enterprise data literacy training is still very much a work in progress. TDWI asked survey respondents whether their organizations are addressing the need for AI skills, awareness, and other relevant subject matter within their data literacy programs (see Figure 13). We found it encouraging that a majority of enterprises—close to three-fifths of respondents—are doing so. However, the rest say they aren't, it's not applicable, or they don't know.

Recommendations

TDWI recommends that enterprises align their digital business transformation efforts with their growing adoption of AI. Organizations can reap great benefits by deploying AI-infused functionality into many processes, decisions, channels, and touchpoints. However, enterprises need to make sure they are prioritizing their AI investments so they can differentiate themselves more effectively in their competitive arenas, boost their agility to respond to changing circumstances, and adjust their operations for continued growth and accelerated time-to-market.

The enterprise road map to successful use of AI in digital business transformation has the following key elements:

Establish executive commitment. Establish a top-down corporate commitment and sponsorship for digital business transformation and for using AI as a key enabler in this effort. A solid business case is a must. Obtaining buy-in for AI initiatives may stall if senior executives don't see a clear payback. This business case must be grounded in AI's ability to drive down the cost of embedding data-driven inferencing into the increasingly digital aspects of the business. AI-powered applications can automate, accelerate, and optimize a multitude of business processes, decisions, and engagements. These can be adaptively optimized through AI-enabled applications that are trained from fresh data, leverage high-performance machine learning models, and incorporate a deepening stack of sophisticated application logic.

Designate a key C-level sponsor. Designate a key executive-level transformation agent who sponsors and is committed to using AI as a key resource in this effort. This C-level transformation sponsor may be a tech position such as the CIO or chief analytics officer, or it may be a business position such as COO. Whoever takes the lead on sponsoring AI-infused digital business transformation, these efforts can succeed best when all lines of business and levels in the company are on board.

Define strategic objectives. Identify key strategic business outcomes to be achieved through AI-driven digital business transformation. AI's contribution to the success of your enterprise digital business transformation is wide ranging, with technology playing a central role in such initiatives such as automating business processes; personalizing experiences, products, and services; delivering adaptive, contextual guidance and recommendations; generating innovative content, code, products, and services; providing 360-degree customer insights; and driving intelligent chatbots and digital assistants.

Allocate ample resources. Allocate sufficient financial resources to build and operationalize AI for sustainable business transformation. Keep in mind that securing adequate funding or budget for AI may be an uphill battle in the face of competing demands on IT budgets.

Expand AI's footprint. Establish an extensive AI footprint for automation, acceleration, and augmentation of business processes, channels, decisions, and touchpoints. Put AI's machine learning, deep learning, natural language processing, and other data-driven models to work throughout the business. Embed AI into mobile, edge, IoT, cloud, SaaS, desktop, on-premises, and other strategic computing platforms used in the front office and in back-end business processes. Bring AI-accelerated digital intelligence into a wide range of mission-critical business applications.

Implement a robust platform. Build a robust AI platform, pipeline, and infrastructure for scalable and agile deployment and operationalization of AI across the business. AI is evolving rapidly, and it can be an ongoing challenge to select, deploy, and manage the optimal platforms, infrastructure, tools, and apps to address changing requirements. An enterprise should integrate its DataOps, MLOps, and DevOps pipelines. It should manage a wide range of governed enterprise data in lakehouses and other cloud data platforms. It should leverage rich metadata to drive contextually adaptive applications, holistic governance, and end-to-end pipeline observability, and it should operationalize the deployment, management, and governance of AI within robust enterprise processes. Bear in mind, though, that operationalizing AI as a cog in ongoing business operations and applications can be complex and risky from technical and compliance standpoints.

Institute governance and compliance guardrails. Implement technological and procedural guardrails to ensure that AI-accelerated digital business transformation complies with mandates for responsible data and analytics. It is also essential to institute guardrails to monitor and control how a new generation of citizen data scientists and other business-level personnel develop, deploy, and manage AI-infused applications into enterprise production environments.

Democratize development, use, and literacy. Instill a business culture that democratizes the development and use of AI applications in the business through the deployment of self-service, visual, interactive, low/no-code, and generative tools. A wide range of personnel should have the AI skills needed to develop, deploy, and manage AI within the business. Keep in mind that AI talent may be in short supply, with recruitment and internal training initiatives racing to bring the right skills into the organization to develop, manage, and govern it all effectively. Organizations should add AI curricula to their data literacy programs so everyone is empowered to ideate its use in digital business transformation.

Track business payoff metrics. Measure AI's impact on bottom-line metrics to ensure that it is fulfilling its role in digital business transformation. Enterprises should establish formal processes under which quantitative metrics of AI's impacts on strategic business objectives are collected and reported.

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