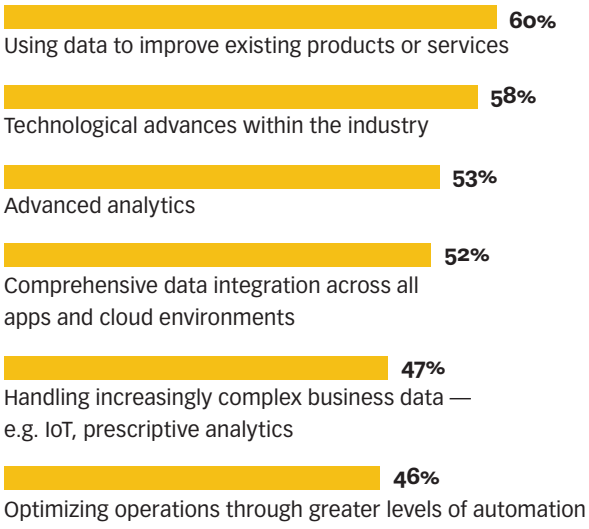
Market Pulse

AI/ML: How to Get Ahead of the Curve

Survey Reveals Valuable Insights From The Leading Edge

IN THE DIGITAL ERA, few technologies are generating greater interest than artificial intelligence and machine learning (AI/ML). Although AI/ML is in the early days of implementation, organizations that have taken the lead are achieving remarkable business results from their initial AI/ML projects. A new survey by IDG explores the key tasks these leaders have identified for AI/ML implementation success.

FIGURE 1. **Motivators to Pursue AI/ML**



Source: IDG 2019

Respondents to the survey say the case for AI/ML is compelling. The top motivator is "using data to improve existing products or services" (60%), followed by "technological advances within the industry" 58%, "advanced analytics" (53%), and "comprehensive data integration across all apps and cloud environments" (52%).

Organizations are seeking to increase their competitiveness both internally and externally. Internal benefits come from optimizing operations such as inventory management and predictive maintenance for manufacturing equipment. External gains are generated by products and services that delight customers, increase sales, and stimulate repeat business.

LEADERS VS. FOLLOWERS

Reflecting the widespread interest in AI/ML and the lofty goals for deployment, almost two-thirds of study participants have actively initiated AI/ML programs. However, the survey revealed, many implementations are in the early stages and lessons from deployments are just beginning to be learned. The perceptions of those who are actively implementing AI/ML projects are in some cases markedly different from those who are contemplating AL/ML. The difference between the leaders and followers reflects the voice of experience and offers lessons to those who have not yet embarked on the journey.

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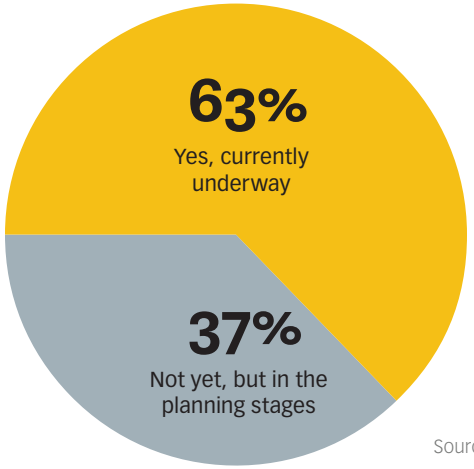
SECURITY

A notable difference between leaders and followers is to be found in the topic of security. While security is seen as the single greatest challenge by both followers and leaders, that opinion is far stronger among leaders. 68% of those who have not begun the journey rate it as a challenge to implementation, while fully 84% of leaders consider it a challenge. This finding suggests that IT decision-makers would be well advised pay closer attention to the various types of security they will need as they begin to deploy AI/ML.

FIGURE 2. **Stages of Maturity for AI Adoption**



Source: IDG 2019

Among the specific security issues are concerns about the data that will be used in the AI/ML implementation. Often, that data contains proprietary information about customers and partners, which could be exposed to third parties or bad actors as it travels to and from a cloud-based service. To protect personally-identifiable information, that data should be anonymized. Further measures such as encryption and role-based access to the data should also be implemented. In addition, IT decision-makers should choose cloud providers wisely with regard to security, making sure the cloud provider can offer adequate data protection, control and compliance.

CHAMPIONS

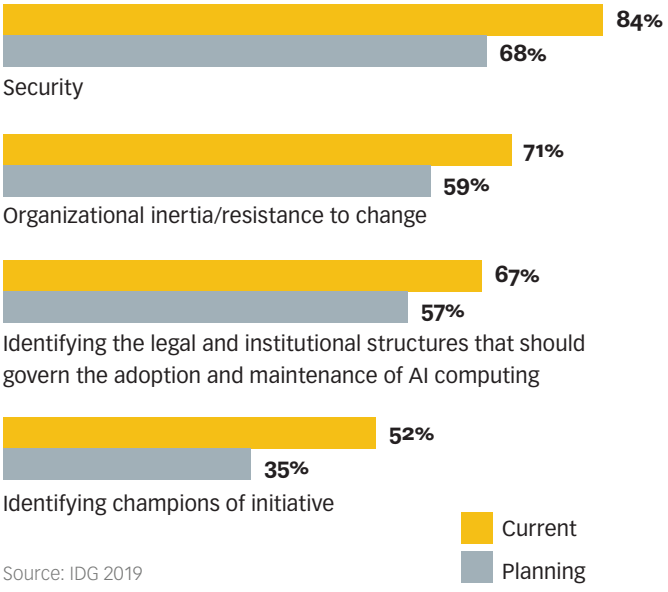
Another significant variance is in the perceived importance of a champion. While followers don't view identifying a champion as a challenge — only 35% do – 52% of leaders say it's a challenge. Thus, experience teaches that a champion is important and finding one is not a simple matter.

Although many AI/ML initiatives begin life as IT projects, the most effective champions come from the business side of the house. Such advocates have an intrinsic understanding of the business value of the project and are likely inclined to focus on business results throughout the process of implementation.

AI/ML implementations involve many individuals, including developers, engineers and data scientists, and those persons must think and act as a team in order to be effective. The champion should instill the importance of teamwork in all participants and encourage them to concentrate on business outcomes. The champion should also carry the message of the project to departments and stakeholders across the company to help them understand the strategic importance of the undertaking.

For example, a quality-control application might take pictures of products coming off an assembly line, correlating them with stored images of defects. Over time, the application would learn from small variations in appearance when a defect is imminent, automatically halting production before one occurs. It's a labor-saving application that would increase both productivity and customer satisfaction, giving a manufacturer a distinct edge. The champion should make sure such an application is not only implemented, but that it is delivering information that is being acted upon — and that it is generating provable return on investment.

FIGURE 3. **Barriers to Implementing AI Apps**



Source: IDG 2019

ORGANIZATIONAL INERTIA

As AI/ML makes possible new ways of working, new business models, and new business processes, it is sometimes challenging to imagine how to achieve these goals. Lack of a clear picture of results and inability to understand opportunities make it harder to get the organization to start moving. Oftentimes, business units and IT are focused on separate goals. But in AI/ML projects, they must work together toward common aims. While 59% of followers say organizational inertia and resistance to change will be challenges to implementation, 71% of leaders say they are. This finding indicates that adherence to the status quo tends to be a greater challenge than it might at first appear. The lesson here is that it is not a simple matter to get siloed business units to unite and pull together. This challenge is best addressed by the champion, who should assert his or her influence and encourage business units and IT to pull together.

LEGAL AND INSTITUTIONAL STRUCTURES

Data that is critical to AI/ML projects is often "big data," unstructured data in large quantities that is deposited in a data lake. For this data to be meaningful, it might need to be associated with other data such as customer information. However, some of that data might fall into the category of personally-identifiable information (PII) that is subject to regulations such as HIPAA in health care, PCI-DSS in financial services and GDPR for all organizations that do business with European Union citizens. It is therefore important to keep PII secure and not commingle it with other data, whether the data is stored on-premises or in a cloud-based service.

There are other legal and institutional issues beyond data privacy. For example, assuring high data quality through data cleansing and deduplication is important for compliance, as is data lifecycle management (DLM). The ability to retain and retrieve data promptly when required for legal and compliance purposes is critical.

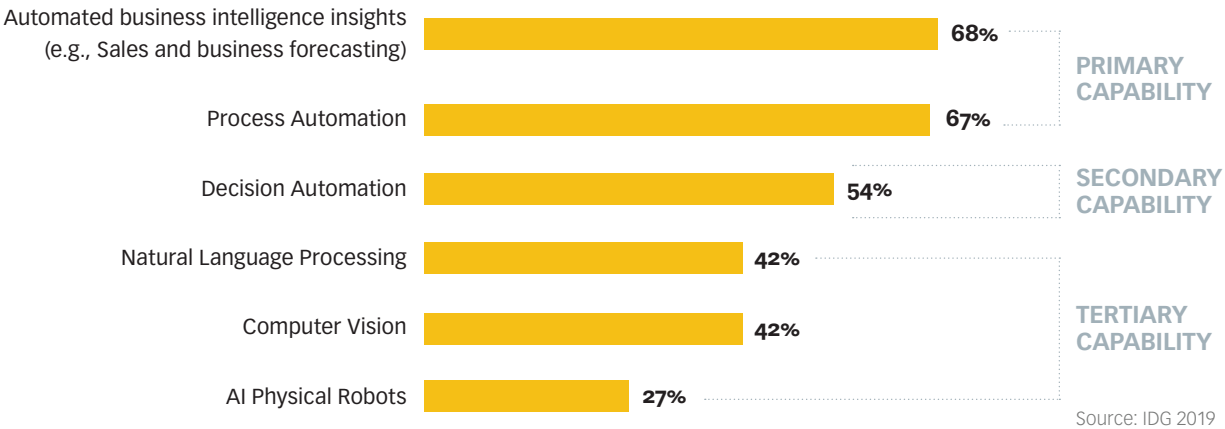
The survey found a disparity between leaders and followers in this regard. Identifying the legal and institutional structures that should govern the data is seen as a challenge by 67% of leaders, but only 57% of followers see it that way. This finding suggests the difficulty of guarding data confidentiality and complying with legal and regulatory requirements is easy to underestimate.

Process automation can identify customers who generate high profitability and assure they receive service without delay.

HOW TO GET AHEAD OF THE CURVE

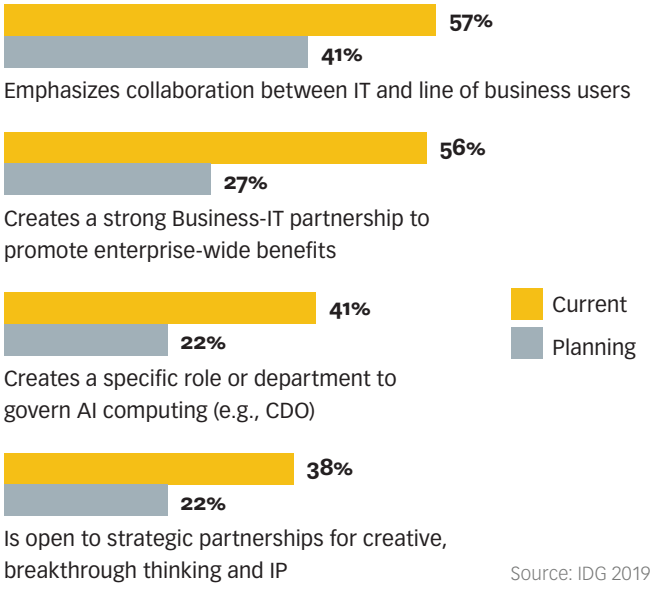
Clearly, there are major differences between expectations and results for AI/ML implementations. While the anticipation of benefits is often high, the lack of established best practices causes many keys to implementation to be either unknown or underestimated. It should be a priority for all companies interested in AI/ML to bring expectations in line with results. The first step toward this goal is to clearly identify the core capabilities that an organization seeks to gain by implementing AI/ML. When the desired core capabilities are established, the next step is to start small by identifying in initiatives that allow for small wins against a larger vision. This will help prove the viability of the outcome, promote the process and with that create the needed alignment within an organization to achieve the broader goal.

FIGURE 4 **Core Capabilities Organizations Need from AI**



Source: IDG 2019

FIGURE 5. **Strategies of Successful AI Deployments**



Source: IDG 2019

The survey found that automated business intelligence insights (68%) and process automation (67%) are the most sought-after capabilities. For example, in the retail industry, an AI-based recommendation engine can leverage automated business intelligence insights to replenish inventory with the most in-demand and high-profit products. In another example, process automation can streamline call center activities by intelligently anticipating customer needs based on purchasing history. In addition, process automation can identify customers who generate high profitability and assure they receive service without delay.

A key marker of maturity with regard to AI/ML is the integration of these technologies into business processes across an organization. To do this, a close partnership between IT and LOB leaders is essential. According to the survey, leaders see clearly the need to create this partnership, but followers have yet to learn this lesson. While 56% of current implementers say creating a strong business-IT partnership to promote enterprise-wide benefits is strategic to successful AI deployments, only 27% of non-implementers do. In addition, 41% of leaders recommend creating a specific role such as Chief Data Officer (CDO) to govern AI computing, only 22% of followers see this need.

QUICK WINS; DEMONSTRATING VALUE

Important for all IT-business projects and no less so for AI/ML is the successful implementation of pilot projects. By demonstrating the ability to deliver a valuable, measurable result quickly in a pilot, it is possible to establish a track record of strong results and set expectations for further successful projects.

A pilot project enables an organization to understand the skills that are required for implementation, and what refinements are needed for the organization to gain maximum benefit from the project. Each successful pilot moves the organization further along the path to value, as processes are more clearly defined and results are better understood. For example, in retail, a recommendation engine can deliver a prompt return on investment in inventory management. And in operations, increasing the efficiency of power usage in the data center will result immediately in lower electricity bills.

Organizations should be prepared for success. When pilot projects succeed, they should be followed up promptly with more challenging applications. Champions and their teams will find that repetition of best practices from one project to the next will yield consistent results. In this regard, AI/ML deployments have many of the same characteristics as mass customization initiatives — the application of automated methods to the production of individually-tailored products.

By adhering to these methods, expectations and results can be aligned, enabling an organization to realize the strategic value of AI/ML. With capabilities established and results proven, leaders should take aim at the ultimate goal: transformational AI/ML that is pervasive across the organization.

The lesson here is that it is not a simple matter to get siloed business units to unite and pull together. This challenge is best addressed by the champion, who should assert his or her influence and encourage business units and IT to pull together.

For more information, visit **atos.net/en-na/lp/ai-readiness**