PMI's
PULSE of the PROFESSION® In-Depth Report

Next Practices

Maximizing the Benefits of Disruptive Technologies on Projects

Project Management Institute

ABOUT THIS REPORT

PMI's *Pulse of the Profession*® in-depth research was conducted online in February 2018 among 1,730 project management professionals globally. In-depth interviews were also conducted with seven PMO directors and seven C-suite executives from major national and multinational corporations to gain deeper insights. They shared examples of their experiences with the impact of disruptive technologies on projects, and project management activities within their organizations.

1,730 PROFESSIONALS SURVEYED

"Innovator organizations realize that disruptive technologies can give them a competitive advantage by improving the customer experience, enhancing employee efficiency, and shortening project timelines."

MARK A. LANGLEY,
PMI President and CEO

Success in Disruptive Times
Calls for the Development of Next Practices

In this time where disruption is the norm, organizations that succeed are those that adapt rapidly to new opportunities and challenges. These innovators are changing the way they act, think, and work.

Companies are creating technologies that at one time seemed limited to the realm of science fiction. Take for example, the Virgin Hyperloop One, which is set to revolutionize transportation by reducing the barriers of time and distance. By 2021 we could see vehicles traveling at airline speeds through tubes using magnetic levitation. Until that point, we're still watching the well-known disruptors like Airbnb, which is a hotel company that owns no real estate; or Uber, which is a transportation company that owns no vehicles.

While these companies are grabbing headlines, established organizations are making significant progress. IBM's *Incumbents Strike Back* reports that 72% of C-suite executives consider innovative incumbents—the once lumbering, now innovative organizations—are leading the disruption.

We know equipment giants Caterpillar and Deere & Co. are evolving as major tech players. DuPont is now providing software and analytics tools to help farmers improve efficiency, profitability, and sustainability. And even municipalities like the City of Amsterdam are investing in 3D-printing to construct bridges.

Organizations like these realize that disruptive technologies can give them a competitive advantage by improving the customer experience, enhancing employee efficiency, and shortening project timelines. They harness technology to change the way they operate—and the way they manage projects. They also are working in new ways. So, as part of our research efforts, we are taking a yearlong look at the next generation of work in disruptive times. Our research discussed in this report focuses on how organizations will manage the impact of disruptive technologies, and the role project management plays.

We see that organizations are developing new ways of working that will carry them into the future. These "next practices" are a combination of approaches and technologies, some you will see outlined in this report and in our upcoming research.

As disruptive technology impacts the work we do and enables customers to be involved in every part of the business, we are confident project management will drive value. Because, as you will see from our research, organizations that commit to proven project management practices experience better project outcomes.

Read on to understand how innovator organizations are evolving their practices, managing the growing impact of these technologies, and relying on project success as a competitive advantage.

Let's do great things together!

Mark A. Langley
President and CEO

EXECUTIVE SUMMARY

In every industry, new technologies are used to disrupt markets, challenge competitors, and force organizations to change the current ways of doing business.

The CEOs we spoke with marvel at the speed of transformation, saying technology changes by the hour—not by the week or month. Many added that every business in every industry is affected by disruptive technologies—forcing them to take a closer look at their market relevance.

In fact, 91% of the organizations we surveyed are being impacted by disruptive technologies (see the top 13 listed in the box to the right). These disruptors are displacing established technologies and shaking up the global marketplace. A disruptive technology may be either a tool or resource employed in production (e.g., AI, 3D printing), or it may be the finished product or service itself (e.g., self-driving vehicle). A classic example is the Apple 2007 project to develop the iPhone, which disrupted the telecommunications industry by blurring the distinction between computers and phones. Consider that the iPhone has almost three times the processing power than the 1985 Cray-2 supercomputer—and at a fraction of the price.

But today's disruptors are reaching beyond the bounds of mere processing power. They are outperforming established players by addressing gaps in the market, forcing organizations to reevaluate strategy and value. To avoid falling prey to the rapidly changing world the way Blockbuster, Blackberry, and Kodak did, organizations must embrace disruptive technologies before they make an impact. These game-changing technologies are transforming how we sell, market, communicate, collaborate, educate, train, innovate, and much more. And, even though an organization may not currently be experiencing the impact from disruption, it is preparing for the impact over the next five years.

TOP DISRUPTORS IN PROJECT MANAGEMENT

Disruptive technologies ranked by total impact among our survey respondents:

1. Cloud solutions
2. IoT (Internet of Things)
3. Artificial intelligence (AI)
4. 5G mobile internet
5. Voice-driven software
6. Building information modeling (BIM)
7. Advanced robotics
8. 3D printing
9. Blockchain
10. Autonomous (self-driving) vehicles
11. Large-scale energy storage
12. Gene sequencing
13. Genomics

Organizations that want to understand and manage the impact of these technologies can look to proven project management practices to survive and thrive during these times of change. As they embrace project excellence, they will experience greater success with their strategic initiatives and higher project rates. We see an average of 71% of the projects of innovators—organizations in our research that have a mature digital transformation strategy, are risk tolerant, and have adopted and made disruptive technologies a priority—meet the original goals or business intent. That's compared to 60% of laggards (as defined in the box to the right).

Innovators in our research commit to excellence by:

USING DISRUPTIVE TECHNOLOGIES TO THEIR BENEFIT

We see that innovators are leveraging these technologies to their advantage to encourage greater efficiency and automation, increase productivity, promote the development of better products and services, automate mundane tasks, advance innovation, and drive better decision making.

EMBRACING THE VALUE DELIVERY LANDSCAPE

As innovators look to compete in future ways of working, they are using the full spectrum of competencies that enable organizations to deliver their projects and programs—or, the value delivery landscape.

ELEVATING THE PROJECT MANAGER

Innovators believe that the role of the project manager will evolve to one that advocates for the technology, motivates teams to implement, supervises course corrections, and becomes an authority on disruptive technologies.

While we realize that challenges lie ahead, we see considerable reason for optimism for the future of work and the role project management plays. Since all strategic change happens through projects and programs, proven project management practices remain crucial to an organization's success.

PERFORMANCE LEVELS

Innovative organizations embrace a mindset that sets them apart. They are developing new ways to work and relying on disruptive technologies to gain a competitive advantage. When determining performance levels, we analyzed the organization's strategic priorities, risk profile, change management, and use of these new technologies. Through this lens, we focused on two performance levels among responding organizations:

INNOVATORS:

Innovators make up the top 12% of the organizations in our survey. They are high-performing organizations that have a mature digital transformation strategy, are risk tolerant, have adopted or committed to an important product/service or major organization-wide change, and consider the adoption of disruptive technologies to be a high organizational priority.

LAGGARDS:

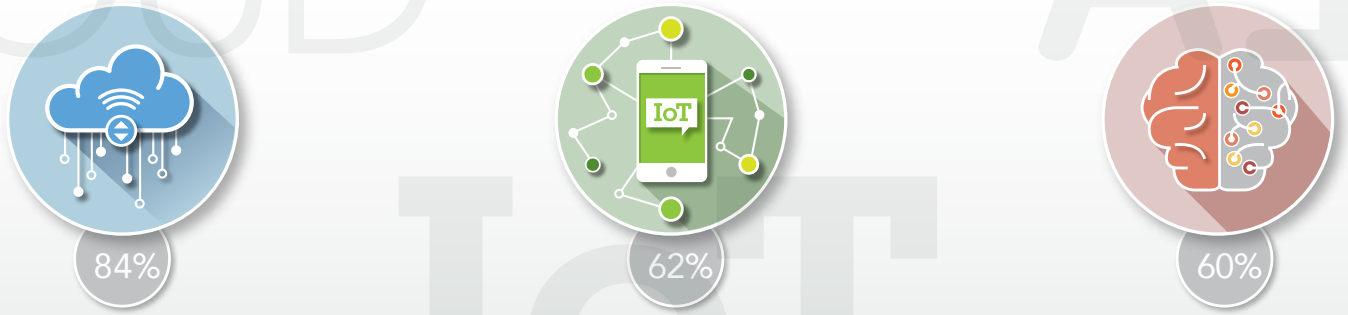
Laggards are in the bottom 14% of the organizations in our survey. Their organizations are much slower to embrace and adopt disruptive technologies. They have an immature digital transformation strategy or no digital transformation strategy at all, are risk averse, and consider the adoption of disruptive technologies to be a low organization priority.

3

TOP 3 DISRUPTORS USED FOR COMPETITIVE ADVANTAGE

At any given time, there are several disruptive trends that change the way organizations work. Smart organizations view the change as an opportunity to innovate and develop new products and services.

Innovative organizations know that these disruptions present the opportunity to evolve their best practices to next practices—practices that will carry them into the future. They are developing new ways to work and relying on disruptive technologies—ones that displace an established technology and shake up their industries or are ground-breaking products that create a completely new industry—to gain a competitive advantage.



% of innovators that say this disruptive technology is giving their organization a competitive advantage

1

CLOUD SOLUTIONS

84% of innovators say the cloud is giving their organization a competitive advantage, compared to just 57% of laggards

Organizations know that cloud solutions can increase flexibility and lower costs—and we see that major benefits can be realized on the project level. Cloud computing provides access to shared pools of configurable system resources (storage) and higher-level services that can be provisioned with minimal effort. What once took months to finish now takes minutes with cloud technology. Less time, money, and labor are spent on administering, troubleshooting, and updating technologies in the cloud environment. For project management, the cloud offers whole new levels of collaboration and information access and frees up schedules so professionals can lend expertise to projects and customer issues.

2

INTERNET OF THINGS (IoT)

62% of innovators say IoT is giving their organization a competitive advantage, compared to just 26% of laggards

IoT encompasses a vast emerging digital ecosystem that connects devices to collate and exchange information. It's this network of devices that has been enabled to connect, exchange data, and inter-operate within the existing internet infrastructure. For project management, IoT offers increased and constant connectivity. The effectiveness of communication will drastically increase as automatic transfer of data takes place. IoT also increases data efficiency, allowing for more accurate data-driven decision making. Many organizations report a dramatic change in the handling of projects with IoT—because everything is enabled with the internet.

3

ARTIFICIAL INTELLIGENCE (AI)

60% of innovators say AI is giving their organization a competitive advantage, compared to just 22% of laggards

AI makes it possible for machine processing to provide faster and more reliable decision making based on large amounts of stored information. The information-gathering capabilities of AI can help reduce human error and biases when it comes to creating budgets, predicting cost overruns, and developing schedules. AI-assisted tools could mean that project monitoring and schedule changes require less time and fewer resources. These efficiencies will allow project management to excel in areas where AI falls short, such as people skills and team building. The tools could also help project professionals devote more time to ensuring that projects remain in tune with the business case and aligned with organizational goals.

Innovative organizations know these technologies create a positive shift in project management capabilities that fosters new ways of working. Read on to see how these innovators are changing the way they approach their work by investing in disruptive technologies in ways that unlock value.

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THE POWER OF PROJECT MANAGEMENT TO THRIVE IN DISRUPTIVE TIMES

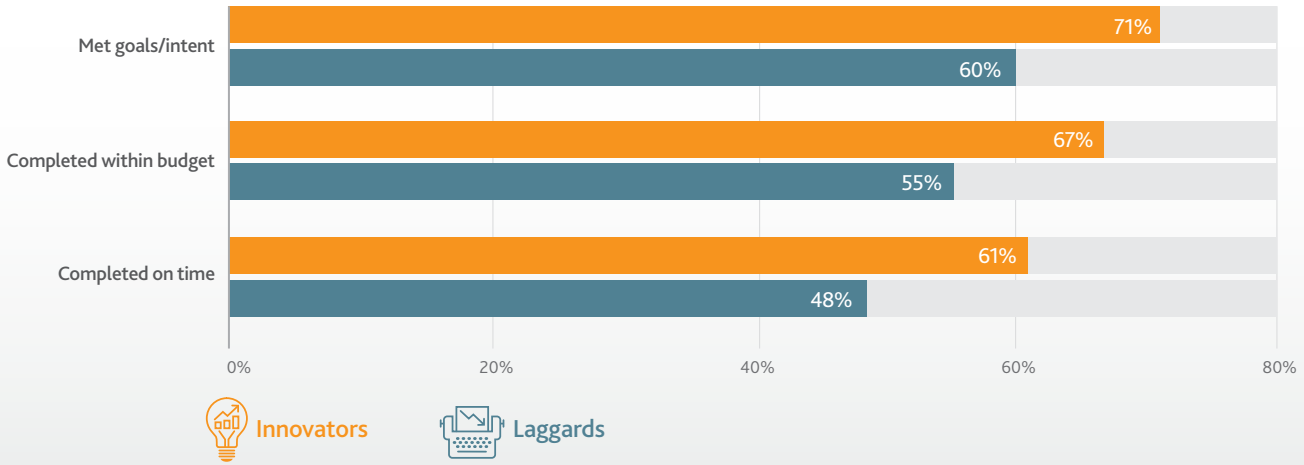
It's no secret that all strategic change is delivered through project management. Yet research from our 2018 *Pulse of the Profession*® shows that 9.9% of every dollar is wasted due to poor project performance.

Much of this waste is due to poor implementation rather than flawed strategy. A recent Brightline Initiative™ study, conducted by the Economist Intelligence Unit, shows that 59% of senior executives admitted their organizations struggle to bridge the strategy-implementation gap. The result: only one in 10 organizations successfully reaches all of its strategic goals.

This leads us to ask: If organizations are struggling with the challenges of today, how will they be adequately prepared for the disruptive environment of tomorrow? Over the past decade, we have identified a number of global trends to help improve project performance. We know that organizations that invest in proven project management practices experience better project outcomes.

In this research, we are taking a closer look at innovator organizations (see Figure 1) and the practices that make them more successful in this ever-changing environment.

Figure 1: Project Outcomes of Innovators and Laggards



EXCEED EXPECTATIONS WITH DISRUPTIVE TECHNOLOGIES

A vast majority of innovators, 83%, indicate the adoption of disruptive technologies has had significant results in meeting or exceeding business objectives. Further, innovators are leveraging new technologies to their advantage to encourage greater efficiency and automation, increase productivity, promote the development of better products and services, automate mundane tasks, develop more strategic roles, and build stronger connections among team members (see Figure 2). They are methodical in their assessment of these benefits as they focus on customer satisfaction feedback, product or service quality, associated revenue, and productivity improvements (see Figure 3).

Ron Barin, Chief Investment Officer, Alcoa Corporation, one of the world's largest producers of aluminum said: "It's important to see the potential value in using these disruptive technologies. …to think more strategically and focus on the things that really, really matter, as opposed to the day-to-day things that need to get done but do not really add a lot of value. Disruptive technologies free us up to be more creative and innovative".

"It's important to see the potential value in using these disruptive technologies. …[as they] free us up to be more creative and innovative."

RON BARIN, *Chief Investment Officer*
Alcoa Corporation

Figure 2: How Organizations Use Disruptive Technologies to Their Favor

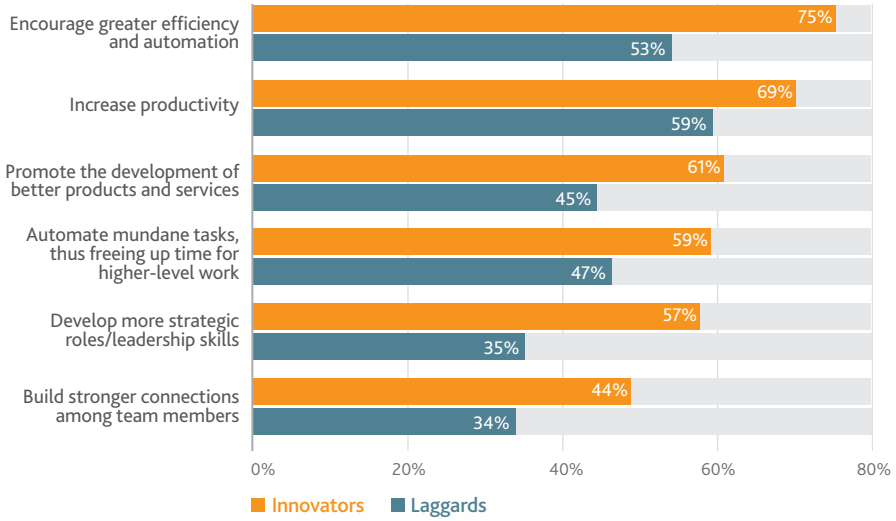
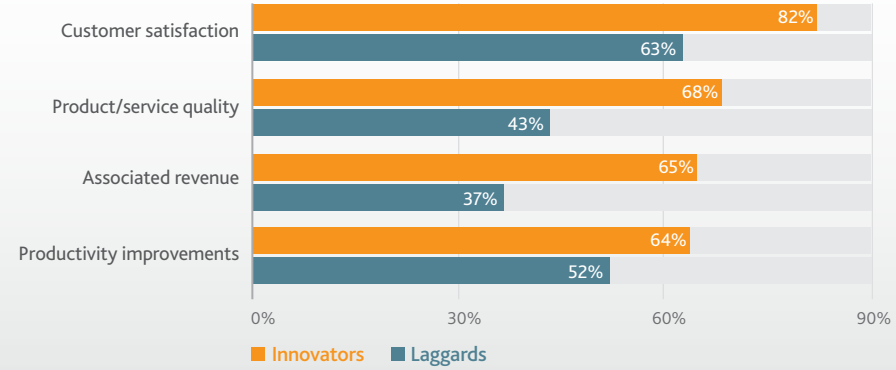


Figure 3: How Organizations Assess the Benefits of Disruptive Technologies



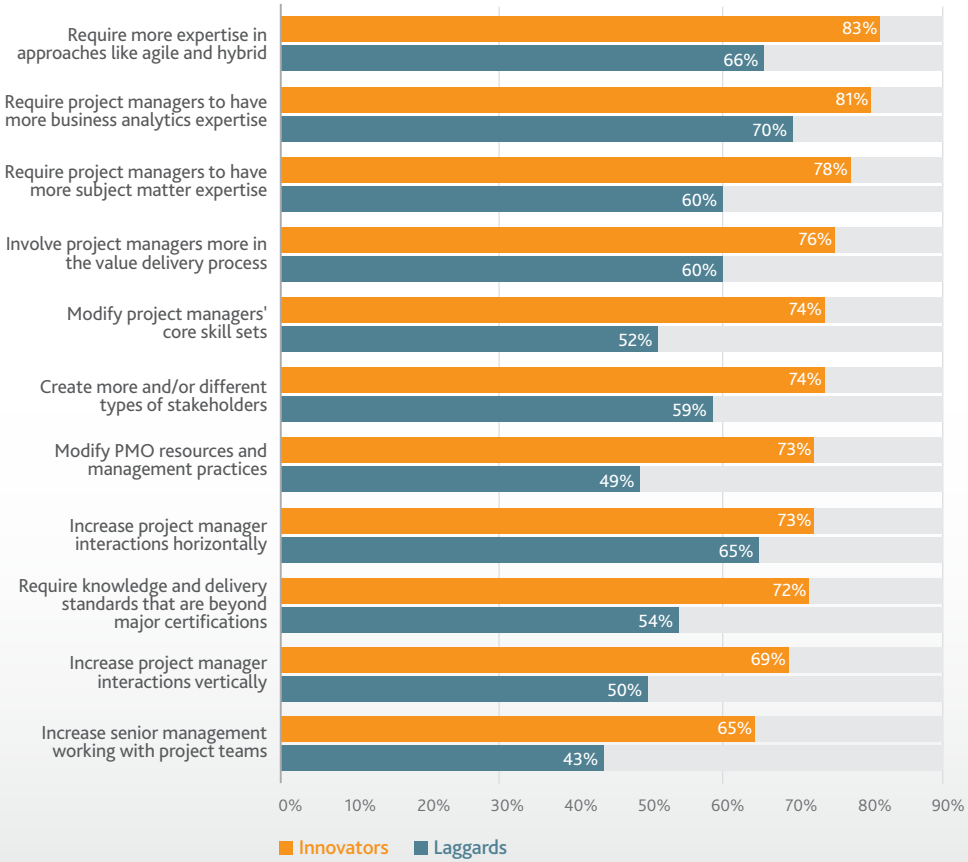
EMBRACE THE VALUE DELIVERY LANDSCAPE TO BRING ABOUT CHANGE

We recognize that organizations are working in new ways to successfully implement their projects. This ability to think and act differently has become a greater point of differentiation, and, innovators are evolving their business lens.

As disruption changes the marketplace, innovators are embracing the value delivery landscape—or, the full spectrum of competencies that enable them to deliver their projects and programs. It includes all approaches to project delivery—predictive, iterative, incremental, agile, hybrid, and next practices (future approaches). We see that innovators require more expertise in approaches such as agile and hybrid—83% versus 66% of laggards.

The skills of individual project managers, which are encompassed within the PMI Talent Triangle®, contribute to the organization's capability to deliver value through projects. Innovators agree and are modifying the project manager's core skill sets. They see the need for their project managers to have more subject matter expertise and are requiring knowledge and delivery standards that are beyond major certifications. As a whole, innovators are involving their project managers more in the value delivery process—76%—as managers of change (see Figure 4).

Figure 4: Innovators Embrace the Components of the Value Delivery Landscape



Setting The Right Mindset

Innovators ensure the successful adoption of disruptive technologies by establishing a supportive culture and making a mindset shift. They see these as the foundation for moving their organizations forward. Rafael De La Rosa, PMO Director, Sinar Mas Group, one of the largest conglomerates in Indonesia, agreed: "The first challenge internally to me is the mindset and the culture. This is a big change. Organizations should be prepared to face changes. That brings risk. There are lots of changes with that." In the end, he added, "we are all in the same boat. Success depends on the work of everybody."

Some innovators embrace a startup mindset as they expand their traditional portfolios and launch projects in new sectors. For example, household appliance innovator Dyson announced a project investment to develop an electric car by 2020. Volvo said it would expand a partnership with Uber to develop self-driving taxis. And furniture manufacturer IKEA veered into the tech realm, developing software for a series of connected lighting products and launching a new augmented reality-shopping app.

These innovators understand navigating new terrain can be a bumpy road. Their project teams are overcoming sizable challenges. For starters, they determine how to expand their ranks quickly and are recruiting new types of expertise. They are building knowledge so they're better suited to calculate contingency budgets and risk registers in new territories. This helps build strategic competencies to accelerate the transition to new sectors.

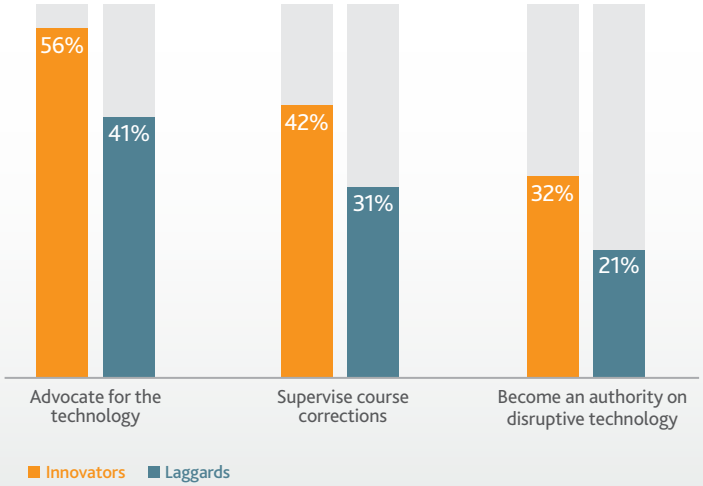
"In a familiar sector, the project manager could complete the project on time, on budget, and in scope, and move on to the next," Tarun Rout, PMP, Project Manager, Volvo Bus Corporation, told PMI's *PM Network*. "But with new sectors, project managers must understand what makes the business successful—not only the project."

EMPOWER THE PROJECT PROFESSIONAL TO INNOVATE

We have long seen the role of the project manager expanding to one of a strategic advisor, innovator, communicator, big thinker, and versatile manager. Project managers are becoming more valued as new technologies free them from mundane routines, providing them with more opportunity to innovate.

The executive leaders and PMO directors we spoke with sense this evolving role and are looking to the profession to continue to align activities with the business case. This outlook of project management requires a broad view of the business landscape and where new technologies can make an impact (see Figure 5).

Figure 5: Role of the Project Manager Working with Disruptive Technologies



Innovators say their project managers drive change and innovation, and given the speed at which they must evolve, their project talent is afforded substantial opportunity. As a result, innovators place a greater focus on project management performance improvement, and project managers are seen as leaders within the organization.

At Australia's leading telecom provider, the goal is for project managers to participate in solution planning and solution design where they can offer a choice of disruptive technology to solve a project problem, said Peter Moutsatsos, Chief Project Officer, Telstra. "The project manager should take a leading role of putting those options on the table during the right phase," he said. "And, it's important they help educate stakeholders about what those various systems are and showing how they might be integrated with the project."

Proven project management practices bring rigor, discipline, standardized methodologies, and a common language to complex change initiatives. Project managers in innovative companies bring their rich subject matter expertise to ensure organizations take the necessary steps to help effect desired results.

"To contribute to value creation for the organization, the project manager needs to be able to see and have a broad vision—because they are not just project executors but project leaders," said James Hemsath, Director, Project Development & Asset Management, Alaska Industrial Development and Export Authority (AIDEA), a public corporation of the State of Alaska. "It's important to have a broad vision to look at disparate technologies and discern how they can work for you, but also to be able to translate that into a business case. This is most important because a business case equals value creation for the organization."

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> **JAMES HEMSATH,** *Director, Project Development & Asset Management*
> Alaska Industrial Development and Export Authority (AIDEA)

73% OF INNOVATORS
INDICATE THEY HAVE HIGH LEVELS OF ORGANIZATIONAL AGILITY COMPARED TO ONLY **4% OF LAGGARDS**

DRIVING ORGANIZATIONAL AGILITY

Organizations with cultures that are able to support agility by embracing frequent change are better able to compete and succeed in a fast-paced and disruptive business environment. We see that innovators move quickly, decisively, and effectively to anticipate, initiate, and take advantage of change, yet remain robust enough to absorb any setbacks. In fact, 73% of innovators indicate they have high levels of organizational agility compared to only 4% of laggards. This is in line with our 2018 *Pulse of the Profession*® findings where 65% of high-performing organizations, those we call champions, have high organizational agility compared to 5% of low performers. This agility allows for greater effectiveness in creating solutions as opposed to products or services.

CULTIVATING NEXT PRACTICES

As organizations look to deepen their value delivery capabilities, they will innovate and differentiate their customer experiences. They will be prepared to work in new and different ways. Ultimately, their goal is to deliver greater value at speed and scale.

We see that organizations are developing new ways of working that will carry them into the future. These "next practices" are a combination of approaches and technologies, such as DevOps, human/user-centered design, cloud computing, the Internet of Things (IoT), and artificial intelligence (AI). They also include new ways of working and new environments. Read on to gain insights from organizations that are cultivating next practices.

> UPDATING APPROACHES

We know organizations will continually evolve and experiment with their tools, especially their approaches to project management. Consider a scenario where the customer experience is firmly embedded across all areas of the business—with full organizational support. IAG, the leading general insurance provider in New Zealand, has been developing unique solutions to solve customers' problems by involving users early and often. And, Infosys, a global leader in technology services and consulting, promotes a movement that arose to encourage development and operations teams to work together to deliver business value.

CASE STUDY

IAG NZ Combines Human-Centered Design and Agile Approaches

On a recent project to create a world-class claims experience for its customers, IAG NZ applied human-centered design (HCD) principles to customer and business stakeholders. HCD is a design and management framework that develops solutions to problems by involving the human perspective in all steps of the problem-solving process.

Aoraki, one of the company's largest and most-successful programs, was a collaboration between claims, customer and digital, and the program team. The core program team—including project managers, product owners, claims managers, and subject matter experts (SMEs)—knew the business, the industry, and the current technology solution. Design thinking was applied at the program design stage, which meant programs were organized in a way that enabled HCD at the outset. As part of this approach, users of the system were involved from early on to gather early feedback and take them on the change journey.

Lean program governance was developed and utilized, where outcomes were agreed on up-front across all teams and the program structure was designed around this. This allowed joint focus on the end goal with product owners and delivery teams. IAG's data-driven planning (e.g., use of burn up charts to forecast velocity and tracking) instilled confidence with the stakeholders. The phased delivery releases were achievable and allowed the business to prepare and get excited for each wave.

As a result of the success of the Aoraki program, the company has continued to support business teams to deliver on their projects and priorities. IAG NZ knows that agility and human-centered design works, so coaching business teams to work in this way is a great way to improve the speed and quality of delivery across the organization.

Some techniques that have been particularly successful:

- Stepping into the shoes of the customers to design solutions that really work for them
- Encouraging teams to adopt what works for them, with the focus on "being agile" rather than "doing agile"
- Using rapid due diligence up front on ideas before committing to delivery; supporting business owners with a variety of tools and techniques to test their ideas from the perspectives of customer desirability, business viability, and technical feasibility
- Focusing and planning based on outcomes rather than deliverables
- Utilizing lean governance and allowing teams to decide the best way to work to get the job done
- Giving teams access to IAG NZ's in-house, purpose-built Design Lab, where they can test ideas and concepts with customers before committing to a solution
- Investing in communication and engagement (and lots of it!)—HCD doesn't stop after initiation, and keeping co-design running throughout delivery is vital

CASE STUDY

Infosys Accelerates DevOps Innovation, Agility, and Automation

Infosys®

By **Nabarun Roy,** Senior Vice President, Quality & Productivity at Infosys Ltd

As the world transforms in fundamental ways, organizations are creating portfolios of new applications (systems of engagement) that provide an excellent user experience, can rapidly evolve as the needs of the business evolve, and can scale to support hundreds and millions of end users. In addition, these new applications need to co-exist, and in several cases, extend the capabilities provided by existing enterprise applications, requiring diverse teams to collaborate toward enhancing their agility through a common way of working—a DevOps way of working.

DevOps, a compound of development and operations, is a delivery approach that brings teams together for the entire product life cycle—design, development, and deployment. It enables rapid delivery of capabilities to the end consumers, which requires collaboration across the software delivery value stream and includes teams across business, development, QA, and infrastructure and operations.

Our organization recommends a platform approach to scale DevOps adoption in driving rapid innovation and business agility across a variety of technologies. We make this a part of a common framework that relies on culture and process excellence underpinned by automation.

CHALLENGES

From our experience working with various clients on driving agility, leveraging the framework and platform, some of the key challenges faced include:

- Faster time-to-market for feature releases
- Improving service quality of the product
- Cost optimization for the IT tooling landscape
- Lack of specialized skills to drive automation
- Distributed and cross functional teams
- High total cost of ownership (TCO) to manage a DevOps ecosystem

SOLUTION

Infosys adopts a design thinking-led approach to help drive enterprise agility taking an end-to-end view of the value chain, guided by Lean principles. This is achieved by making the changes systemically through rapid iterations, enabled by the Infosys DevOps Platform.

Culture and Process Excellence: We conduct value stream mapping, leveraging accelerators and a robust agility and DevOps maturity framework to assess the "as-is" state. We arrive at a blueprint of the to-be-operating model and a roadmap. This also focuses on re-skilling talent and bringing awareness on newer technologies and automation through online and classroom training, SME-driven meet-ups, hackathons, etc.

DevOps Automation and Platform Approach: We take a platform approach to not only jumpstart and accelerate the automation but also ensure adoption at scale leveraging the Infosys DevOps Platform.

The centrally hosted Infosys DevOps Platform helps teams quickly get on-boarded. This allows various project teams to create continuous integration and continuous delivery pipelines in a complete self-service mode and maintain the integrity of the respective application teams. It encapsulates the complexities and challenges involved in building a traditional DevOps orchestration platform, such as tooling integration, frequent upgrades, workflow development, and process governance. The entire governance process is integrated into the platform through workflows and role-based access controls, thereby ensuring traceability. Further, the platform integrates with a wide array of tools (60+) and supports diverse technologies (20+). The platform is built on a micro-services architecture, and is cloud-ready, allowing scaling across the client's IT landscape. A unified dashboard provides persona-based metrics and trending insights across the IT value chain, ranging from development, testing, and operations.

BENEFITS

Some of the benefits realized from specific engagements:

- **25% improvement in overall service quality**
- **60% reduction in build and deploy time**
- **Increased deployment velocity by up to 10x**
- **~35% reduction in cost of release—reinvested toward product development**
- **Reduced application downtime by 75%**

> ESTABLISHING VIRTUAL TEAMS

Companies have long been making use of virtual teams to bring together ideas, talents, resources, and opportunities from a distance. While this concept might not be new, many organizations are accelerating the implementation of effective virtual teams. We see in our 2018 *Pulse of Profession*® findings that 46% of projects among survey respondents involve virtual teams.

While the investment in establishing a virtual team can be nominal, it requires clear strategies to ensure success. Ericsson, a multinational networking and telecommunications company, is making that investment in its virtual teams. Maria Fiona Charonnat, Business Requirement Manager for Customer Project & Program Process at Ericsson, defines a virtual team as two or more people who must work together to accomplish a common purpose; are held accountable for the results; and use technology as their primary mode of communication. She outlined the following components of effective virtual teams:

- **They are less hierarchical—leadership responsibilities are shared**
- **They have different relationships and dynamics than on-site teams**
- **They require stricter rules and more use of observation skills**
- **They are more complex than we realize**

Ms. Charonnat shared her experiences implementing a process forum and change control board. She set up this virtual team across five market areas globally. The team consists of two to four subject matter experts per market area supporting 5,000 customer project managers. The 18-member team covers 14 distinct countries working with project management processes, methods, and tools changes and improvements. Ms. Charonnat said certain skills of the team are essential: soft skills like communication and collaboration, and technical skills like virtual facilitation. Listening to hear what is not said becomes very important, she added, and checking to see if team members are participating and engaged when there are no visual cues.

Ms. Charonnat outlined some other keys to the success of virtual teams, emphasizing the importance of defining the Why, Who, How, and What in the column to the right. >>

CLEARLY COMMIT TO A COMMON GOAL – WHY?

- Create a virtual team charter
- Address PERFORM characteristics: Purpose and values, Empowerment, Relationships and communication, Flexibility, Optimal productivity, Recognition and appreciation, and Morale
- Agree on clear strategies

CLEARLY DEFINE TEAM ROLES – WHO?

- Identify how each team member can contribute to the team's success: strengths, needs, resources, and experience
- Agree that individual differences will be valued and respected
- Use effective methods for finding common ground and managing conflict
- Encourage honest and open feedback to help team members be aware of their strengths and weaknesses

CLEARLY DEFINE WAYS OF WORKING – HOW?

- Use the buddy system (not everybody has to get up at dawn, share the pain)
- Mix formats and approaches: formal meetings interspersed with coffee chats
- Use tools to track active participation
- Encourage team self-assessments
- Control the technology, not vice versa; regular videoconference use is essential
- Outline deliverables, milestones, and critical dependencies
- Measure effectiveness not only on final output but also on team involvement and accountability

CLEARLY OUTLINE THE WORK TO BE DONE – WHAT?

- Create a team plan that includes key deliverables, milestones, and critical dependencies
- Identify challenges and advantages
- Inspire teams to be involved and accountable
- Build trust through the ABCD Trust Model: Able, Believable, Connected, and Dependable
- Agree on rules that foster different ideas
- Encourage leaders to influences with authority
- Celebrate success

STAY HEALTHY IN ORDER TO BE PRODUCTIVE

- Working at distance must be done professionally: get dressed, take breaks, exercise, eat, and maintain social commitments
- Make sure you have the right equipment: headset to avoid neck pain, proper desk and chair, etc.

> DESIGNING WORKSPACES FOR INCREASED COLLABORATION

New ways of working can also call for workspaces of the future. Kevin Murphy, Partner, Bain & Company, management consultant, makes a case that project professionals do their best work when they attend to the physical, mental, and emotional spaces where co-creation can be achieved. A global leader of the organization's co-creation approach, Mr. Murphy was interviewed for *Projectified* with PMI podcast and said creating the right environment helps generate energy, enthusiasm, and opportunity.

Meg Osman, Executive Director of Global Corporate and Commercial Practice, CannonDesign, an integrated global design firm, sees organizations rethinking workspaces in an attempt to boost employee engagement and satisfaction.

The 2015 study, *Working better together,* conducted by Raconteur and Google for Work, found that 73% of North American business leaders believe the organization would be more successful if employees were able to work in more flexible and collaborative ways. Further, C-suite respondents expect the following factors to have the most profound effect on profitability:

- Employees working together more collaboratively in person
- Better communication between teams
- Commitment to open innovation, or the "use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively"

To add real value, workspace makeover projects should align with an organization's culture and workflow, said Ms. Osman to *PM Network.* "People jump on trends and assume that what's good for one organization must be good for their own," she said. "You have a lot of organizations that thought beanbag chairs and really casual environments were the way to go. But they're suffering a little because it never matched their culture or their actual work function."

Whether an organization wants to enhance workflow, increase collaboration, or inspire creativity, creating a custom-fit workplace can be more successful with the following tips:

- **COLLECT USER DATA:**
  Conduct employee surveys and observe office interactions to determine how employees use each space—and how much time workers collaborate as teams or worked in private with soliciting employee feedback.
- **EVALUATE THE BENEFITS:**
  Open workspaces offer the opportunity to make communication visible. The walls of the space can be used to post important documents or other artifacts of the project.
- **CONSIDER THE RISKS:**
  Common complaints, such as high noise levels, distractions, bad lighting, and impersonal space, need to be considered during the design.
- **ESTABLISH STRONG CHANGE MANAGEMENT:**
  Effective change management strategies and techniques can direct employee engagement and communication efforts and address the new way work gets done in open work environments.

CONCLUSION

Organizations the world over are facing disruption from greater global competition, changing market demands, and accelerated technological advances. Innovators deepen their value delivery capabilities and differentiate their customer experiences in new and different ways. They commit to mastering project management capabilities to gain a competitive advantage. The innovators in our research are making strides by embracing a mindset shift with the following tips:

VIEW DISRUPTIVE TECHNOLOGIES AS AN OPPORTUNITY TO ADVANCE

Effective use of new technologies allows organizations to be more competitive and develop better products and services. Disruptive technologies can increase business opportunities and revenue streams, providing better access to information from anywhere at any time. Innovators are able to reduce costs and increase efficiency.

FOCUS ON THE VALUE DELIVERY LANDSCAPE TO HELP NAVIGATE DISRUPTION

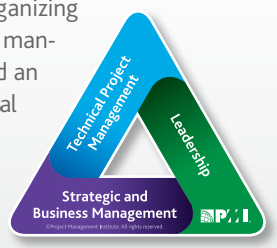
More and more organizations are working in new ways to implement their strategy. As disruption changes the marketplace, organizations that embrace the value delivery landscape—or, the full spectrum of competencies that enable them to deliver their projects and programs—are better able to minimize risks, control costs, and increase value.

ENABLE PROJECT MANAGERS TO PLAY A MORE STRATEGIC ROLE IN MANAGING DISRUPTION

As disruptive technology takes on many of the time-consuming processes, project managers are able to focus their efforts on the bigger picture. They are becoming strategic business partners helping to drive the vision of the organization.

DIGITAL WORKFORCE

Success in this age of digital disruption relies on a workforce that has the skills and experience to manage the impact of these disruptive technologies. Teams must be empowered to experiment with new ways of organizing work. PMI has long advocated for a blend of technical skills, leadership skills, and strategic and business management skills—as outlined in the PMI Talent Triangle®. We recognize that these include digital skills and an understanding of the impact of evolving technology on both major internal change projects and external customer deliverables.

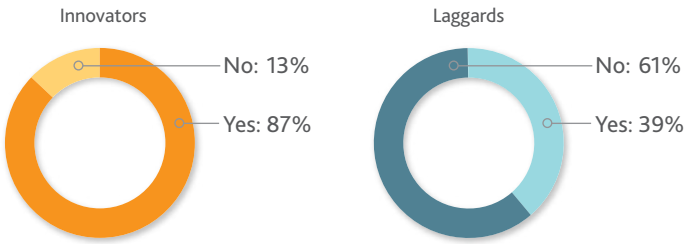


As our research on the future of work continues, our next report will focus on how innovator organizations are preparing project management talent to manage the impact of disruptive technologies.

APPENDIX

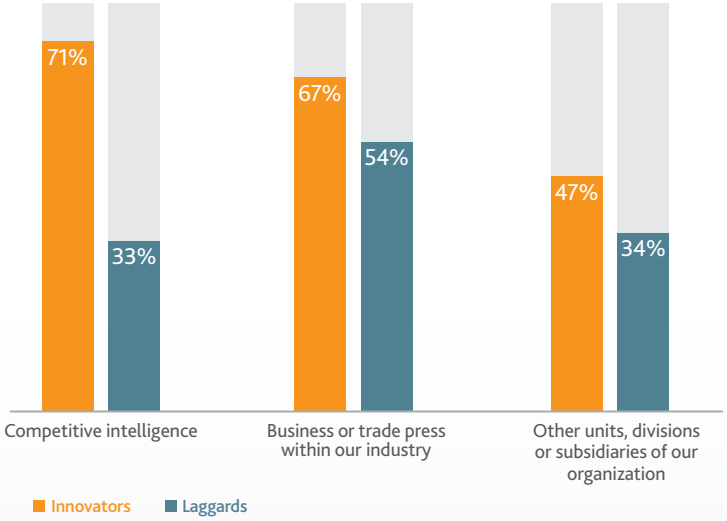
Collaboration

Q: Has your organization entered into a partnership or collaborated with an organization as a result of a disruptive technology to gain a competitive advantage?



Awareness

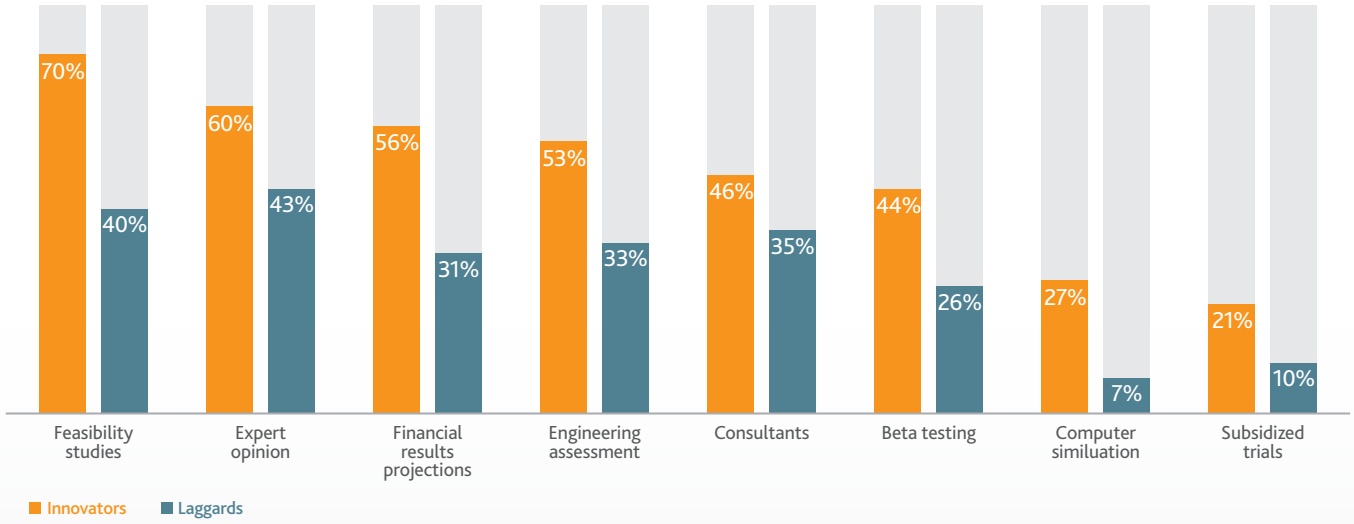
Q: How does your organization become aware of disruptive technologies that are potentially relevant to its business?



APPENDIX

Implementation

Q: How does your organization decide whether or not to actually implement a disruptive technology that has been evaluated?



APPENDIX

Beijing
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