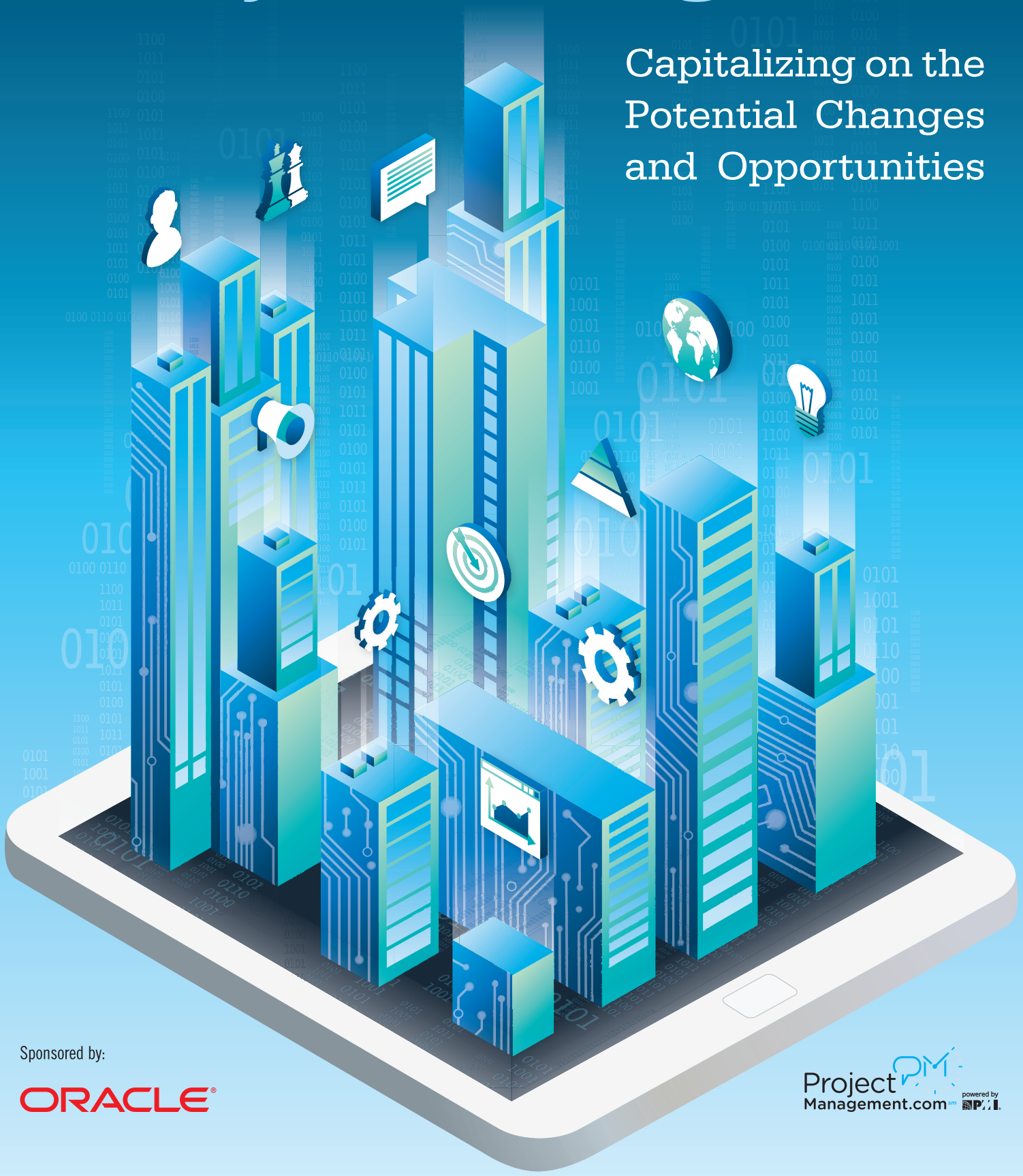
The Technology-Driven Future of Project Management

Capitalizing on the Potential Changes and Opportunities



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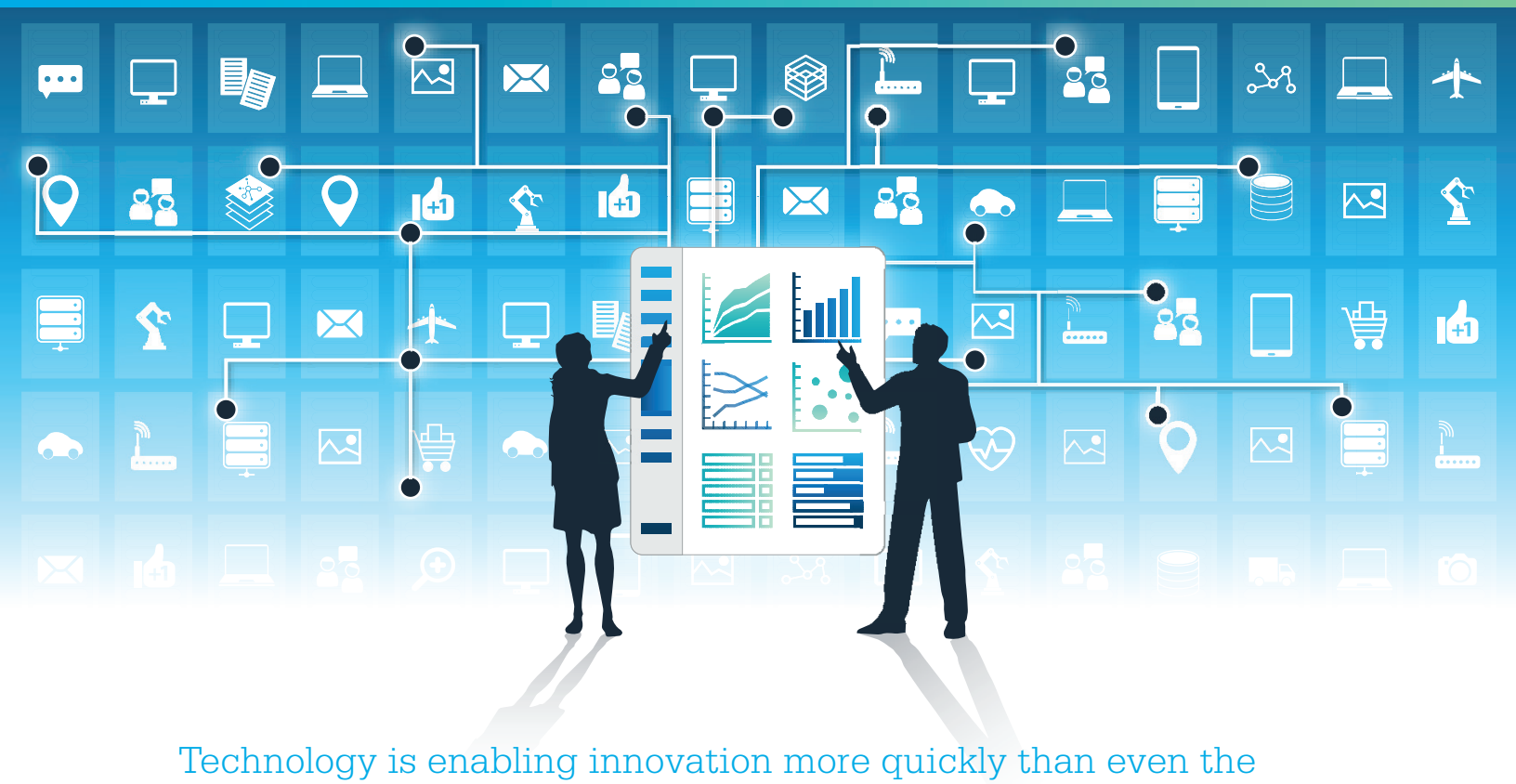


Technology is enabling innovation more quickly than even the most optimistic organization thought possible just a few years ago. Shifts in the workforce, employee models and customer expectations are all driving organizations to take advantage of this opportunity for change.

In the context of project management, there is ever-increasing pressure to deliver more quickly and efficiently, leading to the adoption of new technologies. This will likely drive significant change to the structure and nature of project management, project teams and even projects themselves. In this whitepaper, we'll examine these potential changes and the opportunities they may create.

EMERGING TECHNOLOGIES

A few years from now, the mechanics of project management may require no human involvement at all. Augmented intelligence will have evolved into artificial intelligence (AI) and machine learning, allowing the technology that today automates task assignment, tracking and reporting to operate independently.

Software robots (commonly referred to as "bots") may be able to build project plans based solely on a few simple, high-level parameters and assign tasks intelligently to the appropriate resources—whether human or machine. Furthermore, these bots can learn from every data point they consume and interpret, delivering measurable improvements to an organization's top and bottom lines.

This same technology could use powerful predictive analytics to identify risks much earlier than today's project managers and alter course accordingly to manage those risks. This will also be true for project performance variances where technology could be trusted to make adjustments. As machines can rapidly consider many more factors than humans, they may be expected to take all of those factors into account and execute on a plan with a high likelihood of success.

WORKFORCE SHIFTS

Emerging technologies are also likely to impact the structure of project teams, perhaps even making them obsolete. The work-at-will model that is becoming popular—people work where they want, when they want, for as long as they want—could become predominant.

Work may be assigned by technology based on current availability and workload. The individuals assigned to execute those tasks may not be traditional employees but, instead, freelance contractors working anywhere in the world, at any time of the day, leveraging an intelligent technology ecosystem.

People could become more specialized, working on tasks that are aligned to their unique combination of skills, experience and interests. They might never meet the other people working on other pieces of the solution or even know what that solution is. They could deliver their own piece as efficiently and effectively as possible with AI-driven systems ensuring that all the disparate elements come together as a cohesive whole.

PROJECT TRENDS

Organizations have spent the last few years focused on shortening the time between identifying the need and delivering a solution. But with the project structure in use today, the desired solutions are still packaged into sections to make the work more manageable, creating inevitable delays.

Future technology may take this trend to its logical conclusion by shortening projects to the point where they no longer exist. Discrete projects could be replaced by a continuous stream of updates, features and enhancements, delivered to customers as soon as the technology determines that they are fit for purpose.

Such automation drives down or even eliminates delays between the time a need is identified and the time a solution is implemented. It maximizes the ability to drive up benefits and value. AI could potentially drive the decisions to release new features and manage the potential for disruption. Smaller, incremental deliveries are far less disruptive than packaged projects and build an expectation of continuous improvement.

GLIMPSES OF THE FUTURE

The foundational elements of this future work model are already in place. Organizations are driving projects to deliver more quickly by shortening planning windows and increasing the cadence of deliveries. Project managers are shifting from task-focused administration based on the triple constraint of time, cost and scope to business leaders in microcosm, ensuring the investments they are accountable for are delivering value aligned with the organization's goals.

The Agile concept of self-organized teams is creating a more dynamic project delivery environment. Individual team members are increasingly working in new ways. Traditional desk-and-cubicle models are being replaced by social working concepts such as offices with no set desk spaces where team members relocate from one day to the next. The office environment is also less important as work spaces become mobile and productivity is just as high wherever an individual chooses to be, whenever they choose to be there.

A NEW TECHNOLOGY FOUNDATION

Technology is enabling this evolution. In recent years, we went from the human imagination driving technology as people sought technical solutions to challenges, to technology driving human innovation as people found new ways to apply the technology they had created.

Augmented intelligence is becoming mainstream – refrigerators are placing grocery orders and people are answering the doorbell from thousands of miles away. Just a few short years ago, this was the realm of science fiction. Now, there is no sign that advancement is slowing down.

In addition, infrastructure changes are driving the adoption of emerging technologies. The need for an on-premises data center has been replaced with cloud systems provided by vendors from their own data centers. Cloud is not only cheaper, it's faster and easier to update on a regular basis with the latest innovations—eliminating the lag time associated with on-premises upgrades. The costs of such environments will continue to fall as management of all elements becomes more automated, with bots handling everything from load balancing and maintenance to the replacement of physical components.

The recent developments around big data provide the final foundational piece for this change. Data is the fuel for the analytics that will drive the automated project planning, evaluating and adjusting. To be effective, the data will need to come from enterprise software platforms sharing the same corporate data such as ERP (Enterprise Resource Planning), EPM (Enterprise Performance Management), and HCM (Human Capital Management). Organizations without that data will be unable to make full use of technology for project work and will likely be at a competitive disadvantage.

CUSTOMER-DRIVEN WORK

Driving the willingness of organizations to embrace new and even revolutionary approaches to work will be the continuous and growing demands of stakeholders. Just as in years past, customers in the future will continue to expect increases in innovation and value while expecting faster delivery and lower cost.

The only way this can be supported is if work is not only innovative enough to allow for low cost, high quality, consistent delivery, but if the way that work occurs attracts top talent to want to work with organizations. That commitment will need to be continuously validated as traditional employee models may be replaced by a freelance, work at-will model where workers become knowledge and skill providers on a piecemeal basis to multiple clients.

EVERYONE MAY BE A PROJECT MANAGER

In place of project managers, automated processes, systems and bots could manage the multiple, disparate and rapidly evolving work elements. This management could be driven by machine learning that would be evolving constantly based on new information, needs and opportunities. In this environment, project managers as we know them today may be unnecessary.

At the same time, while no one may be a project manager, everyone may be a project manager. The automated execution could drive an expectation of self-sufficiency and self-delivery of projects within each individual working area. In short, projects may be automated to the point of self-service for stakeholders and customers. However, they would act as project managers only in as much as they oversee the AI solutions that handle the delivery.

The inevitable implication of this potential future is that today's project managers may need to reinvent themselves with new skills and capabilities. There would be opportunities created in this model as business leaders, sponsors and customers would still oversee project execution no matter how reliable bots prove at delivering. This might not happen at an individual project level, but when many projects are combined into programs and the larger enterprise portfolio, there would be a need for subjective decision-making that might run counter to the decisions made by machine algorithms. These big-picture decisions would need to be made with a complete understanding of the implications, effects and mitigations needed to optimize organizational performance.

Think of this new role as a coach, standing on the sidelines and making the tactical changes to the automated team that operates on the playing field of execution. The role would monitor trends, identify opportunities that fall outside of predictable and automated logic, and seek to bring innovation and opportunity into project delivery. The people in this role would be accountable to the executive team for enhancing the organization's success, effectively differentiating their enterprise from others leveraging virtually identical AI solutions to deliver their projects.

PREPARING NOW

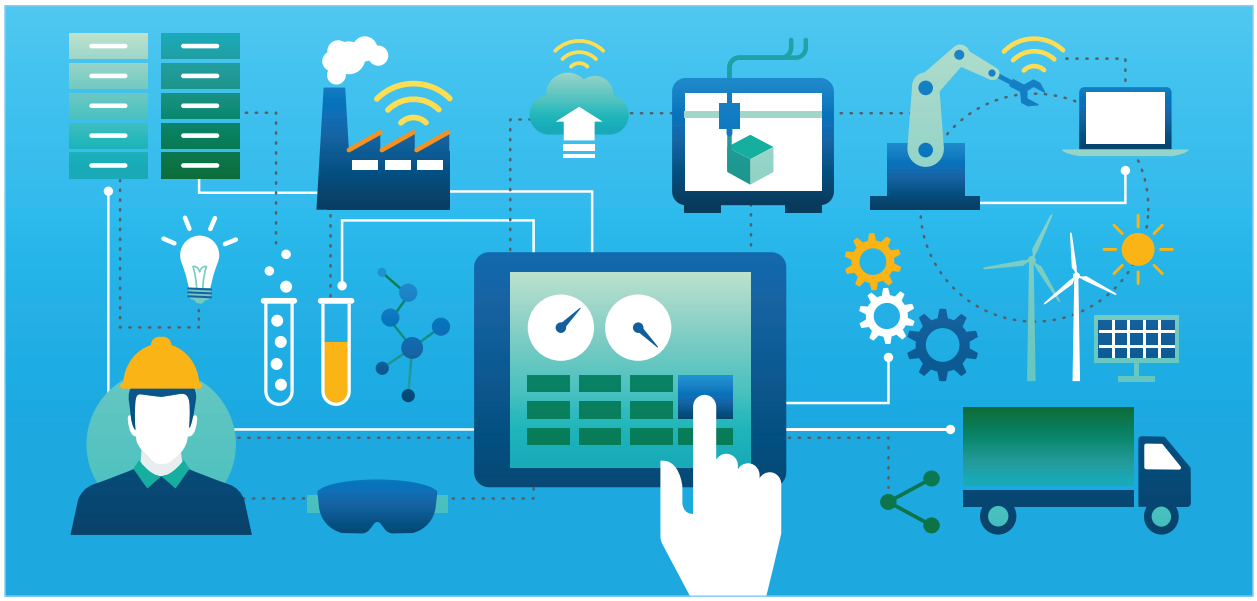
While the opportunities in this potential project environment are great, the risks involved with being unprepared for it are greater. Organizations prepared in advance will adapt and take advantage of the efficiencies, while unprepared organizations will be at a disadvantage competing in the marketplace and in retaining the resources they need. To prepare now, project managers, teams and executives should look at some of the following best practices:

1. **Support the evolution of self-organized teams across the enterprise.** Self-organized teams are a staple of Agile projects but have yet to become the norm in most other lines of business. This is a lost opportunity for more engaged and empowered teams, with the ability to adapt more quickly to change and to deliver solutions more aligned with client needs. More importantly, this structure is a first step towards the more dramatic technology changes that are coming, beginning the journey of flexible working for organization and worker alike.

2. **Commit to a cloud-based infrastructure.** On-premises technology platforms cannot compete with the affordability and scalability of the cloud, and modern virtual options offer real answers to the challenges of security and data privacy that plagued earlier generations of cloud solutions. Maintaining a physical data center today, whether self-managed or third-party run, is a costly overhead that acts as an anchor on an organization's ability to invest in change.

3. **Commit to a cohesive application architecture.** Data is the driving force behind the revolution ahead. The closer an organization can get to a single data lake driving all corporate activities and decisions, the easier it will be to leverage AI for automation and decision making. Finding the right enterprise vendor—capable of delivering not just integration but a single consolidated platform for all applications—is critical to success.

4. **Embrace and encourage cultural transformation.** Technology now requires organizations to evolve much more rapidly than in the past, and many are already falling behind. Future success requires keeping pace with competitors who are at the forefront of technology. This is a cultural change that will take time and effort to achieve, but it must become the new norm of working.



WHERE IT ALL LEADS

The changes we have seen to project management over the last decades may seem minimal and incremental compared with the momentous and revolutionary changes we may see in the future. Workforce changes and intelligent automation technology will likely continue to revolutionize organizations, leading to approaches and structures we cannot imagine today. These changes are likely to be dramatic and may come sooner than we think. Now is the time to prepare your project teams and technology in order to capitalize on these potential changes and opportunities.

ABOUT THE AUTHOR

Andy Jordan is a contributor to projectmanagement.com and President of Roffensian Consulting, a management consulting firm with a strong emphasis on organizational transformation, portfolio management and PMOs. Andy has a track record of success managing business critical projects, programs and portfolios in Europe and North America..

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