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Beyond "doing something cognitive"

A systematic approach to implementing cognitive technologies

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An opportunity and a challenge

Many of our clients and research sites report a set of behaviors relative to cognitive technology in their firms that represent both an opportunity and a challenge. The behaviors are these: Senior executives and members of boards of directors hear about the potential of cognitive technology to transform business. They encourage the company's leaders to "do something cognitive." The leaders, feeling the pressure, engage with prominent vendors of these technologies. The leaders do a high-level deal with the vendors—typically for a pilot application. The vendor contract often includes services work to develop the pilot—in part because the organization lacks the necessary skills. The pilot becomes highly visible within the organization. There is optimism around the transformative nature of the technology, but often a lack of consensus on the risks and goals of the pilot.

The opportunity here is that senior managers are interested in and engaged with a new technology with the potential to transform their businesses. They are displaying openness to innovation and a desirable urge to take advantage of an exciting capability. And we know that when senior executives aren't engaged, technology projects often fail.

The challenge is that projects that start this way often fail for various reasons. Often teams struggle to define a good starting set of use cases. Perhaps they don't use the right

technology for the problem, or the pilot is overly ambitious for the envisioned time and cost. "Transformative" projects are high-risk and high-reward. So it's not surprising that they often fail even at the pilot project level. Some of the projects impact the organization's existing technology architecture, but IT groups may not be involved in these initial cognitive projects, making it difficult for them to be integrated into an existing architecture. Finally, pilots that are not designed with humans as the end user in mind often lack adoption and acceptance within vital constituencies.

In any case, there are a number of negative outcomes from such a process. The failure of the project sets back the organization's use of cognitive technology for some time. To use a Gartner term, the technology prematurely enters the "trough of despair." And because the project was done largely outside the organization, it doesn't improve internal capabilities and builds a layer of cynicism among the ultimate users.

A better way to approach cognitive

We believe there is a better way to get started with cognitive technology than the "do something cognitive" approach. It harnesses the potential enthusiasm of senior managers while preventing some of the current problems. The steps below require that there is some group or individual within an organization who can exercise at least a minimal level of coordination during the early stages of these technologies.

- **Educate senior management on cognitive technologies and their likely impact.** Executives shouldn't just hear about these technologies from newspapers and magazines, or from technology vendors. Someone in their organization should structure education on the different types of cognitive technologies and what can be accomplished with them. They should know, for example, the difference between robotic process automation and deep learning, and what business use cases can be done with each. In one consumer products company we worked with, the chief data officer offered one-on-

one meetings with senior managers to provide this sort of education.

- **Select the right technology for your business problem.** There are at least five key types of cognitive technologies (robotic process automation, traditional machine learning, deep learning, natural language processing, rule-based expert systems). Multiple types may need to be combined for a particular application. It's important that an organization understands the proper uses of each technology and the best way to employ it. For example, a sophisticated user of technology may want to employ the growing number of free open-source tools, but that would be a big mistake for a company without a cadre of capable data scientists.

- **Form a "community of practice" of interested and involved employees.** In many cases, it may be too early to form a centralized organization to manage cognitive projects, but executives who are sponsoring or considering sponsoring cognitive projects need to learn from each other. A "community of practice" with regular meetings is a way to create such learning. At an investments firm, for example, regular "cognitive summits" were used to share knowledge about projects, to learn from outside speakers, and to offer cognitive technology components in an informal market exchange.

- **Recognize that "low hanging fruit" projects tend to have a much greater chance of succeeding, even though they have less potential business value.** In our experience, highly ambitious projects that push the limits of cognitive technology are the most likely to fail. Projects that perform a limited task, that combine human and machine-based expertise, and that automate a structured digital task are much more likely to achieve results, at least at this point in time. As cognitive technologies mature, more ambitious projects will be more likely to achieve results.

- **Build in expectations for learning and adaptation.** By definition, many cognitive systems need to be trained and improved over time. Rarely does the initial "go live" mean that the pilot works at an optimal level. Often, the best measure of success is

based on the ability of both the team and the cognitive system to adapt and improve over time.

- **Get a portfolio of projects going.** As with any new technology—or collection of them, as is true of cognitive—it's important to gain experience quickly with a group of small pilots or proofs of concept. They should represent several different types of technology and different use-case categories. All should be developed with agile, "minimum viable product" approaches.

- **Discontinue some projects, scale up others.** Since it's a new set of technologies, some will undoubtedly fail. Discontinue those projects, and scale up the ones that seem to be working well into production applications. In many cases this will require integration with existing systems and other types of technologies.

- **Follow the changes in technology, and continue to educate leaders.** Cognitive technologies are improving quickly in their capabilities, and new vendors emerge almost daily. Senior executives with an interest in the topic should get at least an annual update on new options.

This approach to engaging with technology may seem to require more effort than the "do something cognitive"
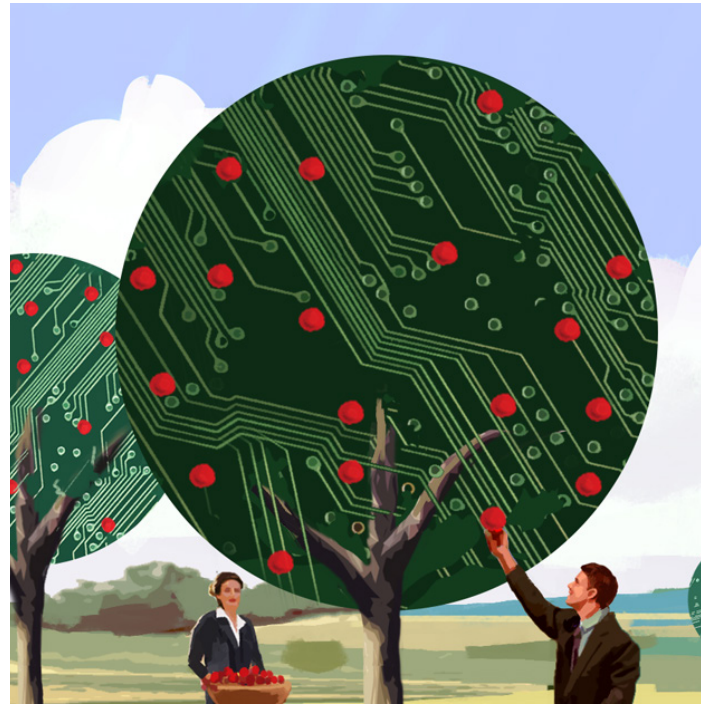
approach, but it is more likely to achieve expected results and may require less time and money over the long run. Most importantly, it avoids the "trough of disillusionment" that can influence an organization's thinking about a new technology for years.

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