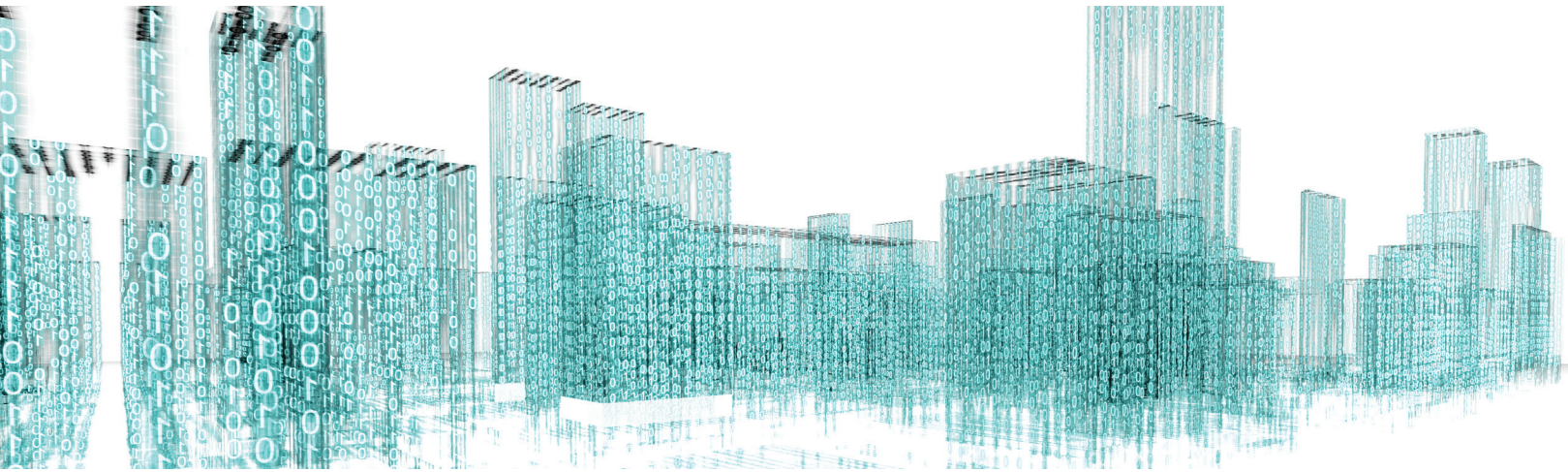


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BUSINESS TECHNOLOGY OFFICE

How enterprise architects can help ensure success with digital transformations

Those who design and steer the development of the technology landscape can mitigate risk by setting operating standards and promoting cross-functional collaboration.

Oliver Bossert and Jürgen Laartz

Most CEOs understand the potential upside of a digital transformation. If they can get it right, their companies can be more efficient, more agile, and better able to deliver innovative products and services to customers and partners through multiple channels. About 70 percent of executives say that over the next three years, they expect digital trends and initiatives to create greater top-line revenues for their businesses, as well as increased profitability.¹

There are tangible risks associated with these efforts, however. Traditional companies want to behave like start-ups, but they usually don't have the technology infrastructures or operating models to keep up

with companies that have been digital from the start. Their shortcomings can have consequences. Traditional companies undergoing digital transformations may continue to build ever-more-complicated IT systems, deploying new features or patches and fixes on the fly to meet immediate needs without any clear road map or consideration of future IT needs.

Indeed, an in-depth survey we conducted with Henley Business School on enterprise-architecture management revealed such patterns among companies pursuing digital transformations (see sidebar, "The Enterprise Architecture Survey").

Takeaways

Research confirms that when companies actively pursue digital transformations, the complexity of their technology operations increases significantly.

Enterprise architects can play a central role in making things less complicated. They can establish common technology frameworks and rules, as well as ensure consistent usage of technology across the organization.

Unfortunately, most business executives don't understand what the enterprise architecture group does and how it can help.

CIOs, business-unit leaders, and other senior executives can help raise the profile of these technology professionals by assessing IT operations and talent and by creating new responsibilities and development programs for enterprise architects.

When companies go all in on digitization, the number of point-to-point connections among systems rises almost 50 percent, the quality of business-process documentation deteriorates, and services get reused less often (Exhibit 1).

These firms experience greater complexity in systems and processes—and not just in the near term, as digital projects are rolled out, but also in the long term, as companies seek to extend pilot programs and applications to all functions and business units. In the latter scenario, IT organizations may need to do a lot of systems and applications rework and reengineering to enable even the most basic digital activities. Companies may be slower to market with

new products and services, and less able to react quickly to changing customer demand.

The enterprise-architecture (EA) department can play a central role in reducing the complexity associated with digital transformations. Most companies have a dedicated EA group embedded within the larger IT organization. This group typically oversees the entire systems architecture, including business processes and IT infrastructure. It helps to establish rules for and processes around technology usage to ensure consistency across business units and functions. As such, this group can help the CEO and others on the senior leadership team redesign their companies' business and IT architectures so that

The Enterprise Architecture Survey

In our work with large global organizations and in our conversations with senior IT leaders across multiple industries, we've heard many anecdotes about what makes for world-class organization and governance of corporate IT systems. Some say it's about continual measurement of IT performance, others tout the importance of alignment between IT systems and business-unit needs, while still others say strong leadership is tantamount. Which approach is right?

To this point, there has been little agreement, but to help answer these questions, a team from McKinsey and the Henley Business School have established an ongoing survey of IT professionals and senior IT and business leaders. The goal is to create a fact-based perspective on best practices in enterprise-architecture governance and the degree to which these practices contribute to successful digital transformations.¹ The findings discussed in this article are drawn from a research base of

more than 100 global CIOs, heads of enterprise architecture, and other IT professionals. The research was conducted over the past 12 months using an online instrument.²

¹ Oliver Bossert and Jürgen Laartz, "Ten practical ideas for organizing and managing your enterprise architecture," December 2015, McKinsey.com.

² To participate in the Enterprise Architecture Survey, please visit easurvey.org. Participation is free, and results will be shared with all respondents.

Exhibit 1**When companies go all in on digitization, the complexity of IT architecture increases.**

¹All findings generated a p-value of less than 0.05, which indicates a high level of confidence in the results.

Source: Enterprise Architecture Survey, a joint survey from McKinsey and Henley Business School, Feb 2016

they can avoid some of the pitfalls cited earlier and compete more effectively in a digital era.

The findings from our research suggest that when the EA group is directly involved in digital-transformation projects, the documentation and communication between business and IT stakeholders improves significantly. What's more, organizations are likelier to focus on capturing tangible benefits from the transformation—an important factor in mitigating the risk of black swans²—and to devote more time and attention to planning. They may also be able to launch products and services more frequently, given the reduced complexity.

Most companies are not prepared for this to happen, however. More than 40 percent of respondents in our survey say that the business leaders in their companies are not aware of what the EA group does. We believe that to improve the odds that a digital transformation will succeed, CEOs and CIOs need to raise the profile of enterprise-architecture departments within their companies and to develop the business and interpersonal capabilities of their enterprise architects.

Empowering the EA group

The enterprise-architecture professionals we surveyed said that the top goals in their IT organizations are executing digital programs—such as cloud computing and online business models—and simplifying and modernizing their IT systems. Reducing complexity is especially critical, they told us, for ensuring that companies can capitalize on digital technologies, support agile and DevOps product-development methodologies,³ and respond to customers' needs more quickly. To successfully deploy agile development methodologies, for instance, companies need their business units and their IT organization to have a common understanding of both products and processes. These groups must have a joint view, for instance, of which applications are “mission critical” versus just nice to have, which processes are uniquely required, and which are being duplicated across multiple business units. The enterprise-architecture group is in a prime position to support these decisions and help create a unified perspective on what needs to change.

Good things can happen with EA involvement, but our research indicates a general lack of awareness

of enterprise-architecture groups within most organizations—who they are and what they do. Some enterprise architects told us that, during the course of their work assignments, they are actually more likely to interact with suppliers than with internal business executives and C-level leaders. When this happens, the EA group can enter into an unproductive cycle: its capability and process models won't accurately reflect business needs and therefore won't be used by the business to make critical technology decisions.

CIOs and CEOs can heighten the awareness of enterprise-architecture groups and empower them by setting the right tone operationally and by facilitating talent development.

Operating-model factors

Sometime in the early 2000s, as Amazon was starting to establish a service-oriented architecture, CEO Jeff Bezos distributed a memo. In it, he mandated that all teams use open application programming interfaces and web services to share data and functionality. He made it clear that those not following the rules would be fired. Having this level of CEO attention on a very technical topic prompted change within this digital organization. Similarly, company leaders in traditional organizations, especially at the top but also at the line-management level and in the boardroom, need to engage more deeply with enterprise-architecture topics. They don't necessarily need an Amazon-like

shift of the entire operating model, but it is important for them to include the enterprise-architecture team in formal discussions about processes, policies, and strategy. CEOs and CIOs can also put more of the spotlight on EA groups by doing the following:

- **Give them more responsibility.** Even among those in the know about enterprise architecture, the perception in many companies is that this back-office group can have only limited impact on overarching corporate initiatives—particularly compared with other technology-oriented groups (application development, for instance) that tend to have bigger budgets and direct responsibility for core operational areas. CIOs and CEOs can reverse this perception by giving EA departments more responsibility for certain big-picture decisions; for instance, they can give authority in the approval process for changes to the technology landscape. Otherwise, the policies and guidelines the EA department develops may never gain traction across the company.
- **Measure their performance.** It can be difficult for CIOs and enterprise architects to determine the EA group's direct contribution to corporate performance because so much of the day-to-day work depends on input from individual business units, ever-changing strategy and budget decisions, and other interdependencies. There

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is no simple formula for demonstrating absolute impact, but one feasible approach is for the enterprise-architecture team to routinely provide the business units with the “technology costs” of any important decisions they make—for instance, trade-offs in cost, time, and quality when a new technology is deployed and used in place of an alternative. The business would get the information it needs to make critical decisions, and enterprise architects would gain a direct line of communication to the business.

Talent factors

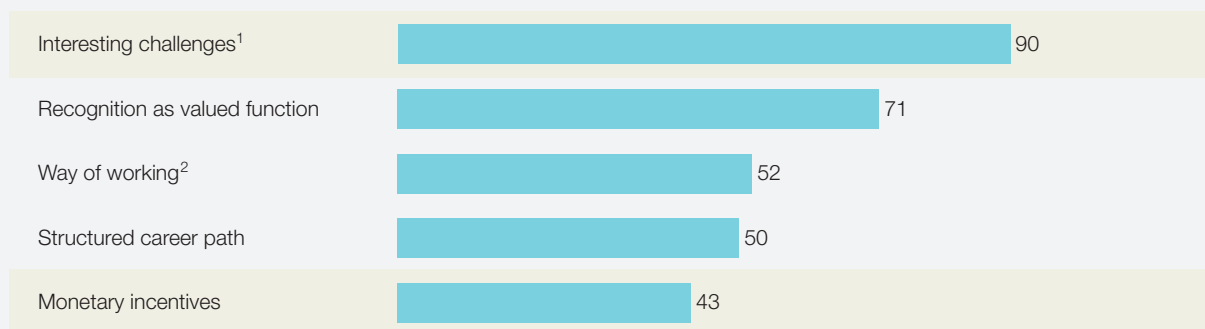
Pushing enterprise architecture toward the top of the agenda, giving greater responsibility to the EA group, and coming up with clear performance metrics may also help companies attract the operations and leadership talent they need to design and support IT systems effectively. Indeed, our survey revealed that for most EA staffers, being seen as a valuable contributor to the bottom line may be more of an incentive than monetary rewards (Exhibit 2).

In our experience, the individuals who take on EA-management responsibilities need a combination of deep smarts in business strategy and expertise on IT trends and technologies, integration patterns, business-process steps, and running a closed IT environment. These people do not need to be experts in coding or supply-chain planning or store operations, but they do need basic knowledge of all those things—and more. They must also have good communication and marketing skills. They must become “ambassadors” for enterprise architecture, helping business leaders and board directors alike understand the purpose and value generated by all the systems that underlie day-to-day operations. And they must be able to foster close collaboration between IT and business stakeholders. Because of the variety of skills required, CIOs may need to look outside the usual talent pools when recruiting, considering people with academic and business credentials as well as traditional technologists.

Exhibit 2 With respect to incentives, enterprise architects are more attracted to interesting challenges than to money.

% of respondents

Incentives rated “high” or “very high” (multiple responses allowed)



¹ Transformation programs, innovative business models, and innovative technologies.

² Interactions and work models.

Source: Enterprise Architecture Survey, a joint survey from McKinsey and Henley Business School, Feb 2016



Digital transformations are, by their very nature, complex. There are multiple moving parts, integrated processes and technologies, and the need for expertise that cannot already be found in the company. In most firms, however, there is a small cadre of technology professionals who can impose relative order on the proceedings. CEOs and CIOs should consider the benefits of pulling enterprise architects closer to the center: bringing them to the table with business leaders, devising metrics that reveal the value of their work, and creating the type of incentives that will challenge them and prompt them to stay for the long term. Such an approach is critical not just for limiting risk and protecting against the potential challenges and downsides of digital transformations but also for ensuring a clear upside—a close and lasting partnership between the business and IT. ■

¹ “Cracking the digital code: McKinsey Global Survey results,” September 2015, McKinsey.com.

² Michael Bloch, Sven Blumberg, and Jürgen Laartz, “Delivering large-scale IT projects on time, on budget, and on value,” October 2012, McKinsey.com.

³ See Santiago Comella-Dorda, Swati Lohiya, and Gerard Speksnijder, “An operating model for company-wide agile development,” May 2016, McKinsey.com; and Satty Bhens, Ling Lau, and Shahr Markovitch, “Finding the speed to innovate,” April 2015, McKinsey.com.

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