Executive UPDATE
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DATA ANALYTICS & DIGITAL TECHNOLOGIES

Four Key Questions Along the Path to Digital Transformation Success

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Digitalization is a cross-societal megatrend affecting and challenging all sectors from manufacturing to local government. Consequently, executive interest in digital transformation is rapidly on the rise, as more and more organizations face disruptors harnessing new technologies to compete against them. We define digital transformation as:

> *The use of digital technologies and data to create new value propositions and operating models. These are enabled by digital innovation and creativity to address new digital usages, behaviors, and needs, rather than enhancing and supporting traditional methods.*

There are, however, very few success stories of traditional analog-native companies becoming digitally mature enough to compete with the digital-native players. This drives an urgent need for the analog-native companies to adapt strategies, business models, organizational structures, and capabilities to remain competitive in the short term and relevant in the long term. Moreover, to build lasting differentiation and competitive advantage, this adaptation needs to be carried out while simultaneously preserving, enhancing, and expanding the core business. Examples of analog-native companies successfully competing with digital-native players include Nike and GE, both of which have launched successful digital divisions that bring in new revenues while enhancing their core business (see sidebar "The Nike Ecosystem").

Although many organizations have developed digital strategies, far fewer have managed to implement them successfully. As we explore in this *Executive Update*, creating a "sense of urgency" is often seen as a top challenge for digital transformation due to general unawareness of the opportunities and threats to to the core business. Furthermore, many organizations consider a lack of skills and competencies as major challenges on their digitalization journey.

The Nike Ecosystem

Nike Digital is a digital governance function of Nike that provides resources, budget, and coordination for cross-functional digitization projects across the enterprise. This ensures that the vast amount of the company's data, such as insights from the NIKE+ community, is used as a strategic asset for marketing and product development.

Nike has a long relationship with Apple, based on developing and providing its suite of Nike+ apps. Through this, Nike has created an ecosystem that gives athletes access to their fitness history, training programs, and favorite gear every time they connect with the company. This converts to potential sales via direct-to-consumer e-commerce sites globally. Preferences expressed within the Nike+ community also feed back into the digital design process. For instance, through its work in the 3D printing space, Nike can make and tweak prototypes in hours, instead of months. The benefits of this approach include a unified consumer experience through big data–based synchronization of the supply chain, along with optimization of resource allocation.

The Twin Challenges Facing Organizations

Analog-native firms have to overcome two issues. First, they need to match the speed and scale of digital-native players; and second, they must transform their legacy business models and operations, digitalizing their value chains as much as possible. To overcome these challenges, analog-native players should seek inspiration from the design principles of digital-native companies, such as collaboration, customer centricity, agility, data centricity, and a culture of continuous experimentation embracing change, which we elaborate on later in this *Update*.

Analog-native companies that have reached high digital maturity levels share a common characteristic: an enabling organization. Without this quality, companies face the risk of entrenched silo mindsets and a lack of collaboration, leading to wasted investments and, ultimately, failure of their digitalization efforts. From our experience in working with many analog-native organizations on digital transformation, we have found that four key questions need to be addressed to ensure success (see Figure 1):

1. How can we adapt organizational structures to accelerate transformation and become more digitally mature?
2. How can we ensure company-wide digital governance and investments?
3. What are the skills, competencies, and roles required for a digital business model?
4. What cultural shift is required to build a fundamental competitive advantage over digital competitors?

How Can We Adapt Organizational Structures to Accelerate Transformation and Become More Digitally Mature?

To match the agility and customer centricity of digital players, analog-native companies need to break down their legacy functional silos and improve their overall *structure*. They must create organizations that foster cross-functional collaboration with processes (e.g., product development) that flow seamlessly across departments, enabling the digitalization of products, processes, and touchpoints in an end-to-end manner. Collaboration needs to stretch outside the organization to ecosystem partners and customers as well as internally throughout the organizational structure.

Adopting a "networked" organizational architecture facilitates rapid product and services innovation by integrating customer perspectives and partner capabilities, while filling any skills gaps within the internal organization. Examples in which this aids transformation include:

- Elekta, a leading medtech company, has worked to integrate its customers (hospitals) within product development, helping to successfully build an integrated ecosystem.
- GE offers Predix, its proprietary analytics platform, to customers, enabling app development and thus building digital customer engagement.

Figure 1 — Four key questions to consider for successful digital transformation. (Source: Arthur D. Little.)

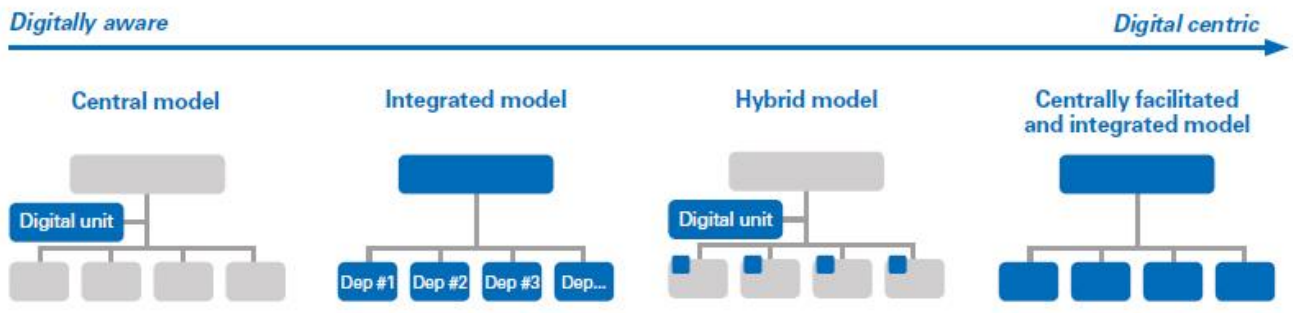

Figure 2 — Organizational structures to facilitate digitalization. (Source: Arthur D. Little.)

Organizational Models to Drive Transformation

The choice of which organizational model to adopt to facilitate digitalization depends on multiple factors, including current digital maturity, intended target picture, urgency of change, and risk aversion. Figure 2 illustrates four generic models: (1) central, (2) integrated, (3) hybrid, and (4) centrally facilitated and fully integrated model. Each has specific pros and cons; the most appropriate model for any one company will depend on its specific context and objectives.

Digitally aware organizations embarking on digital transformation may start with *central* models. This brings clear accountability and transparency at the expense of a possible "us-vs.-them" relationship with the wider organization. An *integrated model* overcomes this issue, providing greater momentum for change. However, it risks creating alignment issues due to unclear accountability and the difficulty of following a common vision. The *hybrid model* combines the positives of the central and integrated models but is more complex and difficult to deliver. Finally, the most digitally mature structure, the end state for many digital-native companies, is a *centrally facilitated and fully integrated model*. In this context, digital is fully embedded in the business model, products/services, processes, and mindset of the company.

Very few analog-native companies have yet to create dedicated organizational structures that facilitate digitalization. For many organizations, top management is still collectively responsible for both developing the digital strategy and steering the implementation.

How Can We Ensure Company-Wide Digital Governance and Investments?

Digital-native players leverage the investment and competencies of various components, such as process, product, and platform across the organization. Successfully replicating this in an analog-native organization requires strong and robust *governance* to ensure that the right digital investments are made, shared throughout the organization to avoid costly duplication, and managed in the best way possible. Another key responsibility of the governance function is to constantly monitor the organization's transformation

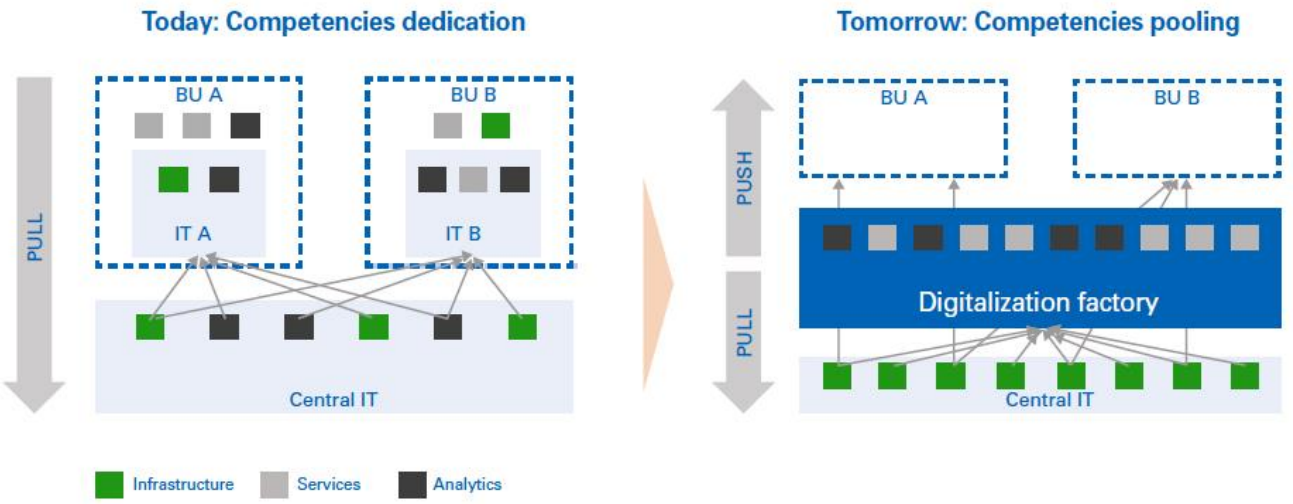

Figure 3 — Architectural shift to facilitate digitalization. (Source: Arthur D. Little.)

progress in order to steer the business toward higher levels of maturity; for example, through smart KPIs, which both maintain the business "as is" and gradually push it toward digital maturity.

For analog-natives to create truly digital operating models, the IT focus needs to shift from business process management to digital transformation (see Figure 3). This shift can be done by going from a situation in which individual business units request IT development and support from the central IT department to a situation in which a digitalization layer can push digital innovation across all group units through a cross-functional team of business and IT experts. Such a "digitalization factory" works on top of central IT's existing infrastructure assets, integrating and implementing digital technologies to enable transformation.

As the core engine for digitalization, IT needs to be able to operate at multiple speeds to enable agility when it is needed on the front end, while ensuring stability in the back end. To shorten time to market and increase both innovation and end-user satisfaction, the organization should apply Lean/Agile principles to its software deployment process. To ensure this engine performs, robust governance must allow the digital function to work in a *collaborative* manner, with both the relevant business units and central IT. Back-end activities should focus on reliability, stability, and efficiency. This is delivered through traditional project management methods, using modular systems and a dedicated rollout team for faster deployment.

What Are the Skills, Competencies, and Roles Required for a Digital Business Model?

Digital-native organizations rely on new *digital competencies* as well as unique leadership roles in their organizations in order to deliver the core elements in their DNA, such as customer centricity, agility, data centricity, and a culture of continuous experimentation.

On the other hand, analog-native firms typically attract people with specific industry and functional specializations and therefore possess gaps in their digital skills and competencies. Thus, the success of their digitalization efforts hinges upon their abilities to acquire or develop specific functional competencies around digital skills, technologies, and processes (or operating models). It also depends on behavioral competencies that help create the cultural cornerstones necessary for a digital organization.

Analog-native companies should aim to develop the new leadership roles needed to facilitate digital transformation, along with corresponding changes to their business and operating models. One such commonly considered role is a business-led, market-driven, and application-minded chief digital officer (CDO) to complement the existing chief information officer (CIO) role — see Figure 4. The CDO creates new revenue sources and drives digital transformation through high-speed procedures and by leveraging capabilities from across the organization. The CIO role, on the other hand, is a business-enabling partner, ensuring efficient IT operations and a holistic, efficient IT landscape through business understanding, technology expertise, and enforcement of standards.

Analog-native companies should structure the CDO's scope and areas of responsibility to avoid possible overlaps and conflicts with the CIO role. In the case of a digital business with a greater focus on digital business models, set up as a dedicated digital unit, the CDO role must be empowered with specific resources to deliver such a mandate in alignment with the CIO role. In a digital unit that has tighter integration with the core business and a greater mandate for internal digitalization, the CDO should be given a specific "sandbox" in which to act creatively, while respecting integration rules for implementation. Having both roles in parallel is not a natural necessity. Indeed, the CIO can take over the role of the CDO, as long as the IT organization is mature enough and has the standing in the organization to represent the digital role. Analog-native companies should view the CDO as a transformational role to help the organization become digital. Ideally, the CDO will become obsolete over time.

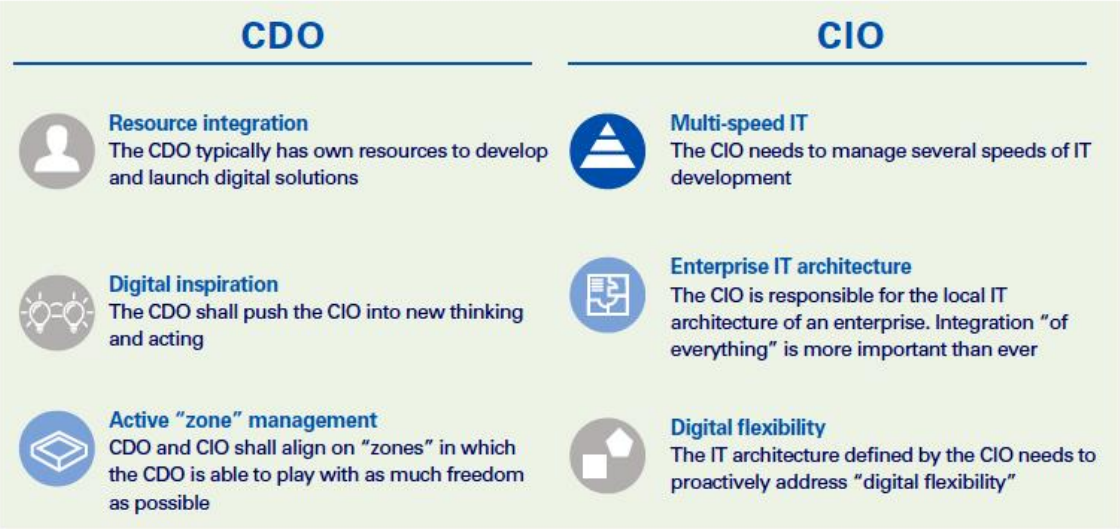

Figure 4 — New digital roles: CDO vs. CIO. (Source: Arthur D. Little.)

What Cultural Shift Is Required to Build a Fundamental Competitive Advantage over Digital Competitors?

For an organization to digitalize successfully across its layers, it needs to overhaul its *corporate culture and mindset*. Analog companies, which have often succeeded through creating systems and structures to control complicated tasks, generally have cultures that hinder rather than help digital transformation. Therefore, the company traits that hold back digitalization need to be identified to move forward. While the technology to enable the digital shift is often already in place, ways of working and thinking within the organization must be challenged in order for operational culture to change, too.

For analog-native organizations, this shift is normally around areas such as ways of collaborating, employee mobility, and knowledge creation and storage. In digital-native organizations, collaboration is often decentralized (e.g., through social media), video is the norm, and hierarchies are replaced with cross-functional teams. Employee mobility is enabled through cloud solutions — with a focus on goal fulfillment rather than process, and knowledge is built online through communities and networks.

Creating cultural change is complex and time-consuming, but imperative if analog-native companies are to build competitive advantage over their digital competitors. Several companies have already successfully completed this journey and are sending a clear message about their organizational cultures, both internally and beyond; for example:

- Deutsche Telekom demonstrates the importance of embedding the core principles of digitalization — collaboration, customer centricity, simplicity, and ownership — in the values adopted across the company.
- Telefonica O2 Germany has a winning culture of "we can do it," which is a common thread and emotion driving the organization toward its digital ambition and market success.
- Adidas has a culture of "constructive challenge," in which employees are expected and encouraged to challenge the status quo to drive improvement.
- 3M has a culture of "passion for innovation," which has positioned it as one of the world's most innovative companies for many decades.

Insight for the Executive

Analog-native companies face serious challenges in their digitalization journeys; they are often unaware, sometimes ignorant, and most often unprepared for one of the most important battles for their survival. While nurturing their core business, analog-native companies need to take a page out of the book of digital-native players and make structural changes to their organizational models, in four areas:

1. **Structure and architecture.** Develop a structure and architecture that fosters cross-functional collaboration and brings in both customer perspective and ecosystem partner capabilities to create an extended and networked organization.

2. **Operating model and governance.** Create a multispeed digital operating model that allows the Agile delivery of innovative digital services in parallel with reliable traditional IT business support, while leveraging digital investments across the organization and governing the systematic digital transformation process.

3. **Roles and competencies.** Unleash novel ways of working, create new digital roles with wider, cross-functional responsibilities, and scout and develop skills and competencies for the digital age.

4. Ultimately, inject a **digital mindset** and drive a **cultural shift** to become truly digital centric.

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