The Rise of the Digital Organization: **Implications for Organizing Structures**

Part 2 of 2

Exponential Leadership in a Digital World

In our last **Exponential Leadership in a Digital World** article we talked about the significant impact digital transformation is having on how organizations are structured. We made a provocative claim that software systems architecture may be the blueprint for how organizations should be structured in the future. Going beyond human structures, leaders now have to consider technology in parallel. The concept of "organizational design" has become human/technology design. Or what we call **socio-tech design**.

We often hear leaders lament the mind-numbing pace and magnitude of the organizational disruption they are experiencing. Many feel they are operating in a Darwinian environment – "survival of the fittest." But being "fit" does not mean being the strongest or better than the competition. It means **"[being] better adapted for the immediate, local environment."**[1] The operating environment for most organizations has gone through a massive paradigm shift over the last couple of decades – from linear, industrial models to digitally networked ecosystems. How work gets done is significantly different than in the past. We're not just talking about automating processes. We're talking about radically re-thinking every component of operations. This requires a completely different leadership mindset and an understanding that sustainable success now requires the ability to adapt structure and human behaviors.

Missed Part 1 of Implications for Organizing Structures in the Exponential Leadership in a Digital World series?

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So, where does one start? What does a leader need to "see" about the environment and actually do to adapt their structure? We suggest **five actions** to step fully into the hard, messy, sometimes uncomfortable work ahead.

[1] *"Stephen Jay Gould, Darwin's Untimely Burial," 1976; from Philosophy of Biology; An Anthology, Alex Rosenberg, Robert Arp ed., John Wiley & Sons, May 2009, pp. 99-102*

5 ACCELERATE THE ADAPTATION OF YOUR ORGANIZING STRUCTURES

1. Recognize that structural disruption is already happening inside your organization
2. Create optimal interfaces, starting outside but working inward
3. Create more permeable boundaries
4. Infrastructure is now commoditized: respond proactively
5. Adopt a plug-and-play "utility company" approach

1. Recognize that structural disruption is already happening inside your organization

The term "creative destruction" refers to the disruptive force that has brought an end to big successful companies and given birth to new young startups across many industries. These days it's hard not to see "industrial mutation" going on all around us at hyper speed. That said, we believe there is way too little awareness of this dynamic already happening **inside** the structure of long established organizations. But it is there if you know where to look.

Because of technology, every piece of infrastructure **inside** organizations is being disrupted much like pieces of the external industry value chains (distribution, supply, etc.). Computer-based tools manage the volume, accuracy and speed of core processes well beyond the capacity of humans. In just the recent past, IT was brought in to design things around human work processes; today software design is what enables entirely new work flow processes. In turn, these new processes drive process changes that humans must adapt to.

One clearly visible impact of accelerating technology development is that with virtual access to information and data, it is no longer necessary to have people (or things) all working together in close physical proximity or in an assembly line order. But many leaders may not fully grasp the increasingly large reliance of internal work on technological capabilities designed and owned by **outside** companies. Not just down the hall in IT but at everyone's desk – Salesforce, Microsoft, Intuit, Google – these technologies are part of the fabric of human work **inside** every company.

Less visible is the change in deeply held assumptions about competitive advantages that drive fundamental choices in structures. During the Industrial Age, economic advantage was created by accumulating physical assets and human talent under one large hierarchical ownership structure. Size, scale and efficiencies drove price and margins. The structures made possible through digital technology, software and data are now challenging those assumptions.

Amazon's disruption of the retail marketplace is a great example of how the Digital World is rapidly impacting structure and needs to be understood from several perspectives.

To start with, a virtual online marketplace combined with efficient shipping has eliminated the significant costs of sustaining high levels of inventory and owning fixed assets like real estate. Today, organizations must carefully examine assumptions about the ownership of their infrastructure in much the same way. Wildly different structures are now possible. Ownership of assets may no longer generate a competitive advantage, even when it comes to the talent and capabilities we have traditionally thought of as being **inside** an organization.

2. Create optimal interfaces, starting outside but working inward

It is old news now that the consumer demand for "hyper-connectivity" has forced many companies to build multiple touch points using software tools we have come to know as "apps." "Apps" are technology interfaces that enable consumers to access and use data or tools that technically lie behind "secure" walls. Consumers can select and execute their own individualized transactions – "self-service" – from the outside.

Efforts to create multi-channel consumer engagement are very visible. What is less recognized is that "apps" of this nature need to be part of the company structure all the way through, deep into the work flow of the organization. Technology has made this both possible and necessary at the same time.

Think about your Starbucks app. The simple click of "order now" must be communicated quickly to the right person, must be queued properly, must accurately adjust store inventory, must be integrated into customer-tracking data, must instantaneously adjust your credit balance, and must let you know your order is ready! All in a few minutes.

So why are internal functional units "inside the walls" of many traditional companies unable to do the same? Largely because the original structure of the functions (and their IT systems) was not designed to share user data and work flow processes in this way. In systems architecture, software components are designed to be in service to all other users of their capability. The interfaces between discrete parts are critical. Interfaces or apps do more than communicate – they actually "loosely couple" or interconnect the work processes themselves.

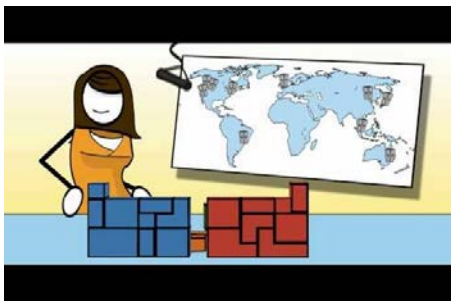
The structure of software architecture has enabled us to think differently about the structure of human work. Following the customer journey map deep into the organization's processes reveals gaps in both human behavior and technology. This is a structural issue that must be addressed alongside human behavior and communications.

Structural design and the lack of connecting interfaces get in the way of shared access to critical data. As we will see in the following sections, this is part of the reason industrial structures struggle to become "agile" and adapt at the speed of change in the external environment. They are also less able to use the new tools of big data analysis – the "smart machines" – to adapt through learning.

3. Create More Permeable Boundaries

What we have described so far offers unprecedented flexibility in the structure of organizations moving into the networked digital economy. But most are far behind. One of the roadblocks is a mindset about what belongs "inside" versus "outside." In a Digital World, we have to radically re-think organizational boundaries.

Startups today illustrate how organizational boundaries are changing. The mindset of many startup leaders is to "rent" 80-90% of their infrastructure through an "ecosystem" of highly skilled capabilities that are immediately accessible through "the cloud." Take a look at Amazon's AWS introductory video https://youtu.be/mZ5H8sn_2ZI to see how this might be possible.



One could think of this as "outsourcing," but it would be more accurate to say these companies are optimally structured from Day One as agile, interchangeable parts with the flexibility to grow and adapt quickly. This structural flexibility is a strong competitive advantage, and the fact that large and critical infrastructure components sit "virtually" at a greater physical distance is no barrier to success.

Technology has made radically different structures possible and not just for startups. If we look at almost every organization today, it is already happening to some degree. A complete "org chart" is now antiquated when it fails to capture an increasing number and diversity of categories of absolutely critical capabilities, human and non-human, that lie "outside" the organization and connected virtually through data transmission. "Workforce planning" in the digital age defies the concept of a rigid organizational boundary consisting only of employees. What we are suggesting here is that leadership needs to see this has happened and exercise conscious choice in structuring organizations going forward.

4. Infrastructure is now commoditized: respond proactively

As we understand the rise of Artificial Intelligence, we begin to see that various levels of tasks performed by human workers can be automated. Said differently, certain levels of tasks are becoming commoditized – widely available and interchangeable with "smart machines." The same logic applies to sets of functional capabilities in the infrastructure. The direction that digital transformation is moving toward suggests that organizational leaders will need to make tough economic tradeoffs regarding the value of owning parts of the infrastructure internally. This, too, is driving internal disruption.

We assume that there will always be a certain set of "proprietary," "owned" and "internal" capabilities that a company considers to be core differentiators and drivers of its competitive advantage. However, technology is driving more and more components of infrastructure that **support** the creation of value to become interchangeable with highly competitive resources available in the marketplace. For one, resources are more cost effective when accessed on an "as needed" basis as opposed to investing heavily in "fixed" assets inside the organization.

There are many examples in IT, finance and operations, but also now even in Human Resources where LinkedIn has effectively replaced time-intensive components of the talent search process both for internal HR and external search firms.

Amazon has taken the infrastructure challenge a huge step further. Characteristic of platform business models, Amazon looks at these decisions from an ecosystem perspective. As a result, they are systematically moving traditional internal infrastructure cost centers outside into the market – opening access to their whole ecosystem and competing for competitive advantage. Their warehouse and shipping operations now service both their internal needs and the needs of hundreds of other producers. Through robotics and advanced data management, they simultaneously reduce costs for themselves and hundreds of other producers in their ecosystem. And by doing so, turn a cost center into a profit center.

The implications here are fairly provocative and perhaps unsettling for leaders in traditional organizations. It is very likely that the size of the historically unique, value-creating part of the organization can and will be reduced, and we will see a leadership mindset shift toward managing internal infrastructure areas through Service Level Agreements, just like external contractors. This is, of course, exactly parallel to the way in which software is designed and managed as a series of components in service to each other and in support of the organization's delivery model to consumers.

5. Adopt a plug-and-play "utility company" approach

Putting all this together, we suggest that it increasingly makes sense for leaders to design company structures like software modules. We know this is already happening in many organizations. However, we believe with more design intention, organizations will create greater economic advantage.

Software systems are built on a specific arrangement of separate (decentralized) yet highly networked (through interfaces) components to ensure adaptability, flexibility and speed in responding to environmental changes. This is exactly the kind of agility and speed many companies are striving for in their people and cultures. It requires changes in human behavior, but it also requires structural change.

When properly designed, modular components inside a company become managed more like utilities: if the lights go out, it is not reasonable to expect the buyer (user) of the utility to come in and fix the problem. The utility provider takes on the accountability to fix problems and accepts the consequences of failure: buyers will go elsewhere. Amazon quite literally forced this by putting infrastructure out into the market to compete on its own.

Inside or out, there is good reason for leaders to think this way. We hear that traditional hierarchical leadership structures no longer work in today's complex world. True, but why? Here is a very clear structural explanation. It is just not possible for senior leaders in complex organizations to know all the operational details inside any one of the modular components. Issues in specialized areas get bottlenecked by forcing decisions up and down the hierarchical ladder. This potentially puts the whole organization at risk because of critical dependencies. Software design has recognized this for years and solved for it. With modular service components there is a logical hierarchy, but grounded in the architectural design of the system and clear accountabilities not tied simply to positional power.

As surprising, or even counter-intuitive as it may sound, learning from software systems architecture could offer a tangible path to evolve past traditional hierarchical leadership.

The Emerging Socio-Tech Organization

Permeable, constantly changing, operational boundaries. Modular "plug -and-play" functional components that can be exchanged rapidly without disrupting the whole organization. Flexible choices around who owns the functions and where they lie geographically. All connected virtually by software and having shared access to data. Governed by a holistic systems-like architecture, mutually agreed upon design principles and clear service level agreements.

Radical? Perhaps, particularly when we begin to consider the implications this has on the management of human talent. But we believe the transformation of organizing structures is already evolving. And, if it proves well-aligned with the digital networked environment in which organizations now operate, it is likely to gain momentum despite the resistance of many. At its best, it could drive the culture of agility and change that leaders seek in their organizations.

Every day we have the privilege of working with some of the best and brightest leaders. Many, if not most, are aggressively seeking to create a culture that enables agility and embraces change. We believe the adaptation of **socio-tech** structures can be a good place to start. But, change in structure and human behavior do not come as easily for humans as they do for software. For sure, there is work ahead, work that requires leaders to see what is happening and have the courage to act. In the age of digital technology transformation, **structure is now strategic**.

Upcoming topics in our series: strategy (Is strategic planning still relevant in a Digital World?), culture (How can culture accelerate adaptation to a Digital World?), and leadership (How to effectively lead in a Digital World.).

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