November 2017

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

Exponential Leadership in a Digital World

ORGANIZING FOR SUCCESS

In the debut article in our series, **Exponential Leadership in a Digital World**, we introduced the thesis of our work: The Digital World has permanently changed how work gets done. Leaders are having to step up to the plate and fully embrace the dual leadership challenge of dramatically accelerating the transformation of historic industrial business models into ones that are more agile and customer focused while simultaneously building new, digital platform businesses. This means intentional transformation of every element of the operating model – strategy, culture, leadership and organizing structures.

In our client work across industries and sectors, we are seeing more and more leaders beginning to lean into this new mandate for digital transformation with most efforts orchestrated around changing behaviors (see sidebar on the next page for examples on how organizations are working to drive behavioral change). However, what we don't see is focus on transforming the actual, underlying organizing structures within an organization. What do we mean by "organizing structures"? Quite simply, the way technology and people are (today, inextricably) arranged to most effectively get work done. Something we call ***socio-tech design***. And we think leadership's failure to address organizing structure adaptation along with behavior adaptation is a big miss. In fact, we fear that many of the positive behavior experiments being embraced will not succeed without deeper structural changes.

Missed the first in our series,
Exponential Leadership in a Digital World?
Click here to read

In the following few pages, we'll share our developing point-of-view around organizing structures in a Digital World. Ironically, we believe software system architecture in and of itself may provide leaders a compelling blueprint for how organizing structures should be adapted to fully enable digital transformation. Just think about this: over the course of a relatively short lifespan, software systems have gone from vertically integrated to modular, loosely coupled systems that, through rapidly improving interfaces and clear service agreements, have the ability to connect (and disconnect) with unprecedented speed. Our hypothesis is that organizing systems need to go through the same evolution.

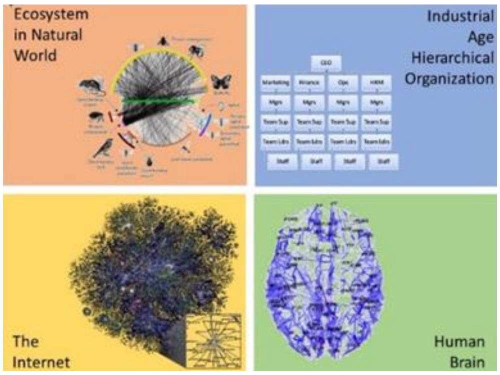
Welcome to the Learning Edge.

ONE OF THESE THINGS (I.E., ORGANIZING STRUCTURES) IS NOT LIKE THE OTHERS

In any number of different ways we are being told that the top-down hierarchical command and control structure that was the backbone of the Industrial Age is simply not working in the Digital World. It worked in the past because it created order, repeatability, reliability, scale, predictability, consistency, and efficiency in environments that were largely contained, simplified and controlled. But hierarchical structures are linear and mechanical in nature in a world that is unfathomably complex and requires unprecedented speed and connectivity.

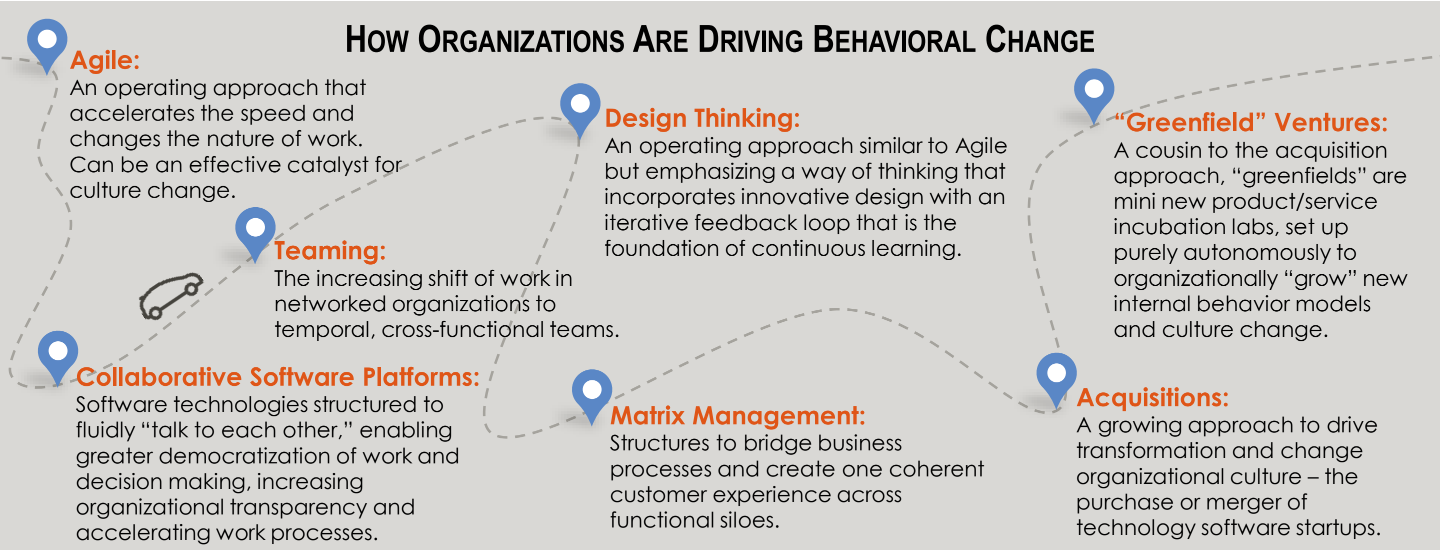
To understand why these hierarchical structures are becoming increasingly ineffective, it's imperative to fully grasp the concept of ***networks***, simply defined as any systems of connected, or linked, nodes of activity. (For more on networks, check out a great Harvard Business Review article by Greg Satell, "What Makes an Organization 'Networked'," June 2015). We know that networks compose the underlying structural organization of complex systems in nature, of the human brain – and of the internet. Interestingly, a large but potentially unrecognized percentage of hierarchical businesses themselves are actually run on software-networked structures.

One of these is not like the others.


Ecosystem in Natural World
Industrial Age Hierarchical Organization
The Internet
Human Brain

But networks aren't just pervasive, they are also powerful. As a case-in-point: the internet has turned out to be a network of such enormous technological power that it has interconnected and advanced the socio-economic global structure in ways not even conceived of ten years ago. And your smart phone? It has more computational power than the entire U.S. government had just a half century ago.

Networks are the hidden force behind the disruption sweeping through most industries and we believe the underlying economic and social structures of the entire world of business have shifted to a networked structure – but individual businesses and organizations have not. Traditional hierarchical organizing structures are rarely networked. They do not fit into a networked world. They are "not like the others."



How Organizations Are Driving Behavioral Change

Agile: An operating approach that accelerates the speed and changes the nature of work. Can be an effective catalyst for culture change.

Teaming: The increasing shift of work in networked organizations to temporal, cross-functional teams.

Collaborative Software Platforms: Software technologies structured to fluidly "talk to each other," enabling greater democratization of work and decision making, increasing organizational transparency and accelerating work processes.

Design Thinking: An operating approach similar to Agile but emphasizing a way of thinking that incorporates innovative design with an iterative feedback loop that is the foundation of continuous learning.

Matrix Management: Structures to bridge business processes and create one coherent customer experience across functional siloes.

"Greenfield" Ventures: A cousin to the acquisition approach, "greenfields" are mini new product/service incubation labs, set up purely autonomously to organizationally "grow" new internal behavior models and culture change.

Acquisitions: A growing approach to drive transformation and change organizational culture – the purchase or merger of technology software startups.

FROM SOCIAL DESIGN TO SOCIO-TECH DESIGN

We now live in a world where the breadth, depth and power of technological networks have forever changed how we structure our organizations to get work done. We're talking not only about storing vast amounts of data (think early IBM mainframes), but also instantaneously accessing, processing, connecting and communicating data, and what we learn from data. Organizing structures today have to adapt. They have to be fast. They have to be connected. And they have to be fully integrated and aligned to support the complex networks and ecosystems in which they now operate.

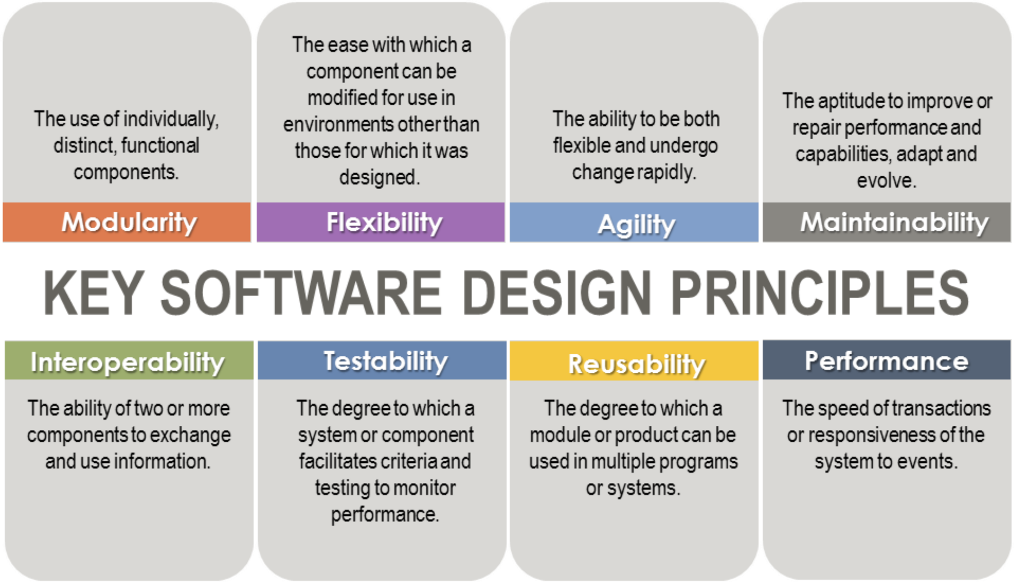
Even today, when people think about designing an organizational structure, most assume this refers solely to people – the human resources. But there's been a fundamental shift in how work gets done requiring the ***social*** (people) side of organizations be designed concurrently with the ***technological*** side. Simultaneously as one. This is what we call ***socio-tech design***.

SO, WHAT CAN WE LEARN ABOUT ORGANIZING STRUCTURES FROM "THE SOFTWARE THAT IS EATING US"*

While software development and application march forward at an unrelenting pace, there is no playbook, guide or instruction manual for leaders today on how to adapt organizing structures to the Digital World. In the past, those in the field of organizational design have drawn analogies from ecosystems in the natural world to develop effective organizing structures. But we think technological networks and software architecture, in and of themselves, may provide the insights and learnings needed for organizations to successfully adapt their organizing structures to the Digital Age.

> **"…we are in the middle of a dramatic and broad technological economic shift in which software companies are poised to take over large swathes of the economy."**
>
> *(*Mark Andreesen, software engineer, entrepreneur and venture capitalist; former Hewlett Packer board member)*

Already, the manner in which companies function internally and relate externally has been profoundly influenced by the same key design principles fundamental to software development.



KEY SOFTWARE DESIGN PRINCIPLES

Modularity – The use of individually, distinct, functional components.

Flexibility – The ease with which a component can be modified for use in environments other than those for which it was designed.

Agility – The ability to be both flexible and undergo change rapidly.

Maintainability – The aptitude to improve or repair performance and capabilities, adapt and evolve.

Interoperability – The ability of two or more components to exchange and use information.

Testability – The degree to which a system or component facilitates criteria and testing to monitor performance.

Reusability – The degree to which a module or product can be used in multiple programs or systems.

Performance – The speed of transactions or responsiveness of the system to events.

SO, WHAT CAN WE LEARN ABOUT ORGANIZING STRUCTURES FROM "THE SOFTWARE THAT IS EATING US"* (Cont'd.)

Think about this: in software system design, Application Program Interfaces (APIs) are the common mechanism used in technology to deliver interoperability to a modular system, enabling lightning speed adaptation to environmental change. Human organizational systems, on the other hand, are evolving at the rate of "human change." It commonly feels to many leaders like the organization isn't moving fast enough or keeping up with the market and is at an increasing risk of disruption, often by a new entrant (think tech start-ups) or a non-traditional competitor (think Amazon and Whole Foods).

The question we think leaders must address is how these software design principles can be applied to organizations that are now part human ("socio"), part non-human ("tech").

In Sum, Organizing Structures, Just Like Software Systems, Require The Following Behaviors:

- Speed
- Responsiveness to environmental stimuli/events
- Adaptability/flexibility/rapid change ability
- Aptitude to improve/change/evolve
- Efficient exchange and use of data/information-sharing between multiple parties
- Ability to perform in multiple roles or functions not originally designed/envisioned
- Establishment of criteria and metrics to test performance

THE TRUTH HURTS

Now, here is the reality leaders must grasp – and which should compel action: software systems are often more successful in attaining these "behavioral" criteria than the business organizations which they are designed to support.

Why is this? What insights from software architecture could – and should – be applied to organizing structures? What would organizations look, and act, like if they were designed like software systems?

Let's start by considering how the core design elements of software systems actually parallel organizing structures.

THE ARCHITECTURE OF SOFTWARE SYSTEMS: A ROADMAP FOR ORGANIZING STRUCTURES OF THE FUTURE

Imagine building the structure of an organization like a software system. Specifically, an organizational design that is:

- Modular
- Localized
- Loosely coupled
- Connected by effective interfaces
- A "true" service model
- Governed by contemporary initial (service level) agreements

The table below offers a view of how we might think about and apply these core software design dimensions to organizing structures.

SOFTWARE ARCHITECTURE DESIGN DIMENSIONS	DESIGN DIMENSION BENEFITS	TECHNOLOGY APPLICATION	ORGANIZING STRUCTURES APPLICATION(S)
Modular	Ensures system adaptability, flexibility and speed in responding to environmental changes	Systems components are organized into distinct modules that to some degree remain separate and operate autonomously	• Unbundling of organizational capabilities and services • Permeable organization boundaries where various capabilities and resources sit either inside or outside the organization • Multiple partnerships between independently owned and operated entities • Flexible, temporary, cross-functional, project-based teams
Localized	Ensures that if any one module is faulty – breaks down or becomes obsolete – it can be quickly repaired or replaced without putting the entire system at risk; protects the survivability and robustness of the whole system while concurrently enabling faster adaptability	Purposeful separation of technological modules or components	• Structuring based on the belief that the most effective way to architect and manage an organizational area is best determined within that area • Decentralized, local decision making
Loosely Coupled	Ensures components don't become overly dependent on each other	The connection of components in a lightly structured manner	• An increase in service providers and strategic partners that form a loosely connected network • Allows for fluid locations inside and outside the boundaries of more traditional organizations
Connectivity Interfaces	Enables components to "talk to" or "work with" each other	These are the doors and windows between components including both APIs as well as human-set governance rules around who can, and cannot, access components (soft structures)	• Both hard structure and soft structure agreements (e.g., governance, decision-making, etc.) that ensure all parties are clear about the criteria and the metrics for monitoring delivery and the customer experience between services, customers, etc. • Opening internal functions to the outside world, making it possible to share data and take actions on one another's behalf • Digital technologies to enable information sharing, collaboration and virtual working arrangements • Teaming: permeable internal boundaries between functional siloes and job roles
Service Model	Effectively connects all components for end users to process operations but ensures no one component is "in charge" but rather all are "in service" to a common goal	Design that ensures every part of the system is in some way related to and in service to the other parts	• Common goals and defined levels of service required to fulfill that goal • Clarity on interdependencies; less dependency on top-down hierarchies • Processes and information available for others to use • An objective performance feedback system(s) for all stakeholders to use to determine whether or not all the localized components are in service to the network as a whole and can adjust
Initial (Service Level) Agreements	Enhances transparency and accountability and ensures sharing of common design principles and performance against established expectations; enables stages of transformation to a networked structure	Clarity and alignment in the initial specifications between the various components	• Transparent agreements (formal or informal) – not a person in a position – as the source of governance authority; assumed when an organization is partnering with an external digital platform, but can be created as a networked governance model internally as well • Note: this is a particularly critical component for successful transition to more horizontal, truly matrixed organizations

THE ARCHITECTURE OF SOFTWARE SYSTEMS: A ROADMAP FOR ORGANIZING STRUCTURES OF THE FUTURE

As you consider the parallels between your organization's structures and a software system, here are a few learnings we've gathered from our journeys with our clients.

The design of the interfaces that connect modular components is at least as important as, if not more important than, the design of the components themselves. The lack of adequate and effective connectivity interfaces is the Achilles heel of many organizations looking to transform their legacy technology systems. In fact, this can be such a huge impediment that leading-edge digital technology providers carefully evaluate the strength of the buyer's APIs to determine how long it will take them to implement (which determines, frankly, if they will do the work). Why? Because components of most old technology systems were never designed to work together or connect with each other.

APIs, the doors through which information can come and go, provide a compelling blueprint for helping leaders think about organizing structures. To prevent entry by data that may be mal-intentioned, there exists well-established, highly transparent rules of behavior. Sounds reasonable, right? But enter the human mindset and the challenges this presents for changing the hard (organizational design) and soft (governance, decision-making, etc.) structures for traditional hierarchical organizations. We're talking about a whole new meaning of "open door policy"! To complicate matters, we sense that the term "collaboration" is wearing on many executives as it conjures up images of long meetings with an overabundance of talk and unproductive consensus building. Interestingly, the nature of connectivity created by APIs may point to the structural reason why collaboration seems to move so slowly – connectivity isn't just about "playing nice" and perfunctory politeness but more about opening the doors and letting people inside. Of course there are norms, rules and governance intended to create the desired behavior, but the structure is aligned around making sure the whole of the system is working – not about protecting turf. One good example is the current focus on seamlessly connecting the currently disconnected touch points across the service value chain. Both internal siloes and thicker organizational boundaries, originally designed to better support customers, are now often barriers to delivering seamless and integrated connectivity to the user experience.

While in a service model world there is less dependence on hierarchy, that is not to say there is anarchy. There is a hierarchy in software architecture and its parallel to organizing structures – it's just different from traditional organizational hierarchies based on linear control and decision making. The hierarchy in a software architecture-informed organizing structure is built around a common goal and the levels of service required to collectively meet the goal, and reflects a level of comfort with decentralized control and empowerment. In this sense, it is not that some parts are more important than others, but the dependencies between them do at times establish a hierarchy of requirements in order for the whole of the system to work.

Software architecture falls apart without effective initial agreements (broadly speaking, "Service Level Agreements," a term we believe has come to have some level of negative connotation) – and so will organizations. The precision of software architecture is built on clearly articulated agreements. We believe that in this Digital World, organizations need much greater discipline around establishing human service level agreements and accountabilities based on a good understanding of the organization's end-to-end processes. Food for thought: in conducting research for this series, we spoke to top leaders from several companies all of whom have introduced strong functional matrix management structures in the last few years. Almost all have been disappointed in the results, challenged by the heightened expectation the structure places on individual leaders to create cross-functional connectivity. We believe the failure to establish clear agreements and accountabilities at the software architecture level of precision and commitment may explain the failure of matrix management structures to have the desired impact.

THE LEADER'S PARADOX

Traditional Industrial Age organizations face a perplexing puzzle in their desire to bring about transformative change. In this current structure, change is driven hierarchically, from the top down, through experienced decision makers with the authority and power to set future direction. How change happens in a digitally networked world is strikingly different. It evolves dynamically through the peer-to-peer interactions of multiple parties in a highly transparent exchange of value. Traditional leaders have little if any experience creating networks that often appear to them to be so "leaderless." And yet, paradoxically, hierarchical organizations are dependent upon their top leaders to be the ones to change first. Leaders must change the way they lead for transformation to be possible.

Bottom line – It is incumbent upon the old structure to make possible the creation of the new structure.

Meet The Clarion Group Partners
Bill, Jon, Wendy, Chuck, Roy, Ashley, Laurie, Dave and Andréa

Our heartfelt thanks and great appreciation to our thought partners:
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