

Chomping at the Bit

Ourchitecture @ourchitectureio

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Colophon

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Dedication

To my wife and son, may the lessons of leadership you have taught me as a husband and father be reflected in how I care for others. Thank you for your patience and love.

Digital Value Delivery

Hello and welcome! You have stumbled upon an evolving, "open book"; a free and open-source book with [a permissive license](#).

Our goal is to drastically improve digital transformation efforts by establishing a standardized language for digital value delivery along with a collection of patterns that you can customize and apply in your own organizations.

Of course, these resources require time and effort. [Please support us](#).

The Bit

Imagining the flow of bits and bytes in a computer system might invoke images from a movie like "The Matrix".

The bit is the most basic unit of information in computing and digital communications. The name is a portmanteau of binary digit. The bit represents a logical state with one of two possible values. These values are most commonly represented as either "1" or "0", but other representations such as **true/false**, **yes/no**, **+/-**, or **on/off** are commonly used.

The inherent complexity and challenges of digital experiences and capabilities can be daunting. Beyond the "bit", unlocking the value of technology rarely presents itself as a binary decision or solution, but as a vast collection of concerns and dependencies.

It is interesting that the "bit" in the equestrian world, is a tool that helps connect a rider and a horse, aiding in communication and directing the horse's path. For horses, "bit chomping" or "bit champing" may indicate an issue with size, shape and fit, but often indicates that the horse is nervous, anxious, or impatient about something.

If a person is "chomping / champing at the bit", they are very impatient to do something, but they are prevented from doing it, usually by circumstances that they have no control over.

Like a Pacman character devouring dots, digital value delivery affords us the "chomping at the bit" experience of literally chomping at the bit every day; wanting to offer better digital experiences and new and improved business capabilities! Business and technology experts alike have incredible ideas about the value they would like to deliver to customers, but run into roadblocks and obstacles along the way; developers experience this constantly while iterating in short cycles with small coding experiments that grow into full-fledged features and capabilities.

Technology can be exciting and offer great potential. In this project, we will establish a basic, working language to understand the complexity and challenges of digital value delivery and define some patterns for constant improvement.

- The Four Resources
- The Four Structures

- The Four Lifecycle Stages
- The Three Concerns

Resources

The traditional Information Technology triangle of considering "People", "Process", and "Technology" has proved incredibly useful over the years, but has always missed a critical alignment segment: "Value" or even more fundamentally "Why?". Why would we bring these three together and for what purpose? What is their mission or "[just cause](#)" as Simon Sinek might put it?

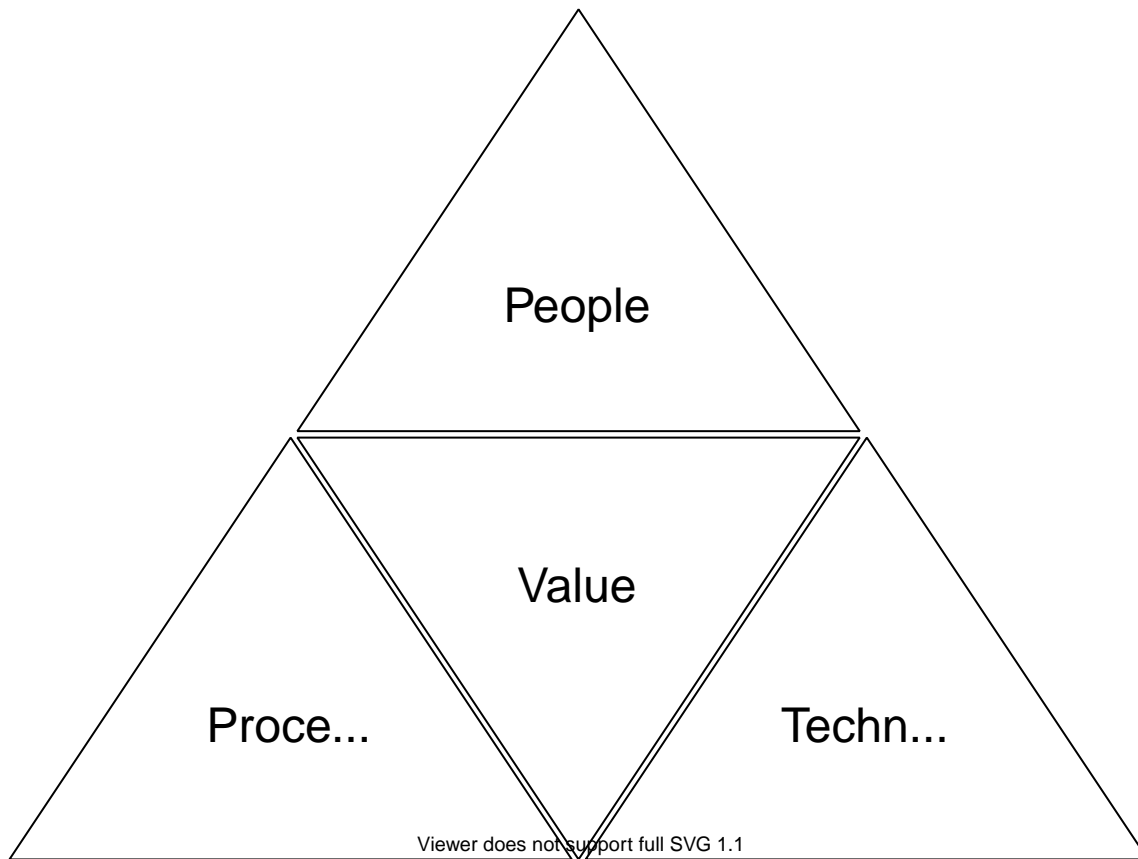


Figure 1. Value delivery resources

Value

Everything an organization does can be tied back to a value proposition or hypothesis. Like any experiment, the result may be failure. Even wasteful activities that started with a specific context of intentions, assumptions and expectations may have been wrong to begin with, wrong in hindsight or retrospect, or the context has changed and partially or completely no longer applies. The goal, of course, is to maximize value delivery and minimize waste. Customer value is often assumed, but it could be wrong to jump to the conclusion that priority is always given to a customer's value, because there are often many important stakeholders concerned with their own definitions of "value" as well as unique value delivery concerns. Operating an organization means prioritizing, balancing and maximizing value delivery across all concerned stakeholders.

People

Most every organization has people leadership for strategy and management for execution. Looking for opportunities through the lens of "People" can offer unique insights into team structures, telecommuting or "work from home" , diversity and inclusion, talent management

including recruiting, upskilling and reskilling, internships and [returnships](#) and more.

Creating organizational structures around people, uninformed explicitly by the can result in "Conway's Law".

Any organization that designs a system (defined broadly) will produce a design whose structure is a copy of the organization's communication structure.

— Melvin E. Conway

Organizations, especially large enterprises, often struggle with the reality of Conway's Law and the negative friction it can introduce to digital value delivery. Organizations may apply [the "Inverse Conway Maneuver"](#) by working closely with their systems designers / architects and technology leaders as well as using tools like [Team Topologies](#). Stephen Covey stated this simply in [Habit 2](#) of "The 7 Habits of Highly Effective People" as "begin with the end in mind."

People excellence

TIP

People leadership has evolved out of traditional top-down management and is well-established through the practice of organizational management and leadership. Because people are uniquely complex, especially when scaling from an individual to an enterprise, and they exist in an evolving world of generations, each leadership context offers its own distinct insights with many paths leading toward varying degrees of success. Generally, people want to be valued, to be personally connected to the value they are generating for an organization, and to be recognized for their contributions.

Process

Waterfall Model Approaches toward optimizing value delivery processes have continued to evolve out of the traditional "[Waterfall Model](#)" with involved process improvement practices like Six Sigma and into variations of Agile, Scrum, Lean, Kanban and others including adapting improvement frameworks like Lean Six Sigma. Establishing [the Agile Manifesto](#) brought a sense of unity to process discussions and possibly improved the probability of organizations being willing to change and try something new. Improving value delivery with tools like [Value-Stream mapping](#) with prioritized focus and iterative improvements can pay great dividends.

Process excellence

TIP

Process leadership has generally focused on tighter and leaner value delivery models that offer earlier feedback for what is working and what is not. The technology "DevOps" movement refers to this earlier feedback cycle as "shift left", where the spectrum of value delivery is designed and developed on the left-hand side of the scale and is realized on the right; where possible, important feedback to inform decision making is gathered earlier toward value design and development.

Technology

Technology is a vital asset to most businesses today, giving rise to the "digital enterprise" and "digital transformation" efforts. Technology is most useful when end-users and stakeholders alike agree that it provides value for them now. Past value quickly results in a liability for organizations while future value predictions are experiments, behaving like a stock option that may or may not yield a return on investment. Experimenting with value delivery improvements and value propositions to end users can be an asset that informs investments, but non-production value, i.e. value that is not yet available to end users, is a liability to the organization until it is delivered.

Technology excellence

TIP

There are many forms of technology leadership in an organization. Utilized effectively in an enterprise, the diversity of expertise can breed tremendous innovation. In practice, the boundaries for decision making get blurred across roles from developers and engineers to designers and architects to management and leadership as well as other technology consultants and experts. Some of the best tools for managing technology leadership concerns may come from the practice of architecture including the roles of Enterprise Architecture, Business Architecture, Solutions Architecture, Experience Architecture, Software Architecture and Application Architecture, Data Architecture and Information Architecture, and Infrastructure Architecture. The designers of an organization's technology are many and often do not hold the title "designer" or "architect". The consequences of decision making may result in unanticipated opportunities as well as challenges for the future.

Conclusions

Great solutions need to account for and balance opportunities and risks across all of these four resources; improving value delivery by investing in people through iterative process with the right technology. The four structures begin to inform our organizational strategy and structure.

Structures

An organization's ability to communicate its business capabilities both internally and externally is fundamental to investment, strategic alignment, partnerships, and value delivery. This is often one of the first opportunities to address in the practice of Corporate Strategy and Enterprise Architecture to enable effective collaboration with a ubiquitous business language. For a few examples, see [LeanIx](#), [LucidChart](#), [Capstera](#), and [BMC](#).

The value of a Business Capability Model really begins to shine when a Business Capability Map is created to map capabilities to organizational concerns like customers, products and services, business strategy, initiatives and programs, organizational structures, technology architectures, etc. Each of these can be explored with a gap analysis of current vs. one or more alternatives.

All models are wrong, but some are useful.

— George E. P. Box

Business Capability Models are often defined as a hierarchy with increasing granularity from top tiers down to the actual individual capabilities and functions created and supported by value delivery teams. Models are often ideal, abstract or even theoretical, making it difficult to cleanly map each capability to the reality of complex organizational concerns. For example, multiple technology systems may all contribute to a unique aspect of a single capability or even provide redundant capabilities. Similarly, delivery teams and organization structures may have "shared ownership" of one or more capabilities, creating unwanted friction because of value delivery dependencies.

Classifying and visualizing capabilities

It can be helpful to consider how customers or end-users interact with digital value. What channels expose the value to them? How do they experience value? What capabilities deliver value? And, what platforms enable those capabilities to be built and maintained?

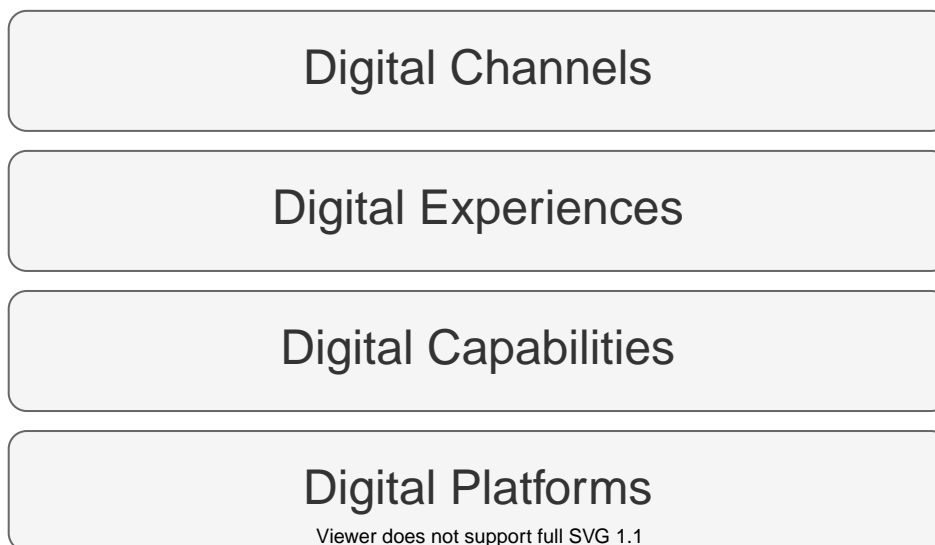


Figure 2. Value delivery structures

Digital Channels

Like [marketing channels](#), what digital channels expose one or more digital experiences to a user?

Example 1. Some Examples

- Web
- Native Personal Devices, like Mobile
- E-mail
- Voice
- Chat
- "Internet of Things" (IoT) devices (e.g. robots, home devices, etc.)

Digital Experiences

How does a person interface and interact with the digital product or service? "Journeys" can be a synonym for experiences.

Example 2. Some Examples

- Customer Digital Experiences like Digital Commerce "Buy" and "Sell"
- Associate / Employee Digital Experiences like onboarding, way finding, sales, customer support, etc.
- Developer Digital Experiences like infrastructure provisioning, DevOps pipelines and toolchains, operations, support, etc.

Digital Capabilities

What digital capabilities enable an end-to-end digital experience?

Example 3. Some Examples

- "Accepting payment" for digital commerce customers
- Product catalog listings for digital retail
- Digital knowledge management search for associates
- Managed DevOps pipelines for developers

Digital Platforms

What digital platforms support building, delivering, and operating digital capabilities?

Example 4. Some Examples

- Cloud platforms
- Digital Commerce
- Customer Relationship Management (CRM)
- Enterprise Resource Planning (ERP)
- Collaboration and Knowledge Management
- DevOps toolchains

Organizational structure

We briefly touched on the pitfalls of focusing too much on People when designing organizational structures with Conway's Law. The realities and influence of [organizational "politics"](#) cannot be ignored. We also highlighted that [Team Topologies](#) is an excellent resource for structuring team and team interactions. However, we must emphasize the importance of understanding both current and desired Business Capabilities along with the Technology strategy to inform successful organizational structure decisions. It may seem obvious, but the evolution of Process toward agility and continuous improvement suggests that an organizational structure must also change, but carefully consider the frequency and impacts of change.

Conclusions

These four structures aid in communicating and evolving an organization's capabilities to inform organizational structure and to provide a common language that clarifies, unites and aligns strategy. Understanding the four lifecycle stages of value delivery will add an element of time to an organization's strategy.

Lifecycle

Earlier, our review of Process highlighted the importance of agility and iterative improvements while the emphasis on Business Capabilities in the four structures helped identify how an organization delivers value. Now, we look at the lifecycle of value delivery and how they influence strategy. Capabilities live in only one stage of the lifecycle, but because Business Capability Models define aggregate capabilities at multiple levels of granularity, a higher level capability may contain capabilities that live in multiple stages of the lifecycle. In other words, a "Digital Commerce" capability will have many fine-grained capabilities that may each exist their own lifecycle stage. [Objectives and Key Results \(OKRs\)](#) are an important tool in measuring the success of a capability in a specific lifecycle stage.

Explore

For capabilities that are completely new to an organization or challenge the core competencies of an organization, including value experiments, the four resources are focused on iterative experimentation; working with unknowns and forming value hypotheses that must be tested by using measurable results. Teams tend to grow during this stage.

Enhance

Once established, a capability may require more or less investment and experimentation to improve and maximize value delivery. However, these experiments are usually somewhat constrained by existing investments across people, processes, and technology. Certain standards and conventions are established to optimize the value stream that may improve or hinder the organization's ability to change. Teams may grow or shrink in this stage.

Sustain

Well-established capabilities are often moved to a "keep the lights on" lifecycle stage of maintenance; fixing issues on a constrained budget investment. Teams tend to shrink in this stage.

Retire

Some investment and focus is necessary to fully retire a capability from the business portfolio. Teams often shrink in this stage, but may actually require growth if "Sustain" investments were already incredibly lean and more effort is required to retire the capability.

Conclusions

Technology impacts

While a business capability may have a distinct lifecycle stage of investment, supporting technology may force a lifecycle change. For example, older technology that is difficult to maintain or even no longer supported by a vendor may force a "Sustain" capability's technology into "Explore" and "Enhance" for a replacement solution and may require supporting redundant capabilities until the transition can be completed. Because technology is such an important resource for business, its impacts to the lifecycle must be communicated, understood, and planned for. Of course, technology opportunities may also afford a business opportunity and lifecycle change too.

WARNING

Redundant business capabilities due to technology solutions are increasingly frequent the larger the organization, especially across Software as a Service (SaaS) and Commercial Off-the-Shelf (COTS) software solutions from vendors. For example, the capabilities of technology that support Collaboration and Knowledge Management regularly overlap in features and function. Great organizations empower teams to make decisions that are best for the team while providing some level of governance / guidance that improves informed team decision making across the enterprise. While three teams may all want to choose collaboration software solutions from three different vendors, it is important to recognize all of the opportunities and risks across the enterprise toward optimizing and improving vendor management, pricing and licensing (e.g. volume discounts), partnerships, contract negotiations and renewals (e.g. organizational leverage), budgeting and accounting, and more.

The influence of People across these stages can radically affect organizational structure and possibly even strategy. For example, if an individual "lives for innovation", they may have difficulty transitioning their work from "Explore" to "Enhance" or "Sustain". This behavior can result in "[shiny object syndrome](#)" and chasing "newness" within an organization, creating staffing challenges. Research suggests that [long-lived product teams](#) of people may deliver the best results, but an organization must wrestle with the challenges of establishing long-lived capabilities with long-lived domain expertise against moving people across capabilities.

Being intentional with strategy by explicitly acknowledging shifts forward and backward across these four lifecycle stages provides a temporal perspective on investment decision making. Next, reviewing the three concerns will help connect the strategy back with the four resources.

Concerns

Speed

- How quickly can business capability investments be realized?
- How quickly can people deliver value?
- How quickly does value flow through the value delivery stream?
- How does technology influence the speed of value delivery?

Safety

- Are business capability lifecycle stages explicitly identified as part of the strategy?
- How safe do people feel? Trust, psychological safety, autonomy, empowerment, diversity and inclusivity, privacy, non-discrimination, anti-harassment, no retaliation, workplace health, etc.
- How safe are processes? Are they too rigid and / or slow, causing negative friction? Are they too loose and could use intentional friction? Do people understand the "Why?" and value of intentional friction?
- Is technology safe? Are there security risks like privacy or data leak hazards? Are software versions and patch management constantly being upgraded? Are vulnerabilities scanned for? Is it compliant with laws and regulations? Are there business continuity and disaster recovery plans? How maintainable is the software? How is the reliability of the software (e.g. Software Reliability Engineering (SRE))? Is the technology available with well-designed and monitored Service Level Indicators (SLI) in support of Service Level Objectives (SLO)? Is there ongoing support for the technology including vendor and / or community support? Are software package dependencies understood and does individual package licensing introduce risk?

Scale

- How well can the business adapt to changing investments in capabilities and transitioning through the lifecycle stages?
- Are more or less people needed and where? What kind of talent is required? Is scaling the many aspects of diversity into organizational structures and teams an intentional and strategic investment? Can the organization maintain strategic alignment across teams?
- Can processes and process governance shrink, grow, and adapt as needed? Are unique team and system concerns reflected by adaptable processes? Can the organization's leadership maintain strategic visibility as processes scale? Do processes cause negative friction when scaling people and / or technology?
- Can technology scale in and out and possibly up and down elastically to meet demand? Is innovation a regular part of doing business and how quickly can new technology be introduced?

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