Building the Modern Digital Agency

**Five decisive areas
for agency leaders
to prioritize now**

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Introduction

Move fast, but don't break anything

During the first 100 days of a new presidency, political appointees and career government leaders begin the hard work of converting the **President's priorities** into agency-specific investments and initiatives. As we mark the first year, those initial efforts become the foundation for more ambitious, lasting transformations that must start soon for their benefits to accrue to the citizens they are designed to serve better.
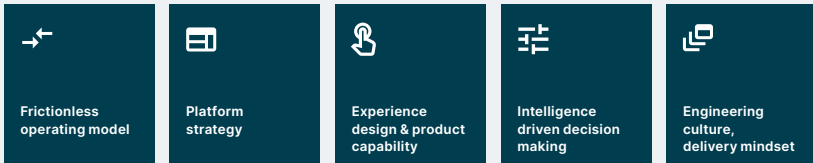
Though the specific objectives differ depending on each agency's mission, common among those that succeed in today's digital environment is the ability to design and deliver digital services that meaningfully improve the customer experience, provide their workforce with managed self-service access to enterprise data, and adapt quickly when new demands inevitably emerge. These are the defining traits of a Modern Digital Agency.

Whether your agency's mission is to care for our Veterans, provide security for our seniors, contain the reach of COVID-19, or execute an equitable economic recovery, delivering on that mission requires getting these fundamental building blocks right for your organization.

The building blocks of a Modern Digital Agency

There are five building blocks of practices and capabilities that organizations in general can use to attain digital fluency — the ability to seamlessly leverage technology in its operations, effectively manage change, and continuously deliver value to those it serves. These same building blocks are as valuable for government agencies as they are for the commercial industry leaders.

The building blocks of a Modern Digital Agency

Frictionless operating model	Platform strategy	Experience design & product capability	Intelligence driven decision making	Engineering culture, delivery mindset

Building block #1

Frictionless operating model. Being a modern digital agency often has more to do with how humans work together to deliver value than assembling technology components. It's within the grasp of every enterprise to make changes to how it organizes internally for consistent alignment around strategy and more seamless ways of working across offices and teams.

A frictionless operating model

- Adaptive leadership
- Value-driven portfolio management
- Organizational design
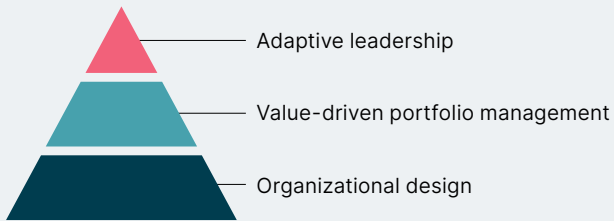
Arguably, the biggest shift required is to organize the agency around a shared outcome rather than functions. It's the necessary result, rather than roles or past practice, that determines who works together and how resources are allocated. This can be more complicated in federal agencies where offices and divisions have been established over time, sometimes by statute and oftentimes with a siloed perspective on success.

This isn't to say that functions or teams no longer work independently or towards their own goals. Each 'big' outcome may be broken down into smaller pieces of work that are carried out autonomously, but direct alignment with the agency's broader strategy is always apparent.

Gary O'Brien, Thoughtworks Digital Fluency Principal, and co-author of the **Digital Transformation Game Plan**, explains that "the key principle around this change is to define the outcome, decide the measure of success and then get a group

of people together who know how to deliver that outcome. Traditional firms add the measure after they've already decided the work — often squabbling over which measure to use — then game its movement." Modern digital organizations start with the outcome measure and design the work to move it, almost guaranteeing the result.

Outcomes may vary but are almost inevitably connected to the creation of customer value. If you're going to directly engage customers, then technology has to be put at the core of your human resource and implementation strategy. That means breaking down the barriers between business lines, IT, data centers and other organizational walls common to the traditional enterprise.

The shift to an outcome-based organization clearly requires more cross-functional communication than some organizations or teams may be used to, and regulation or other statutory constraints may prevent a complete reorientation. However, incremental and iterative progress can deliver measurable improvements for an organization and enable it to better cultivate additional building blocks, starting with an agency's platform strategy.

Frictionless operating model	Platform strategy	Experience design & product capability	Intelligence driven decision making	Engineering culture, delivery mindset

Client case: GOV.UK

By leveraging a modern digital platform, the UK was able to consolidate government websites and deliver a unified digital experience to citizens at a lower cost, providing greater citizen satisfaction.

The UK's Government Digital Service (GDS) partnered with Thoughtworks to modernize the way public sector services are delivered. To provide the best possible user experience for citizens, GDS sought to consolidate all the disparate departmental sites into a single, efficient, and easy to use platform.

GDS' flagship product, GOV.UK, is now the principal point of contact for British citizens to interact with their government, consolidating and migrating 1K+ websites that tolerated significant variation in appearance and navigation.
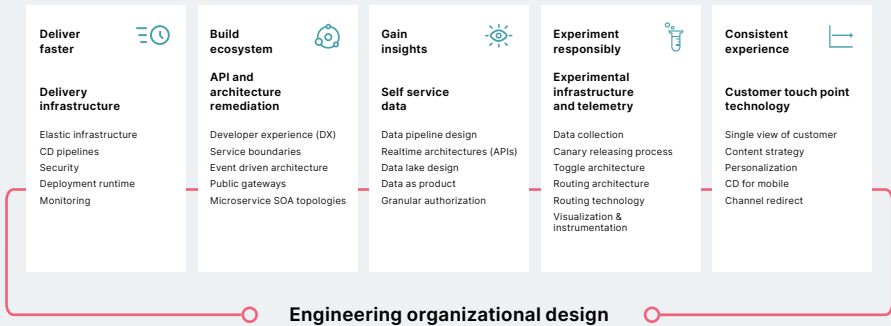
The new platform not only cut costs by $50M, it was also the UK's first major use of cloud infrastructure. Continuous delivery has helped move deployment cycles from once every two months to seven times a day. In its first year, more than 1,500 application changes were released to GOV.UK. A year on, GOV.UK had over 1000 publishers using the platform and six million unique visitors every week.

Building block #2

Digital platform strategy. A digital platform delivers core operational capabilities as easily consumable services, providing the workforce with self-service access to enterprise data, evolutionary architecture patterns, and an advanced delivery infrastructure.

Digital platforms allow organizations to promote the re-use of core assets, adopt emerging technologies more readily, and make technology updates and changes with minimal disruption to the services they provide.

Digital platform strategy

Deliver faster	Build ecosystem	Gain insights	Experiment responsibly	Consistent experience
Delivery infrastructure	**API and architecture remediation**	**Self service data**	**Experimental infrastructure and telemetry**	**Customer touch point technology**
Elastic infrastructure	Developer experience (DX)	Data pipeline design	Data collection	Single view of customer
CD pipelines	Service boundaries	Realtime architectures (APIs)	Canary releasing process	Content strategy
Security	Event driven architecture	Data lake design	Toggle architecture	Personalization
Deployment runtime	Public gateways	Data as product	Routing architecture	CD for mobile
Monitoring	Microservice SOA topologies	Granular authorization	Routing technology	Channel redirect
			Visualization & instrumentation	

Engineering organizational design

Government agencies need to be capable of significant, sometimes unanticipated, change. But because leaders and managers must still manage risk, there is a need for change without breaking anything. Therefore, a digital platform approach to, for example, legacy system modernization builds in that needed flexibility through the strategic use of cloud resources and microservices.

An application programming interface (API) layer allows teams across the enterprise to draw on and repurpose the same bank of data resources and capabilities to develop new products and services in a "plug and play" manner. That ability to move and change a business service without impacting the others is critical.

Client case: [VA's digital notifications platform](#)

VANotify ensures Veterans can be more easily and quickly communicated with, using an API-first approach for scalability and modern channels for a more convenient Veteran experience.

In partnership with VA, Thoughtworks developed and launched a centralized platform, VANotify, and corresponding application programming interface (API) enabling VA business lines and development teams to provide digital notifications to Veterans, their families, and the people who support them. Previously, updating Veterans on their benefits and other services required sending physical letters.

The VA now uses the API that Thoughtworks built to send emails and texts that can provide a range of functions, including confirmation of receipt for benefits applications and updates on the status of their claims.

VANotify is also capable of scaling to include new features and uses, such as monthly SMS notifications regarding benefit payments and tracking/status updates for pharmacy deliveries.

Most recently, the VA used the feature as part of the overall communications plan for COVID-19 vaccinations. Over 200,000 Veterans received communications around vaccination planning through VANotify.

The Thoughtworks team branched the VANotify codebase from the UK and Canadian Digital Services' teams, demonstrating Thoughtworks' and VA's commitment to collaboration and the use of open source software to rapidly improve government services.

Building block #3

Experience design & product capability. If it is to deliver citizen and taxpayer value, the modern digital agency will ensure product design and development serve the customer experience — a metric that **research** shows has both internal and performance rewards. And who better qualified to evaluate that experience than the customers themselves?

In many cases, enterprises continue to build according to pre-existing parameters, outdated concepts of success, and preconceptions about what the client wants or needs.

To serve customers — whether citizens or the federal workforce — requires empathy for their needs and expectations. Effective experience design is based on customer-defined needs and expectations through regular communication and, crucially, data, which is to be collected and applied continuously to maintain and improve an organization's effectiveness.

A design + data approach to building modern digital products and experiences is done iteratively and through experimentation. Small, cross-functional teams allow the organization to use smaller increments and investment decisions to identify the biggest opportunities for success before making longer term commitments. This increases the return on investments and promotes innovation in delivering value for customers.

Inclusiveness operating model	Platform strategy	Experience design & product capability	Intelligence driven decision making	Engineering culture, delivery mindset

Client case: VA coronavirus chatbot

Rapid digital product development proved crucial for VA's coronavirus response, deploying a public-facing chatbot service in under four weeks.

To address the unprecedented call volume from Veterans and their caregivers that had overwhelmed VA contact centers during the initial weeks of the coronavirus pandemic, Thoughtworks built a scalable AI-based chatbot, integrating CDC's symptom checker script with additional evidence-based and Veteran-specific content.

Thoughtworks partnered with VA's Office of Information and Technology, Office of Connected Care, and the Veterans Experience Office to design, user test, build, and release into national production a customized chatbot in under four weeks.
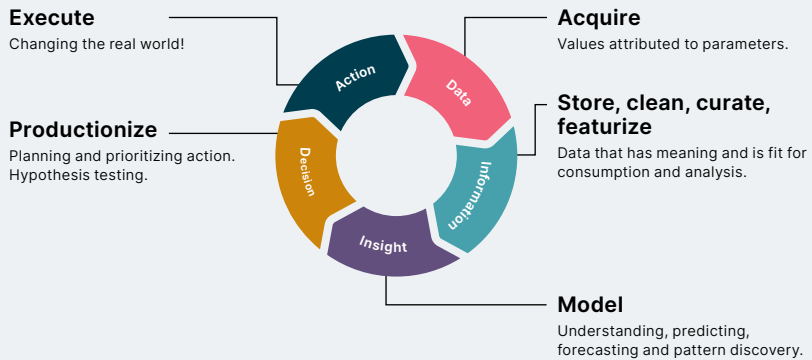
The **VA coronavirus chatbot** is publicly accessible to all VA.gov visitors to self-identify COVID-19 symptoms and gain access to testing, stimulus payments, telehealth appointments, prescription refills and other resources through interactive prompts.

Building block #4

Intelligence-driven decision making. The ability to use data as an asset to add value and to inform decision making is one of the building blocks of a modern digital agency.

Moving beyond reporting data to using data as a basis for action, requires consistent channels of communication between and among the organization's data scientists, customer-facing teams, and executive decision-makers. Otherwise, relevant information may never make it to decision-makers intact, or its true value or significance may go unrecognized.

Cycle of connected intelligence

Execute
Changing the real world!

Acquire
Values attributed to parameters.

Productionize
Planning and prioritizing action.
Hypothesis testing.

Store, clean, curate, featurize
Data that has meaning and is fit for consumption and analysis.

Model
Understanding, predicting, forecasting and pattern discovery.

The people closest to the work and to your customers need the power and autonomy to make good decisions — and the information to know what good decisions look like.

Because it is rarely the most senior executives in an organization that see a problem first, data needs to be transparent and the lines of communication strong. Receiving those fainter signals from customers, their workforce, or the general public early enough — and with enough insight — allows leaders to function proactively and decisively.

Infrastructure for leveraging all data assets includes simple, secure, and efficient storage, processing, and self-service availability of the organization's data. Advanced examples include everything from granularly secured access to raw data to advanced machine learning models assisting in decision making at multiple levels of the workforce and leadership team.

Frictionless operating model	Platform strategy	Experience design & product capability	Intelligent, speedy decision making	Engineering culture, delivery mindset

Client case: National health payer data platform

Enterprise data platform modernization delivers near real-time data, allowing executives to make faster, better informed decisions.

One of the nation's largest private health insurers, dependent on an outdated enterprise data warehouse for reporting and analytics, engaged Thoughtworks to implement an alternative to conventional, centralized, monolithic data lake architectures.

After a 6-month investment, Thoughtworks delivered nearly 50 data products to production. When the COVID-19 pandemic struck, Thoughtworks was able to deliver 8 new data products in under 3 weeks. This enabled our client to quickly develop a set of COVID care applications for its members in a matter of days, something that would have been impossible on their EDW or a centralized data lake. Near real-time data is available for analysts to produce insights and for data scientists to train models/predict trends, allowing executives to determine optimal responses.

Building block #5

Engineering culture, delivery mindset. Technical excellence and strong engineering culture are as critical a building block for the modern digital agency as organizational seamlessness. In fact, each supports the other and needs to be cultivated in tandem. The purpose is to elevate not only software practices and technologies, but capabilities and culture, so that development and operations are more tightly integrated.

Solid engineering culture is based on a form of mutual respect and autonomy when it comes to the business or mission.

Technology supports mission decisions and outcomes, while the organization is capable of giving technology room to innovate. How much room and the focus of that freedom, however, must remain based on data-derived insights and with a north star defined by creating customer value.

The best policy priorities and implementation strategies are meaningless without the ability to execute. Technology-driven organizations leverage patterns and best practices of lean, iterative, and continuous delivery of software. This allows teams to execute quickly with smaller workloads and more frequent change, the cornerstone of a modern digital agency.

Frictionless operating model	Platform strategy	Experience design & product capability	Intelligence driven decision making	Engineering culture, delivery mindset

Client case: National benefits platform modernization

Agile and DevOps best practices improve digital services for millions of citizen beneficiaries.

A national welfare and pensions agency responsible for administering unemployment, disability and health benefits to 20 million citizen beneficiaries relied on a benefits platform that configured and deployed services through manual interactions with no build and deploy consistency, duty segregation, detailed security controls, nor audit trails.

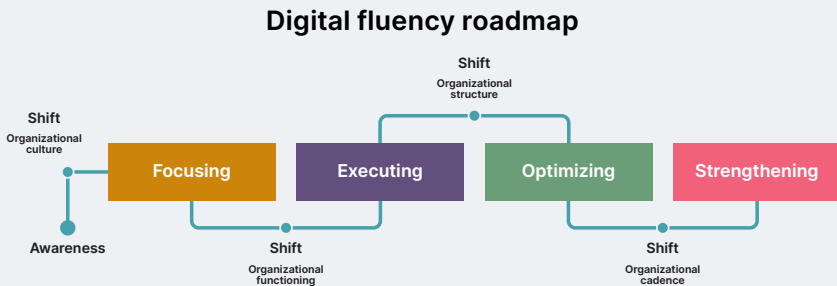Thoughtworks introduced Infrastructure as Code and Continuous Deployment, as well as other agile and DevOps practices, regularly releasing infrastructure to support government applications, including Terraform AWS for a modern infrastructure deployment pipeline that directly improved customer experience.

The agency's release managers now push one button on a custom UI to deploy the entire infrastructure. Releases (new features, business process changes, rule implementations) are quick, consistent, secure, auditable, and reliable.

You are here

A different approach to maturity models. Becoming a Modern Digital Agency does not mean moving out on all fronts. It means identifying and prioritizing the right investment in the right capability given your agency's current maturity — or fluency — in each building block in the context of your agency's mission.

Thoughtworks built the Digital Fluency Model™ (based on the **Agile fluency model**) to help our partners decide the degree to which they need to invest in certain building blocks. Fluency is about achieving the right level of capability based on your organization's specific needs and then prioritizing the right investments for the greatest impact on mission success.

Digital fluency roadmap

		Shift Organizational structure		
Shift Organizational culture				
	Focusing	**Executing**	**Optimizing**	**Strengthening**
Awareness	Shift Organizational functioning		Shift Organizational cadence	

Employing the **Digital Fluency Model**™ in this way produces the organization's own digital fluency roadmap that:

- Secures agreement on a singular north star
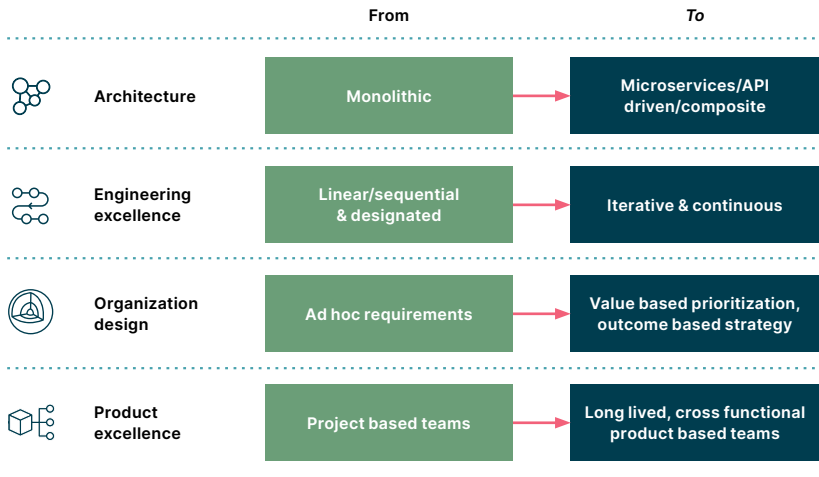
- Achieves a more sustainable change

- Transforms faster by investing in the right things

- Creates your unique digital signature that is laser focused on your transformation initiatives

- Clarifies where you are in context of where you want to be

If the building blocks of the modern digital organization share a central trait, it is that they all involve the enterprise making meaningful change. Yet, starting to implement your organization's **digital fluency roadmap** does not necessarily require full-scale reinvention or colossal investments.

Nor does the enterprise have to tackle all the building blocks at once. They can — and should — be flexibly adopted and prioritized according to your organization's needs and circumstances, with the initial focus on boosting the specific blocks or capabilities that directly benefit primary mission objectives.

The focus on different blocks means the digital fluency pattern of an organization will vary. Yet the journey can always begin with a few initiatives likely to produce meaningful results in the near-term — whether evolving the operating model, developing a cloud strategy or beginning to adopt a platform approach — before moving on to more complex endeavors like full-scale adoption of value-driven portfolio management.

An agency's digital roadmap charts a transformation journey covering the following domains:

		From	To
	Architecture	Monolithic	Microservices/API driven/composite
	Engineering excellence	Linear/sequential & designated	Iterative & continuous
	Organization design	Ad hoc requirements	Value based prioritization, outcome based strategy
	Product excellence	Project based teams	Long lived, cross functional product based teams

Think big, start small, move fast

Establish momentum with a 'thin slice' approach. As contradictory as it may sound, one of the best initial moves agency leaders can make is to stop thinking of transformation as 'big,' by definition. The consistency with which transformations are painted as massively complex, ambitious undertakings convinces too many leaders they have to attempt something spectacular, which too often results in equally **spectacular failures**.

Thin slice approach
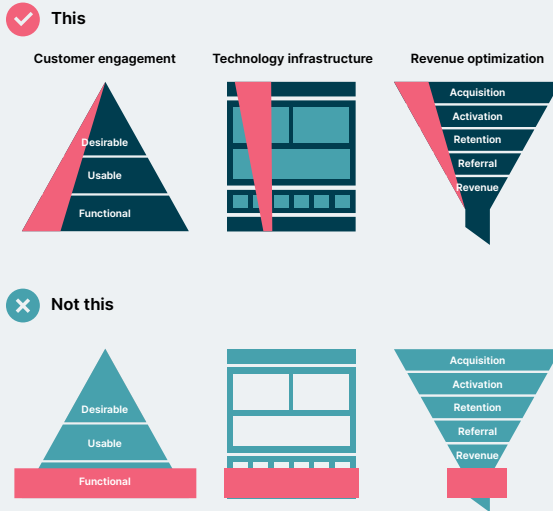
This involves thinking less about what transformation requires and more about what the organization needs in order to respond with agility, to be able to experiment, to take advantage of all the opportunities that technology offers, and to deliver on your mission goals.

Rather than broad, sweeping change, the enterprise can start with a 'thin slice' — a tactical, targeted initiative that addresses a single process or capability that needs to be enhanced, but that also cuts 'deep' in that it involves every layer of the organization, from senior executives to developers to the frontline workforce. The thin slice methodology delivers meaningful value throughout the modernization process, lowering risk and gaining stakeholder buy-in.

The thin slice "has to be something significant because it has to be impactful, and needs to touch all parts of the business," O'Brien explains. "Use it to identify — and address — the antibodies within your own organization that will stop change. Then do another thin slice to solve something else. Keep going, and by the fourth or fifth slice, the entire organization will be part of the program. You build a great culture and let people fold into it, rather than merely roll it out."

Where to begin

The fact is, agency leaders today must deliver on Administration priorities within timeframes and under resource constraints that are largely out of their control in the immediate term. Bolstering their organization's ability to deliver in today's digital environment, however, is a choice.

Building the Modern Digital Agency does not require accepting a trade-off between a modernized tomorrow and mission success today. The key is to formulate a pragmatic roadmap that both advances your agency's mission and delivers meaningful modernization results early and often.

Initial conditions and specific modernization needs are as varied as the agencies involved, and the route to digital fluency similarly unique. The **place to start** is understanding your agency's current fluency in each of the digital building blocks.

About Thoughtworks

Thoughtworks is a global technology consultancy with more than 25 years of experience working with the world's leading enterprises to solve their most complex problems. As one of the original pioneers of agile delivery, Thoughtworks helps organizations successfully accomplish digital transformations and IT modernizations.

Our approach is built upon decades of hands-on experience, paired with our deep technical expertise in the areas that are core to every enterprise's technology strategy. We help our clients create and connect strategy to practical execution, using cross-functional teams of strategists, developers, data engineers, and designers with an unparalleled range of skills and unmatched expertise in digital strategy and operations; data strategy, engineering and analytics; enterprise modernization, platforms and cloud; and customer experience, product and design.

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Jonah is a recognized leader in government modernization, innovation, and federal public sector management. He works with federal leaders transforming their organizations into modern digital enterprises.

Before joining Thoughtworks Federal, Jonah served as Senior Advisor to the Secretary of Veterans Affairs and as the founding Executive Director of the VA Center for Innovation, developing new ways for the nation's largest integrated healthcare system to expand access, increase quality, reduce costs, and improve the customer experience.

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