The Digital Foundation: the new edge of market leaders
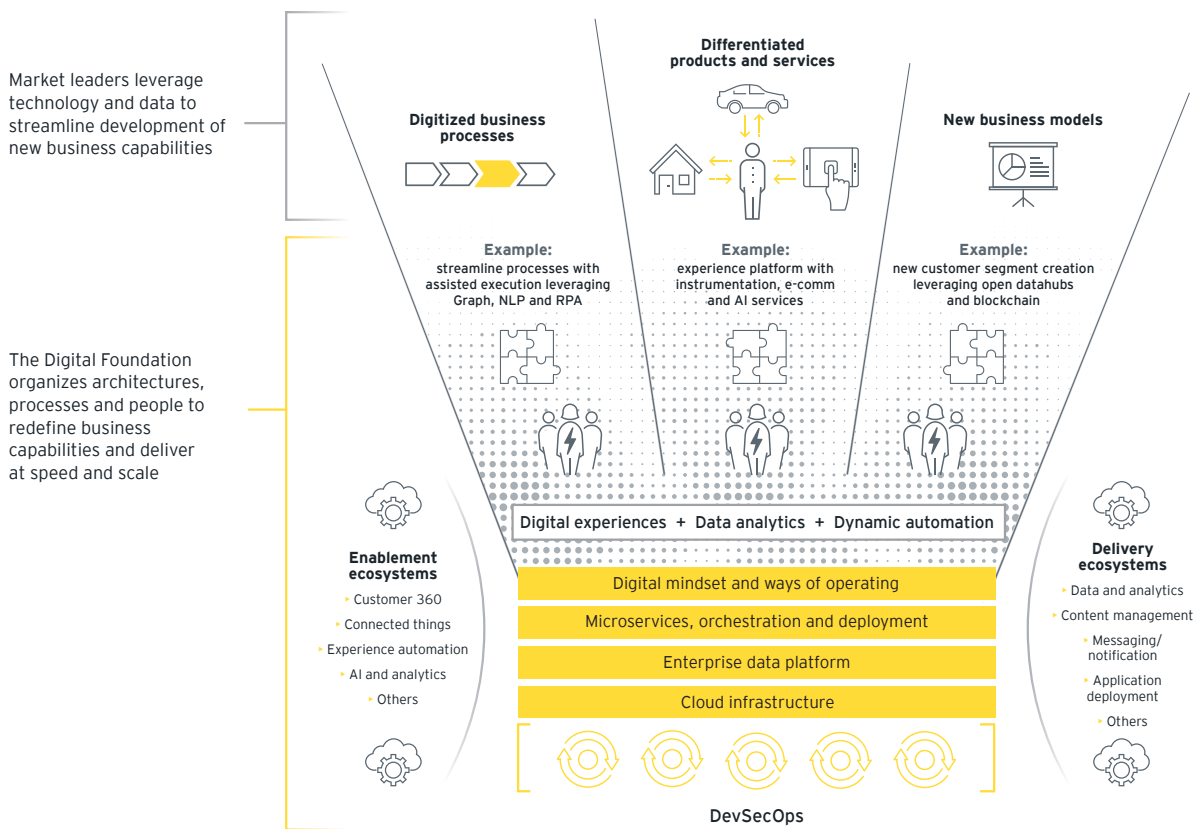
EY

Building a better working world

Most business leaders recognize that building new business capabilities with efficiency is essential to operate in today's business environment. Regardless of trend or disruptor, those able to outrun competitors in creating products and business processes relevant to a new normal win.

What is the edge of these market leaders? These companies establish models for technology and data focused on driving value extraordinarily fast – a Digital Foundation. The Digital Foundation is a solution delivery model that relies on architectures, processes and a mindset aimed at driving step change. The model results in solutioning teams, each resourced with innovative people, emerging technology and enterprise-wide data, organized with a focus on delivering at speed and scale. The model elevates ecosystem services, new solution approaches and focused engineering with the goal of expanding how organizations create value. The Digital Foundation is the central capability that successful digital programs - or any enterprise transformation effort – are increasingly relying on.

To illustrate the opportunity, consider the following companies that are leapfrogging the marketplace through effective Digital Foundation models:

▸ **A global retailer is rapidly augmenting the in-store experience with highly relevant online customer empowerment capabilities.** Amidst increased sensitivity to prices in customers, the company's digital platform delivers project learning modules, product selection and planning tools that complement and differentiate the in-store experience. The continued experience development repositioned the company's value proposition above convenience and economic prices.

▸ **A fitness equipment manufacturer worked to understand the macro lifestyle trends and created an interactive fitness platform with proprietary equipment, networked software and digital content.** Using this platform and rapid development, the company continuously publishes new lifestyle management services. The flow of experiences differentiates the organization and created a revenue source that has grown sevenfold in a matter of months.

Market leaders leverage technology and data to streamline development of new business capabilities

The Digital Foundation organizes architectures, processes and people to redefine business capabilities and deliver at speed and scale

Differentiated products and services

Digitized business processes

New business models

Example: streamline processes with assisted execution leveraging Graph, NLP and RPA

Example: experience platform with instrumentation, e-comm and AI services

Example: new customer segment creation leveraging open datahubs and blockchain

Digital experiences + Data analytics + Dynamic automation

Enablement ecosystems
▸ Customer 360
▸ Connected things
▸ Experience automation
▸ AI and analytics
▸ Others

Digital mindset and ways of operating
Microservices, orchestration and deployment
Enterprise data platform
Cloud infrastructure

Delivery ecosystems
▸ Data and analytics
▸ Content management
▸ Messaging/ notification
▸ Application deployment
▸ Others

DevSecOps

Transformation in today's environment requires a different approach. EY teams are finding that there are three drivers that organizations looking to optimize the value of the transformation need to prioritize: placing humans at the center, leveraging technology at speed and enabling innovation at scale. Market leaders leverage these drivers as broad and fundamental parameters for driving new products, services and business processes.

The models for technology and data required under these new parameters demand a different structure. These new models need to leverage different ways of architecting, constructing and embedding capabilities anchored on modern delivery principles such as cloud native, containerization and mapreduce. The model needs to drive an obsession for applied innovation as the basis for solutioning and a pragmatic

approach for delivery at speed and scale. These models need to redefine how business and IT teams drive improvement and re-enforce the long-term commitment to the required change.

Instead of focusing on incremental change of legacy IT models, our recommendation is to focus on developing your Digital Foundation. EY research around the six habits of digital transformation leaders points to effective transformation leaders being 45% more likely to unlock annual revenue growth of more than 10%, and 50% more likely to see annual EBITDA increase by more than 15%.

Embrace a Digital Foundation model by committing to delivering a subset of high-impact projects using the new approach. The goal is to cut through the muscle memory of traditional business capability development and streamlining the model for value delivery. In our experience, we found four priorities to activate the Digital Foundation model:

1 Move your ecosystems to the front

Ecosystems channel market innovations. In establishing new models for value delivery, organizations need to curate and connect their ecosystems, and place them closer to their customers. This is different from the traditional approach in which needs are identified in a silo and ecosystems are subsequently engaged to explore possible solutions. Upfront use of ecosystems equips teams with differentiated perspectives and tools to help identify new experiences and the role technology can play in delivery. Ecosystem capabilities need to be engineered as consumable services that can be used to efficiently experiment together with customers to create new and engaging experiences.

In a recent project, a consumer product client team was tasked with rethinking a company's product launches. The organization had established a set of consumable artificial intelligence (AI), augmented reality (AR) and consumer data services from various strategic ecosystems, as well as the company's own platforms. The client team leveraged these services to rethink how an intelligent and flexible new product launch capability could work. A group of customers was brought together to help identify key thematic experiences. Using the ecosystems services, the solution team rapidly tested experiences around feature recommendation, training and service bundling leveraging the AI and AR services. In weeks, the process delivered a unique product launch process with experiences that were not envisioned before, better represented customer needs and ultimately differentiated the company.

Harnessing the power of ecosystems requires diverse and strategic selection of alternatives. Organizations have to be strategic in their ecosystem approach, selecting and connecting to clusters of ecosystems that are differentiated and offer a promise of innovation. Whether it is Microsoft, SAP or pockets of innovative and sustainable IO startups, organizations need to select the ecosystems most valuable to them based on the company's innovation priorities and industry trends. Each company needs to identify their own set of ecosystems, however, there is a set of ecosystems focused on the foundational capabilities for containerization, orchestration and provisioning that organizations need to embrace. These ecosystems include (not an exhaustive list):

- ‣ Data and analytics: Apache Spark, Databricks, TensorFlow, Akka Streams, Apache Flink
- ‣ Content management: Magento, Adobe, Sitecore
- ‣ Messaging/notification: Twilio, Rakuten
- ‣ Application deployment: TensorFlow, Apache Mesos, Docker
- ‣ Configuration management: Puppet, Chef, Terraform, Ansible
- ‣ Continuous integration and delivery: Argo, Jenkins

- ‣ Orchestration and application definition: Kubernetes, Helm
- ‣ Service mesh architecture: Istio, Envoy, Linkerd
- ‣ Logging: Fluentd, Elastic Search+Logstash+Kibana
- ‣ Monitoring: Grafana
- ‣ Serverless: iron.io, serverless.com, AWS, GC, Knative, Azure Functions

What do you need to do?

Now	Next	Beyond
Organize your digital ecosystems through a connected architecture, develop a strategic vision of how to leverage those ecosystems to drive solutions	Collaborate with the communities around the digital ecosystems to help shape their contribution to your environment and their future	Anticipate convergence opportunities by structuring an approach to open/shared Digital Foundation capabilities

2 Solution differently

Leveraging a Digital Foundation model requires new ways to envision business outcomes. The new approaches need to ignite a mindset focused on future capabilities and activate the team's ingenuity to get there. The focus is in moving toward rethinking the business and the role technology plays instead of continuing to look for ways to digitize the existing business. As an example, a Digital Foundation team will approach the question of developing a new capability by asking themselves, what new experiences can be delivered if the new process is rebuilt from scratch and leverages AI?

The goal is to galvanize the organization to look at business needs in a different way and commit to drive a new approach to the solution. Example of approaches to drive exploration of new digital opportunities include:

- ‣ **Future back:** envisioning the future of the business or capability and identifying the critical path to get there
- ‣ **Art of the possible:** an unconstrained exploration of possibilities
- ‣ **Experimentation:** identify the new opportunities that an existing, incomplete solution can drive

Successfully driving the value in these approaches also requires solutioning teams that have both a strategic understanding of the business, as well as a focus on connectivity and pragmatism. These solution teams are the protagonists in the Digital Foundation – we call these the innovation operators.

Innovator operators understand market trends, business needs and technology opportunities. They are storytellers and anchor in their curiosity to explore opportunities. Innovator operators need to be self-realizing in keeping up with digital ecosystems and overall transformation techniques, but they cannot do it alone – the organization needs to provide a structure and resources to drive the full potential of this unique role.

What do you need to do?

Now	Next	Beyond
Operationalize and master creative approaches to drive solutions within the Digital Foundation	Expand the new solution approaches outside the Digital Foundation to the enterprise	Integrate AI into your solutioning approach

3 Master the 3Ds: digital experiences, data analytics and dynamic automation

Most technology enablement improvements ultimately rely on the organization's ability to execute the 3Ds. These 3Ds are what organizations that are serious about streamlining value delivery are good at – they do not delve in these disciplines, they master the ability to develop engaging experiences, working with data and executing efficiently.

To start, organizations need to deploy solutioning models that support these capabilities. A Digital Foundation model integrates a capability for new experience development founded in design thinking and customer research. This capability must address both customer and employee experiences. If the organization has already established experience capabilities in other departments, opportunities for a tighter integration to technology solutioning should be explored.

Surrounding the experience capability, the Digital Foundation organizes technologies to rapidly expose analytics and automation as building blocks for solutioning. The selection of platforms and approach should be conducted with business applicability and potential in mind. The analytics competency should be purpose-built and enable solutioning across use cases such as predictive, big data, and visualization. Automation helps simplify operations and accelerate the completion of routine tasks, enabling the organization to focus on connecting the drivers of value.

What do you need to do?

Now	Next	Beyond
Raise the bar in expectations around the impact that experience, analytics and automation have in solution development. These three capabilities should have a broader and deeper impact on each build.	Streamline and bolster your model to embed experience, analytics and automation into your continuum of transformation.	Continuously integrate the trends and next frontier for developing solutions focused on engaging the heart and minds of end users.

4 Set up a stand-alone but connected organization

To be successful, Digital Foundation models need to be organized as independent structures but highly connected to the business and to IT. The Digital Foundation needs to concentrate on value generation and thus requires new rules of the road. Key areas to address include:

‣ How to focus on the right priorities? Digital Foundation teams need to be positioned as solutioning teams for business transformation. This is best accomplished by providing the Digital Foundation reporting lines to key business leaders – typically within the C-suite.

‣ What is the definition of success? Emphasize capability accomplishments, such as "better connected" and "time to value." Equally important, ensure each build has aligned and healthy financial metrics.

‣ How to deliver the demand? Embrace delivery methods fit for purpose – product management, agile practices and continuous integration need to become the standard.

Finally, the Digital Foundation needs to be able to access funding efficiently. Streamlined funding models that combine experimentation seeding and scaling ROI need to be put in place.

What do you need to do?

Now	Next	Beyond
Position the Digital Foundation with business leadership as a new model for rapid value delivery - resource and fund appropriately	Reassess the Digital Foundation metrics and operating model to focus on innovation delivery	Expand the Digital Foundation based on target enterprise capabilities not volume (leverage other organizations for run capacity)

How to move closer to a Digital Foundation model?

Our recommendation is that you embrace a Digital Foundation model through a subset of priority use cases for your environment. Steps to consider include:

‣ Committing to a Digital Foundation approach for delivering a set number of critical products or processes. Set an ambitious goal: Complete the first release in weeks not months. Aim to not exceed 8 to 10 weeks.

‣ Identify the digital ecosystems that are relevant to drive the next level of value for these products or processes. No need to take a comprehensive approach, instead, focus on the digital ecosystems that are logical candidates for the intended improvement. Some basic ecosystems to consider are those addressing customer engagement, AI and mobile.

‣ Apply new ways of solutioning: assemble your team of innovation operators to identify the innovation opportunities. Leverage the ecosystems identified to ignite new thinking.

‣ Launch Digital Foundation build sprint and then pivot to product build sprints.

As you move up in solidifying your Digital Foundation, remain committed to a lean and efficient approach to solution delivery. This is a necessity to expand the portfolio of available technologies and effectively unlock their value. Discipline in table stakes practices, such as reusable architectures, technology rationalization and cost optimization is essential. The Digital Foundation needs to sustain its focus on streamlined and energetic delivery to remain a reliable engine of innovation for the organization. Position the Digital Foundation with leadership as a core capability of the organization and commit your team to delivering value in a new way. As your ecosystems and new ways of working deliver step change, your organization will be on a new path to realizing the opportunities of your evolving business environment.

Authors

Mazen Baroudi
Principal, Technology Consulting
Ernst & Young LLP
mazen.baroudi@ey.com
Mobile: +1 703 867 1259

Andres Velasquez
Senior Manager, Technology Consulting
Ernst & Young LLP
andres.velasquez@ey.com
Mobile: +1 440 610 3682

Contributors

Somac Roy
Manager, Technology Consulting
Ernst & Young LLP

Jonathan Lin
Senior, Technology Consulting
Ernst & Young LLP