# How to Achieve Enterprise Agility With a Bimodal Capability

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Confronted by digital transformation, IT leaders recognize the need to innovate more, manage uncertainty better and establish more agility. However, they have to do this while simultaneously running the business and hitting regular performance goals, which is where bimodal capabilities are crucial.

## Analysis

A bimodal capability is the marriage of two distinct, but coherent approaches to creating and delivering business change:

- Mode 1 is a linear approach to change, emphasizing predictability, accuracy, reliability and stability.

- Mode 2 is a nonlinear approach that involves learning through iteration, emphasizing agility and speed and, above all, the ability to manage uncertainty.

A digital world offers great opportunities, but plenty of uncertainties and risks as well. The enterprise needs a capability that can manage the uncertainty. Most enterprises have created layer upon layer of governance, as well as planning controls that come in many guises, as a way to mitigate uncertainty and risk. However, to be effective, most of those mechanisms rely on an element of predictability that rarely exists in the digital era.

Organizations need to change their methods. They need to adopt more appropriate governance and planning mechanisms, as well as create a capability and a culture that allows them to experiment more, fail fast, fail small and fail visibly. They need to manage this capability in combination with running the more-predictable, mission-critical steady state. This is a bimodal capability.

Managing uncertainty — that is, being able to move forward even when the future is unclear or when a predefined plan is impossible — is foundational to success in the digital era. Often, the desire to manage uncertainty is masked by a focus on speed, but frequently that's because speed is seen as a way to respond to uncertainty. The benefit of speed afforded by bimodal is eclipsed by the benefit of being able to move forward when the future is unclear.

We are seeing massive growth in organizations that adopt a bimodal approach. Already, more than 40% of organizations describe themselves as having started the journey, and such is the current momentum that we anticipate that fully three out of four organizations will be at some level of bimodal maturity by 2017 (see "Predicts 2015: Bimodal IT Is a Critical Capability for CIOs").

Bimodal affects the whole ecosystem internally and externally. This is not just about the IT organization. Bimodal is important to external service providers (ESPs), because enterprises will want to engage with them in different ways, and it will present new opportunities for ESPs. As a result, practice leaders and strategic planners in ESPs need to develop a way to respond to customers in both modes:

- The more predictable Mode 1, characterized by detailed predefined plans

- The sense-and-respond approach of Mode 2, which looks to evolve as the future develops, rather than executing on a plan that's developed in advance (see "Why Bimodal Matters to IT Services Providers' Strategies")

Organizations familiar with lean, and, in particular, lean's approach to decision making, will be comfortable with many of the principles and methods associated with Mode 2. Mode 2 brings under one roof various approaches, methods and tools that have their roots in lean, such as agile, DevOps, Web scale, lean startup (see "Getting Started With Lean Startup"), theory of constraints, team structures and goals, cutting cycle times, deciding as late as possible, options thinking, set-based concurrent engineering and employee empowerment. There are many parallels with the cultural norms of lean as well. Like lean, bimodal is not a pick-and-mix toolbox, where simply picking a tool and applying it makes it bimodal. The principles and practices support and reinforce each other, a failure of one can cause a reduction in the overall impact, or even the failure of all of them.

## Research Highlights

### Getting Started With Bimodal: Show, Don't Tell

There are many places to start with bimodal (see "Kick-Start Bimodal IT by Launching Mode 2") — it could be an innovation lab, use of agile or DevOps, a particular approach to collaboration, or working with suppliers and partners or many other options. There's no way to be totally prepared in advance, or to rush at this. The deep cultural change that underpins the methods and processes means that shifting to a bimodal approach is akin to learning to swim — you have to start small, and you learn by doing it, not by reading about it. Progress depends heavily on a feedback loop to adjust course and ensure that lessons are learned. We recommend that you "swim" as soon as possible and mitigate risk by jumping in at the shallow end, not the deep end. However, you need to challenge the organization by moving toward the deep end relentlessly. Of those choosing to jump or be pushed in at the deep end, some undoubtedly will thrive, but the failure rate is much higher.

We address the underpinning capabilities of bimodal in a later section of this research. However, the most common starting point for most IT organizations is the use of an iterative method for software development and, most commonly, the use of agile (see "Understanding the Fundamentals of Agile

Methods" [Note: This document has been archived; some of its content may not reflect current conditions.]).

That said, it would be incomplete to assume that, if you are using agile development, you are bimodal. This is wrong for two reasons. First, we see widespread and growing use of agile, applied in a Mode 1 style of delivery (for example, see "Agile Packaged Application and ERP Delivery Need Planning and Flexibility to 'Make the Elephant Dance'"). It is a methodology, or rather a set of methodologies that can be applied in either mode, depending on the level of uncertainty. Second, bimodal is not (just) about IT's own processes or capabilities, it's about the broader business capability to create business change, including an approach to innovation, sourcing, cultural change and governance, as well as how the organization makes decisions.

John Kotter's recent book, "XLR8," highlights the need for and nature of the change. He describes the two operating models that organizations need — one hierarchical and the other network-based (and voluntary). His approach has many parallels to bimodal, but it also provides some interesting differences (see "Gartner Fellows Interview With Harvard Business School Emeritus Professor John Kotter: XLR8").

Bimodal brings together capabilities inside and outside IT, which we describe in this research:

- An iterative solution or application development methodology, which, when it involves software development, includes methods such as agile or lean software development

- Innovation management

- Adaptive sourcing

- DevOps

- Empirical governance based on a sense-and-respond capability to provide rapid and direct feedback from the field to the solution development teams

- A renovated core of legacy systems and sourcing partners (see "Renovate the IT Core: Laying the Foundation for Digital Business")

Bimodal also requires changes to the way executive teams evaluate competing projects, how projects are funded and governed, and changes in the executive interpretation of risk. However, none of these are an absolute requirement. Organizations typically start applying one particular capability to one or a small number of projects, which is what we refer to as "project bimodal." This tends to start slightly more piecemeal. Organizations develop the approach, adding and expanding capabilities, and developing a more systematic and systemic capability across the enterprise, which is what we refer to as enterprise bimodal. The cadence of change is fast and continuous in Mode 2, and the business needs to be able to absorb that change. It is these governance and enterprise elements, along with culture, that often cause the most-challenging roadblocks to progressing bimodal within the enterprise. This is why it's important that the CIO position this correctly with the executive team to gain their support and engagement.

One of the earliest decisions organizations will have to make relates to the characteristics of the projects or business solutions that will be managed by Mode 2. This is where Gartner's pace layering can be a useful guide (see "Best Practices for Applying Pace-Layered Application Strategy to Postmodern ERP"). Typically, Mode 1 has its center of gravity around systems of record, and Mode 2 has its center of gravity in systems of innovation. Other common characteristics for Mode 2 projects include things that affect the customer experience, and we often see technology-oriented perspectives, such as mobile, social or other similar Nexus of Forces technologies (mobile, social, cloud, big data and analytics, and the Internet of Things), and, of course, things that ultimately improve the enterprise's agility and responsiveness. Although we see some recurring themes and best practices in the selection of the projects for Mode 2, it is highly contingent on the enterprise and its goals.

It is a mistake to think that creating a bimodal organization is only about adding Mode 2, and that the current environment is Mode 1 and remains the same (see "CIOs Must Shape the Current IT Environment for Bimodal Success"). There are important changes that the core applications teams need to consider:

- "Get Ready for ERP Project Changes Driven by Bimodal IT"

- "Bimodal IT Drives Changes in ERP Support"

The ability to manage uncertainty is one of the key drivers and benefits for bimodal. It is also an important capability to employ as part of the leadership of or response to the emergence of the digital workplace, the growth in shadow IT, and the increasing digital and IT dexterity that employees now have (see "(What to Do When) Every Employee Is a Digital Employee"). If IT organizations don't adapt and respond to this environment, not only will business units, teams and individuals continue to take more control into their own hands and effectively bypass the IT organization, but the enterprise will fail to appropriately leverage the digital dexterity of its employees. They'll also fail to appropriately exploit technologies that digital employees can leverage — for example, business process management (BPM) tools in the intelligent BPM suite (iBPMS) area.

There are many use cases in which a bimodal style of approach can potentially be applied (see "Leveraging Bimodal IT to Advance Your UCC Projects," and "How to Be Agile With Business Analytics"). We have also seen bimodal being applied effectively in the public sector:

- "Mayor's Office of New Urban Mechanics Cultivates Ambidexterity"

- "Bimodality and the Burden of Transition at the South Carolina Department of Health and Human Services"

And, of course, there are many examples in the private sector:

- "Priority Health Sees Speed of Response as Vital in Uncertain Times"

- "Creating a Bimodal Personality at Luxottica"

- "MTR Corporation's Bimodal IT Team Operates on Two Tracks"

- "Miroglio Goes Bimodal to Focus on the Customer"

Even though smaller organizations have many advantages in terms of the agility, they can still benefit from a bimodal approach (see "What SMBs Need to Know About Enterprise Agile").

## Success Is Built on Cultural Change Above All Else

At a recent Gartner conference, one of the authors led a workshop of roughly 50 people, and participants were asked to choose between three potential obstacles to bimodal adoption:

- IT didn't have the right skills

- There was a large potential to make a mess

- The culture wasn't ready for bimodal

Six out of seven groups chose the cultural obstacle as the single biggest threat to bimodal success. Gartner has observed that clients, in large part, do not believe their culture is ready for bimodal and want help on how to change the culture. In other words, if you fail at cultural change, you will fail to reap the rewards of bimodal, while significantly increasing enterprise risk.

So, how can you bring about the right cultural change? Cultural change needs to be directly addressed as part of the overall change program, rather than being left to take care of itself. Three subcultures (operator, innovator and guardian) are at work in a bimodal organization (see "A Bimodal Enterprise Needs Three Subcultures").

The cultural gap is a key reason we see IT organizations bifurcating their organization structures. The "antibodies" that pervade traditional organizations can suck the life out of Mode 2 initiatives and effectively kill them. As such, Mode 2 usually needs organizational room and political cover to give it the space it needs to be nurtured and flourish.

The cultural changes run deep and span the whole organization. It embraces the need to empower teams and individuals to make decisions and leverage the speed that comes with higher levels of autonomy —whether it is in agile teams (see "The Transition to Agile Methods Requires a Culture Shift From 'Me' to 'We'") or in infrastructure and operations (see "Five Steps to Delivering Your Mode 2 I&O Culture" and "Step 1 in Delivering an Agile I&O Culture Is to Know Your Target State").

Employees have innate competencies that favor Mode 1 or Mode 2. Most organizations struggle to find those innate competencies best-suited to Mode 2 (see "Using a Competency-Based Assessment and Interview Approach to Ensure Talent Fit for Bimodal IT"). However, there are things the IT management team can do that foster and nurture those more rare competencies and traits (see "The Personality of Bimodal IT: Nurture Is Stronger Than Nature").

Although many CIOs are pushing at an open door in terms of convincing the stakeholders of the need for change, there are inevitably some organizations, teams or individuals that require more convincing than others. Managing resistance to this change and choosing language carefully are critical for the CIO (see "Languages of Change: How to Tap Into the Positive Side of Change Resistance").

## Establish Empirical Governance and Clear Principles

The overall approach to governance must reflect the nature of Mode 2 projects that rely on frequent change, the application of a minimum viable product approach, informed by a sense-and-respond capability. This ensures that the steering of Mode 2 projects is based on a continuous empirical process, as opposed to checking against predetermined plans and milestones established many months prior. Such plans frequently give the illusion of control, but limiting predictions to short iterations increases predictability and agility. A business transformation approach must have a clear direction and desired outcomes, be empirically based on data about the actions taken ("is this working?") and include the ways that judging the value of the changes planned (or executed) can change over time.

The Harvard Business Review's March 2015 spotlight story (see "Why Strategy Execution Unravels — and What to Do About It") identifies a strategy execution gap, highlighting that there is a myth that "execution means sticking to the plan" where "executives view deviations as a lack of discipline that undercuts execution." Instead, "a lack of agility is a major obstacle to effective execution among the companies we have studied" (see "Big Change Efforts Need an Agile Business Transformation Approach").

Many organizations focus their innovation activities on idea generation and management, while failing to devote sufficient attention to the incubation and progress of the most-promising opportunities to the point where they can be more fully considered for operational implementation. Such incubation activities require dedicated funds, resources and a robust process for progressing opportunities (see "Fuel Innovation by Funding Ideas Using Venture-Capital-Like Practices"). Organizations struggle with innovation, because they can't measure the value it is creating. As a result, establishing a framework can make a big contribution to getting executive buy-in (see "Overcoming Innovation's Measurement Problem").

Digitalization often necessitates implementing change in an adaptive manner, which is counter to the traditional, predictive methods of implementing change. Although digitalization is a huge force of change, replete with uncertainty, opportunity and risk, it doesn't completely obviate the need to implement change in the traditional predictive manner; hence, this is about being bimodal, and why Mode 1 remains a critical capability that must be valued. It necessitates being able to do the traditional and predictive work better. When the adaptive and uncertain prove successful, they become known and predictive. There are significant implications in bimodal for how organizations do their program and portfolio management, with an increasing need to combine the predictive approach with an adaptive approach (see "Agenda Overview for Program and Portfolio Management, 2015").

Establish clear and transparent governance principles and establish the filters that will be applied to decide what goes into which mode and why (see "Three Steps to Successfully Implementing Bimodal-Aware IT Governance"). The failure to address this results in Mode 2 being inundated, with a scatter gun approach that results in the limited Mode 2 capacity being diffused across too many domains to have a significant impact. Hence, establishing a consistent framework is important (see "Effective Governance of Bimodal IT Projects Requires Adopting a More Outcome-Centered Approach"). To establish some context within which that governance framework can operate, the business and IT strategies need to provide the overall direction and goals and reflect the use of a

bimodal approach to achieve those outcomes (see "Embed Bimodal in Your IT Strategy to Achieve Sustainable Success").

Because of the uncertainties and trade-offs associated with Mode 2 projects, CIOs tend to become more directly involved in leading Mode 2. It is important for CIOs to use a risk management approach (see "CIOs Should Use Risk Management to Promote Innovation in Bimodal IT"). There are some simple controls that can be employed to satisfy the finance team (see "Bimodal IT Mode 2: Use Simple Controls to Reduce Cost Exposure and Drive Greater Value").

The CIO needs to coach the CFO and the investment committee members about the different profile of the Mode 2 style projects, and the product view of Mode 2 (see "Moving From a Project-Based to a Product-Based Application Organization"), because the business case template needs to be adapted to reflect the greater uncertainty and typically higher risk. This does not mean these projects get a blank check or are without controls; it just means they need to be funded and overseen in a different way (see "The How to Fund Mode 2 Initiatives in a Bimodal World").

It's quite normal for transitions between modes to occur. This needs to be anticipated by establishing some rules of engagement and, in particular, rules about how to address funding issues that may arise as a result of a transition (see "Transitioning to Bimodal IT Requires Rearchitecting the IT Money Flow"). However, transitions also involve a clear definition and a consensus on what "done" looks like, which clearly goes beyond just meeting functional requirements (see "Avoid Chaos in Agile Development by Defining 'Done'").

## Formalize Your Approach to Innovation Management

At the heart of the digital transformation and bimodal is the need for enterprises to become more creative, to break out of the business as usual and, in particular, to establish a stronger capability in technology-led business innovation. Bimodal's embrace of business innovation is a key factor that makes bimodal so much more than the simple use of agile for software engineering.

CIOs need to work with key business executives to formalize their approaches to technology-led business innovation. To do this, they need a clear and consistent perspective on their goals. Different goals will lead organizations to create different programs and processes, with varying resource demands, drawing on an ever-growing set of industry practices (see "Create a Research Engagement Plan to Advance Your Innovation Culture and Processes").

CIOs and innovation leaders need to build on their organizations' strengths in developing and growing their innovation competencies. They also need to recognize key requirements for successful innovation that may run counter to the organization's natural tendencies. Top innovators need to excel in at least one of the three pillars of innovation — purpose and intent, process and organization, or people and culture — and to have a basic competency in all three (see "Strengthen the Three Pillars of Innovation in Your Organization: Purpose, People and Process").

There are some proven techniques that enduring innovation leaders have applied over a decade or more, which enterprises can apply. Technologically aggressive organizations can use this as a checklist. More-conservative organizations can pick two techniques each year and implement them

to develop their capabilities (see "13 IT Innovation Habits of Enduringly Successful Alpha Organizations").

Enterprises succeed in managing innovation through six dimensions of maturity, such as strategic intent and fostering a culture of innovation. The Innovation Management Maturity Model enables enterprises to assess their maturity, identify performance gaps and define actions for improvement (see "A Maturity Model for Innovation Management").

## Build the Capabilities That Underpin Bimodal

Several key capabilities collectively define bimodal. It requires changes in and development of capabilities in both modes; it's not just a question of adding a set of Mode 2 capabilities, even if Mode 2 tends to be the source of greatest risk and opportunity. We've already touched on some of the changes needed to establish a viable Mode 1 capability, such as the need to renovate the IT core. We also previously touched on innovation management as one of the most important capabilities for Mode 2. In this section, we will focus on the other key capabilities that are needed for Mode 2.

An iterative approach as part of Mode 2 is fundamental because of the increased uncertainty related to what will work in the digital era and the increased importance of trial and error. It is also important because of the poor record associated with waterfall approaches. An iterative approach is important, regardless of whether and to what extent the initiative involves software development. Often the solution may involve the integration of a new technology, such as 3D printing, iBPMS or smart machines, or it may involve integrating multiple third-party solutions or services.

Having said that, the most common place for IT organizations to start their bimodal journeys is the adoption of an iterative approach to developing software and, most frequently, that's agile. As with bimodal, and for the same reasons, starting with agile requires a gentle introduction, allowing people to find their feet and adapt (see "Getting Started With Transitioning to Agile"). No matter how much pressure the organization is under, this is not something you can take a "big bang" approach on. The selection of the early projects is important, so the filters again become important (see "Using a Pilot Project in Transitioning to Agile").

Done well, agile development can be an integral part of the portfolio of methods that the CIO uses to deal with increasing business demand for application capability and innovation. Done badly, agile development will create a lot more problems than it solves (see "Ten Things the CIO Needs to Know About Agile Development"). Because of the risks involved, many organizations will get it wrong, which is likely to cause a backlash against agile and iterative methods. This doesn't make them wrong; they're just poorly implemented (see "Application Leaders Must Prepare for the Agile Backlash"). The same can be said for the bimodal approach, which has many risks and pitfalls.

We see a lot of organizations focusing on the upstream capabilities around bimodal, such as the use of agile and innovation management. However, they often pay insufficient attention to issues further downstream, such as deploying the solutions into a production environment. And they often are unable to do it in a pattern that matches the cycle of change coming downstream. This is where DevOps becomes a critical capability (see "Seven Steps to Start Your DevOps Initiative" and "Principles and Practices of DevOps"). Although DevOps remains dynamic in terms of the good

practices, it offers an important capability to bridge the gaps between the Mode 1 and Mode 2 approaches (see "DevOps Is the Bimodal Bridge"). There is only so much change any organization can absorb, so being practical is important; however, we would encourage the early development of DevOps, rather than reacting to the bottleneck that will inevitably materialize without it.

Growing a DevOps initiative beyond just a few small teams increases the risk of failure due to increasing complexity and ambiguity. However, there are ways to mitigate these risks (see "How to Scale DevOps Beyond the Pilot Stage").

Digital transformation and the need for innovation will also have a profound impact on what organizations do about sourcing and how they go about it. Adaptive sourcing is Gartner's new approach to IT sourcing strategy. A three-layer sourcing strategy enables sourcing executives to address the pace of change in services and capabilities that is required by different stakeholders at each level, and to consider the type of supplier base and governance that is required to ensure successful demand fulfillment and high stakeholder satisfaction (see "Business Outcomes, Differentiation and Performance Drive Bimodal Adaptive Sourcing Decisions") with:

- Business innovation

- Process differentiation

- IT "run" activities

Sourcing teams need to adapt their services to ensure that they remain relevant to the digital transformation, and act as accelerators (see "Make Your Sourcing Team Essential and Ready for Bimodal Innovation Through Seven Key Business Questions").

For a more radical view on the transformation to bimodal that starts from the same underlying challenges described in this research, but takes more of a disruptive view in terms of what's required to move forward at pace, refer to our recent Maverick research (see "Maverick* Research: Fire Two-Thirds of Your IT Organization").

## Bottom Line

A bimodal capability that spans and is integrated across the enterprise is not an option for organizations entering a digital transformation and facing high levels of uncertainty. CIOs must engage the executive team and start developing this capability as soon as possible, because it takes time. CIOs must start before they think they're ready, adopting an iterative approach to establishing and developing the bimodal capability, and keep their momentum going.

## Recommended Reading

*Some documents may not be available as part of your current Gartner subscription.*

"Bimodal IT: How to Be Digitally Agile Without Making a Mess"

"The Role of the Chief Innovation Officer in Digital Business Transformation"

"Six Key Steps to Build a Successful Digital Business"

"Agile Project Leadership: What It Is; How It Develops"

"Building Out Digital Business 'Dream Teams'"

"Best Practices for Implementing Enterprise Agile Principles"

"Achieving Continuous Delivery"

"Managing the Agile Project"

"How to Keep Agile Projects on Time and on Budget"

"Innovate Like a Startup: The CIO's Front Office Toolkit"

"What a World-Class IT Innovation Charter Should Contain and Why You Need One"

"Driving the STREET Process for Emerging Technology and Innovation Adoption"

"10 Innovation-Killing Phrases That CIOs Should Refute"

"Improving IT Agility Through Adaptive Sourcing"

"When Using DevOps Principles, Follow Six Gartner Rules to Minimize Compliance and Audit Findings"

"Searching for the DevOps-Oriented Person"

"The Impact of DevOps and Web-Scale IT on Application Development"

"The Psychology of Serial Innovation"

"Understand the Theory of Constraints to Better Plan Process Initiatives"

"Taming the Digital Dragon: The 2014 CIO Agenda"

"Thinking, Fast and Slow" by Daniel Kahneman

"The Phoenix Project: A Novel About IT, DevOps, and Helping Your Business Win" by Gene Kim, Kevin Behr and George Spafford

## Evidence

Our research is based on ongoing inquiries and interviews conducted with Gartner clients worldwide during the past 18 months. Client discussions center on their user experiences as they implement bimodal organizations. Many of the client interviews form the basis of our numerous case studies.

In addition, this research is based, in part, on a survey of Gartner client CIOs in the U.S., Europe and the Asia/Pacific region for their interest and participation in digital business activities. Companies were required to have, at a minimum, $250 million in 2012 annual revenue, and they had to operate in a range of industries: manufacturing, retail, government, healthcare, banking, insurance, or communications and media services (see "Taming the Digital Dragon: The 2014 CIO Agenda").

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