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Management, Innovation, Transformation

"Today, when everybody wants to disrupt their own or somebody else's business, and new technologies that let them do it seem to appear almost daily, people with the 'capacity to lead' are critical, and nowhere more than in the exploitation of IT."

— Paul Clermont, Guest Editor

The 21st-Century Technology Leader

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Opening Statement

by Paul Clermont

"Musicians play their instruments. I play the orchestra." In the film of the same name, Steve Jobs attributes this quote to a famous conductor. It's hard to come up with a more vivid illustration of leadership. It acknowledges that conductors may be less adept at playing an instrument than any of the players in front of them, yet they elicit brilliant performances. I have been told by a San Francisco Symphony musician that guest conductors can, in a few rehearsals, have the orchestra sounding like the orchestras where they are based.

Leadership, per *Merriam-Webster*, means "the quality of a leader; capacity to lead." In recent years, the word has become ever more prominent in business schools and the business press. Good "management" is no longer enough for an organization to compete successfully, and "administration" calls to mind stultifying bureaucratic procedures even though it's the A in the MBA degree. It's not that leadership was ever *un*important; it's just that management — keeping the trains running on time and effectively husbanding resources such as people, facilities, and money — is more attuned to the needs of stable or slowly evolving environments. Today, when everybody wants to disrupt their own or somebody else's business, and new technologies that let them do it seem to appear almost daily, people with the "capacity to lead" are critical, and nowhere more than in the exploitation of IT. Obvious though this is, recognizing, empowering, and sustaining good IT leaders has been a challenge. People who can think strategically about what, why, and how to deploy technology but have trouble delivering it — and the reverse — fall short as IT leaders. Both skills are needed, and this edition of *Cutter Business Technology Journal* covers them in great depth.

In This Issue

Joe Peppard and John Thorp lead off the issue with "What Every Business Leader Should Know and Do About Digital." This article reads almost as a manifesto regarding the necessity for business leaders, not just IT leaders, to "think digital" almost as instinctively as they think customers, products, services, and the bottom line. Peppard and Thorp recognize that this is not a revolutionary new position to take, but the need to heed the advice gets more urgent by the month. They emphasize that so much more than technology is required: "The value from digital rarely comes directly from the technology itself, but from the change that it both shapes and enables.... — ranging from changes to the business model to an individual employee's work practices — that increasingly represents by far the greatest and most difficult part of the effort required to realize value from digital investments." They set forth a framework for "navigating the digital landscape" based on ensuring good answers to four basic questions (which they call the "four ares"):

1. Strategy: Are we doing the right things?
2. Architecture: Are we doing them the right way?
3. Delivery: Are we getting them done well?
4. Value: Are we getting the benefits?

People who can think strategically about what, why, and how to deploy technology but have trouble delivering it — and the reverse — fall short as IT leaders.

They acknowledge that "technology continues to be something that many business leaders are only too happy to abdicate to their CIO," but argue that "digital is a team effort. Business leaders, starting with the board and the C-suite, must become digitally literate [and] recognize and accept their accountability for creating and sustaining value from investments in digitally enabled business change."

Our next article, by Nethaji Chapala, is more focused on the characteristics of a successful digital-age IT leader, whom he says must be an "entrepreneurial, collaborative adventurer." Chapala makes a useful distinction between "digital native" enterprises (i.e., enterprises

that only appeared when technology enabled their new business models) and more traditional enterprises that are trying to become digital. He describes particular challenges for the latter enterprises, such as the slow pace of decision making, conventional mindsets, and siloed perspectives, while stressing the importance of ensuring competency in the relevant technologies and dealing with the special requirements of cybersecurity. He goes on to discuss important characteristics of IT leaders, such as being pragmatists who look beyond the enterprise ecosystem, exploring unique and unconventional ideas with a passion for technology that enables business innovation.

Our next two articles focus more on the implementation aspects of leadership, and both offer ringing endorsements of Lean approaches as critical for success.

In "Accelerate and Scale Digitization with Lean Leadership Practices," Cutter Senior Consultants Steve and Karen Whitley Bell show how Lean principles can apply to three domains: startup (in the context of digital innovation as opposed to a startup company), product and software development, and operational excellence. Lean principles — consumer value, flow, continuous improvement, and learning — support creative innovations, delivered rapidly but well, along with their ongoing operation and improvement.

The consumer value principle applies most directly to digital innovation, addressing questions like:

- What is your value proposition, and how can technology transform it?
- What is your consumer's end-to-end experience with your products and services, and how can technology enhance it?
- How do you measure consumer value and experience so teams can continuously improve and innovate in ways that matter to the consumer?

The flow principle addresses speed to market for innovations without sacrificing quality. The principles of continuous improvement and learning hearken back to Japanese practices that revolutionized manufacturing in the 1980s and have been successfully applied to nearly all business processes.

Em Campbell-Pretty also addresses Lean in her article "12 Lean Habits of the 21st-Century Technology Leader." She shows how the "House of Lean" is supported by four "pillars," each with three associated habits. The pillars are respect for people, flow, innovation, and relentless improvement. As the names suggest, these are related to the principles in the Bells' article, but they are not identical. Campbell-Pretty focuses more on IT's use of Lean practices. The 12 habits represent a very practical guide to successful execution of what everyone who has ever done it knows is a very tough job: managing the introduction of digital innovations, delivered predictably, that produce the hoped-for results both at first and on a continuing basis, and whose lessons learned feed into subsequent innovations.

Having gone into some detail for each habit, Campbell-Pretty closes with a stirring call to arms, in so many words: "Now you are armed and dangerous. You have a dozen new practices to help you make this year your best year as a leader yet. Remember to apply the habits when implementing the habits — make your work visible, limit your work in process, apply validated learning, make space for innovation, and never forget that technology leadership is all about people!"

The final article in this issue, by Cutter Senior Consultant Alistair Cockburn, might seem as if it belongs in a different issue. It does not deal directly with IT or the digital revolution or strategy for business or technology. Yet it's here because it speaks directly to leadership, especially leadership in situations where cross-disciplinary collaboration is critical — such as, well, digital transformation of business. Since the earliest days, IT projects and programs have been infamous for high-profile failures as well as lots of busted budgets and schedules. In my own observation over several decades, the single biggest cause was not the

technology, however challenging, or people, however stretched skill-wise, but a lack of true business-IT collaboration during analysis and design. In large part, IT managers caused this with their slow bureaucratic lifecycle methodologies (full disclosure: I used to tout those, back in the day), which virtually mandated arms-length communication via documents tossed through transoms. And unfortunately, a lot of business people didn't exactly mind not working closely with IT people, and vice versa. The Agile movement, of which Cockburn is a pioneer, has codified a dramatically better approach.

One important tenet of Agile is decentralized decision making, a practice that acknowledges that "often the people closest to the situation have the experience and information needed to resolve the problem more quickly themselves." In his article, Cockburn takes this principle one step further in the concept of "guest leadership," which we see in those moments when people recognize what needs to be done and either do it themselves or rally others to the cause. "Organizations that are able to create a culture of guest leadership multiply the efforts of their staff," he writes, so it behooves them to find ways to encourage guest leaders to step forward. In addition to providing a taxonomy of guest leadership, Cockburn identifies the factors that are most likely to call forth guest leaders in the service of collaboration.

We Know It When We See It

Leadership is one of those words that convey an idea, yet it's very difficult to pin down specifics about what it is. We can recognize it when we see it, but the qualities that make us see "leader" in one person may not be all that similar to those of another person we also perceive as a leader. Perhaps the best way to recognize leaders is to look for *sustained accomplishment*, which requires a combination of good ideas and robust approaches to implementing them, and that is the focus of this issue. As we've all learned, though, good ideas and robust implementation approaches are necessary but not sufficient without the ability to elicit excellent performance and team loyalty. Very different personality types can do this successfully. Intelligence (both intellectual and emotional), creativity, street smarts, charisma, integrity, and flexibility are all typically present in excellent leaders, but these can appear in very different mixes. What's best is what works, which depends on the situation, the culture, and the individuals involved.

The bad news, if you will, is that there is no model or even a small set of models one can emulate to guarantee success as a leader in the digital age. But you knew that already. The good news is that a lot of approaches and styles work, and even if they're a bit atypical culturally, *any place worth working in will value sustained accomplishment*. Our hope is that the articles that follow will make us better equipped to produce just that.

In my own observation over several decades, the single biggest cause of project failure was not the technology, however challenging, or people, however stretched skill-wise, but a lack of true business-IT collaboration during analysis and design.

Paul Clermont is a Senior Consultant with Cutter Consortium's Business Technology & Digital Transformation Strategies practice. He has been a consultant in IT strategy, governance, and management for 30 years. His clients have been primarily in the financial and manufacturing industries, as well as the US government. Mr. Clermont takes a clear, practical view of how information technology can transform organizations and what it takes to direct both business people and technicians toward that end. His major practice areas include directing, managing, and organizing information technology; reengineering business processes to take full advantage of technology; and developing economic models and business plans.

Mr. Clermont is known for successfully communicating IT issues to general managers in a comprehensible, jargon-free way that frames decisions and describes their consequences in business terms. In his consulting engagements, he follows a pragmatic approach to the specific situation and players at hand and is not wedded to particular models, methodologies, or textbook solutions.

Before going into individual practice, Mr. Clermont was a Principal with Nolan, Norton & Co., a boutique consultancy that became part of KPMG. Before joining Nolan, Norton & Co., he directed IT strategy at a major Boston bank and launched its IT executive steering committee. Mr. Clermont has spoken and written about the challenges of getting significant and predictable value from IT investments and has taught executive MBA courses on the topic. His undergraduate and graduate education at MIT's Sloan School of Management was heavily oriented toward operations research. He can be reached at pclermont@cutter.com.

LET'S TAKE IT FROM THE TOP

What Every Business Leader Should Know and Do About Digital

by Joe Peppard and John Thorp

> I know IT is critical to our business, but I really don't have the time. Anyway, what have I got a CIO for? I just want to concentrate on my core business.
>
> — CEO of a global energy company

While most business leaders would agree that having a digital strategy is of crucial importance today, many continue to see this as a technology issue, and as such, the responsibility of their IT function. This is the very same function that many of these chief officers have traditionally viewed as a cost center, questioning the extent to which technology has delivered on its promise. "Too expensive," "not responsive," "not innovative," and "not flexible enough" are just some of the negative comments we regularly hear. Blame for this scenario has inevitably been placed at the door of the company's CIO. After all, he (or she) is responsible for IT, right?[1] Well, this was not exactly true in the past, and it is certainly not so in the digital era.

Our research and consulting reveal that CEOs and their CxO colleagues play a pivotal role in determining whether or not their organizations exploit the innovative opportunities provided by digital technologies. Creating and sustaining value from digital investments requires the CEO's focused attention and oversight. CEOs set the tone, and their active participation determines whether their organizations optimize a return from any spending on IT. Most CEOs don't seem to understand this or quite know what they should do.

Unlocking Value from Digital Initiatives

Senior business executives often feel very exposed when having any conversations to do with digital, as they don't consider themselves technically literate. They can certainly be forgiven for being overwhelmed by the never-ending stream of new technologies and buzzwords that emanate from the IT industry. The usual and easiest response is to delegate — or, more often, abdicate — responsibility for anything digital to the CIO. This is a grave mistake.

Beyond buzzwords, what we are seeing is a seismic shift in the role of technology in organizations. Technology is more and more embedded in everything we do as we move into an increasingly hyper-connected digital world, a world in which technology is driving significant social, organizational, and industry change.

The value from digital rarely comes directly from the technology itself, but rather from the change that it both shapes and enables.[2] It is this change — ranging from changes to the business model to an individual employee's work practices — that increasingly represents by far the greatest and most difficult part of the effort required to realize value from digital investments. In short, what ultimately determines success is how well any required transformation is managed.

While digital technology delivers a capability — based on its ability to transform the way information is captured, processed, managed, and exploited — leveraging it requires the development of complementary business capabilities.[3] For example, successfully deploying CRM software on time and on budget will deliver little unless sales, customer service, and fulfillment processes are redesigned; staff are trained to have the right conversations with customers; data quality improves; and marketers build the right competencies to use all the data that will now be available to them.[4]

Labeling and managing such investments as "IT projects" and palming off accountability on the CIO is a root cause of the failure of so many of these efforts to generate the expected payoff. As they are investments in IT-enabled change, accountability for their success must rest with senior executives and line-of-business (LOB) management. Consequently, the role of the CIO shifts from a technology-centric, control-oriented supply role to a business-centric orchestrator, broker, and influencer role.[5]

CEOs, in particular, must understand and embrace their essential role. Supported by the board and executive management team, they must acknowledge their accountability for creating and sustaining value in the digital world by ensuring that effective governance of

IT-enabled business change is in place. This means governance that goes beyond the traditional notion of IT governance to strong business governance of IT. Governance that is about culture, mindsets, and behavior, not merely establishing structures, processes, and other instruments. Governance that is focused on value, with the realization of value — both expected and emerging — being actively managed throughout the lifecycle of investment decisions.

Navigating the Digital Landscape

Working with business leaders, we have developed a simple yet powerful framework to help them navigate the digital landscape. It is based on four business-focused questions that are at the core of effective governance of digital and that every business leader should have in his or her head. We call these questions the four "ares" (see Figure 1).[6]

Considering and answering the four "ares," both individually and collectively, on an ongoing basis provides CEOs and executive management with the knowledge they need to orient and steer their organization's digital journey and accompanying investments. It enables them to move beyond a culture of delivery ("build it and they will come") to a culture of value, focused on creating and sustaining value from the organization's IT spending from initial investment through to operation of the resulting assets.

"Are" #1 — Are We Doing the Right Things?

This is the *strategic* question. The first accountability of the CEO is to clearly and regularly communicate what constitutes value for the enterprise and the strategic intent to which all investments must contribute and against which their performance will be measured. To ensure that the capabilities of current or emerging technologies are considered in both shaping and enabling strategy, the CEO should sponsor and actively participate in regular forums where the CIO helps the leadership team understand the opportunities to create and sustain value enabled by the technologies and the changes required to take advantage of those opportunities.

Over a decade ago, when he took over the reins at global law firm Allen & Overy (A&O), David Morley recognized the disruptive potential of digital for his industry. This belief drove the firm's strategic intent: "How we use technology and bring it to bear in our work will be an important differentiator for us," Morley observed.[7] With healthy growth and margins, the firm is consistently recognized as the most innovative law firm by the *Financial Times* in its annual ranking of global legal practices.[8] The firm's CIO is a key member of the leadership team, continually challenging his C-suite colleagues to explore how IT might improve the performance of lawyers in their daily work as well as how technology can disrupt what has been a very traditional industry, slow to embrace changes. Moreover, A&O has established an innovation board, with external

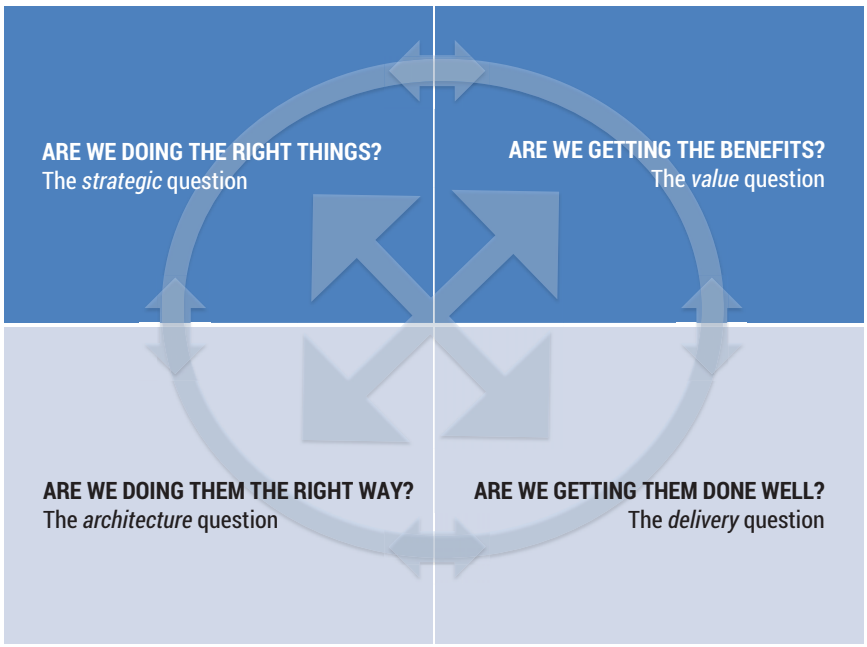

Figure 1 — The four "ares."

membership, and sets aside a sizeable budget for experimentation and pilots in its quest to identify potentially game-changing IT innovations. This latter point has required the firm to become more accepting of failures.

The second accountability is ensuring, through the initial investment selection process and regular portfolio reviews, that resources are allocated to investments that are both aligned with and have the greatest potential to contribute to the strategic objectives. (See Figure 2 for the distinctions between portfolio, program, and project.) This requires balancing both *attractiveness* and *achievability* in assessing the relative value of proposed investments. Investments can then be prioritized to maximize the value of the overall portfolio so that they provide optimal value, at an affordable cost, with a known and acceptable level of risk.

Even in the case of a purely technological investment (e.g., to increase network capacity, mitigate risk, or reduce ongoing IT infrastructure costs), while the CIO is responsible for developing and presenting the business case, the CEO is ultimately accountable for ensuring that the decision to proceed is made based on contribution to business value — balancing benefits, cost, and risk.

"Are" #2 — Are We Doing Them the Right Way?

This is the *architecture* question. Because this question is usually thought of as relating to technical architecture, CEOs generally consider it a technology issue and thus the domain of the CIO. Nothing could be further from the truth. This is akin to going directly to a construction company without any architectural drawings. We advocate a broader view of architecture — an operating model — which has both organizational and technology components.

You would be unlikely to buy the components of a building — bricks, mortar, wood, doors, pipes, and so on — and assemble them without first having a blueprint of what the finished structure will look like and a plan for how all the components fit together. This blueprint would be defined by a clear view of the purpose of the building and how it is going to be used. All construction work would be carried out referring to this blueprint. Any possible changes to the building or potential alternative uses would be framed by architectural choices.

In a similar way, enterprise architecture is about the fundamental design of the components of the business system, the relationships between them, and how they support the delivery of the organization's business model. Architectural choices shape the operating model, reflecting how the organization should "work" in executing strategies and its need for agility in responding to changes in the competitive environment.

At one healthcare group,[9] a newly appointed CEO found that, strategically, they were doing many of the right things, but they were doing many of them in the wrong way. For example, in implementing a picture archiving and communication system for radiology, individual hospitals had previously been allowed to follow their own processes when deploying the technology. This resulted in different configurations of the same software to accommodate the different ways of working in many of the 15 hospitals in the group, and different vendors being selected in others. Today, all of

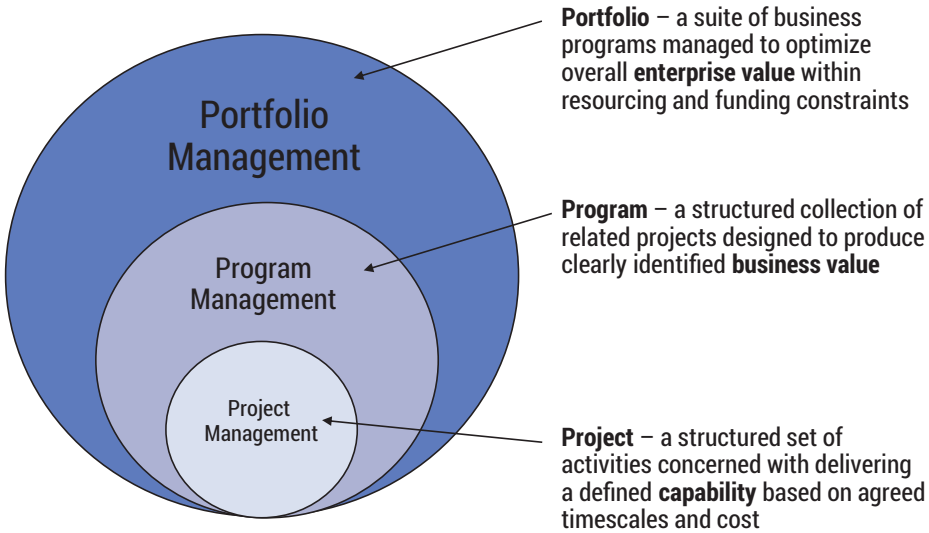

Figure 2 — Portfolio, programs, and projects. (Source: Thorp.)

the group's investments must adhere to an architectural map that emphasizes process standardization. This map also mandates the places where information integration is needed.

The CEO is accountable for seeing that there is an overall enterprise architecture. LOB managers and the CIO are accountable for ensuring that existing and new business and technology capabilities are consistent with this architecture, and that any exceptions are the result of informed management decisions based on a clear understanding of the strategic implications and business risks associated with them.

"Are" #3 — Are We Getting Them Done Well?

This is the *delivery* question. Although there is a significant body of knowledge on delivery, it is the one area where the failure of governance continues to result in significant and very visible failures. John Doyle, the former auditor general of British Columbia, Canada, has posed the question: "Why is it that every major transformation initiative always ends up being managed as an IT project?"[10] The answer is simple: delivery is thought of as being limited to deployment of the enabling technology and, again, is left to the CIO. As in the case of architecture, delivery has both business and technology components — and the business components have increasingly become the more significant and more complex of the two.

All too often, a lack of rigor at the outset leads to a lack of clarity around the desired outcomes and a failure to understand the full extent of business change required to realize those outcomes beyond the new IT capability. The consequence is that what might start out as a business investment very soon ends up being managed as a technology initiative. The "IT project" then encounters significant scope creep and degenerates into an unplanned and complex mix of technology and business change, unexpectedly impacting staff already hard pressed to do their day jobs and ill prepared to take on the additional work required to bring about the necessary changes.

To ensure that things are done well, one large US manufacturer[11] develops benefit maps (for doing the right things) to understand the full scope of organization change required and uses the maps to derive clear accountabilities for the change, which are assigned to named managers. These maps link up business drivers with the investment objectives and expected benefits with a very clear elaboration as to the required business changes to achieve benefits. They also specify both leading indicators (to get early warning of when things might be going off track before they actually do) and lagging indicators (for end outcomes).

However, no matter how rigorous the up-front analysis, things will change as work moves forward, and there will be unexpected, and sometime unpredictable, surprises. We cannot — as has too often been the case in the past — move blindly ahead to the predefined solution, not being open to any questioning of the expected outcome or approach and focusing solely on controlling cost and schedule. To use a sports analogy, we must not focus more on the scoreboard than on the plays that are necessary to get on the board.

As in the case of architecture, delivery has both business and technology components — and the business components have increasingly become the more significant and more complex of the two.

To ensure that things are getting done well, the executive team member or LOB manager who is the designated business sponsor of an investment is accountable for:

- Planning, resourcing, and executing the necessary organizational and technical projects that make up the program of change (although planning, resourcing, and executing the necessary technical projects would be delegated to the CIO)
- Monitoring the overall performance of the program and reporting progress to the executive team, including issues and actions taken or required (which could include changing the program plan or terminating the program)
- Updating the business case as changes occur

"Are" #4 — Are We Getting the Benefits?

This is the *value* question. Surprisingly, this is the question that receives the least attention in most enterprises: few measure or assess whether expected benefits have been delivered. As in the case of the strategic question, this question cannot be delegated to the CIO — although, all too often, it is. IT contributes to business value from one of three sources:

1. **Automation** — where the deployment of IT in business processes speeds up transaction processing, enabling cost reduction and generally "decluttering" processes.

2. **Augmentation of human cognitive processes** — by providing broader and timelier access to higher-quality information. Value here comes from how people use this information, such as data analytics leading to new insights and more informed decision making (e.g., optimizing inventory holdings to reduce working capital, optimizing delivery routes to improve delivery times, predicting customer behavior).
3. **Business transformation** — where current, new, or emerging technologies provide opportunities for management to rethink and reshape their business and business models or, in some cases, their industry.

To ensure that expected benefits are realized and changes are sustained from digital transformation:

- The CEO is accountable for maximizing value from the portfolio of *business change* investments.
- The CEO and LOB managers are accountable for the quality of business cases and making sure that they are being updated and used as a management tool throughout the lifecycle of an investment.[12]
- The CEO, LOB managers, and the CIO are responsible for regularly reviewing the performance of investments, which may result in their adjustment or termination.
- LOB managers are accountable for ensuring that business units (BUs) are using new or improved assets — including new or changed business services, IT services, and information — in an appropriate manner such that benefits are realized and sustained.
- LOB managers and the CIO are accountable for ensuring that there is relevant and timely information to monitor the realization of outcomes (lagging metrics) and the expected contribution from the changed capabilities (leading metrics) so that the organization can get an early indication of when things are not going as expected and take timely corrective action.

Figure 3 provides more detailed questions behind each of the four "ares" that business leaders should be continually asking. Addressing the four "ares" is not just something to be done once to secure funding for a proposed investment, nor can these questions be addressed in a sequential, or waterfall, way. They must all be considered, both individually and collectively, on an ongoing basis to ensure that value is realized.

While much of this article discusses the initial investment in and implementation of a program/project, most of the benefits are realized (or not) and costs are incurred only after the new IT system goes live. Once IT assets move into operational mode, the focus is largely

Figure 3 — Key questions related to the four "ares."

on efficient, reliable, and secure operation, and all too often scant attention is paid to their contribution to business value. The four "ares" should be applied over the full lifecycle of an investment decision — beyond the initial investment to the new or improved assets (e.g., information, processes, IT services) that result from it.

Clarifying the Role of the CEO and Leadership Team in Digital Transformation

Governance is about what decisions need to be made, who gets to make them, how they are made, and the supporting management processes, structures, information, and tools to ensure that decisions are effectively implemented, complied with, and achieving the desired levels of performance. This requires that the accountabilities and responsibilities be well understood and clearly and unambiguously assigned, the reward system be aligned, and relevant performance metrics be in place.

Table 1 summarizes the primary areas of focus for each of the four "ares," indicating where accountabilities lie and highlighting proven processes and practices to support effective governance. The key elements include:

- Articulating a clear strategic intent for digital
- Managing digital transformation investments as a portfolio of business change programs
- Developing comprehensive and consistent business cases describing: the expected outcomes; ownership of, and accountability for, the outcomes; the full scope of the changes required to achieve the outcomes and accountabilities for making sure those changes happen; the expected contribution of each change to the outcome(s); risks to the achievement of outcomes; and metrics
- Objective evaluation criteria enabling prioritization and selection of investments
- Inclusive and ongoing engagement of all the stakeholders affected by the change
- Ongoing management of the journey, including:
  - Use of the updated business case as the key management tool
  - A strong gating process for progressive commitment of resources to ensure that, when things are not going to plan, timely corrective action can be taken, including changing course, revisiting/changing the outcomes, or cancelling the program

The Four Ares	Focus	Accountability	Practices
Are we doing the right things?	• Establishing strategic intent for digital • Investment evaluation, selection, and oversight • Value governance	• Board • CEO and executive team	• Strategic analysis • Business model innovation • Portfolio management
Are we doing them the right way?	• Designing operating model	• CEO and executive team	• Enterprise architecture
Are we getting them done well?	• Benefits realization for individual investment • Delivery of new/improved technology capabilities/services	• LOB/BU management • IT management	• Program management • Project management • Benefits management • IT service management
Are we getting the benefits?	• Value optimization across investments	• Board holding CEO accountable • CEO and executive team	• Benefits review

Table 1 — Focus, accountability, and practices across the four "ares."

- Capturing, reviewing, and acting upon lessons learned so that mistakes are not repeated and value continues to be maximized

CEOs and their leadership teams often balk when we present this list to them. Yet CEOs need to recognize that IT is increasingly embedded in all aspects of their business and falls within their realm of responsibilities. This doesn't mean that CEOs need to have a detailed knowledge of technology, any more than they need to be experts in HR or construction, but they do need to know enough to guide and direct their organization's investments in IT-enabled change such that they create and sustain business value. Nor should this be seen as creating a large, time-consuming bureaucracy in a world where the need for agility has never been greater.

The choice for leadership here is simple: lead the digital transformation or stand back and watch your organization become irrelevant.

Rigor here is not measured by the weight of documentation, or the time taken to develop it, but by the quality of the thought processes, the conversations, and the decisions made.

We are not suggesting the CEO take a hands-on approach to all IT investments — that is just not possible. However, CEOs do need to be confident that proper governance is in place across the organization to ensure that appropriate rigor is applied to governance choices and their outcomes, and that compliance with and the effectiveness of the governance are regularly audited, reported on, and improved where necessary.

The member of the executive team or LOB manager assigned the role of business sponsor for a particular program has overall responsibility for the realization of benefits. LOB and IT management each have accountability for delivering the required business and technology capabilities from business and technology projects constituting the program. Program management requires joint engagement between business and IT management, while project management is not the sole responsibility of IT management, as LOB managers also have business change projects to manage.

From Common Sense to Common Practice: The Digital Leadership Agenda

A common reaction to the four "ares" is that they are just common sense. Indeed they are; unfortunately, they are not common practice! This is certainly not for lack of guidance — a wide range of frameworks, methodologies, practices, techniques, and tools for governance, portfolio management, benefits realization, and change management have become available over the decades. However, if leadership teams are to move beyond words in addressing the challenge of creating and sustaining value from increasingly disruptive investments in digitally enabled change, emphasis must be placed on action — on engagement and involvement at every level of the enterprise. Enterprises all too often run into the knowing-doing gap: they know what needs to be done (or at least the knowledge is widely available), but they just don't do it. The choice for leadership here is simple: lead the digital transformation or stand back and watch your organization become irrelevant.

We have found that organizations that consistently leverage digital technologies share all or many of the following characteristics:

- A strong digitally literate executive leadership team with commitment to both communicating strategy and embedding a value culture — a team that:
  - Recognizes that technology is increasingly embedded in, and an integral part of, their business
  - Ensures that the complementary business changes required to ensure that value is created and sustained from the use of that technology are understood, communicated, and effectively managed
- A highly informed middle management structure used to help coach and embed value-focused practices into the enterprise
- Clearly defined structure, roles, and accountabilities for all stakeholders related to creating and sustaining value from digital transformation
- A rigorous front-end planning process, with intense scrutiny applied to business cases at selection and reapplied throughout their lifecycle
- A portfolio management approach in which investments are selected based on balancing desirability and achievability of operational and strategic contribution

- A long-term commitment to dedicated, trained, and informed human resources to promote, support, and continuously improve the value management processes and practices
- A culture that embraces the potential of data and is not afraid of experimentation
- A value-based reward system for teams and individuals at all levels within the enterprise

There Is a Better Way

Technology continues to be something that many business leaders are only too happy to abdicate to their CIO. This must change. Digital is a team effort. Business leaders, starting with the board and the C-suite, must become digitally literate, recognize and accept their accountability for creating and sustaining value from investments in digitally enabled business change, and drive that accountability down through their organization.

Every journey starts with the first step. The journey we are advocating will not be easy for many, but unless business leadership takes that first step, value from business change investments involving IT will remain elusive, and the promise of the digital economy will not be realized. If organizations are to survive, let alone thrive, in the rapidly evolving digital economy, the status quo is not an option.

Endnotes

[1]One worrying finding from our research is that in many organizations, there is significant ambiguity around the CIO role. Executives at all levels are unsure as to what a CIO is and what to expect of their CIOs: 64% of the CIOs we surveyed revealed that their conception of what the role involves differs significantly from that of their CEO and CxO colleagues, with these diverse views ultimately shaping (sometimes contradictory) expectations for the role. See Peppard, Joe, Chris Edwards, and Rob Lambert. "Clarifying the Ambiguous Role of the Chief Information Officer." *MIS Quarterly Executive*, Vol. 10, No. 1, 2011 (http://misqe.org/ojs2/index.php/misqe/article/view/271).

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[8]The 2016 *Financial Times* Innovative Lawyers rankings can be found at www.ft.com/reports/innovative-lawyers.

[9]This example is based on a consulting assignment.

[10]Interview with John Thorp.

[11]This example is based on a consulting assignment.

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The Digital Leader as Entrepreneurial, Collaborative Adventurer

by Nethaji Chapala

Digital technologies have become part of our everyday life through the growing usage of mobile, social media, and smart devices from the Internet of Things (IoT). These digital technologies, along with analytics, cloud, AI, robotics, and so on, are posing challenges as well as providing opportunities for traditional organizations. Apart from consumer adoption of digital technologies, startups are also disrupting the status quo of traditional organizations. To address the threats and capitalize on the opportunities, organizations are transforming themselves to enable digital capabilities to improve customer experience and offer analytics-driven personalized products, services, and collaborative innovations, leading to increased top lines and margins.

An organization's maturity level with regard to digital transformation and adoption depends on many factors, such as organizational culture, business model, product and service offerings, and existing IT, among others. According to a 2015 joint survey by *MIT Sloan Management Review* and Deloitte, 29% of organizations surveyed say they are in a maturing state, while 45% are in a developing stage, and 26% are in an early state of digital transformation. Only 5% of organizations state that they are in an advanced maturing state (meaning they have over 90% digital capabilities).[1] The maturity levels of digital adoption and capabilities vary across organizations, industries, and geographies as well. For example, insurance is a highly regulated industry and risk management business, thus it does not add value to be on the cutting edge or a first adopter of all technologies. Irrespective of these variations, digital transformations are largely driven by an organization's leadership.

Current Digital Leadership Practices and Challenges

Every organization has some structure to deal with its digital initiatives and ways of driving digital investments. Some are driven by the CIO, others by existing business units or functional units such as marketing, and still others by establishing a new unit with a "chief digital officer," either within the purview of the CIO or business heads. Several combinations of these approaches can also be observed:

- A large insurance company in Europe established a separate unit to drive its digital business by providing digital-only products and services with very limited integration with existing IT to avoid the complexity of legacy systems.[2]
- In a large hospitality and resorts company in Africa, the CIO owned the digital and e-commerce business, supported by a chief customer officer, who owned the customer experience and CRM initiatives. However, the business units were also building some of their own digital capabilities and products.[3]
- A large US insurance group initiated a digital transformation program, jointly driven by IT and the marketing units, starting with front-office transformation to improve the customer experience.[4]

While each approach has its advantages and disadvantages, most digital transformations are not holistic; consequently, they realize only partial business value. Most organizations are investing in digital capabilities in silos, driven by technology rather than enterprise digital strategy. Legacy systems add additional complexity, further hindering value realization from digital initiatives for many organizations. This fragmented approach to digital transformation is primarily the result of flawed digital leadership and the existing organization structure and culture.

Uncertainties and Digital Leadership Challenges

Key Uncertainties

Digital technologies and their adoption have not only transformed our lives and organizations, but they have also presented a lot of uncertainties due to the pace of the changes they introduce. Following are the key uncertainties that organizations are facing:

- **Varied and changing customer expectations.** While digital adoption has been increasing, maturity levels are different across organizations, industries, and geographies. This is resulting in varied expectations of customer experience across industries. For example, adoption of digital is higher in the high-tech and retail industries than in the insurance industry. Expectations differ across customer demographics and between mature markets and emerging markets. Organizations must continuously evolve themselves to meet these varied customer experience expectations.
- **Rapid technology advancements.** In recent years, there has been an explosion of new digital technologies and applications, shifting the pace of technology change into the fast lane. This has become a problem for all organizations, especially process-oriented ones. Typically, organizations will have a process and workflow for introducing new technology. By the time such organizations complete the process and undergo early experimentation with a particular technology, another better technology or application will have been introduced in the market.
- **Unconventional competition and commoditization.** Startups and tech-savvy companies are challenging traditional organizations by implementing digital-by-default capabilities, adopting new and innovative business models, and embracing the "share economy." These digital native companies are creating more and more personalized products and services, and they are making them more transparent and commoditized. Customers, especially millennials, expect products and services that are best for their personal needs, even though these may be from multiple vendors/organizations. This poses a challenge for traditional organizations even as they try to provide the best possible personalization to their customers.
- **Opportunities extending beyond enterprises.** Opportunities and threats are not limited to those within an enterprise or industry. They can originate from beyond the organization's value chain as well. Organizations that ignore this phenomenon, and neglect to invest in technologies, innovations, and operating model changes to make themselves future ready, will have to face the adverse impact.

Challenges of Current Digital Leadership Practices

These uncertainties are making it difficult for traditional organizations and their leadership to meet customer expectations and survive in digitally competitive markets. Some of the critical challenges digital leadership is facing because of current practices are as follows:

- **Slow pace of decision making.** Most organizations follow an annual investment planning cycle, and any deviations from this require a series of approvals. This slow-moving decision making, based on analysis of returns, is an anti-pattern for the pace at which technologies and expectations are changing.

Startups and tech-savvy companies are challenging traditional organizations by implementing digital-by-default capabilities, adopting new and innovative business models, and embracing the "share economy."

- **Conventional mindset a hindrance to innovation.** Traditionally, introducing anything new in an organization (new products, services, process improvements, etc.) has meant navigating a structure of hierarchies, processes, and strict workflows. These hierarchical, process-oriented structures also limit collaboration across the enterprise, which is an anti-pattern for sustainable digital innovations, as collaboration is critical for an organization's success.
- **Cybersecurity and limited empowerment of employees and partners.** The growing usage of mobile, social media, and connected devices requires enterprises to protect organizational and customer data. Connected devices, cloud adoption, social media, and mobile devices increase the exposure to cyberattacks. Where outdated and unsupported legacy systems are present, the risk increases multifold. These risks limit the ability of organizations to open their systems for collaborative development and innovations both within the enterprise and with their partners; such limitations are an anti-pattern for collaborative development and co-innovation.
- **Lack of broader technology competencies and digital skills.** With the number of new technologies being introduced in the market and the millennial mindset of job hopping, it is becoming difficult for organizations to keep track of these new technologies and retain the skills needed to implement and maintain them. Most organizations depend on their technology vendors and niche partners to augment these skills and competencies, but they will have difficulty

making quick decisions if the leadership does not understand the technologies' breadth.

The nimbleness of digital native organizations in responding to such challenges — compared to digitally hobbled traditional organizations — was on display when the government of India announced the demonetization of the country's higher-denomination currency in late 2016. Since high-denomination currency contributes to 86% of the country's cash transactions,[5] it was evident that cash circulation was going to be difficult until new currency notes were introduced. Traditional banks found it challenging to keep pace with the government policy announcements, sudden increase in cash inflow, changes in ATMs, and so on. In contrast, fintech companies like Paytm quickly identified cashless transactions as the best way to address the issue, and they successfully capitalized on the opportunity to increase their subscriber base for mobile payment service platforms exponentially. Within six days of demonetization, Paytm mobile app downloads rose 300%; in a two-day period, the company saw a 700% increase in overall traffic and the average number of transactions per user increase from 3 to 18.[6]

One of the key differences between digital native and traditional organizations is the speed at which decisions are made.

The Needs of the Hour: Key Digital Leadership Qualities

It is evident that traditional process- and workflow-oriented leadership styles are not enough to make organizations successful in their digital transformation journey. Digital leaders should have an entrepreneurial mindset, believe in collaboration, and exhibit the qualities of an adventurer. Below are the key differentiating qualities that digital leadership should have to carry out digital transformation and operations successfully.

Collaborative Entrepreneurial Mindset

Irrespective of the organization structure, digital leaders should think holistically rather than in silos when it comes to digital investments and building capabilities. Siloed implementation of digital technologies may result in making enterprises more complex.[7] When digital leaders think like entrepreneurs, focusing on the value of digital transformation to the organization rather than the business unit or function, they will add more value to the enterprise overall.

Collaboration is critical for the digital organization and its success. It will be easier and more effective to get buy-in when leadership takes decisions in collaboration with all units and functional groups, making them part of the initiatives. This approach will also ease change management efforts.

Enterprise architecture (EA) connects the business, operations, and technology across the enterprise. Digital leadership should leverage EA to identify the holistic value of digital technologies and their dependencies and impact across the enterprise and to make quick, informed decisions in collaboration with all affected stakeholders.

Analytics-Based Agile Decision Making and Execution

One of the key differences between digital native and traditional organizations is the speed at which decisions are made. Digital native organizations have practices and tools for anticipating events and their impact/value, experimenting through labs and prototypes, and adopting the results of these experiments at the enterprise level to build digital capabilities, products, and services.

Organizations of all stripes should adopt practices to anticipate opportunities and threats based on various analytics (product analytics, service analytics, customer analytics, pricing analytics, prescriptive analytics, etc.) and seize opportunities before the competition captures them. Once an opportunity or threat has been identified, design thinking principles[8] and Agile practices help leaders make implementation decisions based on the desirability, feasibility, and viability of proposed responses. Tools such as user journey maps, moments of truth, hackathons, rapid prototyping tools, split testing, experience labs, and others will facilitate quick decision making and nimble execution.

Adventurous Pragmatism

Digital leaders should be like adventurers, ready to explore unconventional ideas. This is critical for creating differentiation from industry competitors. The ideas can come from anywhere — internal to the organization, external events, partners, or what have you. Some may be sustainable innovations to improve the existing practices or processes, and some may be disruptive innovations. Though the ideas may be unconventional, leadership should explore their feasibility before deciding whether to pursue them. Organizations should have practices (fail-fast, rapid prototyping tools/labs, hackathons, Agile

practices, etc.) for considering such ideas and how they might create the desired differentiation.

In December 2015, heavy rainfall caused flooding in Chennai, the capital of the Indian state of Tamil Nadu. During the flooding, taxicab aggregator Ola quickly deployed free boat services to rescue residents stranded in submerged areas,[9] thereby building its brand significantly. This is an excellent example of an organization taking an unconventional idea and — through rapid decision making and agile implementation — executing the idea to advantage.

Passion for Technology and Innovation

Digital leadership should be passionate about technology in general and quick to learn about emerging technologies in various markets. This will assist the organization in understanding technology trends across industries and their effect on the organization, be they opportunities or threats. The leadership team does not need to plumb a technology's depths as far as implementation, but they should understand it well enough to analyze its impact and potential value to the organization across units and functional groups. This understanding will also help the organization make decisions more rapidly.

Leadership should continuously evaluate emerging technologies and best practices in other industries and be ready to promote these technology innovations in their organization to create differentiating products, services, and user experience. Organizations can partner with startups such as fintech companies to explore new technologies and innovative ideas. With the aid of experiments, skillful digital leadership can quickly decide whether adopting a new technology/idea offers value to their enterprise. Leadership should be forward looking and promote innovations to make the organization future ready.

Ecosystem Perspective That Looks Beyond the Enterprise

Ecosystem-based services are fast becoming the new normal. Most organizations embarking on new initiatives to offer their customers relevant one-stop-shop services are doing so by partnering with players in their ecosystem. By analyzing the intersections of industry value chains, organizations can achieve two-way identification of ecosystem players; that is, they can identify potential ecosystem partners and be recognized by others as ecosystem players themselves. Various business models exist in such partnerships, including risk sharing, profit sharing, fixed service models, and so on. Depending on the business model, there will be different levels of digitization present on the back end to manage agreements, contracts, commissions, revenues, and the like.

Digital startups are constantly exploring opportunities to offer personalized products and services to their customer base via digital capabilities such as IoT, analytics, a mobile-first approach, and machine learning. For example, having identified the pressing need of restaurants to deliver take-out orders on time (and the difficulties they were having in doing so), mobile ride service Uber created a business model for utilizing their driver network to deliver restaurant food efficiently, thereby creating value for restaurants and their customers.[10] This has resulted in a new revenue stream for Uber, which could be a threat to local courier or parcel delivery businesses.

Leadership should be able to identify and explore the opportunities and threats beyond their enterprise and industry. While this blurs organizational boundaries, it is essential to survive and grow in this competitive environment.

Inevitable Conflicts for Digital Leadership in Traditional Organizations

Change does not happen overnight. The obvious differences between digital leadership qualities and ways of working and traditional process-oriented cultures can lead to a number of conflicts. Digital leaders have to deal with these conflicts to be successful in their journey, making tradeoffs that are likely to yield the most value. Below are some of the key implicit conflicts and possible tradeoffs that digital leadership can consider.

Nimble Adventuring vs. Deliberate Decision Making

In today's complex global business environment, delays in decision making may cause organizations to lose opportunities. But at the same time, organizations cannot make decisions that may lead to losing the investment and shareholders' confidence.

Leadership should identify, assess, and seize opportunities before competitors grab them. Organizations are using multiple approaches to address this complex and sensitive situation. Some spin off a different brand focusing on targeted customer segments and acquisitions. Some collaborate with their customers as partners to assess the value of an initiative before expanding it to the entire customer base. The approach chosen depends on the opportunity: introducing innovative products,

value-added supplemental products, differentiated customer experiences, differentiated services, new markets, new business models, or a combination of these. Collaboration and relationships are key for digital leadership to make fast decisions and get buy-in from stakeholders.

Quickly Built Silos vs. Integration with Legacy Systems

Rapid adoption of digital technologies in individual business units will result in technological silos. Yet due to the monolithic design of legacy systems and technologies, integrating with these systems may result in compromising business agility and customer experience, both of which are essential for digital initiatives. Suffice it to say, modernization of well-established and functionally rich legacy systems is a tough task for most organizations.[11]

The success of digital leadership lies in believing in digital technologies, collaborating in innovation, and being ready to explore the unexplored as an adventurer.

Organizations are taking multiple approaches to address this complex scenario, depending largely on the nature of the opportunity being pursued. If it is introduction of digital products for a targeted millennial customer base, most organizations are building a different platform with very minimal integration with existing systems. If it's providing value-added services or digital customer experience where integrating with legacy systems is necessary, most organizations are embarking on tactical solutions utilizing robotics automation, operational data stores, and so on.

Satisfying Impatient Business Units vs. Thinking of the Whole Enterprise

When one business unit in an organization wants to implement a digital capability, the implicit conflict is that the solution will benefit only that unit versus a holistic solution implemented across the enterprise. If IT takes the enterprise view with a holistic solution — with its necessarily larger investment and longer timeline — there is the risk that the business unit will embark on its own implementation effort without IT support.

Making this kind of tradeoff depends on the size of organization, the organization's structure, the IT operating model, and the proposed type of initiative. If leveraging the investment is the critical factor, then most organizations will embark on a holistic, enterprise-wide solution with additional investment from IT. If time to market is the critical factor — which is the case in most of these scenarios — IT should build a quick solution for the business unit but one that can later be scaled across the enterprise.

Fail Fast vs. Get It Right the First Time

In this increasingly competitive environment, speed to market is critical for success; otherwise, organizations will lose opportunities to competitors and be left behind. Yet time to market cannot come at the expense of quality, customer loyalty, and brand value.

Organizations have to balance between speed to market and quality. Most organizations are launching small initiatives with the aid of innovation partners. Typically, these partners will engage targeted customers through various means of experimentation, such as gamification along with rewards for participation. The critical factor for first movers in this scenario is the value of the initiative. If the initiative appears likely to bring a lot of value, organizations should jump in, conducting any prior experimentation as quickly and cheaply as possible. If not, there is no harm in being a fast follower.[12]

Conclusion

As organizations contemplate their digital journey, they must decide: Will they be on the cutting edge? Will they be first adopters — or maybe fast followers? Or will they seek to avoid the risk altogether? While there are merits (and demerits) to each stance, they do not apply equally to all technologies, markets, and industries. In addition to assessing emerging technologies, organizations must analyze such dimensions as their industry, geographies, customer base, and existing legacy systems. Moreover, every organization has its own culture, structure, and dynamics. To be effective, digital leaders have to understand these dimensions and design their digital plans and practices accordingly.

Effective leaders make the difference whatever the organizational structure may be. The success of digital leadership lies in believing in digital technologies, collaborating in innovation, and being ready to explore

the unexplored as an adventurer. The leadership techniques, approaches, and tools discussed here will help organizations achieve success in their digital journey.

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GO WITH THE FLOW

Accelerate and Scale Digitization with Lean Leadership Practices

by Steve Bell and Karen Whitley Bell

Technology leaders of established enterprises are keenly aware of the vital role they play in helping their organization adapt and thrive in a competitive digital ecosystem. While deep and broad competence with digital tools and methods is essential to continuously deliver innovation, it is only a small part of the equation:

> inspiring Vision + deep and broad Technical Capability + efficient and agile Execution + Continuous Learning = Sustained Competitive Advantage.

"Disruption is out there," asserts Ron van Kemenade, ING Global CIO. "We may not know the name of the next one who will actually take the next billion out of our revenue top line, but it's a matter of how we are prepared to deal with that, and how we find the new opportunities as well.… Why not be the disrupter ourselves and enter into markets where traditionally we haven't played a big role?"[1]

Focusing on customer experience and operational excellence (both core Lean principles) is a central component to high performance.

We spoke with several technology leaders of large, established enterprises who are successfully tackling the myriad challenges of digitization: transforming their operating model and technical architectures, streamlining core processes, simplifying legacy systems, improving data quality, and unwinding excessive governance and control mechanisms. They are navigating the balance of technical and social considerations and creating a culture of continuous collaboration, problem solving, experimentation, and learning, which collectively creates enterprise-wide agility. These are very big enterprises that are learning to operate like small, agile startups.

Among them we found a consistent approach, a focus on four essential principles: consumer value, flow, continuous improvement, and learning. These principles are embodied in Lean practice. Each principle enables the others, and together they empower large, established enterprises to lead the digital frontier and become what we call "Digital Lean Enterprises."

Lean Practice as a Market Differentiator

For years, anecdotal evidence has suggested that Lean practice is a market differentiator. We've all read about the successes of Toyota, Starbucks, GE, Amazon, Cleveland Clinic, Capital One, Pfizer, Nike, Southwest Airlines, IKEA, Boeing, and others that are practicing Lean and continue to demonstrate successful, sustained market performance. But can enterprises that are *not* Toyota, Amazon, or GE experience similar gains by practicing Lean?

In 2015, we joined with IT researchers to rigorously survey and analyze responses from more than 4,600 technical professionals around the globe in order to identify practices that result in higher IT performance. The results, published in the 2016 State of DevOps Report, demonstrate that:[2]

- "When employees see the connection between the work they do and its positive impact on customers, they identify more strongly with the company's purpose, which leads to better IT and organizational performance.
- "When product teams take a Lean approach to product design and delivery, organizations see a positive impact on both IT performance and culture, leading to higher levels of organizational performance.
- "Taking a Lean approach to product development predicts higher IT performance and less deployment pain."

Research by the MIT Center for Digital Business examined a variety of practices in large, established enterprises undergoing digital transformation. They found that focusing on customer experience and operational excellence (both core Lean principles) is a central

component to high performance. In looking at their findings, we observed that many of the practices are Lean practices and the Lean Management System in action. The results of their research, published in the book *Leading Digital*,[3] show that high performers are 26% more profitable than their average industry competitors, generating 9% more revenue with existing physical capacity.

What Is Lean?

Lean practice emerged in the 1950s with the Toyota Production System and Toyota Product Development System. Comparative studies by MIT on global manufacturing practices resulted in the 1996 book *Lean Thinking*,[4] which described the continuous flow of value, horizontally across value streams, to the customer. Lean practice has subsequently been applied in nearly all industries. The key to Lean's widespread adoption is its attention to developing people with clear, shared purpose, using disciplined, data-driven problem solving and experimentation — supported by visual management systems — to create a culture of continuous improvement, innovation, and learning.

Consider the application of Lean principles in three domains:

1. **Lean startup** focuses on the innovation of completely new products or services. Here innovators validate the value hypothesis by rapid, iterative testing of minimum viable products (MVPs), prepared to quickly pivot and pursue a new value hypothesis based on test response. A survey of R&D executives in large companies found that 82% are utilizing Lean startup practices.[5] When a startup begins experimenting with the growth hypothesis, it may begin to apply the Lean practices of product and software development and operational excellence.
2. **Lean product and software development** focuses on rapid, iterative, continuous design, experimentation, and delivery; limiting batch sizes and WIP; and engaging the customer throughout the lifecycle to yield optimal customer value just in time. The continuous flow of development into operations originated decades ago in Lean manufacturing and supply chain practice. Agile, Scrum, and DevOps are founded upon Lean principles and practices. DevOps (aka continuous delivery) optimizes the continuous flow across technology value streams from Agile development through IT operations to customer deployment. In fact, the Lean value stream approach, combined with the practices of the Lean Management System, are at the heart of DevOps[6] and Agile-at-Scale[7] practice.
3. **Lean operational excellence** focuses on elimination of waste (including delays, defects, excess WIP, and unnecessary complexity and variation) to optimize the flow of products, services, and transactions to customers. Lean OpEx practices can be applied to such diverse value streams as the flow of physical products across a global supply chain, the flow of services such as financial transactions and healthcare delivery activities, and IT operations.

These Lean domains are orchestrated by a Lean Management System that connects strategy with execution, enabling a rapid flow of new ideas through commercialization while continuously nurturing organizational learning and agility. A Lean Management System utilizes visualization, data-driven problem solving and experimentation, skilled coaching, and the continuous flow of information across and among value streams. It connects leadership, management, teams, and individual contributors, establishing a rapid cadence of problem solving, experimentation, decision making, and learning with frequent feedback.

How Technology Leaders Are Applying Lean Practice

Principle 1: Consumer Value

The guiding Lean principle is a focus on consumer[8] value. This compels everyone to clearly understand how (or if!) their efforts contribute to consumer value. This can be a challenge, since many functions interact only with internal customers or intermediaries, having little or no line of sight to the consumer.

Every employee should be asking him- or herself:

- What is our value proposition, and how can technology transform it?
- What is our consumer's end-to-end experience with our products and services, and how can technology enhance it?
- How do we measure consumer value and experience so teams can continuously improve and innovate in ways that matter to the consumer?

For an established enterprise to succeed in a digital transformation, it must leverage its strategic assets and reenvision its fundamental value proposition. GE offers a dramatic lesson: this self-proclaimed producer of "big iron" with a strong Lean Six Sigma practice realized

that what its consumers really wanted were cost-effective, reliable industrial services and information to help them optimize their ROI. This insight guided GE to invest heavily in a standardized analytics platform, creating "a completely different set of economics that is very disruptive in the industry."[9]

Technology plays an instrumental role in consumer value. It is embedded within products and services to offer new capabilities, while also enhancing how consumers engage with us. But how do we know what they think of that experience? "I think there is this saying," reflects van Kemenade, "'one stupid person can ask more questions than one smart person can answer,' and this applies a bit to the whole domain of big data. There are only so many qualified, highly skilled data analysts."[10] Lean practice offers an approach to help us ask the right questions, formulate the right hypotheses, and design the right experiments to get to the core of what consumers really value.[11]

For all our digital means of observing behavior and spotting patterns, let's not forget the importance of direct, personal observation.

Big data and machine learning are forms of what we call "virtual *gemba*." Gemba is a Lean term that means "where the action is," suggesting that you must directly observe a situation to grasp it properly. For all our digital means of observing behavior and spotting patterns, let's not forget the importance of direct, personal observation. "What's the beginning of being customer-centric at Amazon?" asks Marc Onetto, Amazon's former (now retired) SVP of worldwide operations and customer service. "Use your own apps! At Amazon, we all use our website, all the time. Many of us (including me) would go home at night, and the major user is the spouse, and they would say 'What the heck is this? It doesn't work!' And the biggest user was Bezos himself; he was constantly finding things."[12] Likewise, we encourage our consulting clients to "be your own consumer."

It's also important to remember that you have plenty of intermediary customers throughout the value stream that serve your consumers. These intermediary customers are often your channel partners. For example, Volvo (another long-time Lean practitioner) invested in deep analytics capabilities to create direct relationships with their consumers and then used this information to enhance their dealers' capability to provide individualized experiences — a win-win-win scenario.[13]

To apply Lean leadership practices to improve consumer value:

- Start with the questions: Who are our consumers? How do we engage with them? How do we measure what they value and their experience? Then experiment with various ways to measure consumer satisfaction, with a keen eye to surprising insights you may gain by exploring their behavior and preferences with big data.
- Identify what your value propositions are today and how they are perceived by your consumers. Then continuously experiment with ways to leverage your strengths while changing the playing field.
- Develop the internal capability to make optimal use of big data analytics and machine learning.
- Ensure that every individual within the enterprise has a clear understanding of:
  - Who the consumers are and what they value.
  - Who the intermediary customers are (if any), and what they value to help them better serve the consumer.
  - How his or her work impacts consumer value and experience.

Principle 2: Flow

In a digital ecosystem, it's all about speed: speed to market, speed to deliver just in time, speed of learning from feedback. The key enabler of speed is quality. Speed and quality together constitute flow, also known as "velocity" and "throughput." Flow is easy to see on a factory floor or global supply chain. It's less easy to visualize the flow of virtual events, transactions, and knowledge work across a global process, or the continuous delivery/flow of ideas through the software/product development process.

Startups naturally adopt value stream behaviors. "Deployment of Lean at Amazon was the easiest I've done in my life," says Onetto. "The customer-centric culture of the company drove us to avoid creating waste in the first place."[14] We have observed, however, that most large organizations struggle with the adoption of value streams because they are usually structured, managed, measured, and compensated according to functional silos that impede flow. The omnichannel approach is especially challenging, since it requires spanning several independent operations to create a single, integrated value stream flow. Only senior leaders can change deeply rooted thinking and behaviors,

policies and procedures, and operating models so as to enable enterprise-wide value stream flow.

One particularly difficult aspect of flow is the common separation of "IT" and "the business." This represents more than organizational structure; fundamentally, it's about how people interact and think about the value technology enables within the digital ecosystem. "It's no longer about the product or the service," observes Kate Johnson, GE chief commercial officer. "It's all about the business outcome we are driving for our customer. This change is not just about sales, it's about product management, marketing, sales and commercial operations, delivery. It involves the whole lifecycle, from invention to fulfillment. And that is the essence of how we're tackling the problem."[15]

Chris Perretta, former CIO of GE Commercial Finance, now the chief information and operations officer for MUFG Union Bank NA, stresses that "developing a process-oriented understanding is essential because we have to digitally represent everything that we do. While creating such an understanding sounds trivial, it can take a great deal of effort to get talented people to think this way. Something as simple as getting the language right is a prerequisite. It's also important to prioritize improvements with an end-to-end perspective."[16] There's plenty of evidence that suboptimization (silos improving independently due to localized measures and incentives) inhibits the flow of value to the consumer.

Another significant systemic obstacle to flow is often found in governance. "Traditional governance is usually focused on project costs," says Perretta. "But the cost of process failure is much higher than project failure, often by an order of magnitude. The real business impact is in process improvement, not the individual projects, and that requires a product owner responsible for end-to-end flow, who can holistically prioritize improvement and innovation investments."[17]

Ensuring seamless flow to consumer value delivery is the chief priority of the person responsible for each value stream. Whether we call this role a product manager/owner (Agile and Scrum), a service manager (IT service management), a value stream manager (Lean), or a tribe lead (Spotify lingo), it's essentially the same behavior. One individual must align the value stream to enterprise strategy and orchestrate the activities within each value stream with a complete end-to-end perspective, engaging consumers and keeping their value clearly in view. In this way, everyone engaged in the value stream shares a common purpose and can quickly spot obstacles to flow, so that they can prioritize and continuously improve together as one.

To apply Lean leadership practices to improve flow:

- Develop an enterprise value stream architecture reference model; start simply, iterate, learn.
- Create clear roles and responsibilities for a value stream manager.
- Promote visualization of value stream targets, actual performance, and gaps to guide prioritization and problem solving.
- Eliminate the dichotomy of "IT" and "the business"; develop technology capability within every value stream.
- Focus attention on systemic obstacles to flow that can only be addressed by senior leadership (governance structures, budgeting cycles, compensation, etc.).

Principle 3: Continuous Improvement

With the rush to new digital platforms, technology leaders often underestimate the value of continuous improvement. Many see it as a waste to invest in "fixing the old," as it would leave fewer resources to develop "the new." DevOps practices and cloud platforms can catapult enterprise technology forward, improving consumer responsiveness, time to market, throughput, and resilience, but they depend on continuous improvement to become internalized and self-sustaining.

Pierre Masai, CIO of Toyota Europe, offers insight into the interdependence of continuous improvement and breakthrough innovation. "Digitization and Lean have been sometimes opposed with a simplistic logic like 'Lean takes a lot of time, but digitization has to happen at the speed of light.' Actually, this is totally wrong," insists Masai. "Digitizing a wasteful process creates a wasteful digitized process. So Lean applies as well to digitization as to any other human occupation."[18]

Established enterprises can't immediately uncouple their overly complex and often fragile legacy systems, data, and processes from their new development efforts. Without dedicated continuous improvement, they're still investing resources in fixing the old, reactively firefighting after each outage, delivery defect, security breach, or other failure. This saps their resources and erodes consumer and business confidence, the very thing most needed for the enterprise to justify additional investment in digital transformation.

"IT spend should be going up," observes Perretta,[19] yet most technology leaders we speak with lament the continuous pressure to cut costs. We advise, instead, cutting waste. By focusing on eliminating waste, continuous improvement frees intellectual and capital

resources and reduces cost. You can then reinvest these gains to improve and innovate how you inform, learn from, and engage with consumers and to reimagine the enterprise's value delivery in new ways.

Technology development/innovation must be coupled with operational excellence. The Organization for Economic Co-operation and Development (OECD) found that "productivity growth has accelerated at frontier companies which use the most efficient processes and technology, while slowing at the remainder of firms"[20] that are unable to catch up and compete. Note that "efficient processes" are among the success factors the OECD cites. Great technology without the capability to consistently and efficiently fulfill consumer expectations has no value.

"Lean aligns perfectly with a focus on customer experience," says Onetto, "because you're eliminating waste, and waste is something that the consumer will not willingly pay for."[21] One of the largest wastes in IT is variation. "You have to simplify, otherwise you introduce complexity. When every DevOps team has its own way of working, the teams together don't know what is needed to improve upon, which makes it much more difficult for teams to learn from each other," observes Jannes Smit, CIO Omnichannel, ING Netherlands.[22]

Great technology without the capability to consistently and efficiently fulfill consumer expectations has no value.

When IT performance improves through continuous improvement, business colleagues' confidence increases, governance is reduced, capacity increases, costs are reduced, gains are reinvested, employees are engaged, and technology leaders get to spend more time and energy doing what they enjoy most — helping their teams continuously delight consumers and improve their quality of life.

To apply Lean leadership practices to promote continuous improvement:

- Experiment with disciplined, root-cause, cross-functional problem solving.
- Provide inhouse coaching support to help teams develop their problem-solving capability. Apply the Plan-Do-Check-Act cycle to this effort; determine how to measure effectiveness and continue learning and improving.
- Set standards for data-driven decision making and transparency, from leadership strategy to front-line execution.
- Challenge your teams to collaborate to establish standard work where appropriate and support them in continuously monitoring and improving the standard when conditions change.
- Simplify, streamline, and improve business and underlying technical processes before automating them. Don't "pave cowpaths."
- Make it safe for people to identify waste and problems, and to experiment with new ideas to resolve them.
- Track your gains and tell your stories to win the confidence and support of your teams and colleagues.

Principle 4: Learning

Business theorist Arie de Geus once said, "The ability to learn faster than competitors may be the only sustainable competitive advantage."[23] Most leaders will agree with his observation, raising the question, how do technology leaders create a learning culture, enabling consistent high-value performance, speed, quality, and rapid adaptation in a continuously changing digital ecosystem?

This is the question that kept Smit up at night. As the technology leader at ING Netherlands responsible for pioneering both omnichannel (a seamless consumer experience across mobile, Internet, call centers, and front desk employees) and the enabling platforms and practices (Agile, Scrum, DevOps, standard API frameworks, etc.) to spread these capabilities globally, he was orchestrating the efforts of many teams. "The beginning insight was that our teams were not learning and not improving. We were not able to get them to the level that they were a continuously learning team. I saw that they wrestled with problems and other teams had solutions, and we were not able to bring them together to learn. When we were not able to learn as management, we were not able to help the teams to learn."[24]

Smit then had an inspiration. "We had to learn ourselves to become a learning team." Two years ago, he asked us to deliver a series of what he called "boot camps" for himself and his management team within ING Netherlands, with a focus on helping them reimagine the way they worked and the way they learned together. To support and challenge himself and his management team, he enlisted a small, experienced internal coaching team. Change did not happen overnight and

was painful at times, but as a team, they grew, and by experimenting together with the coaching team, they blended Lean with Agile, Scrum, DevOps, Kata, and other learning practices to create their own way of working.[25] "We experienced our own learning, then we went to the teams to help them learn to become a learning team." ING is now looking to Smit and his management team, with support from their growing coaching team, to serve as a reference model for others across ING Global.

"The most important principle," Smit said, "is not copying, but making it your own. We get inspiration from great examples like Toyota and Spotify, but we don't just copy their tools, routines, and habits. We want to understand why they work and make them our own, before we start applying them."

"Before, I never discussed culture," Smit added. "It was a difficult topic, and I did not know how to change it in a sustainable way. But focusing so much on the 0-1-2 [his three-step improvement initiative] created a culture change. When you change the routines, you create a different culture."

Today, Smit's management teams focus on coaching their own teams in continuous learning, from and with consumers, from and with each other, from and with a broad range of other sources. These teams are intentionally small (following Jeff Bezos's "Two-Pizza Rule"), colocated, and multidisciplinary. They continuously experiment with rapid feedback cycles and focus on simplification. Their work is visual, the data transparent. "Before you start discussing," Smit cautions, "you should make everything transparent, based on data and real facts." In our experience, transparency and data-driven decision making improve trust and reduce much of the political noise.

van Kemenade shares this reflection: "It's about a way of working. How do you create an Agile organization that is actually able to learn from customer behavior, to be responsive to that, to have the fail-fast mentality and invest in an MVP — a minimum viable product? Go out there, launch it.... And if you're not successful, try and improve it. And if it's entirely a failure, pull back and then retry. And that's a mentality thing. It has nothing to do basically with technology."[26]

To apply Lean leadership practices to support learning:

- Lead by example. Look to your own behaviors first — learn yourself, then help others to learn.
- Make everything transparent, create and use a visual environment for your work, and set a standard for all teams to visualize their work.
- Set a standard for data-driven decision making.
- Enable experimentation with rapid feedback.
- Create small, cross-functional teams and colocate as much as practical to create constant energy and interaction.

Innovation and Agile, Efficient Execution Lead to Lasting Competitive Advantage

Clayton Christensen and his colleagues at Innosight estimate that "about 50% of the S&P 500 will be replaced over the next 10 years."[27] To compete, large established enterprises must learn to perform like startups: organize along value streams, with a single-minded focus on continuously delivering value to their consumers. Work flows rapidly, continuously improving through experimentation and continuous communication among everyone along the value stream, including consumers.

This way of working is easy when you're a 10-person startup, but as ING and others demonstrate, with committed leadership, large enterprises can accomplish this too. When large enterprises learn to rapidly and consistently deliver value, at scale, across the entire enterprise, they can exploit this agility through strategic assets that startups lack: broad networks, trusted brands, an existing consumer base, and the creative force of the ideas and knowledge of existing employees.

At scale, flow enables everyone in the enterprise to see consumer value, promoting speed and agility. Continuous improvement enables everyone to learn and make informed decisions. The four principles — consumer value, flow, continuous improvement, and learning — are a catalyst for transformation and inspiration.

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12 Lean Habits of the 21st-Century Technology Leader

by Em Campbell-Pretty

Lean is the term the Western world has come to use for the Toyota Production System (TPS).[1] Created by Taiichi Ohno, TPS aims to reduce the time between a customer order and payment for the delivery of a vehicle by "reducing the non-value adding wastes."[2] While so much of Toyota's success has been attributed to the mechanics of TPS, there is more to it than that. Jeffrey K. Liker, professor of industrial and operations engineering at the University of Michigan and author of *The Toyota Way*, states that "Toyota's continued success … stems from a deeper business philosophy based on its understanding of people and human motivation."[3] While 21st-century technology leaders may not be in the business of manufacturing cars, I think we can all agree that they are in the business of leading people!

The Toyota Way is characterized by "management commitment to continuously invest in its people and promote a culture of continuous improvement."[4] Its two pillars are respect for people and continuous improvement (see Figure 1).[5] The themes of people and continuous (or "relentless") improvement also appear in the Scaled Agile Framework® (SAFe®)[6] and the Lean System Society's House of Lean for the 21st Century (see Figure 2).[7]

In the House of Lean for the 21st Century, the roof represents the goal: delivery of value, in the sustainably shortest lead time with quality, high morale, safety, low cost, and most customer delight.[8] This is supported by four pillars:

1. Respect for people and culture
2. Flow
3. Innovation
4. Relentless improvement

Leadership is depicted as the foundation of the house.

Figure 1 — The Toyota Way. (Source: Liker.)

4 Pillars, 12 Habits

The values contained in the House of Lean for the 21st Century give us guidance as to the mindset required to succeed, but it takes concrete practices to bring these values to life. Given that leadership is the foundation of Lean, the effective Lean leader needs to form habits that align to the pillars that support the goal.

Pillar 1: Respect for People

Habit 1: Invest in the People Who Do the Work

Effective 21st-century technology leaders invest in the people who do the work. In its simplest form, this means providing training when introducing new tools

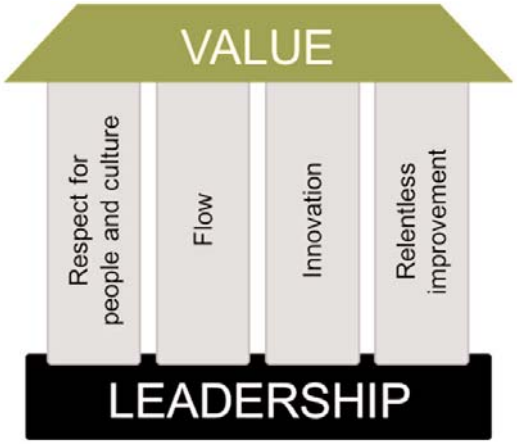

Figure 2 — House of Lean for the 21st Century. (Source: Lean Systems Society. Reproduced with permission from ©2011-2017 Scaled Agile, Inc. All rights reserved.)

or processes. A common anti-pattern I encounter when working with technology leaders is a reluctance to invest in training — which frequently turns into adamant refusal if it means training for people who are not permanent employees of the company. I suspect the main reason for this attitude is that technology leaders often are not allocated sufficient budget for training. Getting the budget *can* be tough, but it's a battle that 21st-century technology leaders know they need to fight.

Many times the need for training is linked to a change in process or technology that the organization believes will provide a competitive advantage, likely in support of some business case. This business case needs to include the cost of upskilling the people who will actually do the work. If a change is being imposed on your organization and the training cost has not been factored in, you will need to champion the cause. If you don't look out for your team, who will?

Organizations are riddled with people toiling away on tasks that could be streamlined, automated, or stopped if a leader just took the time to review the work and take action.

As for training people who are not permanent employees of your company, I don't think you have a choice. If you rely on these people to do the work, then they need to have the requisite skills. I understand the reluctance. You pay a premium for contractors and consultants, so you expect them to have the skills you need to get the job done. I can remember thinking that myself when I introduced Agile to a technology team I led. Then I got real.

I thought about replacing my current workforce with people who had Agile training, but then I remembered that the people currently on the team had been working in the domain a long time. Some of them had been there since the department was established. They had a lot of tacit knowledge that in many ways was irreplaceable. My next idea was to insist that the contractors and consultants arrange their own Agile training. Then I realized that this meant everyone would most likely get different training, and that seemed less than ideal.

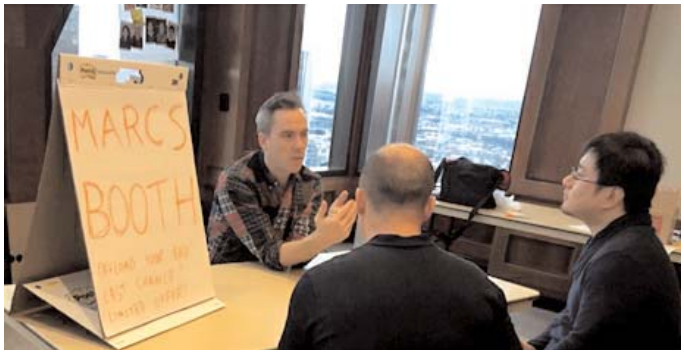

Figure 3 — The beginning of the end for "business as usual" tasks.

In the end, I decided to pay for everyone to take part in the same training. In the scheme of things, it was a small investment, and more importantly it was the right thing to do. This was borne out by the results: the team became more open to new ideas and eager to learn, and practices that we had previously struggled to embed were readily adopted once the team had a shared understanding of the principles that underpinned the practices.[9]

Habit 2: Eliminate Wasteful Work

There is nothing quite as demoralizing as doing work that is avoidable or not valued. Organizations are riddled with people toiling away on tasks that could be streamlined, automated, or stopped if a leader just took the time to review the work and take action. To be clear, I'm not advocating micromanagement. I am advocating a world in which we believe that the people we lead are intelligent and can recognize where there is waste present in the work that they do. As a leader, what vehicles do you provide to surface this waste and address it?

Recently, I was working with a leader, Marc, who came to recognize his team was overloaded with wasteful work. As part of introducing SAFe® to his organization, Marc's team was holding their first PI Planning event.[10] He asked team members to "bring out the dead" and make visible all the "business as usual" tasks that were consuming their time. He then set himself up in a booth at one end of the planning room and invited people to bring him the routine tasks that they perceived to be of low value so that he could support them in negotiating with stakeholders to cease the work (see Figure 3).[11]

Habit 3: Foster a One-Team Culture

The 21st-century technology leader needs to calibrate their definition of team to encompass all the people who contribute to the delivery of technology products and services, regardless of whether they come from business or technology. This team — or more likely, team of teams — needs to understand that their fates are inextricably linked and that they succeed and fail as one team. How you lead this team of teams will have a significant impact on the level of "oneness" across the team.

In a team-of-teams scenario, it is important that there be a shared identity. There can be no "us" and "them" in a

one-team culture. Things as simple as choosing a name for the teams of teams and creating a team t-shirt will start to provide a sense of shared identity.[12] Establishing rituals to help the members of the team of teams build relationships is also key. My favorite is an event I like to call "Unity Hour."[13] This one-hour, all-hands gathering, held on a fortnightly or monthly cadence, creates a place for the team of teams to come together and interact on an informal basis. How you celebrate wins is another way you signal to the team of teams who is and is not part of the team. Do you celebrate individual team successes as a team of teams? You should.

Pillar 2: Flow

Habit 4: Visualize Your World

Visualization of a given team's work has become prevalent in the technology world as Agile and Lean practices become more and more commonplace. The 21st-century technology leader uses a similar approach to visualization to assist in seeing the work across the entire department or program. There is no one-size-fits-all visualization template; however, Kanban-style physical walls are a good place to start.[14] Constructing a good visualization requires understanding the path work takes when it flows through your department or program. The people who do the work are best placed to help you understand this flow. Even if you think you know how the process works, you will most likely be surprised when you hear about the reality.

Two visualization techniques that Lean technology leaders I have worked with find useful are:

1. A view of the demand coming into their department or program
2. A view of the work currently being delivered by their teams

Creating a card for each work item and displaying the cards on a physical wall can be extremely powerful. It allows the leader to see if their teams are overloaded or likely to run out of work. Once you can see, you can take action and live "respect for people" by smoothing out the demand to avoid either drowning your teams or having to stand people down due to lack of demand.

The second physical visualization of the work your teams have in flight replaces more traditional approaches to understanding progress, such as program status reports or Gantt charts. Unlike traditional approaches, this view can highlight bottlenecks in your process as cards pile up in specific columns. This style of visualization is generally maintained on a near-real-time basis by the people who do the work. Often leaders will introduce some sort of communication cadence by which teams share their progress and challenges with each other, using the wall to guide their discussions.[15]

Habit 5: Limit Work in Process

The visualizations in Habit 4 also aid the 21st-century technology leader in limiting work in process (WIP). While it may feel counterintuitive, limiting the amount of work your team is actively working on will improve the flow of value to your customers. This can sometimes be tricky, as saying no — particularly to senior stakeholders — can be politically awkward at times. The existence of physical visualizations can help you manage it, though. Show your stakeholders your visualizations to provide context. Let them see what other demand your department or program is facing. Perhaps they can help you negotiate with other stakeholders to reduce demand, or they may even find, in context, that their request is not as valuable to the company as other requests being made of your team.

If all else fails, you might try a tactic one of my teams tried on me. I had a continuous improvement wall full of initiatives I was championing. In an effort to reduce WIP, my team told me I could only have 16 ideas on the board at any one time. I was most unhappy, as I was sure I had many more than 16 good ideas! Rather than fight with me, they created another column on the wall. They called it "The Pit of Fantastic Ideas" and told me I could put anything I liked in there, but they would not work on those ideas until they were prioritized into the top 16 ideas on the main board (see Figure 4).

Every few months, I would visit my Fantastic Ideas, and without fail I would find that many of them had become irrelevant as time had moved on. So it would

Figure 4 — The Pit of Fantastic Ideas.

appear my team had been onto something with this WIP-limiting idea. What I like most about that story is not that my team was right, but how they managed me. Instead of fighting me, they humored me, and that way I got to learn for myself how limiting WIP works.

Habit 6: Decentralize Decision Making

A significant impediment to flow in most organizations is the hierarchical nature of decision-making authority. Every time a decision has to be sent further up the management hierarchy, there are two potential negative side effects: (1) the decision is delayed, impeding flow, and (2) the person making the decision is likely less informed about the specifics of the situation than the person requesting the decision. Technology leaders are sometimes at the mercy of such dysfunction, and at other times they are the cause.

No matter how innovative your ideas are, if you can't sell them, then you don't have a business.

While you may not be able to change the limits on your own delegation of authority right away, you can and should work to empower the people on your team. If this is new territory for you, it is perfectly natural to be nervous. I am not suggesting you immediately abdicate responsibility for decision making.

In his autobiographical book *Turn the Ship Around!* retired US Navy Captain L. David Marquet wrote about his experience with giving control to the people who do the work. Marquet describes two pillars that enable "giving employees control over what they work on and how they work": (1) the technical *competence* to make the decision, and (2) *clarity* regarding the organization purpose to which to align the decision.[16] With these two supports in place, you can "move authority to the information," enabling faster decision making and better flow.

Pillar 3: Innovation

Habit 7: Carve Out Time for Innovation

In this age of digital disruption, innovation is core to the survival of every organization. Carving out the time to invest in innovation, however, seems to be a universal struggle. You need to build time for innovation into the way your organization works. This means building innovation time into your cost models; somewhere between 10% and 20% of your team's' capacity is a good rule of thumb. With that in hand, your next job is to inspire creativity!

I have always taken a very broad view as to how innovation time should be invested. People can pursue anything from a cool new feature or product for customers, to a nifty automation that makes it easier for teams to do their work, to an investment in learning a new tool or technique. There are two goals here — to enhance the company's ability to compete in the market and, perhaps more importantly, to create a workplace that people want to be a part of. While innovation helps an organization compete in the market, it can also unlock the intrinsic motivation of knowledge workers, which again brings "respect for people" to life.

When it comes to inspiring creativity, Atlassian's ShipIt Day[17] — formerly known as FedEx Day — continues to be an inspiration to many organizations. Once a quarter, teams are given 24 hours to work on whatever they want, but they must "ship it" at the end of 24 hours (hence the original name). The concept became widely known as a result of its inclusion in Daniel Pink's best-selling *Drive* back in 2009. Atlassian credits ShipIt Days as the source of some of its "coolest stuff," as well as for helping the company retain people.[18] A similar approach I like to use is called the "Innovation Challenge." In this model, teams invest their "spare" capacity in innovating, sharing their results with their peers at Unity Hour, where a vote is taken for the best innovation and the winner of the Innovation Cup.[19]

Habit 8: Apply Validated Learning

When it comes to product innovation, great ideas are not enough. No matter how innovative your ideas are, if you can't sell them, then you don't have a business. This is a lesson that entrepreneur and author Eric Ries learned the hard way, more than once. From these learnings came his bestselling book *The Lean Startup*, in which he calls out *validated learning* as one of the five principles of the Lean startup method. If you work in a large corporation, you may be thinking that the Lean startup approach does not apply to you. Before you skip ahead to the next habit, though, let's consider Ries's definition of a startup: an organization dedicated to creating something new under conditions of extreme uncertainty.[20] I will let you decide for yourself whether this applies to you.

Ries argues that everything a startup does should be "an experiment designed to achieve validated learning."[21] In *The Lean Startup*, Ries uses the beginnings of Zappos to illustrate the point. Zappos founder Nick

Swinmurn started the company with the hypothesis that people wanted to buy shoes online. He then ran an experiment in which he listed shoes from local shoe stores on a website with the intent to buy them and ship them if they sold, which of course they did! This experiment allowed Swinmurn to validate his concept and learn about customer behavior before making a large investment in his new business idea.

Habit 9: Use Built-In Instability to Foster Creativity

In 1986, *Harvard Business Review* published the article that is credited with being the roots of Scrum,[22] the world's most widely used Agile framework. In the "New New Product Development Game," Hirotaka Takeuchi and Ikujiro Nonaka identified six characteristics being used by teams that were delivering breakthrough new products to market quickly. One of these characteristics is "built-in instability," a practice whereby management "offers a project team a wide measure of freedom and also establishes extremely challenging goals."[23] This unlocks intrinsic motivation, from which emerges creative new solutions.

Again, we can see that technical competence and organizational clarity create an environment where leaders can give control to the people who do the work and get great results. All that's still needed is a clear and inspiring mission for the people who do the work. The teams you lead need to understand how the work they do is connected to the greater organization's vision. This is what brings the organizational clarity.

Pillar 4: Relentless Improvement

Habit 10: Understand the System of Work by Spending Time at the Gemba

As a technology leader, it may have been some time since you were last "on the tools." Or perhaps you are one of the rare breed of technology leaders who don't come from a technical background. Either way, you are not apt to have a real appreciation of what it is like to work in the "system" that is your organization. To be an effective 21st-century technology leader, you need to address this blind spot, and the best way to do that is to spend time at the *gemba*.[24]

The concept of the gemba walk comes from Taiichi Ohno. As legend has it, he would indoctrinate new managers at Toyota by taking them down to the factory floor, drawing a chalk circle on the ground, and placing the manager in the circle. He would then leave the manager there for a shift to observe what was happening, checking in with them occasionally to see what they had learned or observed. If the student did not meet Ohno's standards, they would be brought back to repeat the exercise the next day.[25]

While Ohno's approach would probably make the average knowledge worker uncomfortable, spending time at the gemba to observe and learn is invaluable for leaders. Rather than standing in a circle, go and talk to the people who do the work about how the work works. If you are feeling inspired, take a blank piece of paper and sketch out the value stream map for the technology products your team delivers. You can even take it a step further and engage your peers in a value stream workshop to understand how your team contributes to the whole value stream.[26]

Habit 11: Improve the System of Work

Given that the 21st-century technology leader is most likely not "on the tools," they must add value to the organization in other ways. In my view, the role of the 21st-century technology leader is to improve the system of work for the people who do the work. First, the leader needs to gather the facts. Both spending time at gemba and value stream mapping will provide a multitude of improvement opportunities.

Another approach I use is to ask teams what impediments they are facing in doing their work. Some problems will be simple and rather tactical in nature. Others will be more complex and require significant investment of time and money. Your role as a leader is to take action. Sometimes that action will be a quick email or phone call; other times it will be developing a business case to acquire funding. Ideally, you will create a visualization that helps you track the demand and progress such as the one shown in Figure 4. This also provides transparency to the team regarding your progress — or lack thereof.

Habit 12: Read Books

Successful people read books.[27] The effective 21st-century technology leader knows this and is a lifelong learner.[28] If I were to prioritize the habits I've discussed here, reading books would be my pick for number 1. You may have noticed as you made your way through this list that a number of the habits make reference to learnings from books. When I first became a technology leader, I had no formal education in technology, but I was committed to learning. I read everything I could, then I took my learnings and discussed them with my team. We would debate the pros and cons of applying various ideas from books we had read. The ideas we agreed on we tried. Some worked and some didn't, but we never stopped reading, and we never stopped experimenting. In the words of Verne Harnish, founder

of the Entrepreneurs' Organization: "Those who can read and don't are only marginally better off than those who can't."

Conclusion

Now you are armed and dangerous. You have a dozen new practices to help you make this year your best year as a leader yet. Remember to apply the habits when implementing the habits — make your work visible, limit your work in process, apply validated learning, make space for innovation, and never forget that technology leadership is all about people!

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How to Step Up Stepping Up: Promoting Guest Leadership for Successful Collaboration

by Alistair Cockburn

We usually think of leaders in large terms: Nelson Mandela, Martin Luther King Jr., Steve Jobs, and so on. However, small acts of leadership happen every day, forming the glue that holds civil society together. These include helping a shorter person put a bag in the overhead compartment, organizing neighborhood cleanups, or starting petitions to change government. These are moments of "guest leadership."

Guest Leadership at a Filming

No one was in control at the filming of this musician's music video, certainly not the musician. He had a vague idea of what he was after but, not being an organizer, was not set to coordinate the movements of the dozen or so of his friends and their friends who had come to be supportive and have a cameo in his video.

At some moment, someone said that a section of wall should be draped. One person went and found a curtain rod and a curtain, but the guest leader of the moment was the person who found a ladder and then coordinated a few other people to hang the curtain high enough to make the semblance of a wall. None of the people knew each other, nor was the musician present to oversee the effort. He was not even aware of what was being done; he only saw that the wall had been draped, per his (unstated) desire.

This activity of sporadic leadership by various people present continued for an hour or so. Some guests organized others, some were arms and legs for those with ideas, and some just sat and watched.

Finally satisfied, the musician shot the video, not having any idea of who had contributed what. All of the leaders and helpers were simply guests in his final video.

Guest leadership is rarer in work environments than in daily communities. In workplaces, employees typically wait to be told what to do, then consider how their actions will affect their annual work review and pay raise. Spontaneous moments of leadership do happen, but the usual corporate environments are not so conducive to it.

The Agile software revolution legitimized decentralized decision making with its call for self-organization. Decentralized decision making is useful in complex environments, such as those found in modern software development. In these environments, there is not enough time to funnel all the necessary information to a central point of control and wait for a decision. Quite the opposite: often the people closest to the situation have the experience and information needed to resolve the problem more quickly themselves.

An increasing number of work environments have the same characteristic of complex flows of information that require quick decisions and rapid actions. In addition, the rising demographic of millennials is increasingly allergic to centralized power and bosses telling them what to do. They also are looking for ways to decentralize decision making.

Organizations that are able to create a culture of guest leadership multiply the efforts of their staff. The question is, how does any person — whether in a power position or not — increase other people's inclination to step forward into acts of guest leadership?

Leadership Stances

Some leaders are charismatic. They create a following. Others spend their energy evolving the environment around their people. Typically, we refer to the first type as "leaders," and the second type as "managers." They are both leaders, in different ways, taking different stances for different purposes. The former sets the direction so that people feel inclined to pursue it. The latter sets the environment so that people's actions are effective.

Mark McKergow and Helen Bailey introduced the term "host leader" for the second kind of leader.[1] Think of a party — perhaps a formal dinner party, perhaps a potluck dinner party, or a masquerade or pool party.

The organizer is responsible for creating the mood and the legitimate action set of the attendees (beginning with the party invitation) and then for seeing to it that everyone is having a good time during the party.

In this article, I will refer to four different types of leadership: Leader 0 through Leader 3. Leader 0 is a solo leader with no followers (whom I still refer to as a leader for reasons that will become clear); Leader 1 is our usual idea of a leader as direction setter; Leader 2 is the leader as host; and Leader 3 is the guest as leader. Let us look at them in turn:

Leader 0: Solo Leader

Leader 0 demonstrates an individual but still important form of leadership. Although the solo leader does not enroll any followers, this person is still a leader because they step out from the crowd and take initiative. This person:

- Detects that an intervention is needed
- Decides "This is for me to take care of"
- Steps out of the crowd and takes some action
- Steps back into their previous position

The solo leader is the person who opens a window in a hot meeting room, who helps a shorter person reach a bag in the overhead bin, who picks up a dropped wallet and gives it back to the owner, who tells you your backpack is open.

Almost everyone acts as a solo leader at some time, even if they swear they never lead. Solo leaders are important to creating friendly spaces and a feeling of safety.

Leader 1: Leader as Direction Setter

Leader 1 is the type of leader we reflexively imagine when we hear the word "leader": Gandhi, Mandela, Hitler, Kennedy, Martin Luther King Jr. Whether you agree with their platform or not, they were effective. What is it that this kind of a leader does that makes them effective? They:

- Attract attention
- Redirect that attention to somewhere
- Enroll others in finding that direction meaningful

We typically associate this type of leader with changing direction. When there is no change of direction to be made, the Leader 1's work is to keep highlighting the importance of the current direction, to keep people from getting distracted and working toward any other direction. The work of this leadership stance is always direction.

Leader 2: Leader as Host

Leader 2 captures the stance described by McKergow and Bailey. This person:

- Creates a mood and an environment to support it
- Participates with the guests to see that they feel welcome, safe, included, and involved
- Steps in periodically to move the attention around, introduce people to each other, change the music, make announcements, and so on
- Steps away periodically to monitor the scene, to make judgments about what to change or not to change

Note that in the leader-as-host stance, there is no particular direction; the focus is on the creation of a quality of interaction. This person is still a leader, because they are taking initiative and responsibility for the mood and interactions.

Leader 3: Guest as Leader

Leader 3 is the guest leader, the subject of this article. This person is not an anointed or recognized leader in the situation. If at a party, they are not the host or a deputy of the host. If at work, they are not the boss or manager. Here are the things the guest leader does:

- Detects that an intervention is needed
- Decides "This is for me to take care of"
- Becomes Leader 0-2 for some period of time
- Steps back into their previous position

In a neighborhood, the guest leader is the person who decides to organize a block party or neighborhood potluck dinner or to clean up the neighborhood. At work, the guest leader is the person who argues for a change in office furniture to improve collaboration, starts a monthly social event, or motivates coworkers to try a new technique.

Moving Between Stances

It is common for people to move between stances in a situation. Here is a small example:

Guest Leadership, Moving Between Stances

It was about 2 am in Buenos Aires, and the streets were deserted. A friend and I were crossing a very large

one-way street. A car turned into this very large, usually very busy one-way street going the wrong way. *(Guest)*

I decide to intervene. *(Leader 3: Guest as Leader)*

I jumped into the road to warn the driver that he was about to head up a very large one-way road the wrong way. *(Leader 0: Solo Leader)*

My Spanish was not good enough to get him to understand quickly what was happening. (He just saw someone strange jump into the road and shout bad Spanish at him.) I asked my friend to talk to him and explain what was up. She did so, becoming an enrolled follower. *(Leader 1: Leader as Direction Setter)*

I stepped back and watched the environment, looking for oncoming cars in either direction, and to check that my friend was being successful with her explanation. *(Leader 2: Leader as Host)*

The driver turned around. We resumed walking. *(Guest)*

Two interesting questions are:

1. What enhances or diminishes people's inclination to take the crucial step to intervene?
2. Is there anything that can be done, either by a boss or established leader or by simply anyone, to increase people's inclination to take that crucial step?

To pursue these questions, let us first look at collaboration, the preamble to guest leadership.

Collaboration Can Be Influenced

In the August 2007 issue of *Cutter IT Journal*, I wrote about my research on actions that improve collaboration.[2] The punchline of that research is this: collaboration requires that a person step forward out of a crowd, attract attention to him- or herself, offer an idea or contribution, and step back into the crowd. This is very similar to what guest leadership demands. Everyone in the group can enhance the inclination to step forward by taking action in one of four ways:

1. Lift Others

Many people feel too modest about themselves and their ideas to speak up. You can help by raising their relative self-esteem and social rank:

- Recognize others.
- Lower your relative social position.
- Inquire, don't contradict.
- Challenge, but adopt.

2. Increase Safety

Attracting attention and stepping forward is scary to most people. Offering an idea is potentially embarrassing, because it may be rejected. Therefore, the first thing to do is to create an environment where people feel safe to offer their ideas:

- Be yourself.
- Show you won't hurt others.
- Add humor.
- Say something honest, on the edge of what you think is allowed.

The first thing to do is to create an environment where people feel safe to offer their ideas.

3. Get Results

Results are what matter in collaboration; plus, getting results actually improves collaboration. So:

- Get back from diversions.
- Clarify the way forward.
- Say something valuable.
- Get one result.

4. Add Energy

Finally, the energy in the room matters to the inclination to collaborate. So:

- Keep your own energy high.
- Contribute.
- Challenge (to raise the energy).

In the 10 years since writing that article, I have seen how effective these actions are for raising — and their converse is for lowering — the inclination within a group to collaborate. Anyone in the group doing these actions helps get people into a state to collaborate, but when anyone in the group does the opposite of these actions, we can immediately see the people in the group retreat from collaboration.

If we are interested in enhancing people's inclination to step forward and lead, then clearly all of these are things we need to take care of. Having them in hand, what else can we learn about getting guests to act as leaders?

Exploring Guest Leadership

Over the last year, I have been running workshops to learn what people find enhances and detracts from their inclination to step forward into a leadership moment.

Figure 1 — What can a host do?

This includes both work and private environments. The questions I have asked are:

- As a guest, what is there in the moment such that I do/don't feel inclined to step forward?
- What can a host do to increase my inclination to be a guest leader for a moment?
- What can a boss do to enhance the group's inclination to act in guest leadership moments?
- What can anyone do to enhance this inclination?

The photos in Figures 1 and 2 show the work in two of the workshops.

What Enhances the Inclination to Step Forward?

In the workshops, two responses kept coming forward:

1. Empathy
2. Seeing that I can succeed

More intriguing was that, in some cases, a factor was named that both enhanced *and* dampened the inclination to step forward. In particular, seeing others step forward was one such factor:

> Seeing others step forward shows me that it is OK to step forward and take a leadership moment

But at the same time:

> If I see others stepping forward, I can relax, because they don't need me; they will take care of it.

A number of people commented that if they see the host start to slice the bread or cheese and then get pulled away, they know it is OK to step in and complete the

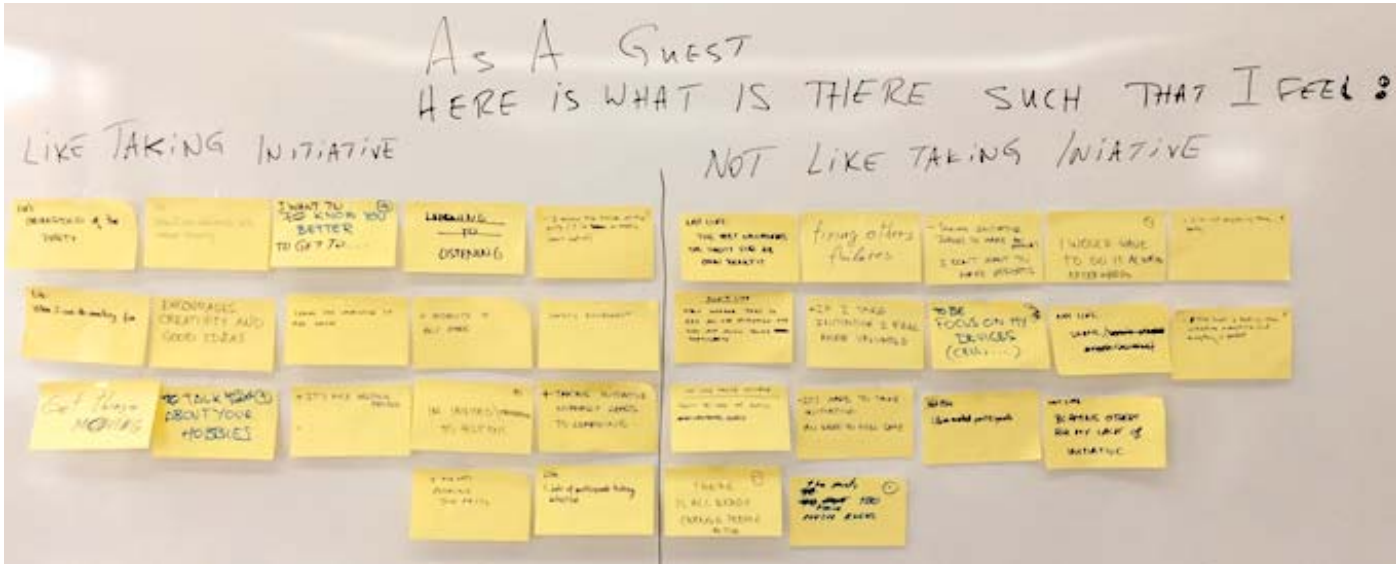

Figure 2 — What enhances/detracts from my inclination to step forward as a guest leader?

assignment. This gives us an idea of one way to trigger people to step forward: start something, then go away and leave it unfinished.

Several people highlighted the importance of the invitation to the party or the environment in general:

> If I am invited to a formal dinner party, not only will I not offer to pour the wine or otherwise help, I understand that it might be an insult for me to try.

And:

> In a potluck dinner party, we are all asked to bring things and to contribute. I know when I get there that I should watch and see if anything needs attention.

Here are some of the other key factors named for enhancing guest leadership moments:

- I can have an impact.
- It is in my personality.
- I have already had much experience with stepping forward like this.
- I want the result.
- I feel an urgency (as, in particular, if I see a child about to get hurt in a public place).
- Stepping forward is in my own self-interest.
- The environment is supportive.
- I have the skills and capacity to do it.
- I feel invested in the outcome.
- I feel there is nothing to lose and more to gain.
- There is an absence of other leadership.
- It resonates with my values.
- I know the host of the party.
- I feel more valuable.

Here are some of the key factors that diminish the inclination to step forward:

- I would get stuck doing it all the time.
- It means additional workload.
- There are already enough others stepping forward.
- The environment is toxic.
- I don't actually like the other people there.
- I feel lazy.
- I fear failure.
- I don't want to stand out.
- I fear I will be held accountable (e.g., the child hurt in a public place).
- I expect the usual suspects to step forward.
- I have self-doubt.
- I was educated to be passive.
- I like the status quo.

It is essential to reduce the sense of vertical (social) distance between senior and junior people to make a "horizontal" social-professional culture.

Improving the Culture Toward Guest Leadership

Much harder than working out why people step forward is asking whether it is possible to build a culture in which people take the guest leadership position more often and more naturally.

I was lucky enough to interview people at three companies where guest leadership is the norm, where everyone steps in at any time, no matter how junior they are. I asked the founder of one of the smaller companies what he had done, and he said:

> I just made sure I wasn't there more of the time.

His company was small, so all the employees simply had to make decisions and tell him what they had done afterward — which, of course, he was smart enough to agree with.

Another said:

> I just said "yes" to everything they asked for.

A coach at one of the companies said:

> We had a brand-new person, just out of university. The first time, he wouldn't choose anything to do, because he didn't know anything. So I asked him to choose a person to team with. The second time I asked him to choose something on his own. Now I don't have to ask him anything; he is running around taking on anything he sees.

In the workshops, two things became clear:

1. It is essential to reduce the sense of vertical (social) distance between senior and junior people, between people at different levels of the management or social hierarchy — that is, to make a "horizontal" social-professional culture.

2. While there are some things anyone can do, there are some things that only the host or boss can do.

Our workshop participants found two activities that help reduce the sense of vertical distance. Both are to be done across social hierarchy levels:

1. **Cook and eat together.** This is not the classic American 4th of July barbecue ceremony in which the bosses serve hamburgers to the line employees. This is really preparing food together, everyone helping everyone, with no job titles on display, and then sharing the results in a pleasant lunchtime or evening meal.
2. **"Dodgewalk" across management levels.** "Dodgewalking" is a game introduced to me by Diego Fontdevila at Grupo Esfera, a Buenos Aires–based software and systems architecture development firm. Participants form two lines facing each other. The people in one line stand still. The other line walks toward them. At some "last instant," the walking people have to jump or step to the side to avoid the people standing still. Run the game half a dozen times or so, taking turns as to which side stands still and which walks/jumps. Since the people take turns having to stand passively and having to decide when to step aside, it is a fun game that shifts power and social status.

Make it clear that guest leadership and initiative taking are welcome, even the norm.

For things that anyone can do, the top suggestions were:

- Ask your trusted friends and colleagues to model stepping forward into guest leadership, to set the tone in the community.
- Start telling approving stories of times when you see guest leadership being assumed — anywhere, but especially in your community.
- Discuss together, perhaps in reflection workshops or retrospectives, what have been good opportunities for guest leadership in the recent past.

For bosses and hosts:

- Do less.
- Make it clear when inviting people to a get-together, or when hiring them and introducing them to the department, that guest leadership and initiative taking are welcome, even the norm.
- Set up a Big Brother/Big Sister type of system for new employees, pairing them with more senior people who can show the guest leadership habits, so the newcomers pick up those habits right away.
- Just say "yes" to people's requests. Periodically discuss them with your employees in order to set a common understanding of which sorts of initiative taking are in keeping with the direction you are after.
- Keep teams well mixed in terms of gender, age, culture, specialty, and personality ("neurodiversity").

To Sum Up

Guest leadership is a remarkably commonplace phenomenon once you start to notice it. It is less common in workplaces than in daily communities, one of the reasons being the sense of hierarchical or vertical social distance in the workplace. To enhance guest leadership in the work environment, the first thing to do is to make experimentation safe and to reduce the sense of vertical distance.

The top motivators given for people to step forward and lead are:

- Empathy for the people being helped
- Caring about the result
- Seeing others step forward
- Knowing I won't get punished for trying
- Believing I can succeed with the intervention

The demotivators are:

- Fear of reprisal
- The feeling that enough others are already stepping forward
- Fear of failure
- Not wanting to stand out

Bosses and hosts can assist in creating a culture of guest leadership by:

- Being absent and later approving the decisions others take
- Just saying "yes" to ideas
- Telling stories of good guest leadership to set a culture in motion

Anyone can increase the inclination to lead through:

- Use of the collaboration actions[3]
- Asking friends to contribute moments of guest leadership, thereby modeling and creating a culture of guest leadership.
- Discussing the topic at retrospectives

A Final Example

One of the students in my class told us this story after having spent a day discussing collaboration and guest leadership:

> Brandon was invited as a consultant to attend an executive meeting about introducing Agile to a company. The vice CEO was present as the meeting's sponsor. There was an official facilitator for the meeting whose aggressive agenda was to get through the entire sequence of vision, mission, key objectives, and action items in only 90 minutes. In this situation, Brandon was a guest, uncertain what his contribution would be.
>
> As the meeting unfolded, Brandon watched the use and violation of the collaboration actions. He selected a few actions he could take among the participants, without interfering with either the facilitator or the vice CEO. He started with "Get back from distractions," "Clarify the way forward," and "Say something valuable" as the ones that would contribute the most to completing the agenda with the least imposition on the others present.
>
> The group rather remarkably managed to get through the entire sequence in time. At the end, the vice CEO turned to Brandon and said, "And you're on this full time." Evidently, his moments of guest leadership, while minor, did not go unnoticed.

Endnotes

[1]McKergow, Mark, and Helen Bailey. *Host: Six New Roles of Engagement*. Solutions Books, 2014.

[2]Cockburn, Alistair. "Being in the Room: Lessons Learned in Collaboration." *Cutter IT Journal*, Vol. 20, No. 8, 2007 (www.cutter.com/article/being-room-lessons-learned-collaboration-415016).

[3]See http://alistair.cockburn.us/collaboration+cards.

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Dr. Cockburn helps companies align their strategies and actions with their purpose, injecting lightweight Agile methods into projects needing improvement. This involves improving community and communications in the organization, increasing visibility as to what is planned and what is happening, streamlining projects, and introducing simpler, more effective techniques to different roles.

Dr. Cockburn has been special advisor to the Central Bank of Norway, methodology designer for the IBM Consulting Group, and lead consultant, process designer, teacher, and coach at organizations such as Ralston Purina, the First Rand Group of banks in South Africa, Schlumberger oil services, Fireman's Fund insurance company, the Intermountain HealthCare hospital group, and other organizations both large and small around the world.

Dr. Cockburn's personal philosophy states: "Computers must support the way in which people naturally and comfortably work, for job satisfaction and for corporate survival. I am committed to speeding this development by improving human communities, human-to-computer communication, and efficient, humane working methods." He can be reached at acockburn@cutter.com.

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