



Managing Complexity: Creating Leaders at All Levels

by Esther Derby

I speak to many executives who want faster (and better) decisions throughout their organizations. They want employees to take responsibility. They want innovation, engagement, commitment. The benefits they seek are compelling.

All these executives acknowledge that it is easy to talk about wanting these things, but not so easy to make them happen, in spite of genuine effort, consistent modeling, and good intentions. Why? The reason lives in the way we have learned to think about and structure organizations.

Many of the start-ups I visit feel alive. They've got a certain energy. People are there because they want to be. They believe in the product, they believe in their chance to make a difference. They're not there just for the sake of a job. They are invested.

But over time, as companies grow, that changes. People may still talk about the vision — and truly believe it — but they don't feel it in the way that the founders and the first 15 employees did.

As more people join the company, the founders hire professional managers, marketing people, an HR person (usually an HR lady). Hierarchy seeps in, along with functional departments, job descriptions, formal policies. It's harder and harder to count on people to do the right thing without someone to guide them.

Sooner than you would imagine, engagement slips away, and people don't seem to get it. They do their

jobs, but the sense of pulling together is gone. It seems that people at the top know what to do, and the people at the bottom are just doing their jobs. This isn't because the people at the bottom are lazy, unaccountable, dull, slackers. It is because they don't have the knowledge, means, and boundaries to take the initiative.

KNOWLEDGE IS BIFURCATED

Bifurcation of knowledge is a fact of life in most hierarchies. People at the top understand the context. Founders, the first 15, and key managers know the business, the market, the product, the customers. They hold the financial information about how the company makes money and the current financial status. Since they hold this info, they also know what the company should do — on a strategic and tactical level. Knowledge flows down, but mostly on a "need to know" basis — a trickle, not a torrent.

At the same time, the higher you are in the hierarchy, the more the day-to-day reality of the business is abstracted to numbers. People at lower levels in the hierarchy don't want to displease people at higher levels, so they tend to minimize bad news — and the picture becomes rosier with each level it ascends.

On the other hand, knowledge about how things really work, how to work the (doesn't-work-as-defined) process, and what the status really is gets concentrated at the bottom of the organization. Hierarchy filters and distorts information in both directions. If the two sets of knowledge overlap, it is often in middle management (see Figure 1).

THE ILLS OF BIFURCATION

As companies grow, bifurcation becomes more pronounced and contributes to a number of unhelpful dynamics.

Dependency and Lack of Initiative

The less the "doers" of an organization — the people who make products and deliver services to customers, who



Figure 1 — If contextual and front-line knowledge overlap at all, it is usually among middle managers.

live in the bottom triangle — understand the context, the more they wait to be told what to do. In the absence of contextual knowledge, they may make poor choices.

Erosion of Trust and Respect

When people do not understand the work that other people do, it's easy to not respect that work. People in the upper triangle (managers) may expect or promise things that aren't possible, given actual working conditions.

"Doers" often wonder whether managers do real work or simply attend meetings. Managers wonder how something that seems simple to them can possibly take so long.

When I worked in financial services, we had an assignment to program our system for options trading. Compared to straightforward purchase and sales of stocks and bonds, the new functionality was a bit complicated to code in a procedural language. Looking at the estimate (1,000 hours of programming time) and considering the difficulty he'd had wrapping his head around puts and calls, one of the programmer suggested it would be better if we told the portfolio managers not to trade options.

That statement sounded stupid, but the person who made it was far from dull. The problem was that he didn't know much about the domain and didn't understand the part that options played in managing risk. He lacked contextual knowledge.

About the same time, one of the portfolio managers asked us to program the computer so that he could simply make his requested trades verbally. It is true, speaking the trade request would have been much less work. With the then-current system, the portfolio manager had to look up the identifying number for each investment vehicle, write it down, and note the number of shares or instruments to buy or sell, before handing it off to an assistant.

Our trading system ran on an IBM mainframe. Voice recognition was just coming out of the university labs. I understood how attractive a voice-activated system would be, but his request seemed out of touch.

Neither individual understood enough about each other's work and world. This makes people in one triangle appear foolish to people in the other triangle.

Unreasonable Expectation That Leaders Must Always Be Right

This is both unrealistic and a huge burden. When managers don't have the answers and make mistakes, it furthers the cycle of distrust and disrespect.

It's How Hierarchy Happens

All of these dynamics are both cause and effect. Given the typical trajectory, most companies end up with a hierarchy in which people at the top set strategic objectives, people in the middle direct and coordinate activities, and people at the bottom perform activities (see Figure 2). This is the dominant pattern, and bifurcation of knowledge is one of the factors that holds it in place.

BREAKING THE CYCLE

Breaking the cycle requires a shift in how we think about leadership *and* a shift in how we manage. Many of our current management practices evolved from earlier times, when workers may indeed have been uneducated (early factory work, building railroads) or unwilling (yes, on slave plantations). But that is not the case in the modern software organization. The people doing the work are highly educated and very willing ... until bifurcation robs them of necessary contextual knowledge and the opportunity to take meaningful responsibility for their actions and decisions.

Rethinking Leadership

Let's look at leadership first. Many popular definitions of leadership emphasize charisma, vision, or position. The darker definitions hint at manipulation or even coercion. In software companies, though, people throughout the organization are smart, well-intentioned, and capable of making good decisions. So we need a different definition if we want to make our companies more flexible and smarter. Here's one from Jerry Weinberg:

Leadership is ... the ability to enhance the environment so that everyone is empowered to contribute creatively to solving problems.

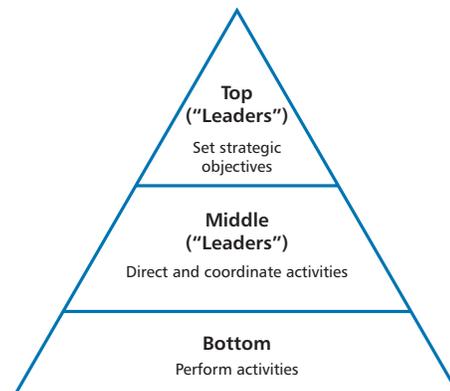


Figure 2 — Bifurcation of knowledge leads to hierarchy and holds it in place.

Under this definition, everyone can take action to improve the situation and solve problems. However, this definition worries people who are accustomed to more traditional models in which people at the top set strategic objectives, people in the middle coordinate work, and people at the bottom merely do. And in fact, without appropriate information, people will make decisions that are incorrect, wasteful, and harmful.

Organizing Work by Domains

That's where the second mental shift comes in. We need a different way to approach how the organization accomplishes its work and makes decisions in an appropriate time frame. Rather than think about hierarchical levels (which accrete power and privilege), let's think about domains. I call these domains Steering, Enabling, and Doing. These domains don't imply hierarchy, but rather pace of change and granularity. Steering-level concerns (which pertain to the overall directionality of the system) usually change more slowly than those in the Enabling domain or Doing domain (see Figure 3). Each domain can be further described as follows:

- **Steering** sets a course and steers the entire organization. Steering is responsible for the overall viability and functioning of the system. Steering deals with the *raison d'être* of the company: value proposition, market positioning, relationship with customers, difference in the world.
- **Enabling** supports activity that works toward the organization's purpose. Enabling is responsible for dynamic allocation of funds, managing tradeoffs, prioritizing. Enabling attends to the conditions that support people directly involved in creating products and services so they have the means to accomplish work and deliver value. This includes providing those means, articulating boundaries, clarifying decision rights.



Figure 3 — Three organizational domains.

- **Doing** delivers value to customers by creating goods and services and interacting with customers. Individuals in the Doing domain have great discretion in how they organize their work and how they work across teams.

The Three Cs: Factors That Enable Success

Within each domain, three factors allow people to create the conditions that foster leadership at all levels, great work, and great results:

- **Clarity.** People know what to work on. They know how their work fits into the big picture. They know who the customer is and the relationship the company wants to create with both customers and employees. A keen sense of the company's purpose and customers is essential guidance for everyone in the organization.
- **Conditions.** People have the means — budget, facilities, equipment, access to expertise — to do the work. Organizational structures and policies support the work.
- **Constraints.** Constraints that inhibit flow get in the way of work. Constraints that reduce flailing support work. Too many choices will delay decisions. Ambiguity about focus leads to futile arguments. With appropriate constraints, people know what should always be done — and what should never be done. People can articulate their bounded autonomy. They know both the decisions and the parameters for those decisions. For example, a team may have the freedom to choose their own testing tools, with a budget of \$30,000. Bumping into a boundary signals the need for a conversation. Say the team uncovers a testing tool that will save them enormous time but costs \$31,000. This situation triggers a conversation with the person who allocates funds, so the team can make the case for the additional expenditure.

Applying the Three Cs In and Across Domains

Within each domain, the concerns differ, but the overall aim is coherence. Coherence minimizes contradictions between what is claimed and what is done. Coherence allows appropriate local variation based on the nature and needs of the work. For example, accounting groups tend to have tighter constraints about the way they do their work than a product development group. However, both must work toward the same overall purpose: solving problems and creating value for customers.

Steering

Within the Steering domain, clarity relates to the purpose of the organization (product, value proposition),

the design of the business model, market position, and the desired relationship with customers. Decisions about balancing the interests of customers, employees, and stakeholders reside in this domain.

Conditions concern the overall organizational structure (organizing by product line, function, region, network, etc.). Global policies that set the tone for the organization, such as compensation philosophy, are also in the Steering domain.

Heuristics or principles set constraints in the Steering domain. Rather than elaborate policies and procedures that attempt to dictate behavior for all foreseeable situations, heuristics and principles are broader statements that help people act, interact, and make decisions in most situations without being prescriptive.

For example, the heuristic “Company before department, department before team, team before individual” guides decision making in a way that enables people at every level to make reasonable judgments, without having to seek permission and approval. People only need approval when actions bump up against an explicit constraint, such as the \$30,000 tools budget mentioned above.

Steering constraints set out what must be consistent across the organization and what can evolve to meet local needs and conditions. One company I visited set workspace guidelines based on real estate costs at headquarters (New York City). The result was cramped offices for New Yorkers and spacious ones for people in the Upper Midwest. When the New York employees visited Minneapolis, they were not pleased.

Enabling

In the Enabling domain, clarity is about what teams work on, in what order, to meet the company’s purpose. This is where portfolio management, roadmaps, and

release planning live. Clarity also includes articulating compelling goals. Effective goals act as attractors, articulating a purpose, and tapping into pride in work. A compelling goal may address solving a customer problem, overcoming a technical challenge, or improving customer experience.

The key is to focus them on outcomes, rather than activities or targets. “Achieve 90% test coverage” is a target. It’s quite possible to reach that target without improving quality one bit. “Hold code reviews on all changes” puts the focus on activities, without saying why.

“Improve our customers’ experience installing our product” is more likely to get people thinking about why the install process is unsatisfactory and how to make it better.

Producing appropriate results requires that people be organized into teams in ways that foster teamwork and flow. How work enters teams and how teams integrate work that crosses team boundaries are conditions for the Enabling domain. Constraints reflect decision rights and bounded autonomy granted to teams.

An additional — and critical — function crosses the Enabling and Doing domains. Problem finding/fixing is essential for system health and requires robust and open communication between people in these domains.

Doing

And it all comes down to Doing. Clarity, conditions, and constraints must work together to create the right balance of freedom and responsibility for teams. Without appropriate freedom, companies waste the experience, intelligence, and creativity of their employees. Without appropriate responsibility, teams may miss the mark or do foolish things. Conditions make it possible for teams to do work. Clarity and constraints bound

Table 1 — The Three Cs in Each Domain

	Clarity	Conditions	Constraints
Steering	<ul style="list-style-type: none"> • What is our purpose? • Who are our customers, and what relationship do we have with them? • What problem(s) do we solve for them? 	<ul style="list-style-type: none"> • What is our overall organizing principle? • What kind of workplace do we want to create? 	<ul style="list-style-type: none"> • What principles and heuristics guide us? • What must be consistent across the organization, and where can things evolve locally?
Enabling	<ul style="list-style-type: none"> • What efforts should we fund and work on? • How do we order our work? • How does day-to-day work connect with our purpose? 	<ul style="list-style-type: none"> • How can we organize people for effective collaboration? • How can we flow work into teams? 	<ul style="list-style-type: none"> • Which decisions flow to teams, and which are shared with management? • What constraints balance freedom and responsibility?
Doing	<ul style="list-style-type: none"> • How can we best organize our work? • What problems are emerging, and how can we address them? 	<ul style="list-style-type: none"> • What adjustments do we need to make to our team environment? • How can we best coordinate with other teams? 	<ul style="list-style-type: none"> • What agreements will support our work? • What approach is most effective now? • What tools and training do we need?

autonomy and maintain the balance between freedom and responsibility.

Unfortunately, in my experience, many teams are either overconstrained or underconstrained, and freedom and responsibility are out of balance. Overconstraint can be direct or indirect. Direct constraints explicitly limit discretion, self-determination, and decision making. I visited one team that was granted permission to decide their team name, their team meeting times (and penalties for showing up late), and how to spend their snack budget. The team's managers made all the significant decisions: what stories to work on, how to implement functionality, task assignments, vacation schedules, tools, training, and so on. In another project, testers were forbidden to talk to developers and customers. Each person was given a weekly task list but not permitted access to the overall plan. The direct constraints on these teams depressed engagement and limited use of people's creativity and problem-solving skills.

Other teams have the appearance of reasonable autonomy but are hampered by organizational rules and standards. These indirect constraints come from formal processes for procurement, long lists of (sometimes contradictory) standards, required documentation, gates, finely grained job descriptions and levels, work rules, and so on. Such constraints can originate in any domain, and many of them seem reasonable when looked at one by one. The problem is, they all cascade to the Doing domain and make it nearly impossible for doers to accomplish the organization's purpose. Taking initiative puts people at risk for censure — but breaking rules is the only way to produce tangible results. True leadership is not part of the equation.

Some very unfortunate teams are over-bound with both direct and indirect constraints. All they can do is wait to be told what to do and accomplish what they can as they navigate the maze of restrictions. There's not much hope of tapping into experience, creativity, and intelligence here.

Under-constrained teams slog toward uncertain results, but for a different reason. A while back I was consulted about one such group. After two years and zero tangible results, their manager called me to ask what to do. This team had been arguing about what problem they were trying to solve for two years. Several members held strong and nearly opposite opinions. They argued back and forth, and when it looked like one view would prevail, a third member would interject a different idea. Off they'd go again! The team had neither an appropriate attractor (clarity about the problem and organizational need) nor appropriate constraints regarding decision making and delivery. So, predictably, they were flailing.

Also predictably, the endless (and needless) conflict eroded trust and relationships.

Teams need to be able to do their own adaptive planning, make their own commitments, and organize their own work — and thus have clarity for how they will accomplish the organization's purpose. They can and should adapt and improve their own internal conditions. They should be able to decide on their own approaches, working agreements, and lateral linking. I see no reason why teams can't make boundedly autonomous decisions about hiring, tools, training, and more. When this happens, it's much more likely that innovation, engagement, and commitment will thrive.

ENABLING LEADERSHIP AT ALL LEVELS

Hierarchy isn't evil or bad. I'm not saying it has to go away. In fact, hierarchy can provide essential structure and support for people doing front-line work. But we do need to find different ways to think about and manage organizations. The prevailing model may have worked for certain forms of work, but it works against effective knowledge work.

Rather than decomposing work into functions and tasks, consider Steering your organization, Enabling the flow of work, and balancing freedom and responsibly so the Doing level can go about the business of building products and creating services. Manage with clarity, conditions, and constraints to unleash productivity and speed.

There is no one right way to apply this model. In fact, competitive advantage rests in adjusting these factors to your context and culture. When you enable leadership at all levels, you will achieve better and faster decision making, greater flexibility, increased engagement, and vastly reduce the need for close supervision. People might just start to love coming to work again.

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