

Developing IT Capabilities¹

IT professionals are usually the best in the organization when it comes to business process re-engineering. Why is it, then, that the IT group often has some of the most "under-engineered" processes in the company? It's true. IT is great at looking at business processes in other parts of the organization but not as comfortable looking at how its own work gets done. (Gomolski 2004)

This observation has not been lost on senior IT executives. They are the first to admit that they may not have standard, verifiable, and high-performing capabilities across the IT department. Furthermore, today's competitive environment is driving these same executives to provide guaranteed levels of service at reduced costs. This can be achieved only by enhancing the way in which IT work is done. As a result, IT executives are investigating revamping their internal IT capabilities as a vehicle to reduce IT costs, gain efficiencies, and improve the quality of their service in order to reap enhanced benefits from the IT investment.

This chapter explores how companies are managing and developing their internal IT capabilities and looks at how IT capabilities are identified, how people's skills are mapped onto these capabilities, and what outcomes can be expected from a focus on capabilities. The first section offers some definitions to clarify the discussion and describes the perceived value of focusing on IT capabilities within organizations. Then it presents a five-step framework for developing and managing IT capabilities.

WHY FOCUS ON IT CAPABILITIES?

In IT, terms such as *competencies*, *capabilities*, *skills*, *resources*, *services*, *experiences*, *processes*, *attitudes*, *procedures*, and even *methods* are often used interchangeably. Therefore, it is important to clarify the terminology surrounding capability management:

- **Capability.** This is the ability to marshal resources to affect a predetermined outcome. Portfolio management, for instance, is the capability to manage a set of IT applications as a logical whole.

¹McKeen J. D., H. A. Smith, and S. Singh, "A Framework for Enhancing IT Capabilities." *Communications of the Association for Information Systems* 15, article 36 (May 2005): 661-73. Reproduced by permission of the Association for Information Systems.

- **Competency.** This is the degree of proficiency in marshalling resources to affect a predetermined outcome. Thus, a capability indicates your ability to do something, whereas competency reflects how good you are at doing it.
- **Processes.** These are well-defined activities within capabilities. Portfolio management, for instance, includes the following processes: business case development, project prioritization, resource allocation, performance benchmarking, and portfolio analysis.
- **Procedures and methods.** These are "how to" or step-by-step instructions for implementing a process.

Why focus on IT capabilities? Rockart et al. (1996) argue that there is a direct linkage between IT capabilities and organizational value and identify eight imperatives that IT organizations must fulfill to support the organization's strategic thrusts. Ross et al. (1996) also see a direct relationship between IT capabilities and organizational value in specific IT assets that collectively guarantee long-term competitiveness for organizations. Combining these findings with their own work on IT leadership and outsourcing, Feeny and Willcocks (1998) suggest that the development of nine core IT capabilities is necessary for IT organizations to meet the three enduring challenges of uniting business and IT vision, delivering IT services, and designing an IT architecture. These IT capabilities are as follows:

1. **Leadership.** Integrating IT effort with business purpose and activities.
2. **Business systems thinking.** Envisioning the business process that technology makes possible.
3. **Relationship building.** Getting the business constructively engaged in IT issues.
4. **Architecture planning.** Creating a coherent blueprint for a technical platform that responds to current and future business needs.
5. **Making technology work.** Rapidly achieving technical progress by one means or another.
6. **Informed buying.** Developing and managing an IT sourcing strategy that meets the interests of the business.
7. **Contract facilitation.** Ensuring the success of existing contracts for IT services.
8. **Contract monitoring.** Protecting the business's contractual position, current and future.
9. **Vendor development.** Identifying the potential added value of IT service suppliers.

Other important IT capabilities include governance, business management, and skills management. Although it is difficult to prove that the existence of any or all of these IT capabilities result in organizational value, there is a strong sense that enhanced IT capabilities improve the chances of successfully converting IT investments into measurable outcomes for the organization. According to Weill (1989), successful IT investments are the result of "conversion effectiveness." Hence, these core IT capabilities could collectively be considered to constitute conversion effectiveness.

A FRAMEWORK FOR DEVELOPING KEY IT CAPABILITIES

If the existence of key capabilities enables IT investments to be successfully converted to organizational value, then it logically follows that we need strategies for building these IT capabilities. Based on their experience, participants suggested that organizations

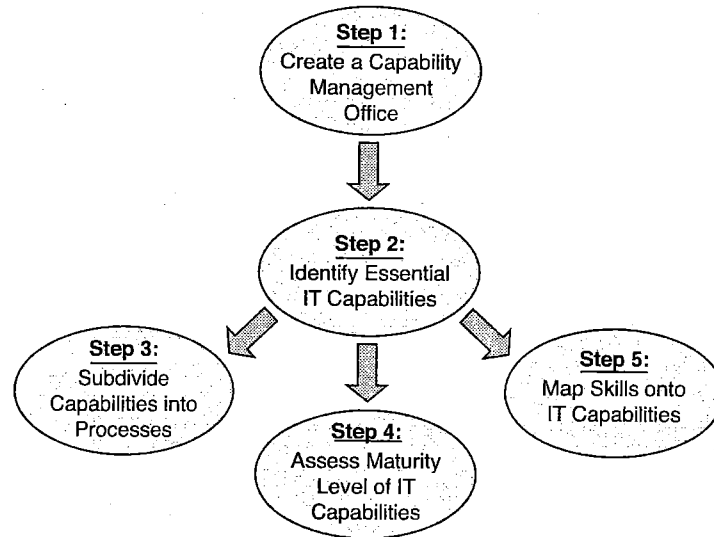


FIGURE 17.1 A Framework for Developing Key IT Capabilities

should have a framework to identify, develop, and manage key IT capabilities. The framework that emerged is depicted in Figure 17.1. Each step in this framework is described in the remainder of this chapter.

Step 1: Create a Capability Management Office

The first step for organizations is the creation of a set of activities, structures, policies, and governance principles to advance the development of their IT capabilities. To accomplish this task, many firms create a "capability management office." Not only is this office the focal point for capability development and management (i.e., steps 2 through 5), but its creation signals the importance IT senior management attaches to this activity. Although most managers agreed that this was an important activity if IT capabilities were to improve, there was significant variation among organizations in the group as to how they actually carried out this step.

One company created an entity called the "capability support group," which had the overall responsibility for the enhancement of IT capabilities. Another company formed an internal group called the "capabilities council" to investigate current practice within IT as part of a companywide ISO initiative. However, the capabilities management office is configured, at a minimum it was agreed that it should administer the following activities:

- Define and assign responsibility for all capabilities.
- Develop strategies for the development of these capabilities.
- Ensure that adequate resources and funding are provided to develop them.
- Secure software support for these activities.
- Adopt a continuous capability improvement approach.
- Develop organizational training plans.
- Report the status of organizational capability performance.

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It was also strongly recommended that this office, while assuming overall responsibility for the development of a capabilities management program, assign individual responsibilities to individual capabilities. According to one manager, "Making a capability someone's 'day job' is more effective at generating improvement than addressing it as a sideline or trying to grow it by committee."

Step 2: Identify Essential Capabilities Aligned with Business Goals

Each IT organization should go through the exercise of identifying its essential capabilities and linking them with business goals. However, these capabilities shouldn't be aligned too closely with current business practices. According to one manager, "Capabilities should be less functional and focus more on the outcomes that the organization needs to be able to create." This argues against simply adopting an existing list of core capabilities such as those suggested by Feeny and Willcocks (1998). Group participants felt that there was significant value in deriving one's own list . . . or at least in tailoring an existing list to suit one's particular goals. Identifying capabilities is an introspective analysis of the key activities that IT must execute effectively. It forces management to examine key business directives, not just IT challenges, and to establish priorities. This is a trip well worth taking. In some cases this exercise can bring IT much closer to the business and actually enhance alignment.

Despite the obvious linkage with the business, in practice identifying essential capabilities is largely an internal IT exercise. As a result, there is a tendency for the identification of key capabilities to result in a list that is much more *IT-speak* than *business-speak*. For instance, capabilities might be couched in terms of level of service, fail-soft mechanisms, solution delivery, and help desk provisioning. Such a list would be easily recognized by IT professionals while being somewhat obscure to their business counterparts. Participants argued that measures should be taken to ensure that the resulting essential capabilities be tied as closely as possible to the business—starting with the language.

Following are two lists of capabilities. Firm B has adopted a set of capabilities that is remarkably devoid of IT terminology and, as a result, could apply to a line of business as easily as it applies to IT.

Firm A

1. Skills Regeneration
2. Enterprise Architecture
3. Shared Services Governance & Development
4. Development Methodology
5. Project Initiation and Investment Management
6. Business Process Definition & Change Management
7. Infrastructure Alignment & Crisis Control
8. Partner Management & Outsourcing

Firm B

1. People Management
2. Strategy and Planning
3. Portfolio Management

4. Resource Management
5. Solution Delivery
6. Service Management
7. Asset Management

Another company (Firm C), after identifying a set of capabilities, realized that it was not tied closely enough to the business. It feared the situation where IT could demonstrate high competence on specific capabilities while the business faltered. As a result, it revisited its capabilities, earmarking those that explicitly tied it to the business. This exercise resulted in the identification of twelve capabilities, of which five were classified as "business enablement"; the other seven were classified under the headings of "IT utility" and "business operations." The company decided to depict these capabilities as a wheel (see Figure 17.2) to reinforce their dynamic nature as well as their mutual interdependence.

It is interesting to note that Firm C identified "IT Competencies & Culture" as a capability. This is an explicit recognition that the definition and management of IT capabilities are themselves capabilities! Another obvious difference with Firm C is the level of detail. This begs the question of how many capabilities there should be. Within the

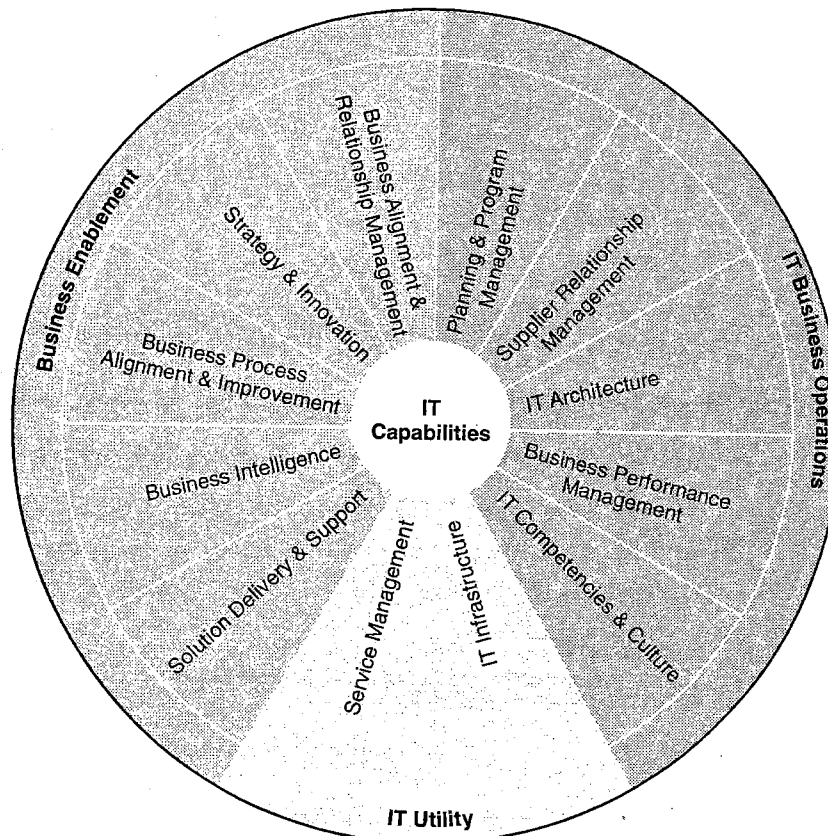


FIGURE 17.2 IT Capability Wheel

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focus group, the number of capabilities ranged from seven to twelve, which is probably a good working range. More than twelve would become too granular, and fewer would be overly generic and would risk losing focus and definition.

Step 3: Subdivide IT Capabilities into Key Processes

Once key capabilities have been identified, the next step is to subdivide them into processes. The result of this step should be a set of well-defined activities that can be measured and managed. A set of well-articulated processes enables organizations to evaluate their overall performance with respect to key capabilities. "Portfolio management," for instance, is a capability that is difficult to measure. "Business case development," however, is a well-defined component process of portfolio management, and performance on this process can be measured. Using the seven capabilities identified by Firm B above, Table 17.1 shows how these were subdivided into forty clear processes.

In the absence of accepted methodologies for subdividing capabilities into processes, managers offered some advice based on their experience. One suggested starting with such basics as configuration/capacity management, IT asset management, procurement, or vendor management. Another suggested starting with service delivery, where there are well-identified activities such as service-level agreements, application life cycles, and quality assurance. Gomolski (2004) suggests a different approach: to focus on the "pain points" within the organization. For instance,

if your staff is still responding to end-user requests in an ad hoc fashion, you'll want to look at your request management processes. Or if you find that basic information about IT capabilities isn't getting out to your internal customers, you'll want to focus on your communications processes. Maybe IT planning is weak, or budget estimates fail to hit the mark.

The approaches in Table 17.1 are inside-out approaches—that is, they focus on internal capabilities to distill component processes. There is also the outside-in approach, which takes advantage of the fact that there are external sources of well-defined IT processes already in existence. Perhaps the best-known source is the Software Engineering Institute (SEI) at Carnegie Mellon University with its capability maturity model (CMM) for software development. Other popular IT process frameworks used by some participants are the IT Infrastructure Library (ITIL) and CobiT (Control Objectives for Information and Related Technology). Other available frameworks less directly tied to IT are these:

- **Six Sigma.** A methodology in which processes are continuously refined until their outcomes fall within an acceptable level of defects.
- **ISO.** A set of standards focused on achieving uniform business processes.

Most focus group members felt that a combination of both the inside-out and the outside-in approaches is best. They recommended starting with an external source of processes to ensure that your list is comprehensive, then linking this list to your organization's key capabilities. It was suggested that adopting externally defined processes runs the risk of appearing foreign to IT staff, making it more difficult for them to develop an understanding and to foster feelings of ownership.

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TABLE 17.1 Competencies and Processes

Capabilities	Processes
1 People Management	1. Recruiting and hiring 2. Coaching and motivating 3. Performance management and career planning 4. Identifying and developing talent
2 Strategy and Planning	5. Account management 6. External benchmarking 7. Strategy development 8. Architecture development 9. Business process influence/enabling 10. IT marketing
3 Portfolio Management	11. Business case development 12. Project/service prioritization 13. Portfolio investment determination 14. Resource investment/allocation 15. Performance benchmarking 16. Portfolio analysis
4 Resource Management	17. Staffing strategy development 18. Resource capacity management 19. Staff sourcing 20. Resource assignment 21. Budget management
5 Solution Delivery	22. Project management 23. Solution configuration 24. Solution development and integration 25. Architecture implementation 26. Solution verification and validation
6 Service Management	27. Solution release 28. Service-level management 29. Asset availability management 30. Asset capacity management 31. Incident management 32. Problem management 33. Change management
7 Asset Management	34. Asset inventory management 35. Asset affiliation management 36. Asset life cycle management 37. Security/permeability enforcement 38. Supplier relationship management 39. Lease/contract management 40. Knowledge management

Step 4: Assess the Maturity Level of IT Capabilities

The reputation for developing software plagued with deficiencies has put pressure on the IT industry over the years to convert software development from an art into a science. Arguably the most successful development to date beyond the systems development life cycle and structured design has been the CMM framework. Not only is this the most widely accepted standard in North America for software development, but many companies insist on dealing with only those IT shops that can demonstrate a level of quality management prescribed by it.

Today the CMM approach has been applied to many tasks in addition to software development. The five CMM levels for software development are as follows (CMMI Product Team 2002):

Level 1 (initial). Software development follows few rules. The project may go from one crisis to the next. The success of the project depends on the skills of individual developers. They may need to finish the project in a heroic effort.

Level 2 (repeatable). Software development successes are repeatable. The organization may use some basic project management to track cost and schedule. The precise implementation differs from project to project within the organization.

Level 3 (defined). Software development across the organization uses the same rules and events for project management. Crucially, the organization follows the same process even under schedule pressures, ideally because management recognizes that it is the fastest way to finish.

Level 4 (managed). Using precise measurements, management can effectively control the software development effort. In particular, management can identify ways to adjust and adapt the process to particular projects without measurable losses of quality or deviations from specifications.

Level 5 (optimizing). Quantitative feedback from previous projects is used to improve project management, using the measurement skills shown in level 4.

Some organizations have adopted these CMM maturity levels, and others have created their own levels. Obviously, the definition of each maturity level must be tailored to a specific IT capability as the preceding definitions pertain to only software development. One company uses the following six levels:

1. *No capability.* No observable value added.
2. *Aware.* Clear understanding of need.
3. *Developing.* Defined action plan and actively engaged.
4. *Practicing.* Demonstrating and achieving value.
5. *Optimizing.* Measuring results and investing in continual improvement.
6. *Leading.* Recognized proficiency and consistent value contribution.

As long as a capability's maturity levels are well defined, the group felt that the framework is immaterial. They agreed it is more important that the maturity levels used be effective in assessing capabilities and driving continuous improvement. It was widely recognized that not all processes within a capability would be at the same maturity level at any given point in time. What does it mean for a capability if some of

its component processes are at a maturity level 2 while others are at a maturity level 3? Again, participants felt it is more important to have measurable improvement than uniformity across and within capabilities (i.e., all component processes at the same maturity level).

It is crucial that the capability management office has a snapshot of the overall maturity of each capability in order to focus attention correctly. At one company a team of senior managers reviews each capability's maturity to identify high-priority process improvement areas. They then develop a plan for the advancement of these highlighted processes, establish a timeline, and hold individuals accountable against delivery of these improvements. At another organization each capability is assigned an executive owner who is tasked to meet measurable objectives regarding the maturity of his or her capability. A quarterly report outlines the capability's current state and desired future state, timelines for deliverables, a description of overall progress and performance, and a gap assessment (HR, budget, information/tools/technology, schedule, quality, sustainability, and measurement). An interesting aspect of this report (reproduced in Table 17.2) is its use of verbal descriptions in combination with quantitative indicators. Furthermore, each capability owner must articulate what will be different about the organization's performance as a result of having this future state capability. This unique requirement forces each capability owner to link his or her capability directly to a distinct organizational outcome. This exercise has proven invaluable for ensuring that any improvements in the maturity of IT capabilities have associated business impact.

A key question for IT executives is this: What level of maturity should we target for our capabilities? There was general consensus that IT vendors are likely forced to "aim high," whereas other companies might be satisfied with midrange maturity. One manager suggested his company felt that the gain in moving from level 2 to level 3 on the maturity index was significant but the gain in moving higher was substantially reduced, suggesting that capability maturity levels could be subject to the "law of diminishing returns."

Step 5: Link IT Skills to IT Capabilities

The final part of the framework for IT capability development is the link between skills and capabilities. Failure to do this results in a significant disconnect between individuals and capabilities and a belief that individuals have little to do with capability maturity beyond that of following the dictates of established procedures. This is surprising in light of the fact that even a cursory glance at the processes within Table 17.1 reveals that many are very closely related to individual skills. Interestingly, only one company in the group had explicitly addressed this issue. Others, despite being well advanced in terms of identifying key processes and mapping them onto capabilities, chose indirect methods for tying individual skills to key capabilities.

Feeny and Willcocks (1998) identify three types of IT skills: (1) business, (2) technical, and (3) interpersonal. For each of their nine key capabilities, they then ranked the need for each type of skill as being high, medium, or low. An IT leadership capability, for example, requires a high level of business skills, a medium level of technical skills, and a high level of interpersonal skills. How these skills are to be developed, assessed, and linked to individuals and/or career development was not discussed.

TABLE 17.2 IT Capability Progress and Performance Chart

IT Capability	Portfolio management (for example)			
Operational Definition	Written description of this particular capability			
Owner	Name of the individual			
Future End-State Vision	Describes what will be different about IT performance as a result of having this future state capability	POD ¹ 5	POA ² 8	
End-of-Year Deliverables	Process 1: Description	Impact Medium	P&P ³ S	
	Process 2: Description	High	N	
	Process n: Description	Low	S	
Overall Progress and Performance	What did you plan to get done this quarter, and what did get done? If there is variance, what was the source of the error?			
Gap Assessment ⁴				
	Process 1	Process 2	Process n	Explanation ⁵
Human Resources	G	Y	G	***
Budget	Y	Y	G	***
Information/Tools/Technology	G	G	G	
Schedule	G	G	G	
Quality	G	R	Y	***
Sustainability	G	G	Y	***
Measurement	G	G	G	

¹POD is "point of departure" (i.e., your current state) on a scale of 1 to 10.

²POA is "point of arrival" (i.e., your end state) on a scale of 1 to 10.

³P&P is "pace and performance," where "S" is satisfactory and "N" is not satisfactory.

⁴G = green, Y = yellow, and R = red.

⁵Detailed explanation required for any row that isn't "green."

The sole company that had addressed this issue created matrices to map individual skills (such as "conceptual thinking") against roles (such as "application architect" or "business analyst"). Different levels of these skills would be needed for particular roles; for instance, a level 3 business analyst would require greater mastery of each requisite skill than a level 2 business analyst. When roles are mapped to processes and processes are mapped to capabilities, it is possible to connect individuals to the capabilities that have been identified as being critical for the IT organization. Furthermore, these matrices make the progression between levels within roles explicit and, therefore, the focus of annual performance reviews and career advancement discussions. In this company a number of communities of practice had been established to further disseminate key skills throughout the organization (e.g., a business analyst community).

In those companies without direct links between individual skills and key IT capabilities, indirect links exist. In one firm, process improvement was made everyone's job. Anyone in the organization was encouraged to "raise a process improvement." These initiatives were maintained within a process improvement database and

reviewed on a quarterly basis by a senior management team. This initiative successfully engaged individuals in terms of their awareness of the need for continuous process improvement. Another organization included organizational process skills within its internal training programs for job roles. This ensured awareness and knowledge of key processes across the IT department. The key point is that individuals must be connected (either directly or indirectly) to the process of developing IT capabilities.

Conclusion

The improvement of IT capabilities and processes within organizations will undoubtedly result in enhanced benefits from IT investments. Improving performance on such activities as solution delivery and asset management alone promises substantial results. When IT departments take the next

step and identify those capabilities and processes that are vital to the business and develop those capabilities and processes to advanced maturity levels, the rewards promise to be dramatic. This chapter sets out a step-by-step framework that should assist IT organizations in reaching this goal.

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Building Better IT Leaders from the Bottom Up¹

For IT to assume full partnership with the business, it will have to take a leadership role on many vital organizational issues. . . . This leadership role is not the exclusive prerogative of senior executives—it is the duty of all IT employees. Effective leadership has enormous benefits. To realize these benefits, leadership qualities should be explicitly recognized, reinforced, and rewarded at all levels of the IT organization. This only happens when a concerted effort is made to introduce leadership activities into the very fabric of the IT organization. Leadership is everyone's job. (McKeen and Smith 2003)

This quote, taken from a book we published several years ago, remains as true today as it was then. But a lot has happened in the interim. Chiefly, in the chaotic business conditions of late, IT leadership development got sidetracked. The dot-com boom and bust soured many companies on the top-line potential of IT and refocused most CIOs on developing strong processes to ensure that IT's bottom line was kept under control (Roberts and Mingay 2004). But the wheel has turned yet again, and there is now renewed emphasis on how IT can help the organization achieve competitive differentiation and top-line growth (IBM 2004).

The many new challenges facing IT organizations today—achieving business growth goals, enterprise transformation, coping with technical and relationship complexity, facilitating innovation and knowledge development, and managing an increasingly mobile and virtual workforce—calls for strong IT leadership. Unfortunately, few IT leadership teams are well equipped for the job (Mingay et al. 2004). Traditional hierarchical structures with command-and-control leadership are not only ineffective, but they also can actually become a barrier to the development of a high-performance IT department (Avolio and Kahai 2003). New communications technologies are enabling new ways of leading and empowering even the most junior staff in new ways. These factors are all bringing senior IT managers around to a new appreciation for the need to build strong IT leaders at all levels of their organization.

This chapter looks first at the increasing importance of leadership in IT and how leadership is changing over time. Next, it examines the qualities that make a good IT leader. Then it looks at how companies are trying to develop better IT leaders at all levels in their organizations. Finally, it outlines the value proposition for investing in IT leadership development.

¹Smith, H. A., and J. D. McKeen. "Building Better IT Leaders: From the Bottom Up." *Communications of the Association for Information Systems* 16, article 38 (December 2005): 785–96. Reproduced by permission of the Association for Information Systems.

THE CHANGING ROLE OF THE IT LEADER

The death of the traditional hierarchical organizational structure and top-down command-and-control leader has been predicted for at least two decades (Bennis and Nanus 1985), but it's dying a slow and painful death. Although much lip service is paid to the need for everyone in IT to be a leader, the fact remains that the traditional style of leadership is still very much in evidence, especially in large IT organizations.

There appear to be at least three reasons this is the case. First, until now, there has been very little pressure to change. As one manager pointed out, "We've been focusing on centralizing our IT organization in the last few years, and centralized decision making is inconsistent with the philosophy of 'Everybody leads.'" Those IT managers struggling with the complexities engendered by nonstandard equipment, nonintegrated systems, and multiple databases full of overlapping but inconsistent data can be forgiven if this philosophy suggests the "Wild West" days of IT, when everyone did their own thing.

Second, the organizations within which IT operates are largely hierarchical as well. Their managers have grown up with traditional structures and chains of command. They are comfortable with them and are uncomfortable when they see parts of their organization (e.g., IT) behaving and being treated differently by their CIO (Feld and Stoddard 2004). Senior management may, therefore, pressure IT to conform to the ways of the rest of the firm. This situation has recently become exacerbated by new compliance regulations (e.g., Sarbanes-Oxley, privacy legislation) that require hierarchical accountability and severely limit flexibility. Third, many senior executives—even within IT—find it difficult to relinquish control to more junior staff because they know they still have accountability for their results. Keeping a hands-on approach to leadership, they believe, is the only way to ensure work gets done right.

However, in spite of the remarkable tenacity of the hierarchical organization, there are signs that traditional leadership modes in IT are now in retreat, and there is a growing recognition that IT organizations must do a better job of inculcating leadership behaviors in all their staff (Bell and Gerrard 2004). There are some very practical reasons all IT staff are now expected to act as leaders, regardless of their official job titles:

- *Top-line focus.* CEOs are looking for top-line growth from their organizations (IBM 2004). New technologies and applications largely drive the enterprise differentiation and transformation efforts that will deliver this growth. Strong IT leadership teams are needed to take on this role in different parts of the organization and at different levels. They can do this effectively only by sharing clear goals and direction, understanding business strategy, and having the requisite "soft" skills to influence business leaders (Roberts and Mingay 2004).
- *Credibility.* No IT leadership initiatives within business will be accepted unless IT is consistently able to deliver results. This aspect of leadership is often called "management" and considered somewhat less important than transformational aspects of leadership, but IT's credentials in the latter rest solidly on the former (McKeen and Smith 1996; Mingay et al. 2004). No business organization will accept IT leadership in other areas unless it has demonstrated the skills and competencies to consistently deliver on what it says it will do. Furthermore, distinguishing between leadership and management leads to a dysfunctional IT organization. "Managers who don't lead are boring [and] dispiriting, [whereas] leaders who

don't manage are distant [and] disconnected" (Mintzberg 2004). We have too often forgotten that top-level leaders are developed over time from among the rank and file, and that is where they learn how to lead.

- **Impact.** There is no question that individuals within IT have more opportunities to affect an organization, both positively and negatively, than others at similar levels in the business. The focus group felt that this fact alone makes it extremely important that IT staff have much stronger organizational perspectives, decision-making skills, entrepreneurialism, and risk-assessment capabilities at lower levels. Today, because even small decisions in IT can have a major impact on an organization, it is essential that a CIO be confident that his or her most junior staff have the judgment and skills to take appropriate actions.
- **Flexibility.** Increasingly, IT staff and organizations are expected to be responsive to rapidly changing business needs and help the enterprise compete in a highly competitive environment. This situation requires IT staff to have not only the technical skills required to address a variety of needs, but the ability to act in the best interests of the organization wherever opportunities arise. "We are no longer order takers in IT," stated one manager. "All our staff are expected to do the right things for our firm, even when it means saying 'no' to senior business management." Similarly, doing the right things involves being proactive. These actions take significant amounts of organizational know-how to pull off—leadership skills that rank-and-file IT staff are not noted for at present.
- **Complexity.** The responsibilities of IT have grown increasingly complex over the past two decades (Smith and McKeen 2006). Not only is IT expected to be a high-performance organization, but it is also expected to offer change and innovation leadership, interact with other organizations to deliver low-cost services, chart a path through ever-growing new technology offerings, and offer content leadership (Mingay et al. 2004). The complexity of the tasks, relationships, knowledge, and integration of these now needed in IT means that leadership cannot rest in the hands of one person or even a team. Instead, new ways of instilling the needed skills and competencies into all IT staff must be found.
- **New technology.** E-mail, groupware, instant messaging, and the Internet are all changing how leaders work—especially in IT. Increasingly, staff are virtual or mobile and their interactions with their managers are mediated by technology. At the same time, IT staff have much greater access more quickly to the same information as their managers. New technologies change how information is acquired and disseminated, how communication takes place, and how people are influenced and decisions made. Traditional forms of control are, thus, increasingly ineffective (Avolio and Kahai 2003).

All of these factors are driving the need to push leadership skills and competencies further down in the IT organization. Traditional hierarchies will likely remain in place to define authority and accountability, and *leadership* is likely to become increasingly situational—to be exercised as required by tasks and conditions (Bell and Gerrard 2004). With the demands on IT projected to be ever greater in the next decade, the need for more professional and sophisticated IT leadership is also greater than ever before (Feld and Stoddard 2004). In fact, many believe that IT leadership will determine "which [IT] organizations disappear into the back office of

utility services and which ones build companywide credibility and drive business growth and ability" (Mingay et al. 2004).

WHAT MAKES A GOOD IT LEADER?

In many ways the qualities that make a good IT leader resemble those that make any other good leader. These can be divided into two general categories:

1. *Personal mastery.* These qualities embody the collection of behaviors that determine how an individual approaches different work and personal situations. They include a variety of "soft" skills, such as self-knowledge, awareness of individual approaches to work, and other personality traits. Most IT organizations include some form of personal mastery assessment and development as part of their management training programs. Understanding how one relates to others, how they respond to you, and how to adapt personal behaviors appropriately to different situations is a fundamental part of good leadership. One company's internal leadership document states, "Leaders must exercise self-awareness, monitor their impact on others, be receptive to feedback, and adjust to that feedback." "The higher up you get in IT, the greater the need for soft skills," claimed one member. Another noted the positive impact of this type of skills development: "It's quite evident who has been on our management development program by their behaviors." An increasingly important component of this quality for IT staff is personal integrity—that is, the willingness to do what you say you are going to do—both within IT and with external parties such as users and vendors.
2. *Leadership skill mastery.* These qualities include the general leadership skills expected of all leaders in organizations today, such as motivation, team building, collaboration, communication, risk assessment, problem solving, coaching, and mentoring. These are skills that can be both taught and modeled by current leaders and are a necessary, but not sufficient, component of good IT leadership (McKeen and Smith 2003).

However, good IT leaders are required to have a further set of skills that could be collectively called "strategic vision" if they are going to provide the direction and deliver the impact that organizations are expecting from IT. Because this is a "soft skill," there is no firm definition of this quality, but several components that help to develop this quality at all levels in IT can be identified, including the following:

- *Business understanding.* It should go without saying that for an IT leader to have strategic vision, he or she should have a solid understanding of the organization's current operations and future direction. This is well accepted in IT today, although few IT organizations have formal programs to develop this understanding. Most IT staff are expected to pick it up as they go along, mostly at the functional business process level. This may be adequate at junior levels, but being able to apply strategic vision to a task also involves a much broader understanding of the larger competitive environment, financial management, and marketing. "Our customers are now our end users. With our systems now reaching customers and reaching out horizontally in the organization and beyond, IT staff *all* need a broader and deeper appreciation of business than ever before," said one manager.

- **Organizational understanding.** A key expectation of strategic vision in IT is enterprise transformation (Mingay et al. 2004). This involves more than just generating insights into how technology and processes can be utilized to create new products and services or help the organization work more effectively; it also involves the effective execution of the changes involved. IT professionals have long known that technology must work in combination with people and processes to be effective. This is why they are now expected to be experts in change management (Markus and Benjamin 1997; McKeen and Smith 2003; Orlikowski and Hofman 1997). But being able to drive transformation forward involves a number of additional skills, such as political savvy (to overcome resistance and negative influences), organizational problem solving (to address conflicting stakeholder interests), effective use of governance structures (to ensure proper support for change), and governance design (to work with partners and service providers) (Bell and Gerrard 2004; Kim and Maugorgne 2003). Because IT people come from a technical background and their thinking is more analytical, they typically do not have strong skills in this area and need to acquire them.
- **Creating a supportive working environment.** Most IT work is done in teams. Increasingly, these teams are virtual and include businesspeople, staff from vendor companies, and members from different cultures. Motivating and inspiring one's colleagues to do their best, dealing with relationship problems and conflicts, and making decisions that are consistent with the overall goals of the organization and a particular initiative are the job of every IT staff member. Since much leadership in a matrixed organization such as IT is situational, an IT professional could be a leader one day and a follower the next. Thus, that person must know how to create a work environment that is characterized by trust, empowerment, and accountability. This involves clear communication of objectives, setting the rules of engagement, developing strong relationships (sometimes virtually), and providing support to manage risks and resolve issues (Anonymous 2004; Avolio and Kahai 2003; Bell and Gerrard 2004).
- **Effective use of resources.** A good IT leader knows how to concentrate scarce resources in places where they will have the biggest payoff for the organization. This means not only making use of processes and tools to stretch out limited staff but also understanding where resources should *not* be used (i.e., saying "no"). In the longer term, using resources wisely may mean using job assignments and budgets to enhance people's capabilities, identifying and developing emergent leaders, and using reward and recognition programs to motivate and encourage staff (Anonymous 2004). Unfortunately, IT staff have often been spread too thinly, underappreciated, and not given time for training. Good IT leaders value their people, run interference for them when necessary, and work to build "bench strength" in their teams and organizations.

Leadership Styles Vary According to the Degree of Involvement of Team Members

- | | |
|--|---|
| • Commanding. "Do what I tell you." | • Affiliate. "People come first." |
| • Pacesetter. "Do as I do now." | • Coaching. "Try this." |
| • Visionary. "Come with me." | • Democratic. "What do you think?" |

(after Roberts and Mingay 2004)

- *Flexibility of approach.* A good IT leader knows where and how to exercise leadership. "Skill mastery must be complemented with the ability to know when and where particular behaviors/skills are required and . . . how they should be deployed" (McKeen and Smith 2003). Even though this is true in all parts of the organization, leadership in IT can be a rapidly shifting target for two reasons. First, IT staff are well-educated, well-informed professionals whose opinions are valuable. "Good IT leaders know when to encourage debate and also when to close it down," said a manager. Second, the business's rapid shifts of priority, the changing competitive and technical environment, and the highly politicized nature of much IT work mean that leaders must constantly adjust their style to suit a dynamic topography of issues and priorities. "There is a well-documented continuum of leadership styles. . . . The most appropriate style depends on the enterprise style and the business and strategic contexts" (Roberts and Mingay 2004).
- *Ability to gain business attention.* A large component of IT leadership is focused not on the internal IT organization but outward toward all parts of the business. One of the biggest challenges for today's IT leaders is the fact that the focus of their work is more on business value than on technology (Mahoney 2004). The ability to motivate business executives, often in more senior positions, to lead business transformation and to gain and maintain executive attention is central to establishing and maintaining IT credibility in an organization (McDonald and Bace 2004). A good IT leader knows how to position his or her contribution in tangible, business terms; how to interact with business leaders; and how to guide and educate them about the realities of IT use. "Bringing value to the business is a very important trend in IT leadership," stated one participant.

IT leaders will need more or fewer of these qualities, depending on the scope and type of their work. Obviously, IT staff responsible for sourcing will need a different mix of these skills than will those with an internal IT focus or those with a business focus. They will also be more important the higher one moves in the management hierarchy. Nevertheless, these are skills that IT organizations should endeavor to grow in all their staff from the most junior levels. Since these skills take time and practice to develop and are in increasing demand, senior IT managers should put concrete plans in place to ensure that they will be present when needed.

HOW TO BUILD BETTER IT LEADERS

Everyone agrees that fostering leadership skills throughout all levels of IT is important to IT's future effectiveness (Bell and Gerrard 2004; McKeen and Smith 2003; Mingay et al. 2004; Mintzberg 2004). However, the reality is that leadership development is very hit and miss in most IT organizations. Over the past five years, many formal leadership courses have been cut or scaled back substantially because of cost-control initiatives. When offered, most IT leadership programs limit attendance to managers. Few organizations have articulated a comprehensive program of leadership development that includes other initiatives besides training.

Leadership development in IT is not as simple as sending a few handpicked individuals on a training course. In fact, formal training may be one of the *least* effective

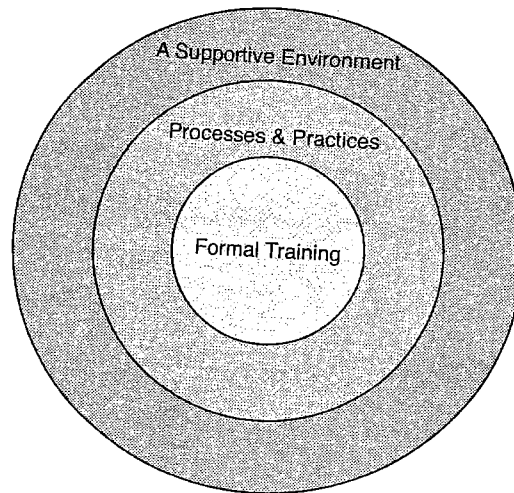


FIGURE 18.1 Effective Leadership Development Involves More Than Training

(and most expensive) aspects of building better IT leaders (Kesner 2003). Any comprehensive leadership development program has three layers (see Figure 18.1). The first, most important, and probably most difficult one is an environment within which leaders at all levels can flourish. It is often suggested that leaders, like cream, will naturally rise to the top regardless of the conditions in which they work. The reality is that more and better leaders are created when organizations have a supportive process for developing them that is widely understood. What's needed is "a culture that nurtures talented managers, rather than one that leaves them to struggle through a Darwinian survival game" (Griffin 2003). There is general agreement on what constitutes this type of culture:

- *Well-articulated and instantiated values.* Values guide how staff should behave even when their managers aren't around. They provide a basis for sound decision making (Stewart 2004). "If you're going to push leadership down in the organization, you have to push values down as well," stated one manager. Others noted that senior IT leadership should primarily be about forming and modeling values, not managing tasks. Values are especially important now that staff are more mobile and virtual (Cascio and Shurygailo 2003). A strong value system is crucial to bringing together and motivating a large, diverse workforce and helping staff act in ways that support the company's brand and values. Unfortunately, although many organizations have values, they are often out of date or not modeled by management (Stewart 2004).
- *A climate of trust.* Trust that management means what it says about values and leadership development must be established early in any program. Trust is established by setting expectations and delivering results that meet or exceed those expectations. By sending clear messages to staff and exhibiting positive attitudes about staff behavior, senior IT managers will help people feel they can begin to take some risks and initiatives in their work (Cascio and Shurygailo 2003). If people feel their culture is based on fair processes and that they can draw lessons from both

good and bad results, they will start to respond with the type of high performance and leadership behaviors that are expected (Kim and Maugorgne 2003). Conversely, senior managers must take steps to weed out counterproductive behaviors, such as poor collaboration, that will undermine this climate (Roberts and Mingay 2004).

- *Empowerment.* Empowerment thrives in a climate of trust, but leaders need to deliberately encourage it as well. In IT one of the most important ways to do this is to create mechanisms to support staff's making difficult decisions. One company recognized this by explicitly making "We'll support you in doing the right things" a central element in revamping its leadership promise. To make it real and visible, the company established a clear process through which junior staff can resolve potential conflicts with users about disagreements on what is "the right thing." Furthermore, they have established committees to help manage the risks involved in IT work, get at the root cause of recurring issues, and protect the promises made to business partners. Such processes, in conjunction with values and trust, create a management system that empowers people and frees them to make appropriate decisions (Stewart 2004). By staying connected with staff as teachers, coaches, champions, and mentors, more senior leaders help more junior staff to take "intelligent risks" and sponsor initiative (Taurel 2000).
- *Clear and frequent communication.* As with other types of change, one cannot communicate too much about the need to create an environment to foster leadership. "In spite of all we know about communication, it's still one of our biggest leadership gaps," said a participant. Open, two-way communication is the hallmark of modern leadership. Leaders and followers are gradually learning how to effectively use the electronic nervous system that now runs through all organizations (Avolio and Kahai 2003). Use of information technology and multiple channels is now the norm, and redundancy is advisable because of the increased opportunities for miscommunication in the virtual world. Senior executives are now using IT to communicate interactively with their most junior staff (Stewart 2004). One company has established an "Ask Phil" e-mail whereby any member of IT can direct questions to the CIO. Leadership is about developing relationships with people. It engages them and helps direct them to a particular goal. Learning to leverage all conduits of communication to build and sustain an array of relationships is, therefore, central to becoming an effective IT leader (Avolio and Kahai 2003).
- *Accountability.* Acceptance of accountability is a key component of leadership. A climate where accountabilities are clear is an important aspect of a leadership development culture (Bell and Gerrard 2004). Natural leaders often first come to senior management's attention because they consistently deliver on what they promise. More recently, the concept of accountability is being extended to include expectations that IT staff will assist the business in achieving its growth goals and that IT will not create technical impediments to implementing business strategies (Mingay et al. 2004). Unfortunately, IT accountability is frequently absent, and this has negatively affected the perceptions of IT leadership in the rest of the organization (Feld and Stoddard 2004). No member of IT should be allowed to abdicate responsibility for delivering results. However, focus group members stressed that in order to create a culture of accountability, IT leaders must also provide the processes, tools, and support to produce successful results.

The second layer of a leadership development program involves building leadership activities into IT's processes and daily work. Well-designed and documented processes for such activities as planning, budgeting, conflict resolution, service delivery, and financial reviews and approvals clearly articulate the individual elements that contribute to leadership in particular situations. They make it easier for more junior staff to carry out these activities and to learn what is expected of them (Bell and Gerrard 2004). They also establish boundaries within which staff can exercise judgment and take risks.

Human resources management practices are a key component of fostering leadership at this level as well. Many companies have begun to document the competencies that they expect staff to exhibit in each job category and level. These typically include leadership as well as technical skills. "It gets harder to do this the higher up the management hierarchy one goes," stated one manager. "At the more senior levels, leadership skills are much more individualized and are more difficult to capture, but we're working on it." Specific training and development strategies work well for each job stream at more junior levels. With more senior positions, development plans should be created for each individual.

Job assignments are one of the most important ways to develop leadership expertise. In fact, some experts suggest that 80 percent of the levers management has at its disposal in this area are related to how a company uses assignments and job postings to influence an individual's experience (Kesner 2003). Job rotations, stretch assignments, and on-the-job coaching and mentoring are all effective ways to build leadership skills. Occasionally, this may entail taking risks and not always appointing the most qualified person for a particular job (Roberts and Mingay 2004). Sometimes, this should involve moving a person out of IT into the business for an assignment. All organizations should have processes in place to identify emergent leaders and take proactive steps to design individualized strategies of coaching and assignments that will fit their unique personalities (Griffin 2003). Succession planning should be a significant part of this process as well. Recruiting leaders from outside is sometimes necessary, but this is a far more risky and expensive way to address succession than growing leaders from within (Roberts and Mingay 2004).

Finally, at the core of any leadership development program is formal training. Commitment to formal leadership training in organizations has been patchy at best. Training can be internally developed or externally purchased. The fastest-growing segment of executive education is customized programs for a particular organization that are specifically tied to business drivers and values (Kesner 2003). In-house programs are best for instilling vision, purpose, values, and priorities. External training is best used for introducing new knowledge, practices, and thinking to leadership.

Because of the time and expense involved, leadership training should be used strategically rather than comprehensively. Often IT resources can be so stretched that finding time for development is the biggest challenge. One company reasserted the importance of training by promising its staff that it would spend its entire annual training budget for the first time! This organization sees training as one tool for helping individuals make their best contributions and achieving success; interestingly, it has found that making it easier to find appropriate courses through the creation of a formal curriculum and streamlining the registration and payment processes has led to a significant uptake in employees' taking advantage of development opportunities.

INVESTING IN LEADERSHIP DEVELOPMENT: ARTICULATING THE VALUE PROPOSITION

Although leadership development is widely espoused, many organizations have reduced their budgets in recent years, and that has hit formal training programs hard. One manager remarked that his staff knew senior management was serious about development when it maintained training budgets while trimming in other areas. However, as mentioned above, training is only one facet of a good leadership development program, and doing it right will take executive time and consistent attention, in addition to the costs involved in establishing and following through on necessary communications, procedures, and planning. It is essential to articulate the value proposition for this initiative.

Experts suggest that several elements of value can be achieved by implementing a leadership development program. Using a rubric established by Smith and McKeen (2003), these elements include the following:

- *What is the value?* Because different companies and managers have different perceptions of value, it is critical that the value that is to be achieved by a leadership development program be clearly described and agreed on. Some of the value elements that organizations could achieve with leadership development include improved current and future leadership capabilities and bench strength (preventing expensive and risky hires from outside), improved innovation and alignment with business strategy, improved teamwork (both internally and cross-functionally), improved collaboration and knowledge sharing, greater clarity of purpose and appropriate decision making, reduced risk, and a higher-performing IT organization. When these value objectives are understood, it is possible to develop metrics to determine whether or not the program is successful. Having a focus and metrics for a leadership program will ensure that management pays attention to it and that it doesn't get shunted into a corner with the "soft and fuzzy stuff" (Kesner 2003).
- *Who will deliver the value?* Because leadership development is partially HR's responsibility and partially IT's, clarifying which parts of the program should be delivered by which group is important. Similarly, much of the coaching, mentoring, and experiential components will be fulfilled by different managers within IT. It is, therefore, important for senior management to clarify roles and responsibilities for leadership development and to ensure that they are implemented consistently across the organization. Ideally, senior IT management will retain responsibility for the outer layer of the leadership program—that is, creating a supportive working environment. At one company the senior IT team created several packaged presentations for middle managers to help them articulate their "leadership promises."
- *When will value be realized?* Leadership development should have both long- and short-term benefits. Effective training programs should result in visible behavior changes, as noted above. The initial impacts of a comprehensive leadership initiative should be visible in-house within a year and to business units and vendors within eighteen to twenty-four months (McDonald and Bace 2004). Again, metrics are an essential part of leadership programs because they demonstrate their success and effectiveness. Although there is no causal link between

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leadership development and improved business results, there should be clear and desirable results achieved (Kesner 2003). Using a "balanced scorecard" approach to track the different types of impacts over time is recommended. This methodology can be used to demonstrate value to IT managers, who may be skeptical, and to HR and senior management. It can also be used to make modifications to the program in areas where it is not working well.

- *How will value be delivered?* This is the question that everyone wants to ask first and that should only be addressed *after* the other questions have been answered (Smith and McKeen 2003). Once it is clear *what* IT wants to accomplish with leadership development, it will be much easier to design an effective program to deliver it.

Conclusion

Leadership development in IT is something that everyone agrees is increasingly important to helping companies achieve their business goals. However, all too often it is a hit-and-miss exercise, depending on management whim and budget availability. It is now clear that senior IT leaders must make leadership development a priority if IT is going to contribute to business strategy and help deliver services in an increasingly competitive environment. To do this, leadership development in IT must start with the most junior IT staff. An effective program involves more than just

training. It must include the creation of a supportive work environment and the development of processes that deliver on management's promises. However, no leadership program should be implemented in a vacuum. There should be a clearly articulated proposition outlining its value to the organization and a set of metrics to monitor its effectiveness. Like technology itself, leadership development will be effective only if management takes a comprehensive approach that integrates culture, behavior, processes, and training to deliver real business value.

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