Looking Ahead: Shaping IT Strategy in the Future

It’s not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change.
—Charles Darwin

Throughout this study, we’ve looked at various ways that colleges and universities currently approach alignment of their IT and institutional strategies. This chapter scans some trends currently reshaping strategic planning across industries and discusses how these approaches may impact the future of developing and executing IT strategies in higher education.

Trends in IT Strategy

Information technology has become a pervasive part of doing business in nearly all organizations during the last decade. It has also dramatically shifted roles, moving from mostly automating back-office processes to becoming a strategic enabler of new offerings and new ways of doing business. While this has manifested itself in many ways, from the record rise in employee productivity over the past several years to the creation of innovative new products and services that would have been impossible several years ago, IT’s coming of age has brought with it new challenges for leaders.

As we are all aware, the ever-increasing rate of change in IT makes it ever more difficult to accurately predict future needs. The capabilities of and connectivity driven by IT have also, in the opinion of many, changed the fundamental nature of business, causing product life cycles to shorten, lowering switching costs for customers, and increasing the overall uncertainty that all organizations operate in. Colleges and universities have not been immune to such technology-driven change. Significant impacts have occurred in administrative areas like admissions, registration, and academic advising, where self-service has become a necessity and students have far superior access to information than just a few years ago.

While IT has substantially impacted student and business services, perhaps no other area has been more radically altered than faculty research. In environmental, space, oceanic, and atmospheric sciences, the collection of large datasets is more the rule than the exception. These fields are defined increasingly by the development of computer-based predictive simulations and models. More traditional disciplines such as history and art history are being rethought with the emergence of resources such as ARTstor and projects such as the Valley of the Shadow project. Life sciences research,
of course, has been completely transformed by the emergence of computational biology and chemistry and of informatics, particularly in the context of human genome research. Here the life cycle of research has truly been shortened as networked information and rapidly shifting communities of practice arise, interact, and dissolve rapidly with the ebb and flow of research priorities.

IT is also transforming higher education’s core teaching mission, with applications ranging from interactive classroom technologies to course management to distance learning, changing many aspects of how students are taught.

In such an environment, the traditional strategic planning model, focused on predicting the future for some number of years out and then developing a plan that positions the organization for one or more of these possible futures, seems to fall short. Change will not wait for the start of the next planning cycle, and failure to quickly respond to change leads at best to missed opportunities, and at worst to irrelevance. The concept of aligning IT strategy to business strategy also has some deficiencies, as Tomasz Smaczny of the Australian Graduate School of Entrepreneurship pointed out. “The notion of alignment suggests a sequential execution,” he wrote. “That in itself results in a ‘master-slave,’ ‘leader-follower’ relationship. Such a relationship creates ‘follow-up’ tensions where a quick or rapid execution is very difficult. The reaction time allowed between a business decision made and the IT decision is too short for [the] IT organization to respond.”

The need for a new model for alignment in general and strategic planning in particular has not gone unnoticed. Academics, consultants, and technology vendors have given this subject much thought. While it is too early to identify the right answer, a strong trend across much of the existing literature, research, and product offerings moves beyond linear, multiyear planning efforts and instead focuses on the need for flexibility.

**The Adaptive Organization**

Many consultants, authors, business leaders, and academics refer to the “adaptive enterprise.” IBM Corporation refers to “on-demand business.” Gartner Inc. describes “the real-time enterprise.” Whatever it is called, a common theme emerges across this new way of thinking about IT alignment with “the business strategy.” The essential message is that organizations need to rethink how they plan for the future, with the assumption that in a world that changes extremely rapidly, long-term planning becomes nearly impossible. Organizations should focus on their strengths and build the capabilities to rapidly adapt to changes in customer demand, market dynamics, shifting technology, and other unforeseen events.

Researcher Johanna Woll succinctly summarized this point of view, arguing that “the forces propelling organizations toward the adaptive enterprise model are universal: accelerating rates of change and an increasingly volatile overall economic environment. As our global economy becomes more densely connected, we are less able to predetermine outcomes. We can no longer assume one-to-one relationships between cause and effect. Becoming an adaptive enterprise means abandoning our management habits of prediction and control and developing instead the capacity to respond to change.”

Similar descriptions abound. IBM CEO Sam Palmisano defines an on-demand business as “an enterprise whose business processes—integrated end-to-end across the company and with key partners, suppliers, and customers—can respond with speed to any customer demand, market opportunity, or external threat.” Gartner says that a real-time enterprise “achieves competitive advantage
Deloitte & Touche advocates “strategic flexibility,” which it defines as “the capacity to compete today yet at the same time devote energy to developing the capabilities needed to compete across a range of possible futures.” Hewlett-Packard calls an adaptive enterprise “one that can flex to handle change without disrupting the business.” And author Stephan Haeckel says, “A sense-and-respond organization does not attempt to predict future demand for its offerings. Instead, it identifies changing customer needs and new business challenges as they happen, responding to them quickly and appropriately.”

Many current works on the subject of adaptive organizations seem to agree on the basic drivers of this transformation in the business environment. IBM’s Institute for Business Value describes four categories of factors that provide a good summary of this thinking.

- **Competitive Darwinism:** The competitive environment is becoming even more intense as established and new companies scramble to provide value to customers in increasingly transparent markets.
- **Continuous discontinuities:** The changes in customer demands, technological innovations, and government regulations are increasingly sudden and dramatic, and are growing ever faster.
- **Unrelenting financial pressures:** The growth and predictability of revenues and margins become more challenging due to economic uncertainties, lower operating margins, and demanding investors.
- **Unpredictable threats:** Pervasive dangers become real and prevalent as global firms see increased exposure to natural disasters, unstable geopolitics, and other market shocks.

According to the literature, strategies to make an organization more adaptive should contain certain characteristics which, together, help the organization react quickly to changes in the environment. One of the simplest of these approaches comes from Theodoros Evgeniou at INSEAD, who argues that adaptive enterprises need to have both flexibility and visibility. He defines flexibility as the ability of individual business units within a larger organization to develop their own responses to particular needs, as well as enterprise-level policies that enable and support such activities. However, for the organization as a whole to succeed in such an environment, management must have real-time visibility into the information held in the local operating units.

The Cap Gemini Ernst & Young Center for Business Innovation conducted significant research into the adaptive enterprise concept. They defined six principles they feel an organization must adopt to become an adaptive enterprise.

- **Enable self-organization:** Specify rules, not a detailed plan, and empower your employees with more connections, information, and freedom. Encourage experimentation to speed innovation, and begin to regard failures as an investment.
- **Recombine to reinvent:** Borrow ideas and practices liberally, make every product upgradeable, breed ideas and processes early and often, and view interchangeable modules for people and products as essential for mass customization.
- **Make boundaries permeable:** Increase the number and density of connections to your environment to speed information flow and adaptation, be transparent with your information, and promote diversity of opinions and experience to speed innovation.
- **Close feedback loops:** Measure your company and market reactions continuously and in real time, understand and measure intangible assets, and avoid anonymity to...
increase trust, reputation, and information flow.

- **Apply selective pressure**: Balance encouraging diversity with filtering the bottom 10 percent of people, processes, systems, values—of everything. Manage your network to remove less-productive partners, and demand continuous innovation from your technologies and practices.

- **Live at the edge of chaos**: Sense changes in the environment and respond, embracing disequilibria over stability, and use more resources to explore new possibilities for your business.

IBM has defined four dimensions for success for on-demand businesses that it feels directly address the four competitive pressures discussed earlier.

- **Focused**: Committed to concentrating on differentiating competencies, using tightly integrated strategic partners to manage selected nondifferentiating activities.

- **Responsive**: Seeming almost intuitive in its ability to sense and respond rapidly to unpredictable changes in the market environment and the needs of all its constituents.

- **Variable**: Able to adapt cost structures and business processes flexibly to reduce risk and to do business at higher levels of productivity, cost control, capital efficiency, and financial predictability.

- **Resilient**: Prepared for changes and threats, be they technological, economic, or political, enabling the business to continue operating with consistent availability, security, and privacy.

They also identified three critical structural enablers that allow organizations to execute on a strategy including the above dimensions.

- **Business components**: Discrete business areas comprising people, processes, and/or technologies that have a clear purpose and maintain financial viability.

- **Global connectivity platforms**: Architectures that permit a seamless connection between business components within the firm, across external partners, and throughout the world.

- **Best-in-class specialists**: External partners that provide best-in-class expertise in a specific business component through scale, knowledge, and delivery.

Although the characteristics of an adaptive organization vary somewhat in these different points of view, several common themes emerge. The first is a fundamental change in business strategy focus. This is well summarized in a presentation made by IBM Vice President Dan Forno, who described this change as “Sense and Respond vs. Plan, Make, and Sell.” Forno went on to say that in this model, effective tactics in essence become the strategy. Organizations focus their strategic thinking on how to most effectively respond to anything the market throws their way, rather than planning for one or more specific scenarios.

Gartner analyst Walter Janowsky offers a different view: “Real-time enterprise is not a business strategy. Rather, enterprises should evaluate their strategies to determine where real-time techniques can offer value.” Lord John Browne, CEO of BP Amoco, offers another perspective: “Giving up the illusion that you can predict the future is a very liberating moment. All you can do is give yourself the capacity to respond … the creation of that capacity is the purpose of strategy.”

Another thread in the literature and business world is the strategic redesign of organizations—moving from traditional organizational structures toward a componentized model that allows a “plug-and-play” approach, both internally and with strategic business partners, as changes need to be made. This line of thinking advocates that organizations develop strong capabilities that allow them to be best in class and find
partners to provide best-in-class capabilities for other functions.

The need for speed, connectivity, and access to information is clearly evident in all of these points of view, highlighting IT’s strategic importance to the adaptive organization model. Technology gives adaptive organizations the connectivity they need to work in real time with an ever-changing web of partners, the business intelligence capabilities to understand their environment as it is evolving, and the predictive capabilities to model and simulate scenarios and develop the capabilities to respond. Chris Meyer, a business author and a pioneer in research into the adaptive organization, summarizes this well, saying, “If you believe competitive advantage lies in the ability to sense change in the environment and respond to it faster than anyone else, and thereby keep your opponents off balance even though you feel off balance because you are operating as fast as you can, then IT can create a competitive advantage by being able to go through the orient-observe-decide-act cycle faster.”

IBM echoes this point of view, pointing to the importance of making IT an integral part of the process of developing business strategy. Their Executive Guide to On-Demand Business says, “Make IT part of your business strategy. The productivity gains that come from on-demand business are powered by the interaction of IT and strategy: Technology enables business decisions, and business decisions drive technology implementations. You need to get the two working together.”

**The Future of IT Alignment with Institutional Strategy**

To succeed in a future defined by rapidly changing business needs and accelerating technology growth, institutions must change their traditional thinking about IT strategy development. Many consider the alignment of business strategy and IT strategy to be an effective model for ensuring that IT investments reflect the organization’s strategic needs. However, as mentioned in the quote from Smaczny in the introduction to this chapter, an alignment model may be too slow to react appropriately to changing demands. Additionally, business strategies developed under such a model may not take full advantage of IT’s capabilities.

Figure 10-1 shows a spectrum of possible models for developing business and IT strategies. The diagram’s left side shows a reactive approach whereby a business strategy is developed and IT leadership develops an IT

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**Figure 10-1. Intersection of Business and IT Strategy**

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<thead>
<tr>
<th>Theme: Reactive</th>
<th>Theme: Alignment</th>
<th>Theme: Collaboration</th>
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<tbody>
<tr>
<td>Business Strategy</td>
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<td>Information Technology</td>
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strategy on their own to correspond to their understanding of that vision. This often leads to significant differences of opinion between IT and business leaders as to important areas of focus. The deficiencies of the reactive approach have led many organizations to the alignment model, whereby a business strategy is developed and IT and business leaders then work together to develop an IT strategy that optimally supports that business vision. This model has shown itself to be superior to the reactive model, as organizations using it are more likely to invest in IT initiatives that directly support the organization’s business goals.

The diagram’s right side depicts a blended strategy, whereby business and IT leaders work together to develop a strategy for the organization, taking full advantage of technology’s capabilities and understanding its limitations. This model provides several advantages over the alignment approach. It allows IT leaders to contribute to the business strategy discussion by sharing their knowledge of the business capabilities technology can bring to bear and their view of what new technologies are on the horizon. This can help identify new areas where IT could provide a competitive advantage. And since IT leaders are involved in the business strategy development, they can move faster to build out the necessary technology capabilities and expand the window of strategic opportunity available to the organization.

Numerous organizations already use the blended approach to strategy, and many in the adaptive organization camp advocate it. Smaczny describes this approach as fusion. He writes, “The IT strategy is developed not separately to business strategy but at the same time. As a matter of fact, the two are intertwined, and IT-related ideas might create business opportunities that otherwise would not even be considered and vice versa, business ideas need to be enabled by IT ideas…. If [this] proposition is correct, there is only one strategy, and one set of operational plans that follow the strategy.”

In a white paper on what it calls “adaptive IT,” which describes IT strategies needed to enable an adaptive organization, Cap Gemini Ernst & Young wrote, “Business strategy and technology capability are now so closely linked that it is impossible to separate them. IT investments should no longer take place after strategic decisions are made and they do not exist simply as enablers of core processes.” As early as 1995, Astra Merck, Inc. was using such a blended strategy approach. According to then-CEO Wayne Yetter, “We do not consider technology investments in isolation. We look at capabilities, such as developing drugs faster or providing customers with service they can shape themselves. If technology is necessary to make a capability work, then technology investments become part of the package.”

Some colleges and universities already use the blended approach. “The institutional [strategic] plan is the IT plan. IT is viewed as a means to help the institution achieve its plan,” said David Mash of Berklee College of Music. Joel Hartman of UCF says of his institution, “There is heavy senior leadership investment in the institutional planning process, and the plan guides resource allocations. So it has all the right ingredients to be a driver. The institutional plan is not just a document on a shelf, but in fact a living document.”

**Moving Beyond Alignment**

Anne Keehn and Donald Norris describe a vision of IT planning for higher education that sounds very much like the adaptive organization models being discussed in other industries. “Most institutions use IT planning as an exercise in developing infrastructure to accomplish simple extrapolations of current practices,” they write. “Rather than enabling a new future, they extrapolate more efficient
versions of current practices into the future, five years at a time. Such practices squander a golden opportunity to transform IT planning into a strategic instrument for focusing and mobilizing the innovative capacity of colleges and universities, at the enterprise level. IT strategic planning should be a continuous developmental process, not a once-every-now-and-again activity. It should be regenerative, engaging campus leadership at all levels from the top (President, CIO, CFO, Provost, Advancement, Student Affairs) to the grassroots around the organizing principals [sic] of innovation and value. And it should aim to develop stretch goals, a culture supporting innovation, and the capacity to make sound, expeditionary decisions about the selection and use of technologies.”

This study’s findings indicate that although some higher education institutions have moved in this direction, many have not yet begun to take the leap. For example, in Chapter 4 we learned that 85 percent of respondents agreed that there was alignment between the central IT organization priorities and institutional priorities. However, only 48 percent of institutions include the top IT executive on the president’s cabinet, and only 66 percent of those institutions where the CIO is not part of the cabinet include IT in the institutional planning process. And despite the fact that only 35 percent of respondents indicated that their organizational climate was stable, only 45 percent of respondents indicated that they think of institutional planning as a continuous process. And in Chapter 7, we saw that only 28 percent of IT strategic plans found on the Web examined addressed “planning for an unknowable future.”

Some institutions already are embracing components of the adaptive organization. UCF’s Joel Hartman describes his IT organization’s approach: “All of our IT people are listening all of the time for [change] to occur, and we are in a position to rapidly respond and adapt. So to some extent it is a living plan, an ongoing process that involves a great deal of user interaction, collaboration, and feedback. IT also pays a lot of attention to what is going on in an attempt to find out even ad hoc things that occur that are not part of the plan that would need or benefit from a technological response.”

Although higher education as a whole tends to change at a slower pace than many other industries, many issues compelling the move toward more adaptive strategies in the for-profit world are affecting or will affect higher education. Institutions looking to employ such a strategy will need to implement some building blocks of the adaptive organization to make themselves more nimble to changes in their environment. While changes are needed across the institution to fully implement an adaptive strategy, forward-thinking IT organizations can begin to lay the foundation by making changes in some key areas.

**Planning and Governance**

Some of the most important changes to be made for an adaptive strategy to take hold are in the areas of planning and governance. As seen in Chapter 4, IT planning is an infrequent activity for many institutions, with 79 percent indicating they update their IT plans every two to three years. As a result, IT organizations may be working toward goals established several years earlier that haven’t been updated to account for new conditions or needs. Some organizations try to make up for this by using the institution’s budget cycle as an opportunity to plan for coming needs. However, most institutions operate on an annual or even a biannual budget cycle, and budgets often must be submitted three to six months in advance, also creating a problematic time delay.

Another obstacle many institutions will face is governance structures that are unclear, time-consuming, or unprepared to make fact-
based decisions. In Chapter 5, we reported that over 60 percent of respondents had a standing academic or administrative IT advisory committee as part of their governance structure, and 83 percent of institutions with more than 15,000 students had an academic advisory committee. Not surprisingly, survey respondents rated current IT governance models as only mildly effective on the whole, and fewer than half of respondents agreed that their governance model was well understood.

To make IT and, by proxy, the rest of the organization more responsive to their constituents' changing needs and environment, most institutions will need to rethink their IT governance structures and IT planning processes. Rather than being a periodic activity, IT planning needs to become a much more frequent if not continuous process. To accomplish this, the organization must be able to sense change as rapidly as possible, both by developing the capability and rigor to conduct periodic scanning of the environment (internal and external) and by developing mechanisms for collecting real-time feedback on the institution's needs.

Some institutions have already implemented such scanning processes in the technology area. The University of British Columbia, for example, has tasked its IT planning unit with “conducting an ongoing watch of new technologies and help[ing] devise appropriate strategies, as for example, creating a voice over IP strategy for the university. The planning folks will look for and anticipate new technology requirements that the campus may not be asking for now.” University CIO Ted Dodds described the value of UBC's approach: “Several years ago when we put together our wireless strategy, we were able to gain first-mover advantage. By doing so, we were able to establish a single, integrated wireless network that enables campus-wide roaming. If we had not moved quickly and strategically, we would likely be faced with fragmented, inconsistent connectivity.”

IT organizations will also need to have the flexibility to reallocate resources and funding to new priorities as they become apparent, which is often difficult to do in traditional budgeting environments. Some ways to do this include using the budgeting cycle to plan for broad spending categories rather than line items and allocating funds for specific priorities over time. Also, allowing IT (and other departments) to retain unused funds in reserve from year to year can provide some budget flexibility during times of need. Bridgewater State College's Bill Davis describes this approach: “The IT reserve lets us be flexible, lets us be adaptive. There are lots of things that come in over the transom in the middle of the planning cycle, and I can’t tell people that it is a good idea but let’s wait eight months.”

To help ensure that IT is focusing on the correct priorities, institutions must also reexamine the governance model. While a committee representing a broad canvas of the institutional culture may continue to be involved in setting high-level vision or long-term priorities, institutions need a structure that can be convened faster and has clear procedures and genuine decision-making authority to be able to move quickly in the face of changing needs. This group should include key leaders from the units that IT supports and should have access to the appropriate tools and information to make wise (and well-aligned) choices. Enough budgetary flexibility and political engagement should be available to prevent placing IT leaders in the position of having to determine which business or academic priorities must slip in order to accommodate changing needs. IT and other institutional leaders will need to work closely together, as described earlier, to ensure that the decisions being made accurately reflect both the institution's needs and technology's capabilities and limitations.
Jeanne Ross and Peter Weill of MIT highlighted the need for such engaged collaborative governance: “IT executives are the right people to make numerous decisions about IT management—the choice of technology standards, the design of the IT operations center, the technical expertise the organization will need. But an IT department should not be left to make, often by default, the choices that determine the impact of IT on a company’s business strategy.” Ross and Weill highlight six areas, including setting budgets, setting priorities, and defining service levels, that should be the responsibility of business executives, not technology executives. They also advocate a blended approach: “While we firmly believe that senior business executives err when they abdicate responsibility for these IT decisions, we aren’t advocating that any of the decisions be made unilaterally in the executive suite. Although senior managers need to ensure that IT spending and initiatives are aligned with and further the company’s strategy and goals, such decisions are best made with input from both business unit and IT executives.”

Organization

Some institutions may also need to change how they structure their IT organizations. Many institutions have traditionally had a do-it-yourself approach to IT, building organizations focused on supporting the institution’s IT infrastructure and applications. This can leave little capacity available for handling special projects or supporting changing faculty needs, resulting in the need to hire expensive external consultants to supplement staff when an unforeseen situation or a large project arises. And the institution’s IT organization may not be able to provide support services in the most cost-effective way available.

To make the IT organization more able to support an adaptive strategy, several approaches can be considered. First, the institution may wish to evaluate which of the IT organization’s tasks are core needs or areas of particular strength and which might be better handled—either from a cost or performance standpoint—by an external provider. If any tasks can be outsourced, the organization can redirect the savings to support more strategic initiatives.

Another possible approach is to create an internal structure that is project oriented rather than functionally oriented, either across the majority of the IT organization or in one or more units that act as internal consulting organizations. This builds in the flexibility to support changing needs and special projects. Institutions should support their IT staff’s continuous learning to ensure they develop the skills needed to support the institution in the future.

Alternatively, contracts with external service providers can provide staff augmentation when needed. Such contracts let the IT organization quickly meet the needs of unforeseen projects, providing access to both additional personnel and scarce skill sets without having to go through the time and expense of a procurement process each time it requires a service. This approach also lets an organization allocate more of its budget to variable costs, making it possible to scale services up when needed and pare down when slow. This is particularly valuable in an environment where unspent budgets can be retained for future use.

Organizations making the changes described above will also likely need to rethink the ways they measure and reward IT staff. Working in an adaptive environment can be difficult, and proper alignment of expectations and incentives can help employees understand and focus on what is important. Project-based teams need to be measured on project success criteria, including on time and on budget but also customer satisfaction and creation of business value. Team members
in such environments should be rewarded on the basis of their responsiveness to their customers’ needs and to the IT organization’s changing needs and abilities to contribute to the institution’s strategic agenda. Those working in experimental or investment areas should be encouraged to innovate, and work climates should recognize that mistakes are okay in such innovative environments. To support such a system of incentives, a measurement architecture needs to be developed and deployed to solicit frequent feedback from IT customers, track project outcomes, and measure progress against the institution’s overall strategic objectives. The ultimate goal is to build a culture that embraces and thrives in a changing environment.

Technology
To operationalize an adaptive strategy, institutions must also change how they deploy technology. Although technology itself is not strategic, the right technology architecture and the right tools allow the institution to move more adroitly in the face of new challenges. Traditional technology platforms were selected for the long term and tended to be built around monolithic applications that could not easily be changed. While this worked relatively well in a static environment, such technologies can be difficult to adapt to even relatively minor changes in the business environment.

Developing technology capabilities to support an adaptive organization requires an architecture that is flexible enough to support frequent changes in user demands, technologies, and business requirements. Attributes and goals of such an architecture include:

- **Modularity:** It should be possible to easily add and remove components of the architecture on the basis of changing needs—without having to undertake complex efforts to do so.

- **Integration:** Systems should be designed to easily connect with one another and with systems hosted by external vendors and partners, as needed.

- **Flexibility:** Organizations should have the capacity to rapidly scale IT capabilities up or down to meet changing demand.

Banking giant JP Morgan Chase has pursued such a strategy to reduce the fixed costs of its IT operations and provide scalable capacity. “[JPMC] is aggressively increasing its cost variability by externalizing a significant portion of its data processing technology infrastructure, including data centers, help desks, distributed computing, data networks, and voice networks. With the help of an external partner, it created a virtual pool of computing resources that can be accessed and deployed on an ‘as-needed’ basis. Using this approach, JPMC can not only reduce costs, but also create capacity for growth and accelerate innovation.”

Higher education’s current research and interest in computing grids reflects some of this thinking.

In addition to making core IT services better suited to the adaptive model, IT organizations may need to add some capabilities to let the institution’s users and leaders execute an adaptive strategy. Below we describe some of those key capabilities.

**Business Intelligence**
Business intelligence systems provide an organization’s users with the right information at the right time to make the right decisions. They can take several forms. A commonly deployed business intelligence tool is a data warehouse, which helps institutions develop an enterprise-wide view of important financial, human resources, and customer (student and alumni) data. When combined with an ad hoc query tool, the warehouse enables users to run custom queries to quickly find the answers they need. The closer to real time
such information can be provided, the more valuable it is in helping users at all levels of the organization make the right decisions.

An emerging business intelligence capability involves the use of intelligent agents built into key software applications. Depending on the situation, such agents can suggest a course of action to the user on the basis of predefined logic, making it more likely that efficient, consistent, and effective service will be provided throughout a process.

**Feedback Loop**

A key characteristic of an adaptive organization is its ability to sense and respond to changes in its environment in as close to real time as possible. IT must help users develop the capability to obtain such feedback from its systems, processes, and users themselves in as close to real time as possible.

Examples include creating business rules within applications that alert the appropriate person when a particular parameter is abnormal, allowing them to quickly react to the situation, and incorporating feedback mechanisms into as many of the institution’s offerings and services as possible, allowing continued adjustment to better meet demand.

Digital dashboards, which present relevant, real-time information to management in a graphical, easy-to-use form, can be a good way for executives to get their finger on the pulse of the organization.

**Modeling**

Computer-based modeling tools help the institution’s leadership understand the impact their decisions may have on various aspects of the institution. Such tools can range from space optimization (if we take away three classrooms, what impact will that have?) to process modeling (if we add two more staff members, would that help us reduce financial aid backlog?) to more sophisticated tools that help plan for possible future scenarios.

Emerging techniques like agent-based modeling promise to provide even more power in this area, allowing modeling of complex systems such as consumer behavior and giving executives better insight into an uncertain future. By developing technology infrastructure and capabilities that contain the characteristics outlined above, institutions will lay a strong foundation for the execution of an adaptive strategy without fear that technology will be a barrier to its success.

**Conclusion**

This chapter provides a look at a new school of thought regarding the future of enterprise and IT strategy and how organizations looking to move to such a model need to prepare. While such approaches to strategy appear to be dramatically different from those used in the past, strategic planning approaches have been evolving for many years, and adaptive strategy is the current, and probably not the last, step in this genesis.

As Table 10-1 shows, IT strategic planning began with “big planning” efforts that generated large binders but little progress. Such plans were focused on the long term, but, as Stanley Fish of the University of Illinois at Chicago recently wrote, “The trouble with long-range planning is that it almost never works, in part because the object of your analysis will not stand still and wait for your process to complete itself.” As a result, many organizations have moved to shorter-term planning methods, whereby IT plans are aligned to institutional planning. The focus is more on setting a strategic direction for the institution but not including a level of detail that is overwhelming and likely to be misguided as time progresses.

While some institutions still use the strategic direction model, the for-profit world and some higher education institutions found they needed more-flexible methods. In the mid-1990s, a more iterative approach to plan-
ning emerged. In this model, organizations set a direction for themselves and developed a broad architecture that they hoped would support this direction. Results were delivered quickly, in a series of small projects that built upon one another, and allowed the organization to change direction more quickly than earlier efforts. The University of California’s New Business Architecture is an example of such an approach. Over time, the need for even faster responsiveness brought about the adaptive organization methods discussed in detail in this chapter, whereby organizations focus not on planning but on sensing and responding to the changing environment in as close to real time as possible.

While the future is uncertain and impossible to predict, the move toward adaptive strategy appears to be well under way across industries, with vendors and their customers offering numerous examples of how such strategies work in practice. Colleges and universities should watch and understand how such strategy models are developing and determine on the basis of their own strategic needs the right time to incorporate aspects of this approach and move beyond alignment to a more flexible and adaptive approach.

Table 10-1. The Evolution of IT Strategic Planning

<table>
<thead>
<tr>
<th>Planning Style</th>
<th>Time Frame</th>
<th>Focus</th>
<th>Characteristics</th>
</tr>
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<tbody>
<tr>
<td>Big Planning</td>
<td>1970s</td>
<td>Long-term planning</td>
<td>Detailed plans, Large documents, Not much action, Separate business and IT planning</td>
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<td>Strategic Direction</td>
<td>1980s</td>
<td>Medium-term planning</td>
<td>Set a vision, Less specificity, Project-based execution, Alignment of business and IT planning</td>
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<td>Iterative Planning</td>
<td>1990s</td>
<td>Short-term planning</td>
<td>Set a direction, Build an infrastructure, Deliver small components quickly, Joint business and IT planning</td>
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<td>Adaptive Organization</td>
<td>2000s</td>
<td>Just-in-time planning</td>
<td>Focus on sensing, not planning, Modular infrastructure, Rapid execution, Close business and IT cooperation</td>
</tr>
</tbody>
</table>
Endnotes
13. Ibid., p. 16.
15. W. Janowski, op. cit.
18. IBM Corp., On-Demand Business.
25. IBM Corp., On-Demand Business, p. 16.