Executive Summary

Alignment is defined as “the proper positioning or state of adjustment of parts, or an arrangement of groups or forces in relation to one another.”¹ Many, including noted quality management authority Philip Crosby, see alignment as the essence of leadership, which Crosby defines to be the act of “deliberately causing people-driven actions (e.g., alignment) for the purpose of accomplishing the leader’s agenda.”²

This ECAR study of how IT priorities, plans, intentions, resources, and actions are aligned with broad institutional vision and strategies has been a voyage of discovery. Our research team knew, for example, from the annual EDUCAUSE surveys of current issues and from the professional literature of EDUCAUSE Quarterly and EDUCAUSE Review that IT strategic planning is a perennial topic of interest to those leaders who form the core of ECAR’s base of subscribers. We were frankly unsure that strategic planning really hit the mark in terms of reader interest, or if research in this area would add materially to our readers’ managerial arsenal. As we read more and discussed our research plans with others in the higher education IT community, it became clear to us that IT strategic planning was itself only one means of deliberately causing people-driven actions for a purpose. That is, it offers one means of aligning IT priorities, plans, intentions, and actions with “the leader’s agenda.” This shift in thinking was confirmed in our review of the professional literature outside higher education and in particular in reviewing the topics that private-sector and government CIOs deemed most important. In survey after survey, private-sector survey respondents overwhelmingly identified the alignment of IT “with the business” as one of their five top concerns.

Having made this important shift in focus from strategic IT planning to IT alignment, we asked ourselves, what other activities do IT organizations employ to deliberately cause purposeful aligning actions in support of their colleges or universities? Surely IT strategic planning is one. We speculated that other such actions might include (1) communication strategy and (2) IT governance, those processes of soliciting advice and direction and making decisions collaboratively. As our new scope of inquiry began to resemble an interconnected web of strategic leadership activities, we concluded that this web would be incomplete if we didn’t include processes for measuring and assessing how well our priorities, plans, resources, intentions, and actions have contributed to accomplishing the leaders’ agenda.

The ECAR study of IT alignment in higher education therefore examines higher educa-
tion’s processes for IT strategic planning, IT governance, communications, and measurement and assessment. This study examines

- the environmental and leadership contexts in which alignment-seeking processes and activities take place;
- the state of the practice of IT planning, governance, communication, and measurement in higher education—for example, what we do, how frequently we do it, whom we do it with (or to!), and what difference it makes;
- the effectiveness of our planning, governance, communications, and measurement activities and, more important, specific practices we can deem to be either strongly effective or ineffective; and
- an extrapolation of the identified state of the practice and industry trends to form a vision of the state of the art in these activity areas and possible future directions for ECAR readers and their colleges and universities to consider.

A few straightforward research hypotheses guided our research:

- Leadership engagement and the state of the institutional environment influence the potential for and realization of IT alignment.
- Survey respondents who report effective planning, governance, communication, and measurement processes will also report high levels of perceived alignment.
- Institutions are moving from episodic, large-scale planning and governance modes to shorter-cycle or even continuous planning modes.
- Higher education IT leaders generally do not measure and assess their programs formally.
- Respondents who report high levels of IT alignment will also report high levels of overall IT effectiveness across a number of variables. In other words, we hope to confirm that IT alignment is both important and influential in driving effective IT outcomes.

This ECAR study yielded several important findings, which we describe below. In brief, this study confirmed our hypotheses. Higher levels of perceived effectiveness in the core activities of planning, governance, and communication do indeed result in higher levels of perceived alignment between IT and the institutional purpose. More interesting, an overwhelming majority of our survey respondents perceive that IT is well aligned with institutional priorities, despite the fact that a great many respondents

- don’t feel that IT governance is effective at their institutions,
- don’t feel that IT planning is effective at their institutions, and
- don’t systematically measure or assess IT performance.

We can only speculate about what these findings mean. They suggest that either

- our respondents are being too hard on themselves and that indeed their planning, governance, measurement, and communications are more effective than they think; or
- our respondents are kidding themselves (a bit), and things are not as well aligned as they think.

We worry that the latter may be true, simply because our data suggesting huge comfort with the state of IT alignment in higher education is at such strong variance with industry data suggesting that such alignment is elusive, difficult, and problematic. Can we be so good? Can higher education be exempt from the concerns about IT alignment that seem to plague IT leaders in other industries?

**Methodology and Study Participants**

ECAR used a multifaceted research methodology to collect both quantitative and qualitative data about IT strategic planning and alignment:
a literature review to identify and clarify issues and create a working set of hypotheses to be tested;
• a quantitative online survey of 483 EDUCAUSE member higher education institutions;
• qualitative telephone interviews with 22 higher education IT executives;
• an in-depth review of 57 higher education IT plans found on the Web; and
• four case studies from on-site visits to Calvin College, the University of Cincinnati, the University of Delaware, and The University of Memphis.

Key Findings
The navigational diagram (Figure 1) provides a framework for our discussion of IT alignment. First, analyzing the institutional context provided information about the tone and environment surrounding IT planning. Second, findings on actual practices and processes—IT governance, IT planning, and IT performance measurement—provided more detailed insight. Here, we integrate and summarize our findings and relate them to the study’s core issue—perceptions of IT alignment. A recap of what we learned about IT alignment appears in the sidebar (“Which Institutions Report More IT Alignment?”) followed by a discussion of key findings.

Institutional Planning and IT Alignment
Colleges and universities are planning in earnest. Today, 90 percent of responding institutions say planning is important, and 81 percent have created an actual overall institutional plan. This number is even higher for master’s (87 percent), baccalaureate (83 percent), and associate’s (87 percent) institutions, but lower for doctoral institutions (71 percent). Doctoral-extensive universities are least likely to produce institutional plans (61 percent). Creating a meaningful strategic plan is a much more complex task in a large, diverse organization that must build consensus around highly disparate units such as professional schools, medical centers, and research organizations. And most important, institutional planning appears to pay off in terms of IT alignment with institutional priorities. Campuses that place more importance on planning, produce an institution-wide plan, or engage continuously in planning activities also report more IT alignment.

Respondents’ opinions indicate that most (74 percent) agree that the institutional vision at their campus is clearly articulated, and 66
percent agree that institutional priorities are clearly articulated. The link between IT alignment and institutional vision and priorities was a recurring theme in both our survey data and interviews. Our interviewees told us that they were extremely aware of the importance and usefulness of their campus vision and priorities in bringing about IT alignment. In fact, respondents who work at institutions possessing a clear institutional vision reported more central IT alignment (91 percent agreed that IT was aligned) than those who did not perceive a clear institutional vision (only 57 percent agreed).³

**IT Planning and Alignment**

This trend continues into the IT arena. Among respondents, 57 percent report that they already have an institution-wide IT plan in place, with another 25 percent currently developing their first IT plan. These IT plans are most likely to be found at institutions that already have an overall campus plan. Further, more than half (54 percent) of central IT organizations have written an explicit vision statement for their unit, with three-fourths (75 percent) of these vision statements linked explicitly to the institutional vision.

Seventy-eight percent of respondents with IT plans say they explicitly link these plans to their institutional budgetary process. Nearly three-fifths (59 percent) further report that funding for their IT initiatives is allocated at the time of approval. Given that the budgetary process is well recognized as a powerful tool for alignment, it is a positive finding that 83 percent of institutions agreeing that central IT priorities are aligned also link their IT plan to the campus budget. Only 50 percent of those who disagree that central IT is aligned link their IT priorities to the institution’s budget.

By and large, IT leaders are intensely committed to aligning technology with their campus purposes and goals. More than three-fourths of respondents (76 percent) identified IT alignment as a top reason to engage in strategic planning, and 74 percent say that, indeed, IT planning does have considerable impact on the level of IT alignment achieved. Perhaps most striking is the overall comfort level of respondents with IT alignment. An overwhelming 85 percent of respondents agree with the statement “central IT priorities are aligned with institutional priorities.” Further, 70 percent agree that IT efforts in campus departments are aligned with institution-wide IT priorities. This finding is consistent across Carnegie class and public and private institutions.

While most IT leaders are positive about alignment, a small cadre of respondents (8.4 percent) say IT is not aligned at their institution and express frustration with their less-than-successful attempts to align technology with institutional priorities. Some of our interviewees who reported nonalignment or misalignment at their campuses pointed to the lack of campus vision and actionable priorities, or to vision statements that were so obviously platitudes that they were of little practical value in creating IT alignment.

**Organizational Climate**

Almost half (45 percent) of our respondents perceive their organizational climate as “dynamic,” and another third (35 percent) characterize their climate as “stable.” That leaves one-fifth (20 percent) of respondents who say they are living and working in “turbulent” or “volatile” institutional environments. Our data suggest meaningful differences between these populations with respect to planning and IT alignment.

Those who perceive turbulence or volatility report that their institutions are

- less likely to consider institutional planning important and link it closely to the institutional budget,
- less likely to report that their institutional vision and priorities are clearly articulated, and
- more likely to have new top leadership.

In contrast, institutions reporting a dynamic climate are more likely to emphasize planning, link the IT plan to the budget, and report clear institutional vision and priorities. In the end, IT alignment may work best in a favorable climate. Eighty-nine percent of respondents reporting stable or dynamic environments say that IT is aligned with institutional priorities (compared with only 69 percent of those in turbulent or volatile environments).

This finding is important. Few institutions will escape a period of turbulence, defined as times of rapid and hard-to-predict change, with its resulting high levels of uncertainty. Indeed, we could easily argue that current world conditions and trends are increasing turbulence for all. And during times of turbulence, research has shown that “information sharing, participativeness, long-term planning, and credibility of leaders decrease.”

So we have a conundrum: planning and alignment appear to be both more critical and more difficult in unfavorable organizational climates.

External Environmental Scanning

Our research findings call for the higher education IT community to rethink, revise, and enhance our practices for scanning the external environment—the systematic process of examining trends and events outside the institution’s span of control—and to “take the future into account,” that is, “prepare for the inevitable, preempting the undesirable and controlling the controllable.” And just as important, a study of external forces can uncover new possibilities and opportunities. The “external environment” covers a broad spectrum of arenas—economic, geophysical, societal, legislative, and technological—and includes markets, competitors, and consumers.

Today, the importance of environmental scanning is becoming even greater—driven by increasing globalization and connectivity, the accelerated pace of change, increasing complexity in the regulatory environment, new types of educational competition, rising potential for disruptions, and more volatility in the economic and political environments. These pressures call for organizations to become more agile, more adaptable, and better able to “sense and respond” to the environment quickly. Real-time tracking and understanding of external conditions is key to developing these capabilities.

Corroborating the impact of external forces, 58 percent of our survey respondents directly identified changes in the external environment as a top trigger for changes in their IT priorities. Yet, despite these strong external impacts on IT, discussions with our interviewees and case study participants and our review of IT plans on the Web revealed that, while some attention is given to environmental tracking and forecasting, these efforts are largely piecemeal (focused primarily on technology and higher education trends) and informal. This gap between the external environment’s growing impact and the relatively scant effort going into environmental scanning tells us that higher education leaders can benefit from a review of their processes and practices for gathering and acting on such information.

Institutional Leadership

Campus leadership is at the forefront of planning efforts. Respondents say that their presidents and chancellors are actively involved, with 40 percent acting as sponsor, 25 percent acting as participant, and 16 percent acting as champion or cheerleader. Further, the top institutional leader also appears to
embrace technology. More than three-fourths (76 percent) of respondents characterize their top leader as a champion, strong supporter, or willing enabler of technology. And while only half (48 percent) of institutional top leaders make their senior IT leader a cabinet member, 79 percent do include their senior IT leader in the institutional planning process. These campuses, in turn, report more IT alignment.

Now that technology is widely distributed throughout our colleges and universities, fully embedded in administrative processes, and moving increasingly into the core processes of teaching and research, how do senior leaders perceive IT’s impacts on their campuses? Our findings were very positive. For example, respondents generally agree that their campus leadership recognizes the IT infrastructure as an institution-wide asset (78 percent agree), understands IT’s value (77 percent agree), views central IT as indispensable to their success (77 percent), and believes that IT initiatives lead to positive and sustainable cultural change (78 percent).

Here, planning may play an important educational role. Institutions that have undertaken planning efforts resulting in an institutional and/or IT plan actually report higher levels of leadership awareness about these IT impacts. Especially interesting is that 56 percent of respondents from an institution with an IT plan agree that their leadership regularly considers IT implications of institutional decisions, as compared with only 28 percent from institutions without an IT plan. And looking specifically at IT alignment, we find that institutions where leadership is reported to have stronger awareness of these impacts of IT agree more often than others that IT is aligned with institutional priorities.

**IT Governance**

The data do not show great satisfaction with IT governance. Just over half of respondents (56 percent) agree that their IT governance process is effective, and only 45 percent say it is well understood. In terms of constituents’ involvement in the IT governance process, key administrators are most involved (76 percent agree), and academic constituents—those most closely connected to the institution’s core missions—are much less involved. Only 56 percent of respondents say that faculty are involved in the governance process, and only 45 percent say that deans are involved.

Our data also suggest that formalization matters. Two thirds of our survey respondents report taking advice on IT policy and programs from an academic IT advisory committee. Nearly as many (63 percent) are advised by an administrative IT committee. More than half of responding institutions (51 percent) have both (or combined) academic and administrative committees for IT, and 45 percent of respondents involve students on their IT committees. Our case studies and interviews further indicate that many institutions have complex structures of interlinking committees to allow more focus on specific areas such as infrastructure, teaching, research, and administration.

Institutions with academic IT committees say their deans, faculty, and students have more input to the central IT organization and that faculty are more often top stakeholders in setting IT priorities than faculty at institutions not using an academic committee. At institutions with academic computing committees, respondents say they solicit input from deans (34 percent) and faculty (39 percent) “almost always” or “always.” While these numbers are low, fewer than one-quarter of respondents from campuses with no academic computing committee indicate that their institutions solicit input from deans and faculty “almost always” or “always.” Having a formal academic committee for IT
gives the faculty a formal voice on IT issues. The data also show that larger institutions are more likely than smaller institutions to have IT academic committees and to involve students in committees.

Institutions with administrative IT committees will more likely have an IT vision statement and an institution-wide IT plan linked to the institutional budgetary process. And given the increasing importance of fully integrating IT into campus operations and processes, it is interesting that campuses using administrative IT committees also say their campus leadership is more likely to regularly consider IT implications in institutional decisions than leadership at campuses not using administrative committees.

Findings differ for the 21 percent of institutions reporting that their senior IT leader(s) make independent decisions (whether or not they also have IT advisory committees). These institutions, more than others, are private institutions, are less likely to publish an IT vision statement or institution-wide IT plan, and also rate their IT governance process as less effective. It is instructive that respondents from these campuses are less likely to agree that their leadership understands how IT projects relate to institutional strategy and goals.

Finally, as we would expect, those institutions perceiving an effective IT governance process perceive stronger IT alignment. Of institutions reporting effective IT governance, 93 percent agree that central IT is aligned with institutional priorities. This contrasts with institutions that do not report effective IT governance, where only 64 percent agree that central IT is aligned. If IT governance effectiveness is positively associated with IT alignment, as we see that it is, the question arises as to how perceptions of IT alignment can be so positive (85 percent agree) while perceptions of IT governance effectiveness are so much lower (56 percent agree).

Communication and Key Constituents’ Involvement

Our survey data support academic research findings that a key enabler of IT alignment is close relationships between IT and non-IT organizations and staff.\(^8\) Survey respondents and interviewees emphasized the centrality of involving key constituents in meaningful and creative ways—to gain input for determining IT directions, initiatives, and priorities and to maintain ongoing communications about IT progress and achievements. Interviewees say this is at the forefront of their thinking as they design IT governance, planning, and implementation processes. Indeed, unless a plan is shaped by many and known by all, the view of IT may be incomplete, incorrect, or incoherent.

As with IT governance, we see the familiar pattern of key constituents’ involvement heavily weighted toward administrative executives. Approximately half of central IT organizations “almost always” or “always” ask the chief administrative officer (52 percent), the provost/academic vice president (53 percent), and the chief financial officer (51 percent) for input. Looking at academic roles, less than one-third of central IT organizations “almost always” or “always” ask deans (30 percent) and faculty (33 percent) for input. Yet 69 percent of respondents agree that their IT priority-setting process is broadly inclusive. In addition, where the senior IT leader has a seat on the cabinet, top administrators, especially executives, are solicited more for input into central IT initiatives than at institutions where the top IT leader is not a cabinet member.

With respect to communicating to constituencies, respondents overwhelmingly agree that central IT keeps their constituencies well informed. More than 90 percent of respondents agree that they communicate with their chief financial officer, provost or academic vice president, and chief administrator as often as
necessary. And approximately two-thirds not only agree but agree strongly. Again we see communication focused on senior administrative executives. In contrast, fewer respondents are adamant that they communicate with deans (only 40 percent strongly agree) and faculty (only 31 percent strongly agree).

We are not surprised to see that where there is more involvement with constituencies—either through communicating about IT or soliciting input for central IT—there is more reported central IT alignment with institutional priorities. This finding is especially strong where that involvement and communication with faculty and deans are evident.

**IT Planning Effectiveness and Alignment**

One-third of respondents were not satisfied with their IT strategic planning; they did not agree with the statement that their “IT strategic planning process is effective.” Where IT leaders have a clear institutional vision and priorities to guide them and where the IT plans are integrated into the institutional budget, respondents are more positive about their IT strategic planning. And even though institutions are not enthusiastic about the effectiveness of their IT governance process (only 56 percent agree that it is effective), this process appears to be extremely important. Institutions reporting effective IT governance are much more likely to report effective IT strategic planning (82 percent) than those that do not (31 percent).

Again, it appears that many survey respondents are disproportionately focusing energy on top administrative officers to the exclusion of engaging faculty, deans, and students. Among institutions reporting that they usually solicit input from deans, 73 percent say their IT planning process is effective. By contrast, only 47 percent of institutions that do not usually solicit input from deans believe their IT planning process is effective.

This analysis of IT strategic planning confirms our intuition: effective IT planning is indeed positively associated with perceived IT alignment with institutional priorities. In other words, IT planning is an important process for gathering campus information; situating this information in the broader context of IT, the campus, and external trends; and garnering resources to accomplish initiatives supporting the institution’s purpose and goals.

**IT Plans on the Web**

ECAR’s in-depth review of 57 IT plans available on the Web found that these plans do not refer to standard planning methods and frameworks and do not conform closely to the literature’s prescriptions. Instead, these plans are strongly situated within their institutional contexts. Also, the extremely varied approaches as to why, what, and how to plan do not reveal patterns based on Carnegie classification or control (public or private). Instead, IT strategic planning methods and practices seem largely tailored to a specific institution—its mission, culture, leadership, funding, and other unique conditions.

Returning to the importance of institutional vision, we found that most institutions view the campus vision and mission as the cornerstones of their IT plan. From there, the most common themes in these IT plans are the identification of IT goals and objectives, communicating IT opportunities to the institution, the IT vision statement, and alignment of IT with institutional priorities. Further, most of these IT plans recognize the importance of addressing human resources and technical issues. The most common human resource topics mentioned are IT support for students, faculty, and staff; personnel functions and issues; and the need for technical expertise. Discussion of funding and budget issues occurred less often, and rarely is the topic of IT assessment or performance measurement included.
In general, IT plans describe broad-based and public processes for seeking input and gaining consensus. These processes serve, in part, to communicate the capacities and constraints of the IT organization and function, as well as seek input and gain consensus. Further, these IT plans are most often inward-looking and do not specifically discuss gathering information by systematically scanning the external environment. Finally, IT plans are frequently tactical in nature, with relatively few having a strategic focus. In relative terms, doctoral-extensive universities did emphasize strategic thinking or a balanced mix of strategic and tactical thinking in 10 out of the 16 plans reviewed.

**IT Performance Measurement**

IT performance assessment is not yet widespread across higher education. Further, our interviews with IT leaders reinforced our survey findings that no standard approaches or generally accepted practices yet exist to measure IT performance in higher education. Perhaps, as David G. Swartz, CIO at The George Washington University, notes, “A lot of us in technology are so engrossed in our projects, and we are not good at marketing, selling, and documenting the value of IT. Yet, you have to reinforce that you were successful, you accomplished something, and you delivered what you were supposed to. This sets the stage for the next round because the institution trusts you.”

Institutions that do measure most often use “softer” methods, such as self-assessment. Customer satisfaction analysis and surveys are not yet standard practice, with just under half of institutions using them regularly. While only a handful of institutions use full-scale assessment methodologies such as the Malcolm Baldrige process or the Balanced Scorecard, which have received much attention in the private sector, technologies and tools like performance dashboards, although relatively new, are gaining popularity.

One-third (33 percent) of institutions say they include measures in their IT initiatives at the time they are approved. In the private sector, that number is much higher: in a recent *CIO Magazine* survey, 58 percent of respondents stated that measuring the value of IT was a requirement for all new IT initiatives.10 We also found that institutions that do produce an IT plan are more likely to include measures with their IT initiatives as well as publish performance expectations for existing IT services. The discipline of IT planning likely plays an important role in motivating the use of metrics.

Nearly three-quarters of survey respondents believe that the results of IT initiatives are communicated to key stakeholders as often as necessary to keep them well informed. Only 14 percent disagree. Regularly scheduled meetings are overwhelmingly preferred as the means of communicating intentions and results. Annual reports are produced to communicate plans and performance by more than half of those responding to the ECAR survey. With respect to the tie between IT performance and job performance, results are mixed. When asked whether IT initiatives’ functional area sponsors are evaluated on these initiatives’ outcomes, as many respondents agreed as disagreed.

Although our data were largely inconclusive about whether the actual use of metrics is associated with IT alignment, some patterns did emerge. For example, of institutions reporting that they clearly document objectives at the time IT initiatives are approved, 92 percent also report IT alignment. This contrasts with those who do not clearly document objectives, where only 63 percent reported IT alignment. And institutions that communicate IT performance via regularly scheduled high-level meetings (cabinet, council, senate, and the like) also rate their institutions as having stronger IT alignment than others.
Moving Beyond Alignment

Many organizations are actively and consciously changing how they operate and plan for the future. They recognize the need for management and planning practices that fit more naturally within our rapidly changing world and that explicitly address the current drivers for transformation—extreme competition, continuous discontinuities, unrelenting financial pressures, and unpredictable threats. This means becoming an “adaptive organization” characterized by strong “sense-and-respond” capabilities. A great deal has been written about this concept, and a few common recommendations have emerged. First, organizations must focus their strategic thinking on how to most effectively respond to subtle ongoing changes in the environment, rather than planning for one or more specific scenarios. Second, leading commercial organizations advocate moving away from traditional organizational structures and toward more of a “component” model that allows a “plug-and-play” approach to accommodating changes. Finally, connectivity, speed, and access to information are essential to highlighting IT’s strategic importance.

While we see some higher education institutions taking steps to incorporate and formalize the principles of an adaptive organization, most have not yet begun to make this leap. And although institution-wide changes are needed to fully implement an adaptive strategy, forward-thinking IT organizations can begin to lay the foundation by making changes in key areas.

Governance

While a place still exists for committees that look at high-level vision and long-term priorities, there is increasing need for governance structures that can be convened quickly, have clear directives, and hold genuine decision-making authority. These structures should include the key leaders involved with the IT organization and have immediate access to the tools and information necessary to make well-aligned decisions.

Planning

Rather than making IT planning a periodic activity, institutions need to make it continuous. Institutions can develop ongoing tracking processes for both the external and internal environments to provide real-time information to IT organizations so that they can much more effectively adjust to changes. Additional flexibility in budget processes and cycles is also called for, particularly to support the quick reallocation of resources in response to changing priorities and new opportunities.

Organization

Organizational structures that are project oriented rather than functionally oriented are more conducive to an “adaptive organization.” Another approach is increasing variable costs (relative to fixed costs) through creative use of contractors, shared services, outsourcing, and partnerships. Linking employee compensation to the principles of an adaptive organization—contribution to strategic directions, responsiveness to changing needs, maintaining high levels of skills, and the like—can also help create an agile organization.

Technology

Changing how technology is deployed in an organization can help move an institution toward adaptability. An important focus is the fundamental IT architecture—ensuring that it can maintain currency and at the same time cost-effectively support changing user demands, new user technologies, and evolving business practices. IT can also provide increased support for collaborative work, business intelligence systems, and modeling tools.
Endnotes


3. The number of respondents who disagree that central IT is aligned (N = 40) is small compared with the number of respondents who agree (N = 407) that central IT is aligned.


5. Ibid.


9. The methodology started with a randomized list of EDUCAUSE member institutions from Canada and the United States. We then conducted a search of the first 250 institutions (15 percent of EDUCAUSE U.S. and Canadian members) to determine which of them actually had an IT strategic plan publicly available on their Web site. Of these, we concluded that 57 institutions had IT plans on the Web, and we used these for our in-depth review.

