Brakes, Shocks, and Struts: An ECAR Report on IT Alignment in Higher Education

Seminars in Academic Computing
Snowmass Village, Colorado
10 August 2004

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EDUCAUSE Center for Applied Research
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Presentation Outline

- ECAR IT Alignment Research
- Why Study IT Alignment?
- How We Did It
- What We Learned
- What Should Higher Education Do About It?
The "Big Study"

Information Technology Alignment in Higher Education

ECAR Research Study 3, 2004 (June 2004)

Bob Albrecht  Judith Pirani
Bob Bender   Gail Salaway
Richard Katz  Toby Sitko
John Voloudakis
ECAR IT Alignment Research

The Case Studies

- University of Memphis,
  by Phil Goldstein

- Calvin College,
  by Bob Albrecht and Bob Bender

- University of Cincinnati,
  by Bob Albrecht and Judy Pirani

- University of Delaware,
  by Bob Albrecht and Judy Pirani
ECAR IT Alignment Research

Related Materials
(publicly available)

Key Findings
Judy Pirani and Gail Salaway

Survey Instrument
ECAR Fellowship and Collaborators

Roadmap
Judy Pirani

ECAR Key Findings

Information Technology Strategic Management in Higher Education: Survey Questionnaire

IT Strategy Management in Higher Education — October 2003

Complete this survey for your institution by 11:59 p.m. Pacific Daylight Time (PDT) on Friday, October 27, 2003.

The survey is designed to identify information technology (IT) strategies and to gather information about IT staff, IT budgeting practices, IT governance, and IT alignment. The survey is intended to help institutions better understand their IT strategies and to identify areas for improvement.

The survey consists of four sections:

1. Institutional Information
2. IT Strategy and Planning
3. IT Governance and Decision Making
4. IT Alignment

The survey takes approximately 15 minutes to complete. Participation is voluntary and confidential. Your responses will be aggregated and analyzed to provide insights into IT strategies in higher education institutions.

Thank you for your time and participation.

Click the link to begin the survey. Once again, thank you for your input!
ECAR IT Alignment Research
Why Study IT Alignment?

- Honestly, we didn’t start out to study this. Our initial focus was IT strategic planning.
- Then, we expanded the topic to IT strategic management: a study of the factors that distinguish strategically successful IT management.
- The survey instrument was titled *IT Strategic Management in Higher Education*.
- The survey was based on an hypothesis that five factors contribute to strategic IT management.
We hypothesized that five factors contribute to strategically effective IT management.

- IT Governance
- Planning
- Alignment with Institutional Priorities
- Communication Strategy
- Performance Measurement
The Ah-Ha Moment

Effective...

IT Governance

+ Planning

+ Communication

+ Measurement

= IT Alignment
Validation - Defining Alignment

Alignment is “the proper positioning or state of adjustment of parts, or an arrangement of groups or forces in relation to one another.”

[Merriam-Webster Online Dictionary]
Validation from the Experts

Alignment is the essence of leadership, which Philip Crosby defines to be the act of “deliberately causing people-driven actions (e.g., alignment) for the purpose of accomplishing the leader’s agenda.”

How We Did the Study: Methodology

- Literature Review
- Web-Based Survey (October 2003)
- 22 One-on-One Interviews
- Four Case Studies
- Review of 57 IT Strategic Plans
Survey Respondents (N=483) by EDUCAUSE Membership and Carnegie Class

33% of EDUCAUSE Institutions Responded

Source: EDUCAUSE Center for Applied Research
Job Titles of Survey Respondents (N=476)

- VP/VC of IT: 22.9%
- AVP/AVC of IT: 22.1%
- Executive Director of IT: 10.7%
- Director of IT: 26.0%
- Other: 18.3%

Source: EDUCAUSE Center for Applied Research
## Respondents’ Areas of Responsibility
*(N=483; multiple responses allowed)*

<table>
<thead>
<tr>
<th>Area</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Information Systems</td>
<td>452</td>
<td>93.6%</td>
</tr>
<tr>
<td>Data Communications</td>
<td>446</td>
<td>92.3%</td>
</tr>
<tr>
<td>Academic Computing</td>
<td>407</td>
<td>84.3%</td>
</tr>
<tr>
<td>Voice Communications</td>
<td>363</td>
<td>75.2%</td>
</tr>
<tr>
<td>Instructional Technology</td>
<td>335</td>
<td>69.4%</td>
</tr>
<tr>
<td>Distance Education</td>
<td>137</td>
<td>28.4%</td>
</tr>
<tr>
<td>Teaching and Learning Center</td>
<td>119</td>
<td>24.6%</td>
</tr>
<tr>
<td>High Performance Research Computing</td>
<td>110</td>
<td>22.8%</td>
</tr>
<tr>
<td>Library</td>
<td>86</td>
<td>17.8%</td>
</tr>
</tbody>
</table>

Source: EDUCAUSE Center for Applied Research
What We Learned - 1

1. With respect to institutional planning and IT alignment, colleges and universities are planning in earnest.
   a. 90% say planning is important.
   b. 81% have an institutional plan (87% masters; 83% baccalaureate; 71% doctoral; 61% doctoral extensive)
   c. Campuses with institutional plans report more IT alignment with institutional priorities.
   d. Nearly 60% conduct institutional planning either annually or as a continuing process.
### Institutional and IT Plans by Carnegie Class (N=475)

<table>
<thead>
<tr>
<th>Carnegie Class</th>
<th>Has Institutional Plan</th>
<th>Has IT Plan</th>
<th>IT Plan Under Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>DR</td>
<td>70.8%</td>
<td>50.5%</td>
<td>25.2%</td>
</tr>
<tr>
<td>MA</td>
<td>86.5%</td>
<td>64.8%</td>
<td>21.9%</td>
</tr>
<tr>
<td>BA</td>
<td>83.3%</td>
<td>51.0%</td>
<td>27.5%</td>
</tr>
<tr>
<td>AA</td>
<td>86.9%</td>
<td>67.2%</td>
<td>19.7%</td>
</tr>
<tr>
<td>Specialized</td>
<td>75.0%</td>
<td>50.0%</td>
<td>27.5%</td>
</tr>
</tbody>
</table>

Source: EDUCAUSE Center for Applied Research
### Frequency of Institutional Planning (N=479)

<table>
<thead>
<tr>
<th>Planning</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuing Process</td>
<td>44.5%</td>
</tr>
<tr>
<td>No Planned Schedule</td>
<td>19.4%</td>
</tr>
<tr>
<td>Annually</td>
<td>14.6%</td>
</tr>
<tr>
<td>Every Three Years</td>
<td>6.7%</td>
</tr>
<tr>
<td>Other</td>
<td>6.1%</td>
</tr>
<tr>
<td>Every Other Year</td>
<td>4.8%</td>
</tr>
<tr>
<td>Don't Know</td>
<td>3.5%</td>
</tr>
<tr>
<td>Never</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

*Source: EDUCAUSE Center for Applied Research*
1. Most (74%) say that institutional **vision** is clearly articulated; 66% say that institutional **priorities** are clearly articulated.

2. The link between IT alignment and institutional vision and priorities was a recurrent theme in both survey data and interviews.
   
a. At institutions with clear vision and priorities, 91% perceive that IT is aligned.
   
b. Without clear institutional vision and priorities, only 57% say that IT is aligned.
What We Learned - 3

1. With respect to IT planning and alignment, 57% have an institution-wide IT plan in place. Another 25% are developing one. Most of these are at institutions that have an overall campus plan.

2. 78% link their IT plans to their institutional budget process.
   a. Nearly three-fifths (59%) say funding for IT initiatives is allocated when the plan is approved.
   b. Only 50% who say that IT is not aligned link their IT plans to the institutional budget.
# Planning: The Top Reasons and Outcomes

## Why IT Plans
1. Align technology with institutional priorities (outcome #3)
2. Secure financial and other resources (outcome #8)
3. Enhance IT service levels (outcome #2)

## Planning Outcomes
1. Building alliances with key decision makers (reason #6)
2. Enhance IT service levels (reason #3)
3. Align technology with institutional priorities (reason #1)
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>With respect to organizational climate, those from a dynamic climate report clear institutional vision and priorities, and they say that planning is important and is linked to the budget.</td>
</tr>
<tr>
<td>2.</td>
<td>Those from turbulent or volatile climates say vision and priorities are not clearly articulated, planning is less important, and planning is not linked to budget.</td>
</tr>
<tr>
<td>a.</td>
<td>Almost half (45%) perceive the climate of their institution as “dynamic.”</td>
</tr>
<tr>
<td>b.</td>
<td>35% characterize the climate as “stable.”</td>
</tr>
<tr>
<td>c.</td>
<td>20% say the climate is “turbulent” or “volatile.”</td>
</tr>
</tbody>
</table>
What We Learned - 5

1. With respect to external environmental scanning, research findings call for higher education IT to rethink, revise, and enhance our practices for examining trends and events outside the institution’s span of control—and to “take the future into account.”

2. 58% of survey respondents identified changes in the external environment as a top trigger for changes in their IT priorities. Yet, scanning efforts are largely piecemeal and informal.
What We Learned - 6

1. With respect to institutional leadership, respondents say that presidents and chancellors are actively involved in planning efforts, with 40% acting as sponsor, 25% acting as participant, and 16% acting as champion or cheerleader.

2. 76% of respondents characterize the top leader as a champion, strong supporter, or willing enabler of technology.
What We Learned - 7

1. With respect to IT governance, only 56% of respondents agree that their governance process is effective, and only 45% say the process is well understood.

2. Two-thirds are advised on IT policy and programs by an academic advisory committee; 63% by an administrative advisory committee; 51% by both (or combined).
21% say their top IT leaders make independent decisions (whether or not they also have IT advisory committees). They rate IT governance as less effective, and are less likely to agree that their leadership understands how IT relates to institutional strategy and goals.

Respondents who report involvement of key administrators, deans, and faculty say that IT governance process is more effective.
Faculty and deans are involved in IT governance much less often than are administrators.

Most institutions use multiple sources to solicit advice about IT programs and policies. Most use formal committees: academic, administrative, or combined.
93% of those institutions perceiving an effective IT governance process also perceive strong IT alignment.

Only 64% of institutions that do not report effective IT governance perceive strong IT alignment.

Governance seems closely tied to alignment, but campuses that say IT governance is ineffective also say that IT is aligned. *Hmmm.*
## IT Governance: Sources of Advice on IT Policy and Programs

(multiple responses allowed)

<table>
<thead>
<tr>
<th>Source of Advice</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A standing academic committee</td>
<td>321</td>
<td>66.5%</td>
</tr>
<tr>
<td>A standing administrative committee</td>
<td>303</td>
<td>62.7%</td>
</tr>
<tr>
<td>Senior IT leader(s) determine after informal discussions with others</td>
<td>255</td>
<td>52.8%</td>
</tr>
<tr>
<td>Central and distributed IT leaders</td>
<td>197</td>
<td>40.8%</td>
</tr>
<tr>
<td>Senior administrators</td>
<td>165</td>
<td>34.2%</td>
</tr>
<tr>
<td>Senior IT leader(s) make independent decisions</td>
<td>102</td>
<td>21.1%</td>
</tr>
<tr>
<td>Board members</td>
<td>11</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

Source: EDUCAUSE Center for Applied Research
### IT Governance:
Campus IT Stakeholders’ Perceptions about IT

<table>
<thead>
<tr>
<th></th>
<th>View IT as Indispensable to Their Success</th>
<th>Understand the IT Vision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean*</td>
<td>S.D.</td>
</tr>
<tr>
<td>Institution Has Academic IT Committee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5.30</td>
<td>1.205</td>
</tr>
<tr>
<td>No</td>
<td>4.98</td>
<td>1.332</td>
</tr>
<tr>
<td>Institution Has Administrative IT Committee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5.30</td>
<td>1.204</td>
</tr>
<tr>
<td>No</td>
<td>5.00</td>
<td>1.324</td>
</tr>
<tr>
<td>IT Leader Makes Independent Decisions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4.95</td>
<td>1.315</td>
</tr>
<tr>
<td>No</td>
<td>5.26</td>
<td>1.235</td>
</tr>
</tbody>
</table>

* Scale = 1 (very strongly disagree) to 7 (very strongly agree)

Source: EDUCAUSE Center for Applied Research
What We Learned - 8

1. With respect to communication and key constituents’ involvement, respondents confirm the importance of involving constituents in determining IT direction, priorities, and initiatives.

2. Unless a plan is shaped by many and known by all, the view of IT may be incomplete, incorrect, or incoherent.
What We Learned - 9

1. With respect to IT planning effectiveness and alignment:
   a. One-third of respondents do not characterize their IT strategic planning as effective.
   b. Effective IT planning is positively associated with perceived IT alignment with institutional priorities.
What We Learned - 10

1. With respect to IT plans on the Web:
   a. Most do not refer to standard planning methods and frameworks.
   b. They are strongly situated within and tailored to their institutional context.
   c. Most use campus mission and vision as their cornerstones.
   d. Most look inward rather than scanning the external environment.
   e. Many are tactical rather than strategic (doctoral extensive institutions emphasize more strategic thinking).
What We Learned - 11

1. With respect to IT performance measurement:
   a. It is not yet wide-spread.
   b. No standard approaches or practices are in use.
   c. For the most part, those that do measure use self-assessment rather than surveys.
   d. Few use the Malcolm Baldridge process or Balanced Scorecard, but performance dashboards are gaining popularity.
“The whole purpose of the plan is possibilities. If people are constrained at the outset to specific measurables, their perspective becomes limited. I do not like to become too focused on metrics in the early [IT planning] discussion because, if constraints surface, it prevents you from discussing possibilities.”

-J. Reid Christenberry, Miami University
This leads us to ask . . .
Is IT Alignment . . .

- The key to the puzzle?
- The gold ring (the goal)?
- The booby prize?
- Something else?
What Should Higher Ed Do About IT Alignment?

1. Achieve it, and then . . .

2. Move beyond it!
Beyond Alignment: The Adaptive Organization

- Many truly “adaptive” organizations are actively and consciously changing how they operate and plan for the future.
- Adaptive organizations use management and planning practices that fit with a rapidly changing world and address:
  - Extreme competition
  - Continuous discontinuities
  - Unrelenting financial pressures
  - Unpredictable threats
Becoming an Adaptive Organization - 1

- Governance
  - An increasing need for governance structures that can be convened quickly, have clear directives, and hold genuine decision making authority.
  - Include the key leaders involved with the IT organization and have immediate access to the tools and information needed to make well-aligned decisions.
Becoming an Adaptive Organization - 2

- Planning
  - Make planning a continuous process.
  - Develop processes to track the external and the internal environments to provide real-time information so IT organizations can adjust to changes.
  - Create flexibility in budget processes, particularly to support quick reallocation of resources.
Becoming an Adaptive Organization - 3

- Organization
  - Project-oriented organizations are more adaptive to change than function-oriented organizations.
  - Make creative use of contractors, shared services, outsourcing, and partnerships to increase variable costs (relative to fix costs).
  - Reward employees for being responsive to changing needs, maintaining high skill levels, and contributing to strategic directions.
Becoming an Adaptive Organization - 4

- Technology
  - Ensure that the fundamental IT architecture can maintain currency and, at the same time, cost-effectively support changing user demands, new user technologies, and evolving business practices.
Who Will Survive?

Most probably, well-aligned and adaptive organizations that test their brakes, limit their shocks, and strut their stuff!

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

— Charles Darwin
Discussion

and

Thank you!

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