

# IT Investment Decisions That Defy Arithmetic

*An effective engagement process helps senior campus leadership systematically maximize the value and success of IT investments*

By **Bob Weir**

One of the most difficult questions facing any enterprise, including colleges and universities, is where to invest limited information technology resources for the maximum benefit of customers, constituents, and institutional mission. Now, compounding this difficulty, constrained and shrinking IT budgets are colliding with increasing demand for technology projects. The CIO often ends up in the untenable, and ultimately unsustainable, position of simultaneously promoting the value of IT while telling his or her customers they cannot have the majority of the projects they want.

This issue continues to generate debate (as well as angst) among EDUCAUSE members, NACUBO (National Association of College and University Business Officers) members, and others. Yet the fact remains that we need to make thoughtful investment tradeoffs today despite shrinking resources and escalating demands.

This article describes a model that renders IT decision making visible and quantifiable. The model allows for informed, collaborative decision making without requiring data or information simply not available. At the same time, the process blends both the tactical and strategic goals of an academic institution and creates a single view of value and risk that includes the subjective and quantitative goals of the projects under consideration.

## What's So Tough About IT Investment Decisions?

Several difficulties, such as accurate project articulation and planning, com-



plicate IT project investment decisions in any major institution or company. Unfortunately, higher education encounters additional complexities including:

- *Most senior executives on campus are not technologically savvy.* Most senior executives are not experts in understanding the opportunities and risks presented by information technology. Those who do understand these issues within their functional context often lack an understanding across the diverse functions of the university or in terms of emerging technologies and utilization trends.

- *University IT budgets are fixed, while demand for IT services is growing.* Investments in technology are generally viewed, in the “fixed pie” world of higher education, as coming at the expense of other university priorities such as faculty salaries or student programs. At the same time, the demand for technology projects far outpaces available project resources, and yet the projects are increasingly important to the core missions of our institutions and the effectiveness of our students, faculty, and staff.

- *Disparate and diverse opportunities defy direct comparison.* Projects as diverse as network or desktop upgrades, ERP implementations, help desk improvements, and technology-enabled instruction in the classroom (or across the Internet) vie for the same limited project funds. Yet these projects serve a wide range of constituents in a myriad of ways and have varying degrees of value according to the different constituent groups.
- *Return on investment (ROI) is impossible to reliably calculate, compare, or claim.* While universities certainly focus on the effective management of budget/investment resources, there is no “coin of the realm” in terms of articulating an IT project’s return. Other than the occasional project that claims potential cost savings, financial returns are often so indirect that they fail as investment justification.

It is also the case that, in the university environment, major institutional gains have so many claimants that, if all were to be believed, the attainment would be a multiple of what was actually realized. Even in the rare case where a financial ROI is credible for a given project, the other projects competing for the limited technology investment funds will not have credible ROIs, which, in turn, dramatically reduces the usefulness of ROI as a comparative determinant.

## What Does Work?

The key to these issues is to rely on senior executives who, while they have varying degrees of technology understanding, clearly understand their individual areas of responsibility and, as a group, lead the management of the institution as a whole. While comprehensive institutional and technology investment strategies would certainly improve the model we will review, they are not required. With the CIO and his or her team in a consultation and facilitation role, an institution can rely on the domain expertise and executive leadership of these individuals to make the optimal technology investment decisions despite the complexities and considerations listed above.

## To facilitate the IT project investment decision process for senior executives, a common Northeastern view of both the value and success criteria was defined to assess and deploy proposed projects.

At Northeastern University, we address the thorny and complex problem of project demand management by delegating the deliberations and decisions regarding IT project investment to our senior university leadership through an Information Services–facilitated process. This process results in direct senior executive engagement in, and ownership of, IT decisions and projects—including those projects we will not pursue in the near term, if ever. In our last cycle we decided to proceed with 14 of 36 candidate projects that have since been launched with unprecedented articulation, cooperation, and agreement. All projects, as of this writing, are on schedule, which is attributable in no small part to this approach.

This result was achieved with the help of a tool and model developed by Tom Murphy, a Northeastern alumnus and independent consultant. He specializes in assisting major commercial enterprises struggling with IT project demand management. (A complete review of our annual IT project investment decision process and Murphy’s methodology will be published in the July issue of NACUBO’s *Business Officer*.)

IT project investment decisions can be distilled into two overriding considerations:

1. the value of the investments’ intended outcomes in terms that matter to the institution: its mission, its customers, its constituencies, and so forth; and
2. the probability of success and the elements of risk associated with ensuring that an investment delivers as promised.

Success factors are unique across institutions and reflect the project completion track record, functional and technology delivery capabilities, risk tolerance, and other characteristics of each institution. To facilitate the IT project investment decision process for senior executives, a common Northeastern view of both the value and success criteria was defined to assess and deploy proposed projects.

## Critical Success Factors

Our process is replicable at most colleges and universities. What follows are the critical success factors, with examples, of an executive engagement process.

The first critical success factor is the direct, “high touch” engagement of the senior executives and their teams. The major issues noted above preclude a simple business-case ranking of disparate and competing project proposals. At Northeastern, and in the rest of higher education, the leading reason for the failure of IT projects to deliver their intended value is lack of the associated business process change deployment and the related executive sponsorship. Directly involving the senior leadership of the university up front in a facilitated decision process ensures alignment with the strategic direction and values of the institution despite the lack of comparable business cases. It also guarantees, up front, the executive sponsorship and business change commitment required to ensure the value projected is actually realized.

The second factor is the creation of a consensus view of the relative opportunities and risks of proposed IT projects by viewing the projects through the prism of value and success. Just because IT project decisions can’t be based on comparable business cases doesn’t mean numerical methods cannot be employed to support the senior leadership decision process. At Northeastern, through interviews with 40 executives and stakeholders using the Murphy methodology, we reached consensus on a weighted list of the top six characteristics by which we would assess the value of an IT project as well as the top six characteristics by which we would assess

**Figure 1**

## Northeastern University IT Portfolio Scoring Guide

### Scoring Criteria

VALUE			SUCCESS		
28 pts	Competitive Advantage	Student Selectivity Student Success Academic Reputation	30 pts	Business Process Change	Information Integrity Process Readiness Technology Fit
21 pts	Service to the NU Community	Quality of Student life Quality of Faculty life Broader NU Benefits	27 pts	Sponsorship & Leadership	Sponsorship Leadership Resource Commitment
17 pts	Financial Benefits	Cost Reduction Financial Resources	14 pts	End User Acceptance	User Involvement Resistance Level Ease of Use
16 pts	Decision Support	Data Integrity Information Analysis Expanded Number of Decision Makers	13 pts	Scope & Complexity	Project Duration Project Complexity
15 pts	Efficiency & Productivity	Collaboration Efficiency Gains Functions Improved	13 pts	Delivery Fundamentals	Management Controls Project Definition Resource Management
3 pts	Risk Reduction	Legal Liability Reputation Risk	3 pts	Security and Regulatory Compliance	External Compliance

the success potential (or risk) of any project (see Figure 1). The fact that we all agree to and reference the same criteria provides the foundation supporting both our decision making and our subsequent project planning. (The tool and processes to support the decision process will be described in depth in the July issue of *Business Officer*).

The third factor is the incremental articulation of projects, including “weeding out” decision points. Since the demand for IT projects is generally a multiple of available resources, the majority of the candidate projects will not be chartered. To conserve planning investment and minimize stakeholder frustration, the initial selection should be based on minimal information and limited preparation. At Northeastern, that initial articulation is literally a paragraph or two. Based on a quick review with the senior executives against the value/success criteria, approximately half of the projects

are either rejected or deferred for consideration in the next fiscal year.

Those projects remaining for consideration can be more fully articulated against a business-case template that reflects the value and success criteria as well as business and technical approaches, costs, dependencies, and so forth. This work is completed by a joint functional and IS team, under the guidance of the sponsoring senior functional executive. This joint team is ultimately responsible for the creation and deployment of the solution should it be approved. As these teams do their work, they use the assessment criteria to maximize both the value and the success of their project proposal and, in doing so, incrementally improve the initial proposal.

The fourth factor is a final portfolio recommendation based on more than available resources and value/success scores. Given that the bulk of IT project investments are completed with

onboard staff and have business process, technology, or other strategic considerations, a step needs to be completed where the highest-scoring projects are converted into a recommended portfolio. A number of factors such as scheduling, dependency resolution, technology synergy, and incremental resources can be manipulated to maximize the number of projects chartered and thus the “bang” for the institution’s limited IT bucks.

The last, but far from least, critical success factor is reaching senior executive consensus using an institution-wide (versus individual functional) perspective. For all the reasons mentioned above, it is imperative that this remains a closed loop process and that the resulting portfolio of projects is launched with the full understanding and commitment of the senior executives. Given that they have been involved every step of the way, this is not necessarily difficult, but

it is essential—especially considering, at least at Northeastern, that more than half of our success assessment scoring involves business process change and executive/functional sponsorship.

## Is All This Worth It?

Absolutely! While the cost in terms of executive and staff time is significant, there has been, and will continue to be, significant benefits that far outweigh the investment in this model:

- *Direct senior management engagement and ownership of both the selection (and deselection) process and the approved projects.* From a customer satisfaction and expectation perspective, high-level agreement on what we're not going to do is almost as valuable as agreeing on what we will do. One anticipated long-term benefit is that, as the senior executives work with this process over time, they will continue to learn about the value and success aspects of IT projects and, hopefully, will develop a better understanding of the strategic

opportunities presented by technology for the institution.

- *Functional/IS partnership based on a common view of the projects and full collaboration during the formative stages of the project definition and plan.* In many cases the experience of working together in this process has evolved the relationship between functional and IS personnel from "us and them" to a common "we" view.

- *Creation of a common IT lexicon for everyone involved based on the Murphy tool creation and use that is unique to Northeastern.* People in numerous venues use the value/success criteria to frame their IT discussions at Northeastern. Additionally, in some cases, the value criteria have been referenced in non-IT discussions, since the university-wide value criteria are applicable to all types of university investment decisions.

- *Full and early articulation of projects by forcing all major questions and issues regarding a project to the charter phase.* This dramatically reduces misunderstand-

ings and many of the costly missteps and mistakes experienced by projects that are not fully articulated up front.

## In Conclusion

All major enterprises struggle with deciding where to invest their IT project resources and how to ensure that those investments pay off. The challenges, including the limitations of ROI and business cases, are many and the answers complex. In higher education these decisions often have to transcend simple arithmetic or financial analysis. If an organization and its leadership follow a relatively simple methodology through focused collaboration and shared leadership responsibility, they will have an opportunity, through facilitated engagement, to ensure both the maximum value and probable success of IT project investments. *e*

---

Bob Weir ([bobweir@neu.edu](mailto:bobweir@neu.edu)) is Vice President, Information Services, at Northeastern University in Boston, Massachusetts.