

Roadmap

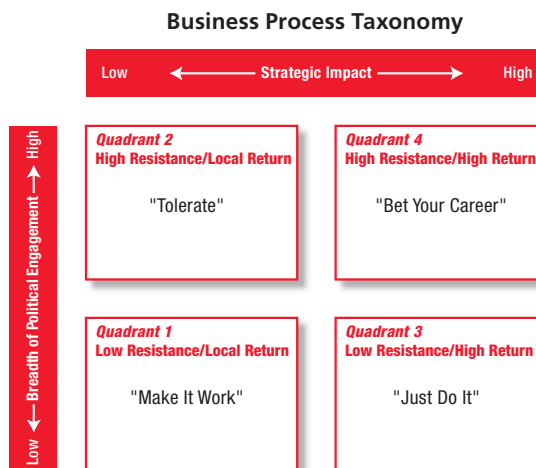
TOOLS FOR NAVIGATING COMPLEX DECISIONS

Good Enough! IT Investment and Business Process Performance in Higher Education

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KEY FINDINGS

- Higher education decision makers manage a portfolio of institutional processes by merely “satisficing” low impact processes that if they attempted to change might attract resistance. Instead they invest time and resources to improve processes that can differentiate the institution in a positive way.
- Process performance is shaped by two forces: 1) the breadth of political engagement in the process, and 2) the strategic impact of the process.
- Higher education institutions have optimized the performance of strategic processes (such as student services), but they achieve adequate or satisfactory performance for commodity processes (such as creating financial accounts).
- Institutions have achieved higher levels of performance with their transactional processes than with monitoring or managerial processes because the former are less resistant to change.
- Institutions report the highest level of performance for business processes in the student services area and the lowest in the areas of grants management and management information and analysis.
- Institutions that report having several high-performing processes also report having strong executive leadership, a proven method for soliciting improvement ideas from employees, and a strong technology foundation.



Higher education has invested significant time and resources in pursuit of administrative excellence. Institutions have invested in a variety of process improvement methods (total quality management, business process reengineering) and in contemporary administrative technologies. Process improvement intensified when institutions implemented both ERP technologies and structured process improvement programs.

The EDUCAUSE Center for Applied Research (ECAR) study *Good Enough! IT Investment and Business Process Performance in Higher Education* reveals a complex answer to the questions: 1) how do higher education’s business processes perform, and 2) under what conditions do they perform well? The study examined 48 business processes in the areas of financial management, human resources, student services, grants management, and management information and analysis. Overall, the study finds business process performance in higher education is reported to be “adequate” to “satisfactory.” Relatively few respondents report innovative or exemplary performance for business processes, while quite a few institutions report that at least some of their processes were “at risk.”

Is the lack of process excellence cause for alarm? We conclude that higher education’s business process performance is quite rational. Institutions have achieved

This ECAR Roadmap distills 335 responses to a September 2004 survey, interviews with 32 IT executives and managers at 29 higher education institutions, and summarizes the 2005 ECAR study, Good Enough! IT Investment and Business Process Performance in Higher Education, by Robert B. Kvik and Philip J. Goldstein, with John Voloudakis. To order the full study or to learn about subscribing to ECAR, visit the ECAR Web site at <http://www.educause.edu/ecar/> or contact us at ecar@educause.edu.

KEY REPORT CONCEPTS

- ▶ Performance of a process is influenced by two institutional forces: breadth of political engagement in the process and the potential strategic impact of the process.
- ▶ Institutions are taking a portfolio approach to process investment, striving to optimize the performance of strategic processes while accepting adequate or satisfactory performance in processes that do not differentiate the institution.
- ▶ IT matters, but technology alone is not an answer. Successful process improvement requires strong leadership, staff engagement in process improvement efforts, measurement, and new technology.

selective excellence in areas where the benefits of excellence outweigh the cost of its pursuit. In the absence of such a benefit, most institutions accept performance that is satisfactory or adequate. Nobel laureate Herbert Simon referred to this behavior as “satisficing.”

To assess process performance, ECAR plotted the business processes examined in this study along two dimensions. The first is breadth of political engagement, which measures the potential for resistance to change. Low-engagement processes are typically controlled by a single senior administrator such as a bursar, controller, or admissions director. A process with high engagement affects many on campus and is by definition difficult and costly to change, both financially and in terms of political capital. The second dimension pertains to the strategic value of the process. At the low end of the spectrum are routine processes or those whose shape or performance is defined by mandate by external bodies or regulation. At the high end are processes that offer an institution a potential for strategic differentiation among competing institutions if they can achieve high levels of process performance. Breadth of political engagement and the extent of strategic impact are effective predictors of an institution’s investment in a business process (see the figure “Business Process Taxonomy”).

ECAR found that institutions are more likely to report process performance that was satisfactory or adequate in Quadrants 1 and 2. For these processes, the incremental benefits of achieving further process improvement were deemed low or nonexistent, while the incremental cost of further improvement either in dollars or political capital (especially for Quadrant 2) could be high. Many institutions report that their processes of this type are adequate and that they have no intention of further improvement.

Conversely, processes in Quadrants 3 and 4 offer greater potential benefits. ECAR found that processes in these quadrants were judged as demonstrating higher levels of performance and more variability among responding institutions. The processes in these quadrants are most often student services processes, which were among the

highest performing in the study. Student advising, degree audit, and recruiting applicants were among the highest performing processes.

Summary of Business Process Performance

ECAR’s report, *Good Enough! IT Investment and Business Process Performance in Higher Education*, selected 48 business processes to study based on their universal applicability and the relatively high level of efforts toward improvement these processes attracted. Online survey respondents were asked to assess the level of performance for each business process by choosing from among the following responses: 1) We are at risk. 2) We are adequate. Our process works for now but needs to be changed. 3) We are satisfied. Our process works adequately. 4) We are leaders. 5) We are exemplars.

Financial Processes

The financial processes are mostly “back-office” transaction functions. Some, such as creating accounts or preparing financial statements, can be thought of as commodity processes defined by the regulatory environment. The financial process set also includes broadly used processes—purchasing items and paying invoices and check requests. While not quite commodities, they are processes that are highly replicable across institutions and in some cases across industries. Finally, the category includes develop budgets and track budgets. These processes are more strategic to the institution, have a more diverse ownership, and are potentially harder to change.

On the whole, institutions ranked themselves between adequate and satisfied for most processes. Quadrant 1 functions such as fulfilling check requests (2.57/.621),* paying invoices (2.53/.692), and creating accounts (2.57/.654) showed higher levels of performance. Conversely, Quadrant 4 processes such as tracking budgets and expenditures (2.45/.874) and developing budgets (2.28/.783) have the lower means and the higher standard deviations.

METHODOLOGY

- ▶ A literature review on “technological” and “administrative” innovation was performed. Investigators examined the adoption of new technologies, including a review of technologies that were adopted or rejected within organizations and reasons or processes that influence successful or failed adoption. The study of administrative innovation is similar, with a focus on the adoption of new business processes or new ways of doing business.
- ▶ A quantitative online survey of 335 EDUCAUSE member higher education institutions.
- ▶ Qualitative telephone interviews with 32 higher education IT executives and managers at 29 institutions that exhibited different business process performance characteristics based on their survey responses.
- ▶ Case studies of process management at Iowa State University and Brooklyn College and The City University of New York.

Human Resource Processes

The human resources (HR) area is a mix of centralized transaction processes and distributed processes that have a strategic impact on the institution. Centrally managed commodity processes include administering benefits, disbursing payroll, reporting payroll, and recording time and attendance. The category also contains processes that are more strategic and highly decentralized, such as hiring faculty and staff. Finally, the category contains the processes referred to as managing compensation and managing positions.

On the whole, institutions ranked their HR processes as adequate. Many HR processes are transactional in nature in Quadrant 1, such as payroll disbursement (2.71/.635), produce payroll reports (2.57/.645), and administer benefits (2.45/.699). Interestingly, hire faculty (2.36/.704)—the only Quadrant 4 process—generated similar results as well.

Student Services Processes

The student area encompasses a broad set of processes that includes activities related to recruiting and admitting students, processing financial aid, billing and collecting student accounts, records, and registration. Like the other areas, the student processes include transactional processes that are typically controlled centrally as well as highly distributed processes and strategic processes.

Overall, student processes have the highest scores in the study. Quadrant 1 processes—maintain grades (2.78/.752), process payments (2.66/.719), and provide aid reports to lenders, agencies, and auditors (2.56/.608)—exhibited considerable progress. Interestingly, many processes in the student area (especially Quadrant 1 processes) had high standard deviations, perhaps indicating that students affected by the process drove institutions to invest in improvement even in the face of high resistance.

Grants Management Processes

Grants management has been a difficult area in which to achieve process improvement. It includes both highly rule-driven commodity processes such as reporting time and effort and providing grant reports. This category also contains processes that are relatively more strategic and idiosyncratic, such as preparing grant proposals, tracking grant budgets, and approving grant proposals. On the whole, institutions ranked themselves barely above adequate.

Management Information and Analysis Processes

The management information and analysis category is somewhat different from the others in this study. The processes chosen are not processes per se. Rather, they represent managerial capabilities. However, they share with processes many of the same critical success factors and obstacles to change. And like other processes in our study, the ease and difficulty of changing them varies significantly. Institutions seem to be dissatisfied with much of their management information and analysis capability in general: enrollment management information (2.34/.849), sources and uses of funds (2.25/.857), research management information (2.10/.784), and work force and research management information (1.91/.789).

Did IT Matter?

Investment in IT clearly matters, but so does the manner of its implementation. Institutions that achieved high levels of performance in the most processes identified the Web and an ERP system most frequently as the technologies that are essential to their success. Qualitative research revealed that many institutions felt their processes were at risk because they had under-invested in technology. The study also confirms that technology alone is not an

RECOMMENDATIONS

Based on its findings in *Good Enough! IT Investment and Business Process Performance in Higher Education*, ECAR offers the following recommendations to optimize business process improvement efforts:

1. Provide the organizational tools to foster innovation

As one would expect, the demonstrable support of leaders who are empowered to make changes is important to pursuing improvement, but actions of individual leaders are not the only important factor. The leadership structure also plays a role. Having an institutional strategic plan that focuses attention and resources on creating high-performing administrative processes that offer significant strategic value is also important. Finally, creating venues to facilitate cross-functional improvements enables all the constituents to discuss their different interests and perspectives for a specific process.

2. Consider process when investing in information technology

Technology does matter to business process innovation. A technology implementation is a catalyst to improving performance because business processes are deliberately reviewed. The key is to match the right technology and level of investment to the right processes. A commodity financial process (for example, process an invoice) requires a commodity technology solution. Institutions should seek out the most reliable, least costly technology. Conversely, it is appropriate to take on more risk and cost for a technology solution for a strategic process (for example, student recruitment). The higher potential return warrants a greater investment. However, technology alone is not the answer. An institution must be prepared to follow-up its technology investment with a sustained effort to alter its processes, organization, and policies to realize a full return on its investment.

3. Involve the IT organization in facilitating business process improvement

The IT organization can be instrumental in accomplishing both recommendations 1 and 2 above. Respondents believed that positioning the IT organization to assist with process improvement projects was important to achieving higher levels of process performance. Similarly, respondents reported that institutions that most effectively apply technology to their business processes also achieve higher levels of process performance. These, of course, are reinforcing characteristics. One would assume that an institution at which the IT organization is a trusted partner in performance improvement efforts would also be more effective at leveraging technology's ability to improve processes. The IT department's institutional focus, too, makes it an ideal facilitator for cross-functional business process initiatives.

4. Create a formal program to solicit employee input.

Interestingly, only 17 respondents indicated the importance of employee suggestions. Yet, a regression analysis examining the factors that most distinguished the leading institutions in performance reveals that the most significant factor was employee suggestions. This makes sense, since staff members work within these business processes on a daily basis. A formal program to collect and evaluate suggestions provides a single, coordinated venue for employees to submit process improvements and potentially enables the

answer. Ingredients of successful process performance include strong leadership, a willingness to engage staff in designing process improvements, measurement, and new technology.

IT appears to be a foundational element without which adequate process performance is not possible. Technology can also be a source of differentiation that enables an institution to achieve superior levels of performance for

strategic processes (for example, student services). The challenge is to appropriately match commodity technology solutions to commodity processes, and strategic technology solutions to differentiated processes. It is likely that standard software solutions in some cases outperform the needs of higher education process owners where processes are either of low strategic import or where resistance to change may be high.

*Numbers in parentheses throughout represent (mean/std. deviation).