ABSTRACT

This paper provides a detailed description of how Dallas Baptist University has used the impetus generated from implementing a new integrated campus administrative computer system to document, analyze, and recommend significant organizational changes. The changes were undertaken to improve overall campus efficiency and quality of service. The basis of the paper is the methods by which DBU reengineered major service processes on a campuswide scale. Illustrative examples include reengineered processes that were improved by as much as 200 percent.

In addition to discussion of the reengineering process, attention is drawn to actual case examples, documentation, and recommendations. Also addressed is the political skirmishes involved in the reengineering efforts, along with the techniques for overcoming resistance to the recommended restructuring.

The entire presentation has been created to help move reengineering efforts from a pie-in-the-sky conceptual plane to a truly practical, applicable level. The increased competition, shrinking budgets, and technological pressures of today's educational environment assure that this topic will be appropriate for some time to come.
“There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things.”

-- Niccolo Machiavelli, 1532

In the beginning, there were the Dark Ages. The technological infrastructure was formless and void, and Computing Services brooded over the chaos. The creators of the chaos were many and powerful. Fragmentation and replication of effort ruled individual departments. In an attempt to stem the tide, quasi-functional homegrown administrative software applications were poorly designed, poorly developed, poorly implemented, and were now impossible to maintain. Integration among the various software entities was sporadic, unworthy of trust, and a fond wish for the future. The two primary native populations -- faculty and administration - had founded the entire race relations on the foundation of noncommunication and mutual distrust.

While somewhat frivolous, the fictional account above includes far too many elements of truth. Dallas Baptist University had found itself on the horns of the same dilemma facing all institutions of higher education today -- how do we continue to provide a quality service and product to our students in the face of shrinking resources?

Dallas Baptist is a four-year liberal arts institution offering multiple degrees to the Master’s level. We have an FTE of approximately 1,800 and a total enrollment of 3,100. However, unlike many institutions, nontraditional adults comprise a majority (53%) of our student population. The institution has found great success in partnering with working adults to allow them to complete a college degree either through our traditional undergrad programs or our experiential learning College of Adult Education. For students wishing to complete a graduate degree, we have partnership programs with many large corporations in the Dallas area including MCI, GTE, General Motors, and others to bring our educational resources to their sites. With several companies we have created lock-step MBA programs where groups of students are taken through our MBA program in a highly regimented, step-by-step curriculum from beginning to end. We have made great efforts to tailor our program to our demanding students’ needs.

However, the implementation and effective continuation of such programs requires an incredible amount of flexibility and oversight, from faculty, staff, and administrative software systems. As time progressed and demands on our computing infrastructure increased, it became glaringly apparent the list of identified dysfunctionalities was growing rapidly, and the tools we had in place were failing to support our day-to-day business requirements, and were hopelessly unsuitable to support future growth strategies.

After upgrading the physical infrastructure of the campus computing environment, the next issues to address were the fragmented administrative software systems and the resulting lack of communication and information sharing. The first step on this endeavor was documenting the users’ needs. To accomplish this, the Computing Services department, teamed with an external consultant, scheduled an entire week of one- and two-hour meetings with user departments. The agenda of these meetings was not only to document requirements for daily operations, but for the user communities to generate a ‘wish list’ of what would ideally aid them in their functions and the ultimate strategic goals of the University.

The information gleaned from this series of meetings was used to create a Request for Proposal (RFP) sent to 33 administrative software vendors. Of the 33, we received only nine legitimate responses. When the candidates were scored and weighted against the criteria outlined in the RFP, the Datatel Colleague and Benefactor systems emerged with the best scoring.
Implementation

The implementation process began with several basic assumptions. These assumptions were held as basic parameters for the entire process and directed all activities. The assumptions were:

*There would be no significant alterations or enhancements to the original purchased system until at least one year of operations.* The Datatel system was installed and initially implemented in a ‘vanilla’ fashion. This forced the departments to carefully review their current work processes thoroughly and jettison the unnecessary, unwanted, and inefficient. The primary goal of this directive was to disallow the corruption of the software to enable the current dysfunctional administrative processes.

*All implementation activities would be governed by four cross-functional teams.* (Appendix A) All significant operational decisions would be reviewed by team consent, with disputes to be arbitrated by the primary implementation team. The goal of this approach was twofold: first, we would be able to leverage the knowledge of many individuals. We felt this necessary in a system implementation of this scope. Secondly, each person involved in the implementation teams acquired a sense of ownership in the entire process, and expended the efforts necessary to ensure a successful conversion.

*The existence of any ‘sacred cows’ would not be recognized.* Every process of every department was to be documented and thoroughly analyzed by the appropriate team. Each member of each team had the authority to ask ‘Why?’ and any point and to challenge the inclusion of any part of any process. If the reason of existence for that activity or process could not be proven to the satisfaction of the team, it was slated for discontinuance.

Analysis Process

Teams documented each process utilizing various business process reengineering tools including process flow charting, time cycle analysis, activity-based costing, and Pareto analyses. The flow charts allowed all participating team members to graphically follow the flow and decision-making activities involved in a process and proved invaluable in identifying ‘widows and orphans’, or activities that led nowhere and added no value to the process as a whole. Time-cycle analysis and activity-based costing gave the ability to produce ‘what-if’ scenarios with each process. We answered many questions of “If we cut out this step, what effect would it have on the total time and/or cost of the entire process?” “If we could make this activity more efficient and save this much time, how much money could be saved?” It was only through answering these type of questions that a truly successful system migration could be achieved. It is only through examining each business process in light of the overall institutional strategic directions that the administrative platform for the future may be built.

The natural result of this intensive self-examination was the formulation of ‘ideal’ process maps. We constructed these ideal business processes with no regard to perceived constraints. We found that only through the denial of any barriers to progress may the most progress be realized. The goal processes were then documented and quantified for presentation to and persuasion of senior administrative decision makers, again utilizing the graphical tools described above. Examples of these charts and graphs are in Appendix A.

The New Era Begins

Upon nearing the end of the justification and politicking stage, the team began to realize results from our efforts. In several cases, departmental responsibilities were reassigned to those areas most suited to the tasks. Personnel were relocated to departments directly related to their actual job functions. Departmental reporting responsibilities were given to identified owners of the data in the user community. Graduation responsibilities evolved from a tri-departmental exercise in chaos to one department and one designated supervisor with ultimate responsibility. However, many bloody
battles were fought to achieve these gains -- some lost, some won. Listed below are some of the victories I felt we achieved, as well as the primary contributing factors to that success.

**Class Scheduling**

- Process steps were reduced from 31 to 15
- Process cycle time dropped from 42 days to 17-20 days
- Accuracy of communicated information rose dramatically

  *Factors of success: integration of Colleague software, real-time updating of student files*

**Student Registration**

Registration completion time fell from approx. 90 minutes to approx. 35 minutes

*Factors of success: flatter learning curve of Colleague system from standardized screens and functions throughout all Student System modules. This allows more personnel to be cross-trained on multiple process functions.*

**Institutional Reporting**

Captures approximately 20% more institutional reporting and student retention data

*Factors of success: integration of all Student System modules from Admissions Prospects to Graduation Processor, extensive student demographics data collection capabilities, and very extensive ad hoc query capabilities*

**Decentralized Purchasing**

Shifted responsibility of budget management to proper points of user responsibility, giving designated departmental budget officers accountability, control of all departmental funds, and detailed analysis and reporting tools

*Factor of success: highly developed budgeting system relying of a budget responsibility tree with adequate internal security and allocation controls*

**Reduced Workloads**

Check request percentages of total expense report submissions fell from approximately 95% of all purchasing traffic to less than 20%. This allowed each purchasing officer to reclaim 12 hours per week, with each senior budget officer reclaiming 3-5 hours per week.

*Factors of success: again, capabilities of budgeting system allowing pre-authorized purchasing levels for budget officers, tracking of account encumbrances, and detailed reporting capabilities*

**Qualitative Benefits**

- Greater trust and teamwork generated between administrators, staff, and faculty
- An infinitely greater level of communication between all administrative departments and key personnel

*Factors of success: the teamwork approach used in the implementation process*
The entire implementation process, while probably never labeled complete, is a success in any estimation. The benefits derived from taking a truly team-oriented approach to product selection and implementation will never be lost. As long as this administrative system, both software and people, functions, continued progress toward the institutional strategic goals is possible. The only barriers to continued advancement are ourselves, for the tools and infrastructure are there to be built upon.

“We trained hard... but it seemed that every time we were beginning to form into teams wer would be reorganized... I was to learn later in left that we tend to meet any new situation by reorganization... and a wonderful method it can be for creating the illusion of progress while producing confusion, inefficiency, and demoralization.”

-- Petronious Arbitor, 210 B.C.
APPENDIX A

PARETO CHART EXAMPLE

Classroom Scheduling
Time Expenditures

<table>
<thead>
<tr>
<th>Operation</th>
<th>Delay</th>
<th>Transport</th>
<th>Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
<td>23</td>
<td>12</td>
<td>0</td>
</tr>
</tbody>
</table>

Percent
1. Colleges input tentative course schedule
2. Colleges request extension site courses
3. Extension site coordinators compile required courses
4. Extension site coordinators input required courses
5. Colleges assign faculty to course
6. Dean proof courses online
7. Deans make course changes online
8. Room assignments made online
9. Communications downloads schedule into DTP
10. Communications reformat for final delivery
11. Communications sends deliverable to deans
12. Deans proof final deliverable
13. Deans send changes to Communications
14. Communications inputs changes into DTP
15. Final copy sent to printer