



COMBINING LIBRARIES, COMPUTING, AND TELECOMMUNICATIONS: A WORK IN PROGRESS

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RATIONALE FOR RESTRUCTURING

Lehigh's major reason for restructuring is stated succinctly in Information Resources' "Strategic Planning and Restructuring" document [1]:

"Lehigh University Information Resources must constantly seek strategic opportunities to improve client services, employ the most effective technology for the task to be accomplished, and keep costs for the University at a minimum. Over the past twenty years there was minimal restructuring in Computing and Communications, and so the organization chart does not reflect operational realities and there are significant areas of operational overlap. The University Libraries restructured more recently, but incrementally and without a view toward the emerging relationship between the Libraries and Computing and Communications. While relatively flat, the organization has an exceptionally large number of people with the title of associate director, thus creating the unfortunate impression of administrative bloat."

During the last twenty years, most demands created by new technologies were met with ad-hoc solutions to fit these technologies within existing structures. Projects, positions, and even new groups sprang up in an evolutionary fashion with no overall analysis of how these groups should be integrated within Lehigh's total information environment. In the Computing and Communications area, a significant area of overlap of services had occurred. Informally, all parties worked together to resolve issues without impinging on each others territory. The Libraries had also recently created a large number of associate directors to hypothetically flatten its organization, but in reality changed very little of its underlying structure. The six major organizational groups affected by the reorganization were: Libraries, Telecommunications, Academic Computing (including a Computer Store), Administrative Computing, Media

ABSTRACT

The pervasiveness of technology and the growth of information resources has caused many campuses to examine better ways to provide services to their customers. Lehigh has combined three strong organizations -- computing, telecommunications, and libraries -- into a fully-integrated Information Resources group. Five cross functional restructuring teams from each area were formed to utilize the concepts of process re-engineering to design and implement a truly merged organizational model. Customer service and the needs of the Lehigh community were stressed throughout the process. This paper addresses the following topics: the rationale for restructuring; restructuring through process re-engineering; client needs as a chief component for change; cultural concerns and differences observed; how staff have dealt with change; and the results to date.

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Services, and the Network Support Group. The restructuring process reduced these six groups to three major groups: Technology Management Services, Information Organization Services and Client Services (see Figure 1).

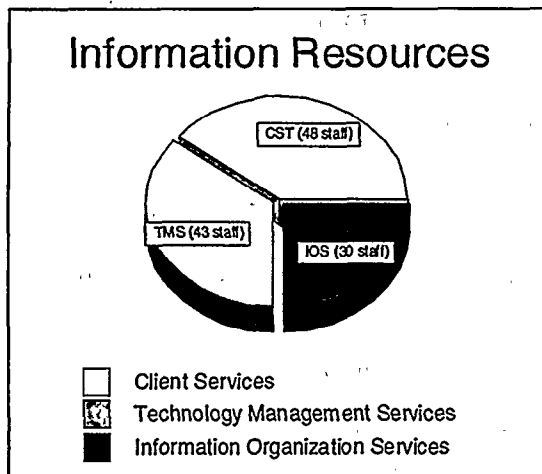


Figure 1

Technology Management Services consists of the following five functional teams: Communications and Computer Operations, Technology Maintenance Services, Instructional Technology Support Services, Systems and Networking Administration, System Network Design and Development.

Information Organization Services consists of the following two functional teams: Information Organization Services, which is responsible for acquisitions and serials control, cataloguing, web interface design and OPAC support; and Information Delivery Services, which is responsible for circulation, stack management, preservation, and fee-based services.

Client Services consists of six cross functional teams to serve each of Lehigh's Colleges and Administrative departments, a Collection Management team, and a General/Student Support team. The college/departmental teams are each comprised of computing consultants, library consultants, instructional technologists, and enterprise consultants. These teams are responsible for providing outreach support services for their associated clients. The Collection Management Team is responsible for book, journal, software and media selection along with on going preservation activities. The General/Student Support Team is responsible for running a combined help line along with two combined help desks providing walk up services for library, computing, and

telecommunications problems. This team also has responsibility for residential computing, computer authorizations, security and data integrity. Another important aspects of the Client Services teams are four functional interest groups for computing, library, instructional technology and enterprise information (see Figure 2).

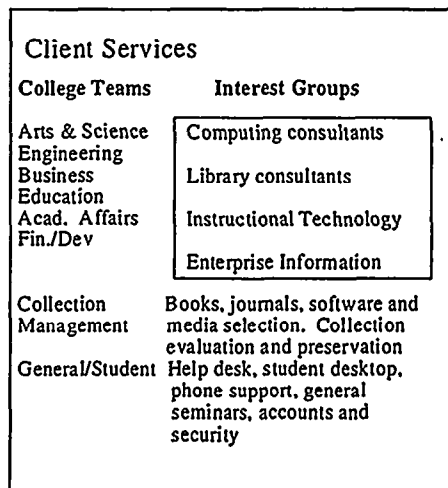


Figure 2

Two groups not mentioned above which resulted from the restructuring are: the Administrative Services Group which has primary budgetary and developmental responsibilities with nine staff members and an Advanced Technology Group which is composed of one person whose responsibility is to draw from other parts of the organization to lead projects associated with advanced technology.

TIMING OF RESTRUCTURING

A major reason for the timing of the restructuring was: the two directors of each organization, (Libraries and Computing & Communications) decided to step down. The Library director took advantage of a Lehigh early retirement program and the vice president for Computing and Communications decided to return to the faculty. These two individuals spoke with the president and suggested that this might be an opportune time to merge the organizations. It was felt that a merged organization could significantly increase the value of Lehigh's investment in technology through a more coordinated approach to computing and information resources. To this end, the first step in the restructuring process was the creation of the position of Vice Provost for Information Resources. The Vice Provost position was charged with the task of merging Libraries, Computing, and Telecommunications along with creating a five year Information Resources

strategic plan. The majority of the staff felt that most things were working fine and that only small changes in our organizations were needed. This attitude illustrates why [11]

"Organizations generally change as little as they must, rather than as much as they should. As soon as the immediate pain is reduced they tend to stop, declare victory, and move on, leaving the bulk of business as usual systems still in place."

Once restructuring teams were formed, however, they outlined many overlap areas that needed correction for a better functioning organization. The restructuring documents pointed out that this merger would combine strong organizations and that the goal of the restructuring was to create an organization of the whole which should be stronger than the sum of its parts.

RESTRUCTURING THROUGH PROCESS REENGINEERING

Process reengineering principles were applied in designing and restructuring Information Resources. Process reengineering has been described as "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed" [2]. When reengineering, all existing processes need to be examined and developed in a new context devoid of trappings of existing organizations. Examining processes from a new perspective to determine how they fit in light of existing goals and values is a very difficult task while trying to keep old processes running smoothly. The past two years have been very demanding on both staff and clients as everyone worked through and continue to work out the kinks in the new organization.

When reengineering, re-channeling staff skills is an important issue that needs to be addressed. Staff are very proud of skills and services that they have spent years cultivating which may no longer be as important to the new organization as they once were. A great deal of attention needs to be given to staff to assure them of their worth in the new organization and to limit the amount of attrition that may occur due to the reorganization. To proceed with restructuring staff need to be reassured that reengineering is not a synonym for "downsizing". They need to be informed that the object of the process is new and improved methods of providing services to clients. It should be noted that as a goal this is laudable but many staff remain leery of change and still feel that the objective of restructuring ultimately is "downsizing".

A guiding principle of the restructuring process was staff involvement and consensus building. It should be noted that once consensus building is stated as a common principle it needs to be adhered to religiously to keep staff commitment to the process. This is one area that has caused problems and needs to be improved as we continue to work on developing support for the new organization. Another guiding principle was that there was to be no "sacred cows" and that all areas of the organization needed to be examined in light of the re-engineering effort. Again this is a laudable goal but in reality many people can point to certain areas of IR where this did not occur for political or practical reasons. Overall, things have been fairly balanced in terms of affecting the entire organization. The person hired by Lehigh to combine these culturally diverse groups was a former Head Librarian who was noted for outsourcing cataloging. This caused concern for staff from the Library. A librarian as CIO for computing services also worried computing professionals. So we started off from the outset with equal concerns about how one organization would be affected in relation to the other. I think that it is safe to say that the change has been equitably distributed across the entire IR organization with the goal of improving services for all of Lehigh.

Restructuring Team Creation and Tasks

The first step in creating the new organization was the development of a strategic plan by five Information Resources restructuring teams. Each of these teams was composed of members throughout the organization who were chosen directly by the Vice Provost based on recommendations he had received from existing management. These five teams had specific charges with the overall goal of creating the IR Strategic Plan [3]. Below is a brief description of each team.

The Lead Team (LT) - The team had primary responsibility for developing IR's mission, vision, and cultural values statements working with the entire IR staff. It also had the task of coordinating the other team reports to establish goals and priorities for the new organization which resulted in the IR Strategic Plan. The final organizational structure was also developed by this team. The final decision on the proposed organizational model was made by the Vice Provost. An Implementation Team was formed to staff the new model.

The Client Services Team (CST) - This team generated a list services to be provided by the new organization, and articulated a "client service plan." The plan outlined a broad statement of goals, and specific measurable

service objectives. The team also looked at areas of overlap within our existing organizations which were used by the Lead Team to design the organizational structure. Other areas examined by the CST were: encouraging diversity, and serving distance education students [4].

The Information Infrastructure and Services Team - This team was charged with recommending an information infrastructure flexible enough to adapt to emerging needs. The areas examined by this team were: campus-wide information systems, interfaces to digital academic information, groupware and intranets, information creation, collection, and preservation, and copyright and intellectual property [5].

The Technology Infrastructure and Services Team - This team was charged with developing a set of guiding principles for action over the next five years regarding voice, video, data, and multimedia technologies. The team was also to develop the basic technology standards for the next 3-5 years, and the strategic directions for the maintenance, purchase, upgrading, replacement, migration or elimination of computer and networking hardware and software [6].

The Resources Planning Team (RPT) - This team conducted an assessment of facilities and human resources issue. The areas examined by this team were: staff and public facilities; recognition, reward, and evaluation; professional and staff development; and, financial resources and funding priorities [7].

Assessing Client Needs

A key element of preparing these reports was ensuring that the IR Strategic Plan met client's needs. This was accomplished in a variety of ways. Informal presentations were made to the colleges. Existing advisory groups discussed the issues and needs facing both libraries and computing. Eight focus groups were also formed to identify the current issues, problems, and opportunities facing Information Resources. The eight focus groups consisted of three faculty groups, one staff group, one administrator group, one undergraduate student group, one graduate student group, and one miscellaneous group. The results of these efforts pointed out a number of areas that needed improvement along with positive comments about existing services. A number of our clients wondered why we needed to change since they felt they had been receiving excellent services for years. Everyone was appreciative of the opportunity to provide feedback to the emerging new organization. There was also a concern expressed about

some of the overlap areas that had already been identified as problems by Client Services restructuring team. A major overlap area was confusion about network support for both PCs and workstations. There were also widely shared concerns on how Information Resources could effectively support technology in classrooms. Another issue was that the University needed to develop a strong initiative to fund on going technology upgrades and that a technology life cycle funding plan was needed for the entire University.

The following service recommendations were made as a results of client input and restructuring team reports:

- Improve client orientation
- Improve the availability of enterprise information
- Increase usability and accessibility of networked information
- Improve the quality and availability of classroom technology and support
- Develop a plan for technology life cycle funding

The vision of our organization that came from these sessions and is stated in the Strategic Plan is: Information Resource will be a strongly client oriented organization that anticipates our client needs and exceeds their expectations.

CREATING THE ORGANIZATIONAL STRUCTURE

Once the strategic plan was in place, the Lead Restructuring team went about the task of determining the type of organization that would best serve the needs of our clients. Many different models were discussed and a lot of debate center around the issues of functional versus cross-functional teams. Whether to create a vertical (hierarchical) organization or a horizontal (team based) structure was also examined. After weighing the options and risks of each type of organization, it was decided to implement a team based organization with cross functional teams in the client services area while what we termed infrastructure teams would be composed of functional team members. A team based organization chart was developed and distributed to staff. At the same time all staff were given the opportunity to select what area of the organization they wanted to work in. Eighty percent of the staff filled out the voluntary form and the nearly all of them got placed in one of their top three choices.

The hardest area to fill was the Client Services area and the largest attrition of staff members in the new organization has been the staff who were assigned as Computing Consultants in Client Services. This was due mainly to dissatisfaction with their placement in the organization and the fact that Client Services Computing Consultants are currently in high demand outside of the university. Historically, there has always been a high attrition rate in the client services computing area. It is a demanding and challenging job that requires people with high levels of social and technical skills who can also deal with clients at all levels of sophistication. In hindsight, we may have wanted to handle staff placement in another manner. For example, some reorganizations have required staff to re-apply for jobs to ensure buy-in to the new jobs. We felt that requiring people to apply for their jobs would create an atmosphere of fear that this was veiled attempt to downsize the organization. It is debatable whether or not this strategy actually reduced staff's concern about possible downsizing.

Along with new jobs for one hundred and fifty staff members came the writing of new job descriptions and also a reclassification of everyone's new position. It should be noted that all staff were assigned to a position before they knew the exact level of each position since Human Resources was asked to re-evaluate all of the positions. The final outcome of this re-evaluation was a new broad-banded salary scale different from the rest of the University. Salary levels went from the existing eight levels to four levels. Overall, one third of the organization received upgrades while the remaining two-thirds stayed the same. The funding for the upgrades was taken out of the Information Resources expense budgets. The overall time frame is seen in figure 3.

| Time Line for Change | |
|---------------------------|--------------------|
| Team creation and reports | Jan. 15 - March 15 |
| Define IR structure | April 15 - May 30 |
| Leadership assignment | May 30 - June 5 |
| Staff assignment | June 15 |
| New organization | July 1 |
| New job descriptions | July 1 - Sept. 15 |

Figure 3

CULTURAL CONCERNS AND DIFFERENCES OBSERVED

The merging of these organization has been a unique learning experience for all staff members. At first glance, it might seem that two clear cultural dichotomies namely "librarians vs computing professionals" would be the primary point of contention within the newly formed organization. In reality, other cultural dichotomies have existed for years which have traditionally been problem areas, such as "academic vs administrative computing staff"; "client services vs infrastructure staff", and some separate groups that actually don't have direct parallels but do represents different cultural perspectives such as telecommunications and media services staff. These dichotomies while understood by many have been learning experiences for staff with different cultural values within the new merged organizations.

The following typical cultural stereotypes were heard throughout the organization: [8]

"Librarians don't understand technology and never will"

"Computer types aren't service oriented"

"Librarians are inflexible and resist change"

"Computer folks thrive on change"

"Librarians are passive-aggressive"

"Computing people are aggressive-abrasive"

A locally developed attitude questionnaire given to staff before the restructuring showed that library personnel thought things in the existing organization were stable and calm while computing staff felt that things were dynamic and chaotic. I think it is safe to say that most staff now see the environment as dynamic and chaotic.

Some common themes heard by all team leaders from both computing and libraries was: [9]

"Changes were necessary in **their** organization, but we were meeting the needs of **our** users."

"What **they** do is simple but **our** work is beyond **their** comprehension"

"We have had to make all the changes while everything has remained the same for **them**"

It would be "great" to say that the **we** vs **them** attitudes have been overcome in the last year, but that would be an idealistic interpretation of the current situation. Staff members are still harboring feelings of lost allegiances and working relationships that had been fostered over years of working together. The staff who have shown the most acceptance and understanding of the merger have been new staff. These are the staff who have replaced the people who left mainly due to the restructuring. As a change consultant has noted "People

grow develop, get married and have children, and take new jobs—generally enthusiastically. What people do resist is change you want them to make” [10].

The new Client Services group is where the greatest amount of “true” integration of functions and teams members has occurred. One drawback to this is that a “we” vs “them” attitude has arisen in the new organization. The “we” being the Client Services group and the “them” being the infrastructure teams. “Laboratory studies show that even minimal experimental procedure, such as dividing a large group of subjects into two groups based on the color of poker chip pulled from a hat causes subjects to cooperate more with in-group members (the ones with the same color chip) and to show much more competitive behavior with the out-group (the one with the different color chip)” [11]. To bring groups together one needs to reduce the distinction between groups by blurring group boundaries and fostering attitudes that all teams are working toward a common goal. Team members have to be willing understand and respect the issues of each group.

Staff Perspectives and Attitudes

Staff appreciated the opportunity to participate in the restructuring process. However, at times, they have felt that their participation has been more of a procedural exercise than a substantive role in the process. The causes of this are many but have got to be addressed over the next year. Staff also felt that the time line for completing these changes should have been slower. Organizational change requires energy and rarely do managers budget the extra time and resources needed for the change [12]. Staff have been expected to do their normal workload, plus assimilate change. Major projects such as the following occurred simultaneously with the implementation of the new organizational structure:

- completing the wiring of all residential living units on campus which increased students connecting from their rooms by 100%
- moving to Windows 95
- redesigning Lehigh’s web pages
- transferring the service functions of Lehigh’s Computing Store which was closed in January
- the continued development of Lehigh’s SAFAHRS 2001 initiative to re-engineering Lehigh’s administrative applications

The combination of these restructuring and task activities created an overload situation that became a burden for many staff.

A positive result of the strategic planning and restructuring was that many staff members appreciated the opportunity to work with other information professional and gain a more thorough understanding of the functions they performed. However, we increasingly are recognizing that at times we communicate on different levels. A large reason for the different levels of communications harks back to our cultural differences. On the whole, librarians share similar educational background and a process of acculturation in which they develop a shared philosophy and common values. Computing professionals generally come from a variety of educational backgrounds. Since, there is no common professional and academic preparation, there is no socialization process for a computing professional with entrepreneurial and individual efforts more highly regarded than a focus on the views, standards, or values of a collective group [13]. On many occasions, we have had to restart conversations to make sure that there was a clear understanding of the issues. People from each area have developed their own jargon, abbreviated methods of communicating, and perceptions of issues and in many cases need clearer articulation of problems.

Staff also perceived the merger as an opportunity to learn more skills and to be a more client centered organization. Almost all felt that the new structure made sense from a client perspective but were very concerned about the appropriateness of staffing for the new organizational structure. Another area that needs to be overcome and will take time is to have staff think in terms of Information Resources processes instead of “library” processes or “computing” processes or “phone” processes. The hope is to foster an ownership within the organization of all of these processes and a sense of belonging to the Information Resources as a whole.

Assigning job titles was an issue that probably caused the most controversy in the new organization. Every staff member received a new title. A basic assumption of the new titles was to use different titles to make clients aware of the new organization. For example, reference librarians were called information retrieval consultants; user services consultants were called desktop consultants. The title manager was supplanted by team leader and the title director was supplanted by group leader. In some cases these changes in title led to confusion on the part of clients and a sense of loss of identity by some staff. Therefore, some of these titles

have reverted back to what the staff thought was more appropriate while others remain unchanged. Overall, I would say that if one is contemplating reorganizing to listen carefully to your staff and their concerns about appropriate titles for both the staff 's and your clients' sake.

COMMUNICATING CHANGES TO YOUR STAFF AND CLIENTS

A key area of implementing any restructuring is to keep everyone involved as informed as possible. It is also safe to say that not everyone will like or agree with the mechanisms chosen for communications. Too much information will overwhelm staff while too little will cause rumors to flourish. Rumors did and continue to spread like wild fire. Rumors are generally inaccurate, but their transmission method is perfect. "Who prints rumors onto overhead transparencies? And where are the trainers providing supervisors with rumor and communications skills?" [14]. We used various methods of communication throughout the entire process to lessen the impact of rumors including a common mailing list and conferences to discuss openly all aspects of the restructuring. Face to face meetings with everyone involved when major changes were announced and group meetings with different parts of the organization as the new structure was revealed.

Our clients were also informed of the changes in a multitude of ways from a quick reference card that explained our new organization to college/departments teams meeting individually with departments to describe the new organization and how it would work. The Vice Provost made presentations to upper management and team leaders also attended general college and division meetings to discuss the new organization. The new organization was announced on July 1, 1996. While all departments on campus were informed of the new organization, many faculty returning for the fall felt uninformed of the changes that had taken place and of course started their own series of rumors.

CONCLUSION

Information Resources has combined three strong functional units (Libraries, Computing, and Telecommunications). This merger has resulted in an organization that is not just reshuffling of boxes on an organization chart, but represents a true attempt at an integrated environment with the hopes that staff will one day see themselves as Information Resources professionals with specialties in computing, library science, and telecommunications. The use of cross-

functional teams in Client Services has brought staff from all areas of the former organization together while the infrastructure teams still see themselves as isolated islands. A "we" vs "them" attitude has sprung up between Client Services and the infrastructure that we are attempting to correct by placing infrastructure team members in the Client Services interest groups and having them share and attend meetings on a regular basis. Another school of thought might be to have initially placed them on a Client Services team which may have avoided the "we" vs "them" syndrome. But as Woody Allen has said "More than any other time in history, mankind faces a crossroads. One path leads to despair and utter hopelessness. The other, to total extinction. Let us pray that we have the wisdom to choose correctly [15]." However, once a new direction has been chosen it is easy to look back and think that other paths would have been better.

When we designed the current organizational chart it was felt that this was the best method of providing service directly to our clients. Information Resources has received numerous compliments on the design and functioning of the new organizations. Many faculty and staff have voiced their opinions that the structure is good, but they have also echoed the need for more people to adequately support the new organization. Another problem with staffing is that in the first half of the year staff were learning their new jobs while transferring responsibilities of their old jobs to others. We are in the process of starting a liaison program to try and reduce the load on the computing consultants in Client Services. Another factor that needs to be stressed is that all three organizations had very capable and talented people who were use to working together to accomplish tasks. These people have been working under a very high stress level and accomplishing their daily tasks while expanding their roles in working with clients. The attrition that happened during the year stressed the organization even more as we had to work with fewer staff in very critical areas of our operation. The question one needs to ask is where do we go from here. We will be assessing our clients' thoughts and concerns during the next fiscal year and allowing the new organization to take root and hopefully grow into a fully functioning organization with the ability to anticipate our clients' needs and exceed their expectations.

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