Library Automation and its Impact on Strategic Planning for Academic Libraries: a case study of De La Salle University Library

by

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ABSTRACT:

In the Philippines, only a few academic and/or research libraries have taken the lead in spearheading library automation. As one of the three leading educational institutions, De La Salle University took on the challenge of charting a strategic course towards a totally automated library environment. This case study attempts to make an assessment of the University Library's computerization planning process, through an analysis of the issues and concerns it had to face in developing an automation program, and concludes with a strategic plan for its implementation and future directions.

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As we leave the 1990s and prepare for the year 2000, today's academic librarians are witnessing many radical changes caused by advances in library automation. By all accounts, the marvels of electronic full text, automatic bibliographic indexing, electronic publishing, file transfer of graphic images, and the emerging proliferation of multiple databases, are all capturing the creativity and imagination of librarians and information specialists everywhere.

The reality of automation is making information-handling easier, convenient and more efficient. Library patrons now have direct access to online catalogs and remote access to bibliographic databases available around the world linked thru computer networks, such as the Internet. These services have displaced the old notion of a library as a place to browse books. More and more libraries are into cooperative sharing, resulting in a paradigm shift from the traditional emphasis on library ownership to public access. All told, this has created such an impact on traditional library planning.

Given the resulting rapid developments, academic library planning has to replace the generally accepted and more popular five-year development plan, to the more realistic two-to-three-year strategic plans integrated into goals formulated for longer cycle planning.

Strategic planning usually departs from the traditional emphasis on the quantitative and monetary use of resources, to the qualitative and use of human resources. (Hayes, 1985). Traditional library planning methods are generally reactive, focusing only on incremental evaluation with goal setting based on operational needs. On the other hand, strategic planning presents a different view: instead of thinking forward from action to consequence, the planner focuses on the desired outcomes and analyzes backward to the immediate requirements to achieve the desired outcomes. (Riggs, 1984) With the advent of automation, Philippine libraries are now looking forward to computerization as a major goal in their strategic plans for the 20th century. Designing a strategic course to broaden library goals, which are traditionally confined to the functions of storage and retrieval, now involves the complicated system of information transfer and knowledge management.

In addition, emphasis on participative strategic planning is gaining more popular appeal in the country, thus revolutionizing management focus on teamwork development, in aid of effective planning. Concern for human resource, and in this case, staff training and job enrichment, is based on the recognition that all staff members need to be fully involved with planning for a change, if change is to be accepted to lead to a better and more
productive tomorrow. Even cross-training has become a better alternative to the more expensive use of consultants, creating more versatility among library specialists.

In the Philippines, only a few academic and research libraries have taken the lead in spearheading library automation. Although quite a good number of them have personal computers, the high cost of library integrated systems, CD databases, software licenses, and software programs and hardware equipment, not to mention the added cost of maintaining a pool of systems people to manage/staff the library’s computer services, have all contributed to the slow response to the accelerated technological advances taking place abroad.

Given this set of circumstances, the Department of Science and Technology embarked on a library networking project, called the Engineering, Science, and Education Project (ESEP), to link eight major academic libraries, namely those of De La Salle University, Ateneo de Manila University, University of Santo Tomas, University of the Philippines College of Science, UP College of Engineering, UP Manila, UP Los Banos, and Mindanao State University Institute of Science and Technology. Under this government leadership, all eight libraries stand to gain from a wide range of support, from acquisition of library materials to strengthen their collections in the fields of science and technology, to installation of computer hardware and software, and finally to staff training and development, for a period of five years, beginning 1992 to 1997.

As one of the leading institutions, De La Salle University took on the challenge of charting a strategic course towards a totally automated library environment, keeping in mind the key ingredients to a successful strategic planning, namely leadership, information and people, that is, leadership that inspires the organization to act upon a vision, information about the external and internal environments, and people acting together in a consultative/participatory manner with emphasis on teambuilding (Nolan, 1987).

This case study attempts to make an assessment of the De La Salle University Library’s computerization planning process, through an analysis of the issues and concerns it had to face in developing an automation program, and concludes with a strategic plan for its implementation and future directions.

DE LA SALLE UNIVERSITY LIBRARY

De La Salle University is a Catholic educational institution in the Philippines established by the Brothers of the Christian Schools (known popularly as the De La Salle Brothers) in 1911. The University dedicates itself to continuing its tradition of contributing towards the formation of able professionals and future leaders of this developing country. It has at present a student population of more than 14,000, and nearly 800 faculty, with a non-academic staff of about 400 people. The Library serves the instructional, research and information needs of this large academic community.

The Library is housed in a four-story, fully air conditioned, building centrally located within the Taft Avenue (Manila) campus. It has a book collection of more than 180,000 volumes, and subscribes to about 400 journals every year. In addition, it has a theses collection of nearly 15,000 volumes, a special collection of about 25,000 volumes, a large Archives consisting mostly of official, non-current institutional records, more than 5,000 audio-visual titles, less than a 100 CD-ROM titles, and a memorabilia collection of about 200 artworks,
600 artifacts, 500 numismatics, several antique furniture and fixtures, trophies, and official and non-official gifts received by the President and other high-ranking officers of the institution.

The Library is run by a Director, appointed by the President in consultation with the Vice-President for Academics and the Assistant Vice-President for Research and Faculty Development, to whom she reports. The Library Director supervises a large staff of twelve professional, licensed librarians with faculty status, about 25 assistant librarians with library science background but having non-academic status, and a support staff of about thirty non-professionals.

### THE LIBRARY’S COMPUTERIZATION PROJECT: BACKGROUND

In 1986, a faculty librarian was sent to Australia to undergo a computer training program utilizing CDS-ISIS, a software adopted by UNESCO as a bibliographic utility for information retrieval. The training was to spearhead the Library’s plan to embark on a computerization project. However, no concrete plans were formulated, except for the inclusion of an article database in the Library’s five-year development plan (which was drawn for SY 1988-1989 until SY 1992-1993). The proposed database was intended to replace the in-house periodical index for local serials. At about the same time, a book database, using the same software program, was also begun, to gather the holdings of the Inter-Institutional Consortium of Libraries, which is a cooperative arrangement involving five schools along the Taft Avenue area, namely, DLSU, St. Scholastica’s College, St. Paul’s College (Manila), Philippine Normal University, and Philippine Christian University.

In 1992, the computerization program was expanded to include a theses database. A training program for the Library faculty to familiarize them in the operation of the CDS-ISIS was also conducted in coordination with the Computer Services Center of the University. A few personal computers were acquired, complete with hard disks and printers.

In 1993, the online public access support system (OPAC) for the local area network was installed. Two terminals were added, and a CD player was purchased for some Wilsondisc titles on loan from the University of St. La Salle (Bacolod). Subscription to the Dialog service (which is a remote access to about 400 international databases), and to HERDIN (a local bibliographic network for health sciences) was too expensive for the ordinary library patron, and so, was infrequently used. Meantime, additional databases were installed (for Faculty publications, Vertical Files, and selected book bibliographies) into the OPAC system.

By 1994, there were four OPAC terminals, seven PCs (mostly 286), and a dozen titles in CD-ROM, available to library users. INTERNET and e-mail facilities came only in the middle of SY 1994-5 after the five-year plan has expired. Computer-based applications of library functions, were, therefore, limited to bibliographic retrieval. And the dream for a fully integrated library system was still to be realized.
ANALYSIS: ENVIRONMENTAL SCANNING
(an external and internal assessment)

In libraries in the United States and in many developed countries around the world, automation has become a way of life. Use of bibliographic network, such as the OCLC Online Computer Library Center, for shared cataloging, and MARC (machine-readable cataloging) format for standardized bibliographic control, led to the fast development of automated library support systems. Supplementing this, a good number of modern libraries abroad have begun linking their online public access catalogs with commercially available online abstracting, indexing and full-text reference databases. These technological advances necessitated cooperation (institutional linkages thru library networks), improved communication (electronic mail, document-delivery systems and file transfers), standardization, and technical training.

Despite these welcome innovations, there are external factors in the country, such as power failures, labor strikes, natural disasters (earthquakes, lahar floods, typhoons), political uncertainties, and tighter government regulations (such as those involving new emphasis on intellectual property rights), which pose threats even to well-laid plans. To a great extent, the power failures in the early 1990s have made it increasingly difficult to convince conservative Filipino librarians to retire their card catalogs and printed indexes and switch to their computerized counterparts.

A look into the organizational structure of the Library would reinforce the thinking that it plays an important aspect in planning an automation program, and should, therefore, merit close attention. But in the early 1990s the Library management preferred to keep its old structure, whereby the Library director supervised the heads of four major units, namely, the Archives, the Instructional Media Services, the Readers Services, and the Technical Services. No one was responsible for the library’s computerization project, other than the Director herself.

Planning is a shared activity. The Director is assisted by her four unit heads. Based on the targets of the Five-year Development Plan (1988-1993), an Operational Plan was submitted every year, outlining the goals and objectives for the year, the action program or activities, the performance standards, the person responsible for carrying out the activities, the budget needed, and the time required to achieve the results. At the end of the year, the performance outcome was reported. Normally, there was a performance gap which results from a discrepancy between the performance standard and the outcome.

In the case of the library’s computerization plan, standards were set, but they were set low in the beginning of the 1990s. This naturally resulted in the slow pace of the operation. Thus, by the end of the five-year plan, only bibliographic access to selected collections was achieved. Even the number of computer terminals available for the library patrons was dismally low. The performance gap may be nil, but only because the standards were controlled.

In spite of a good foundation in planning, there was no serious commitment on the part of library management to develop a full library automation program. This may account for the fact that the institution’s financial provision for the project was so meager and uncertain that investing on a software for a multi-module integrated system, and on infrastructures
that will provide cabling facilities for a good number of workstations and terminals, all costing millions of pesos, was then deemed unrealistic.

Within the De La Salle University, Library needs invariably fall far below the other strongly articulated interests of administrators and faculty. Despite annual fiscal battles with administrators for a separate allocation for acquisition of computer hardware and software, financial resources in support of the library’s automation plans were sadly limited. And, while the values attached to research and scholarship, academic excellence, wide readership, and quality library service are well articulated by the academic community it serves, the majority of the library workforce do not share the same concern. The Library workplace is dominated by young people; many are married and have children. The workforce suffers from emotional stresses and domestic concerns, such as child care problems, tight funds, commuting headaches, and other worries. While attention is given to enhance their skills and knowledge, career opportunities and promotions are limited. Large amounts of mindless clerical work, such as searching, shelving, typing, sorting, proof-reading, filing, produce its own stresses of boredom, fatigue, alienation and dissatisfaction. Computerization would have created changes in staffing patterns which, understandably, would threaten the status quo.

ANALYSIS: STRENGTHS AND OPPORTUNITIES

Certainly, the DLSU Library enjoys current strengths upon which to build a sound computerization plan. It has an established reputation as an academic and research library. It has a fully air conditioned, four-story building, large enough to contain a world-class collection, and is managed by the best people in the profession, equipped with the necessary expertise and know-how in handling all aspects of library operation. Its collection is excellent both in terms of quality and quantity, and can compare with other university libraries in the country with similar stature and reputation. Its linkages with many universities, local and foreign, assure external support and cooperation.

In 1992, it became one of the principal flagship institutions under the Department of Science and Technology Engineering, Science, and Education Project (DOST-ESEP), which is funded by the World Bank. As a member of the library network under this five-year project, the DLSU Library stands to benefit from a wide range of support, to include funding for its collection development in the field of sciences, engineering, computer technology, and science education, for acquisition of computer hardware and software needed for a total integrated library network system, and for staff training and development, local and overseas. However, the full operationalization of this project took off only in 1994.

A NEW STRATEGIC PLAN FOR THE COMPUTERIZATION PROJECT

In light of new developments beginning with SY 1994-1995, a new, revitalized program for implementing the library’s computerization project was drawn up. This plan was formulated by the present Library Director, who took over the administration of the DLSU
Library in June 1994. A needs assessment survey was conducted during the first term of the school year. Based on this survey, a mission statement was reformulated, defining the computerization goals of the Library. A program of activities was laid out outlining in clear terms the strategies to be undertaken in accomplishing the goals and specific objectives, and the duties and expectations from the responsible persons involved in the project are well-delineated. Needless to say, funding sources have been identified.

The Survey

This needs assessment survey aimed to identify the library functions that needed to be computerized. A Likert type instrument was used for this study. Data were analyzed through the use of means and standard deviations. The results indicated the following priorities of the library patrons, namely: a) identifying the library holdings on a given topic of inquiry, b) knowing whether these were available, and c) locating different library materials. For the library staff, the most strongly needed functions that should be computerized were: creating database for shelflist records and other holdings lists, and cataloging. On the basis of these results, it was recommended that the University design a computerization program that answers these needs, and determine the most appropriate software and hardware in implementing the program, considering budget, facilities, resources and other logistics. More details on this survey are discussed below under Performance Objectives.

Mission Statement

In response to the Strategic Decisions of the University’s Mission Statement made at the beginning of the school year (1994-1995), the Library reformulated its own Mission-Vision. The primary mission of the Library is to provide access to information. In so doing, it will acquire, organize, and make readily available any collection of recorded knowledge that will support the instructional, research, and service goals of the university’s constituencies, namely, the faculty, the students, and the staff. As a resource center for learning and research, it will strive for the highest standards possible, in terms of quality collection and services to meet their needs.

Goals

In line with this mission, three primary goals have been identified:

For Goal One, the Library will maximize access to information and the use of the collections so that the greatest number of patrons can be served thru the implementation of an integrated library system. This will involve a full range of local operations, from online cataloging to circulation, including acquisitions, serial control, and report generation.

Goal Two is to provide and maintain access to national and international bibliographic network. The aim here is to provide efficient machine-to-machine transfer of data, making it possible for a library user of one system to directly retrieve and locally manipulate data from another system for processing activities as well as the creation of individualized bibliographies.

Finally, Goal Three is to establish regional networks among the various schools within the De La Salle University System, among the La Sallian Schools from different regions, and among consortium schools of which DLSU is a member, such as the Inter-Institutional
Consortium and the DOST-ESEP. The library networks will facilitate shared cataloging and serial-listing, resource sharing, and interlibrary loan and document-delivery activities, as envisioned within the next few years.

Performance Objectives and Program of Activities

To achieve Goal One, the Library has initiated in June 1994 a needs assessment survey to determine once and for all what types of library activities should be computerized and what outputs are expected as a result of this project. A random sampling of library patrons is made. The results of the survey indicate a strong desire for an integrated system which will encompass a wide variety of library functions. This system will include computer applications for all major support services such as acquisitions, cataloging, online public access, circulation, serials control, and bibliographic networking. A successful computerization plan will also require staff development and facilities improvement.

In line with this goal, the following objectives and their corresponding program of activities have been formulated:

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<tr>
<th>Program Objectives</th>
<th>Program of Activities</th>
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<tr>
<td>To determine policies and procedures that govern implementation of computerized systems.</td>
<td>Flowcharting, installing of directional signs, revision of Handbooks, flyers, brochures, guides, etc.</td>
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<tr>
<td>To implement the integrated system (TINLIB) adopted by DOST-ESEP Library network</td>
<td>Install TINLIB; begin data conversion using Bibliofile; encode records not found in Bibliofile; edit records; install OPAC; install barcode labels; encode borrowers profile; pilot-test Circulation module; update serials list; run serials control module, etc.</td>
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<tr>
<td>To expand the OPAC LAN support system</td>
<td>Install other databases such as DLSU Chronicle, Literary Index, Audio-Visual Materials, etc. and coordinate with Computer Services Center in hooking up library OPACs to computers in departments/offices within campus, and make online catalogs accessible via INTERNET.</td>
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<tr>
<td>To provide INTERNET facilities</td>
<td>Coordinate with Computer Services Center on installation of INTERNET facilities/email accounts</td>
</tr>
<tr>
<td>To expand/upgrade computer hardware</td>
<td>Coordinate with DOST-ESEP liaisons on installation of TINLIB server, 4 workstations, 4 terminals, fax machine, etc.; purchase 386 PCs to replace old models; acquire cd-players, additional fax machines, scanners; upgrade network server; install additional terminals for OPAC-LAN, INTERNET computers on all floors (from ground to fourth)</td>
</tr>
<tr>
<td>To improve collection of online databases</td>
<td>Acquire cd-rom/multimedia titles such as, ERIC, PSYCHLIT, PhilJuris, ENCARTA, etc.</td>
</tr>
<tr>
<td>To provide staff training programs on compu-</td>
<td>Conduct TINLIB training; training on Bibliofile for</td>
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To achieve Goals Two and Three, the following objectives have been included:

**Program Objectives**

**Program of Activities**

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<th>To link with ESEP catalogs via INTERNET</th>
<th>Install DLSU Library website on the INTERNET.</th>
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<tr>
<td>To establish computer networks with consortium libraries and the DLSU System libraries</td>
<td>Install dial-up systems, expand Internet facilities, and establish union catalog linking DLSU System libraries and other consortium libraries.</td>
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<tr>
<td>To actively participate in cooperative programs with consortium libraries</td>
<td>Engage in cooperative acquisition &amp; cataloging/indexing activities; expand interlibrary loan and referrals services; share expertise in training/staff development programs.</td>
</tr>
<tr>
<td>To expand academic linkages with libraries and information providers in other countries</td>
<td>Acquire expert systems support to permit a variety of interactive online searching methods; subscribe to US OCLC FirstSearch / UK’s ADO NIS, and other article delivery online network information services.</td>
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**Performance Standards**

Performance measurements relate to the degree of accomplishment of a particular goal or objective. In the Library setting, production statistics are usually derived from the diary method. With this method, the staff records the task, the amount of time involved in performing the task, and the number of units (outputs) produced. Data and operations analysis usually follow.

Within the context of an automated system, statistical data become easily available and data analysis is enhanced. The goal of providing access to a good number of collections of information to a greater number of library patrons is quantifiable. Performance standards, in this case, must be clear, ambitious, but attainable. Improvements in service may be manifested by the facility with which information that could not be available in the traditional card catalogs, now, using the OPAC, becomes easily available. Such information may take the form of current status of the book requested, whether it is in order, in process, or circulating, or, if not on the shelf, whether it is in the bindery, for photocopying, or lost by a borrower.
As to resource-sharing, the standard to be set may focus on the number of cooperating libraries benefited by the automated system. The extent of the success of the networking arrangements may be seen in the level of commitment of the participating library.

The quality of staff development may be measured in terms of performance appraisal and job audit. After all, the final result of an effective staff development program is not in the quantity of training programs attended, or number of courses enrolled in, but in the improvement of their performance, increase in their productivity, and high morale.

**Responsible Persons**

The Library Director is the overall coordinator of the library's computerization program. Within the existing system obtaining at the DLSU Library, however, one faculty librarian must be appointed to take charge of the full implementation of the program. This will call for a change in the organizational patterns within the library structure.

Beginning June 1994, the new Library Director created a System Services Unit as one of the major units of the Library, replacing the Instructional Media Services. A System Librarian was appointed as head of the unit. In realigning the other units to coordinate the functions involved in the automation project, the Instructional Media Services was absorbed by the new Unit. With this convergence, this Unit now has two sections: Computer Services, and the IMS, with the latter expanding its services to cover new aspects of multimedia technology.

The System Librarian directs the workflow of the total operations insofar as computerization is concerned. Although, there are presently only two staff members (computer assistants) assisting her as Computer Services Coordinator, she is able to monitor all staff activities within the Library involved in the computer applications of library functions, such as online cataloging and indexing, automated borrowing, OPAC database creation and maintenance, online search and retrieval, and bibliographic access to remote databases.

As concurrent head of the Computer Services Section, she also ensures that the entire library staff are involved and informed of major developments in information technology. She directs the training programs necessary to develop the confidence of the staff in using the new automated procedures, and to familiarize them with the operation of the new equipment. Documentation of system features and formulation of policies and procedures required for an understanding of the new system are some of her major responsibilities. Among her routine duties are to provide orientation and hands-on demonstration on the new system, not only to the staff but also to the library clientele, as the need arises.

The new Library Director also organized an ad-hoc committee, composed of representatives from the faculty, students, administrators, and other sectors, like the physical facilities office, security office, and most importantly, the computer services center, which handles the over-all computing services of the University. This multisectoral committee advises the library management on matters involving the library's computerization project, security and control over library facilities and resources, discipline within the library, and policies affecting library users under the new set up as necessitated by the automation program. What it (the creation of this committee) eventually accomplished, aside from attaining its immediate objectives, is the building of external relationships or alliances in support of library programs and the understanding of the library's concerns (problems and needs).
Aside from restructuring, the automation program will encourage a reallocation of work among the professional and non-professional staff. As librarianship moves into the realm of high technology, one calls to mind Albert Shapero’s dictum: “No matter how you design a system, humans make it work anyway.”

Effective management dictates a more humanistic approach in dealing with support staff, emphasizing mutual trust, delegation of authority to the lowest level, personal growth, development of potential talents/skills, divergence of opinions, and a more participatory style, in order to better accomplish organizational goals. Staff development activities may take the form of orientation/familiarization on the job, in-service training, and continuing education, which includes workshops, conferences, fora, and formal coursework.

Effective communication (upward and downward, vertical and horizontal) is a key to the success of the implementation of the automation project. Meetings and individual conferences enhance teamwork and provide a good occasion for feedback.

**Budget**

Although the major budget responsibilities lie in the hands of the Library Director, the unit heads, especially the System Librarian, and to some extent, the staff, play a critical role in planning the allocation of resources and expenditures. The unit heads determine the needs and identify the materials/equipment requirements, while the staff assist in securing the estimates, formulating costs, preparing and following up requests for requisitions.

Zero-based budgeting is most often required at DLSU at the beginning of the budget planning period (usually in March). However, in practice, the line item budget format is utilized. For specific programs, funds are requested, and in the case of the DLSU Library, money for the purchase of computer requirements are drawn from the Capital Budget and/or from the Library Development Fund.

**The DOST-ESEP Grant**

In addition, as one of the participating libraries under the DOST-ESEP library network, the Library is beneficiary to millions of funds for the purchase of books and periodicals (including cds and multimedia materials), computer hardware and software, and training grants for local and overseas study, at least for a period of five years (1992-1997). The full implementation of the ESEP grant began in 1994, with the preparation of the want lists, and the acquisition of the computer requirements. By 1995, the Library was provided with seven computers with one server, barcode scanners, a fax machine, and cable facilities linking all the computers from the first floor to the fourth floor. It was also granted a license to install TINLIB (The Information Navigator for Libraries, a software developed by Information Management Engineering, a London-based company engaged in designing computer systems). TINLIB is equipped with a Cataloging, Acquisition, Circulation, OPAC, Serials Control, and Report Generator modules for a total library integrated system.

Other sources of funds include donations from friends of the Library and alumni, and income-generating activities of the Library such as fees collected from computer printouts, search and retrieval services, overdues, audio-visual services, and photo-copier rentals.

**Time Table**
The Strategic Plan for the DLSU Library’s computerization project is intended for a period of three to four years. For activities outlined in Goal One, the target completion is end of school year 1996-1997. Goals Two and Three are envisioned to take place in school years 1997-1998, and to be fully realized between the years 1998-1999, or before the year 2000.

SUMMARY AND FINAL THOUGHTS

Establishing, developing, and maintaining a library automation program is a serious and costly responsibility. To carry out such a successful program as outlined in this case study would require perseverance, commitment and hard work.

As early as June 1995, the De La Salle University Library, on its own, has gone public by making its online catalogs available via INTERNET, the global information highway, thereby earning the rare distinction of being the first academic library in the country to share information on its resources worldwide. This facility was made available round the clock. As of SY 1995-1996, the University Network has 23 servers used for email, for files, for library databases, and for students use. In August 1996, the Library inaugurated its “Cybernook”, a computer lounge where students surf the Internet in a cozy, more relaxed surrounding.

As the DLSU Library begins the full implementation of its automation project, problems are expected to arise. Retrospective conversion and initial loading of online databases and the consequent cleanup activities can create a serious workload, creating chronic backlogs of other library activities. After this dramatic paradigm shift from the “traditional” to the “digital,” library patrons are likely to become more sensitive and impatient to human errors and thereby, more prone to criticize. Administrators, too, become impatient and worrisome over delays. Students usually become too adventurous and overly enthusiastic that computer security breaches can become such a nightmare. A full discussion with library and university-wide participation should take place so that policies and decisions to be made are well studied, considerations are weighed, and issues and other concerns are not overlooked.

A good plan contains the seeds of its modification, and changes are apt to take place even before the timetables have been reached. This is to be expected. This dramatic twenty-first century transition of libraries from traditional to digital or “virtual” will depend to a great extent on the external and internal environment - - - institutional support, political stability, economic growth, social and cultural transformation, and regional cooperation.