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Managing Innovation
in Academic Libraries

Innovation is an economic or social change resulting from a deliberate and purposeful process. Academic libraries could be substantially changed by the adoption of technological innovation in information service or made obsolete by competition from the private sector. This paper explores key issues related to innovation in academic libraries and concludes that innovation requires a conducive climate, capital investment, and a leadership that is enthusiastic and committed.

FUNDAMENTAL CHANGES in the economics and technology of academic library operations have stimulated librarians and administrators to seek ways of introducing and implementing innovation in libraries.

Zaltman has observed, "The impetus to innovation arises when organizational decision makers perceive that the organization's present course of action is unsatisfactory. When a discrepancy exists between what the organization is doing and what its decision makers believed it ought to be doing, there is a performance gap."[1]

Many academic library decision makers are feeling the frustration of this "performance gap." Several new ideas and innovations are serving to help close the gap, such as the proposed National Periodicals Center, shared cataloging through RLIN, WLN, and OCLC, and the interlibrary loan system of OCLC.

While these services are contributing to the efficiency of libraries, they are not sufficient, by themselves, to close the gap between current library and information service and the potential for service that could become a reality if existing technology were adapted to user information needs. These services are also not sufficient to close the gaps between user expectations and the li-brary's ability to meet those expectations.

Lancaster has observed, "The profession seems to have its head in the sand. The paperless society is rapidly approaching. Ignoring this fact will not cause it to go away."[2] In a forecast of telecommunications in the year 2000, Martino has stated, "Rather than visiting a library, any individual might be able to search the library files electronically and receive a printout of specific information or a facsimile copy of a desired document."[3]

During the 1980s libraries could be reduced to archival repositories because people will be accessing bibliographic data bases and text through computers in their homes and offices. These predictions while extreme and painful are indicative of trends with which librarians must deal. There is little doubt that technology can make these predictions become a reality; however, they ignore the human service functions fulfilled by libraries.

Adoption of computer and telecommunications technologies to library and information service needs will require capital and innovative thinking in the library profession. How can libraries maintain their function of human service in a machine environment? How can libraries use this technology to provide more responsive service? These questions are only two of the many that need to be addressed.

The purpose of this paper is to present issues related to the managerial aspects of

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innovation in academic libraries. The specific issues to be covered include performance gaps, incentives to innovate, nature of innovation, barriers and constraints, impact of innovation, and implementation of innovative strategies.

PERFORMANCE GAPS

Library directors, librarians, and support staff appear to agree that something is wrong in the library. In many cases, teaching faculties, students, and institutional administrators agree that the library is not performing as they would like. The performance gaps relate to the differences between services being provided and services that could be provided with the adoption of technology, relationships between library and teaching faculties, library and institutional administrations, and library administration and staff.

Perceptions of the service gap cannot be generalized. They vary from library to library and depend on faculty and student awareness of technology, budget situations, and user demands. Several library directors have expressed extreme frustration over the decreasing purchasing power of funds at a time when faculty demands for instant gratification in the form of more books are increasing. Other library directors, dealing with technologically aware faculty, are trying to find capital to provide improved information retrieval services and faster document delivery methods.

These pressures are exacerbated in some institutions by administrators who are trying to compensate for enrollment declines with greater sponsored research activity. More intense competition among faculty members for tenure and promotion causes them to place greater demands on libraries. These demands coupled with budget pressures and other barriers to innovation create a performance gap.

Growing and changing demands will place greater pressure on library administrators to enhance fuzzy mission statements with operational goals and objectives. McClure states, "One must recognize the difference between goals and objectives—they are not the same. Goals provide long-range guidelines (five years or more) for organizational activity; they might never be accomplished, and they are not measured. In contrast, objectives are measurable, short range, and time limited."[4] McAnally and Downs indicated that the libraries have rarely done a good job of planning.[5]

Without purpose, planning is an exercise in futility. Achievement of objectives may require the elimination as well as the addition of services and materials. In order to have operational objectives, the library, teaching faculty, and institutional administration will have to agree on specific services and materials to be provided by the library and adjust their expectations to fit the objectives. This task is particularly difficult in a large university where faculties are often in conflict with one another. Humanities faculties tend to equate good libraries with big libraries, while engineers and management people seek information rather than books. In the setting of goals and objectives, the library and academic administrators become negotiators between the warring factions.

The administration of the college or university will need to acquire a greater understanding and sensitivity to the economics of libraries in terms of costs and benefits as well as inputs and outputs. Since libraries are part of overhead costs and administrators are charged with keeping costs as low as possible, academic administrators are likely to look to the library as a place to cut costs.

Many library budget cuts are not purposeful cuts. The director is told to cut X percent from the budget and may not be given any guidance on what services or materials to cut. Academic administrators facing severe overhead cost problems engendered by a variety of federal regulations may not realize or be sensitive to the impact of undirected cuts in terms of the library's ability to serve the needs of its clientele.

Staff present a different set of problems to library administrators. McAnally and Downs observed in 1973 that library staff ranked second out of five in the growing pressures on library directors. They further observed, "It may seem strange that the director should be under attack from his own staff, or fail to receive badly needed support in relations with administration and faculty,

but it is so in many cases. . . . They want and expect a share in policy decisions affecting themselves and the library."[6]

Library directors have tried and are trying a variety of schemes to involve staff in the decision-making process. Dickinson has pointed out that ". . . 'participative management' has been used indiscriminately to mean everything from a situation wherein the library management simply seeks information and/or advice from staff members to one wherein the library is governed by plebiscite."[7]

Despite the best efforts of many library directors to change managerial style, rely more heavily on committees, and generally involve staff in decision-making processes, staff remain dissatisfied. In recent years, staff discontent has been exacerbated by the failure of salaries to keep pace with the cost of living, changing student and faculty demands, and potential changes inherent in computer and telecommunications technologies. Some library staff members may feel that their jobs or work habits are threatened by technological innovation.

INCENTIVES TO INNOVATE

Despite the potential threat to the professional and psychological well-being of some library personnel, library administrators may have no choice but to adopt innovative strategies to meet objectives and goals in a different society. Lancaster and others have raised the question of whether libraries will be needed in an electronic world. He states that the library problem may not be lack of space or financial resources; "rather it is likely to be one of justification for existence and simple survival."[8]

Technology can and will bring information directly into the home and office of the future. The place of the library in society will depend on how rapidly it integrates technology into its operations and how rapidly the engineers and designers of information systems will recognize the library as an important link in the system. While technology appears to be the major driving force for innovation, there are other factors contributing to the need to innovate. As technology has developed more effective and cheaper electronic computing and telecommunications devices, the economics of

library operations has changed dramatically.

The rate of increase in the cost of library inputs has been consistently higher than the general inflation rate. Library output costs consisting largely of labor have not risen as rapidly. Because input costs are generally fixed costs in a library, the average cost per unit of output is rising in libraries where output levels have remained relatively constant or decreased.

Labor productivity and user productivity have been declining as collections, catalogs, and files have increased in size. The amount of capital invested in laborsaving equipment and processes is minimal in most libraries. Teaching faculties and librarians may find the term *productivity* offensive as it is usually related to the output of factory workers and farmers. Productivity in a library context relates the value of results obtained by staff or users from a given amount of effort in searching for information or documents.

Changing patterns of demand also provide incentives to innovate. In addition to providing course-related reading material, libraries are being asked to provide substantive information when needed and in a form that is convenient for the user. The potential of technology to provide information when and where needed coupled with the need to reduce the labor intensity of library operations is a prime motivator in innovation.

THE NATURE OF INNOVATION

Innovation is not limited to science and technology. Drucker's broader definition is ". . . the task of endowing human and material resources with new and greater wealth producing capacity."[9] In Drucker's terms, innovation is economic and social change which does not create new knowledge but creates potential for action and added wealth. Sawyer defines *innovation* as a "useful new combination of resources."[10] Innovation is not a device or a scheme. Rather it is a concept or a change in human activity. The concept is "continually evolving as the uncertainties are made to disappear and the targets turn into outcome."[11] Innovation is a deliberate process rather than a chance happening or discovery. Motivating people to want to change and to implement new

plans and ideas is at the heart of innovation.

"Innovation is not R & D, though it begins with research and continues with the entirely different process of development."[12] While research may result in invention and development may refine an invention into a finished, marketable product or process, innovation results in a change in the way people live and accomplish specific tasks. Innovation may be adoption of a technological device or process or it may be a new managerial or social process. Whatever it is, it relies heavily on human perceptions of something better in the future.

This development usually is to achieve a specific purpose and is a directed effort. The development of the MARC record, shared cataloging, electronic message systems, and management by objectives represents innovations that were initiated, developed, and implemented to achieve specific outcomes.

The literature of innovation, for the most part, deals with the concept in profit-making corporations. Discussions of innovation in the public sector point out that service industries and state and local governments are consumers of innovation rather than producers. The federal government is both a consumer and producer of innovation.[13] Innovation in information retrieval and other areas of human activity was funded initially by the federal government.

BARRIERS TO INNOVATION

There are a variety of barriers to innovation in academic institutions and libraries. These barriers relate to psychology, organizational factors, perceptions of the future, and economic factors.

The psychological constraints to innovate stem from fear of change, especially planned change, and the unknown. Library staff and users accustomed to the present-day library are reluctant to give up comfortable habits and established ways of accomplishing tasks. Library staff may feel threatened by systems analysts, computer types, and others who do not speak their language and appear to have little sympathy with their problems. There may be feelings of being manipulated. "People resist being changed by other people . . . ,"[14] especially planners and in-

novators. Their resistance may be based on fear of change, threat of being manipulated, conflicting interests, constrained freedom of choice, or failure to see the value of the innovation. With technological innovation in libraries, users and librarians legitimately fear that the library will be more impersonal and the art of the book will die.

The organizational factors inhibiting change are both internal and external to the library. While most academic administrators believe that a library is essential to an educational institution, for some, the library has retained its "bottomless pit" image. Other administrators see innovation as a way to give the pit a bottom but either don't know how to stimulate and reward innovative thinking or don't want to invest the necessary capital. The lack of understanding and support leaves librarians in an impossible position of being "damned if they do and damned if they don't."

Planning and budgeting in publicly supported colleges and universities are not geared to investment and innovative activity. There is a tendency to allocate the budget on a "use it or lose it" basis rather than a planned basis leading to sufficient funding for academic services that are valuable to the institution. While many universities have obtained funds for the addition of audiovisual equipment and materials and computer-aided instruction, these innovative techniques remain underutilized in many instructional programs. The chalk and blackboard are comfortable and require little new thinking or activity.

Universities also create barriers to innovation because innovation may not be rewarded, especially in the library. Across-the-board salary increases and competitive promotion and tenure situations tend to inhibit rather than stimulate innovation.

The lack of output measures of value in library operations constrains innovation. Academic administrators are more concerned with the cost of input than the value of output. They may be unsympathetic to library innovation because of focus on input and fail to see the contribution to output. Information, knowledge, and reading produce social value that cannot be easily quantified. Measurements of input versus social output or costs versus social benefit are elu-

sive and do not provide needed justification for capital investment.

Economic factors limiting innovation in the library relate to capital, investment, risk, and uncertainty. The "use it or lose it" approach to budgeting does not allow the library to accumulate capital to invest in technology or innovation. Capital appropriations generally are one-shot deals used for new typewriters, buildings, or stacks. The result of this practice is that not only are libraries technologically underdeveloped, they are also starved for capital.

University administrators appear unwilling to invest funds in innovation that will improve library staff and user productivity or make the library more efficient. Payoffs from investments in libraries are difficult to calculate. The value of the librarian is perceived in terms of the salary paid rather than the value produced. There is little consideration given to the value of user time in the library and how that time can be made more productive.

Risk and uncertainty are key factors in the process as well as the economics of innovation. Although innovation is a deliberate process, there is a risk that a particular project will fail or that results will be less than expected. "The most dramatic evidence of the risk involved in . . . innovation is the recent experience of Princeton University Library with 3M's automated circulation system. . . ."[15] This project ended in failure, the 3M system has been withdrawn from the market, and Princeton has returned to a manual method to charge out books.

This failure, however, is more than balanced by successful projects in many libraries; for example, the Ohio State University circulation system, a high-risk project at its inception, is a success. Implementation of shared cataloging and its by-products, involving hundreds of libraries, is another example of successful change.

Uncertainty is related to project success and failure as well as future conditions and investment. Academic institutions are facing an uncertain future with regard to enrollment, government funding, research activity, and endowment funding. In a highly uncertain economic environment, a natural tendency is to try to conserve what is at hand rather than invest for future gain. Project selection and the process of the individual projects also contain elements of uncertainty. With many projects from which to choose and fuzzy measures of payoff and benefit/cost, management has to live with the idea that the projects chosen may not turn out to have been the best selections. "Uncertainty resides at the level of the individual project, where the 'best' way to proceed seldom is apparent and the individuals involved instead have to be satisfied with finding a promising way."[16]

Until recently, librarians have had the luxury of living in a relatively certain and risk-free environment. An innovative environment calls for new skills in risk assessment, ability to understand uncertainty, and ability to manage increased entrepreneurial activity.

THE IMPACT OF INNOVATION

Innovation has changed and will continue to change everyone's life in dramatic ways. Downs and Mohr have identified three categories of benefits related to innovation: (1) programmatic, (2) prestige, and (3) structural.[17]

Programmatic benefits are greater efficiency or effectiveness in accomplishing organizational goals, such as increased profit or market share in the private sector and production of improved service at the same or lower cost in the public sector.

The prestige benefit is the recognition and approval that are associated with early adoption of a new program or technology.

Structural benefits are related to individuals in the form of greater worker satisfaction or some other internal value.

Innovation in libraries, thus far, has produced both advantages and disadvantages. Shared cataloging systems have resulted in programmatic benefits for libraries but have resulted in some disadvantages for the worker. While some catalogers may feel greater satisfaction at being able to share their knowledge and skill, others may feel that the value of their professional judgment has decreased because they are prisoners of the terminal.

The potential impact of technological and systems innovations on libraries is difficult to forecast. If libraries survive as viable or-

ganizations giving useful and valuable service, it is unlikely that their present forms of organization and operation will persist. It is likely that academic libraries will evolve in different ways. The small college library serving primarily instructional programs will not change in the same way as large university libraries serving research as well as instruction. There is not nor should there be uniformity among academic libraries. Each library should be encouraged to recognize the important factors and the unique elements within its own institutional setting. A "me too" approach should be used only when it is compatible with the goals and operations of the library.

As innovation proceeds, library staff and users will need to adapt to new ways of finding information and documents. The library's role in the information process will depend heavily on how quickly it adopts technology to make that process more efficient while retaining personal service.

Information technology is developing rapidly in the private sector. Libraries no longer are the sole sources of information for teaching and research faculties. Many librarians feel that this competition is unfair. In an era of tax revolts and taxpayer demands for spending limitations, competition is probably a fact of life. Competition from the private sector could reduce the importance of libraries in many areas.

IMPLEMENTING INNOVATION

Given the constraints, how can libraries adopt and implement innovative strategies? There is no recipe for transforming libraries into innovative organizations; however, experience in other kinds of organizations has identified some of the characteristics of innovators and innovating organizations.

The first characteristic is a positive attitude about the future and a belief that the future can be modified by decisions made in the present. Drucker has stated, "Innovative organizations spend neither time nor resources defending yesterday."[18] An innovator does not concern himself or herself with the past but focuses on a vision of the future. Within innovative organizations, the climate nurtures creative thinking and change.

The climate does not develop overnight but is built over a period of time. People with new ideas and the ability to develop those ideas are rewarded and recognized in innovative organizations. "Readiness for change gradually becomes a characteristic of certain individuals, groups, organizations and civilizations. They no longer look nostalgically at a golden age in the past but anticipate their utopia in days to come."[19]

The responsibility for creating readiness for change and innovative strategies rests with management. Daft points out that top managers bridge the gap between the organization and technological development. Their status places ". . . them in a position to introduce change into an organization."[20] They are exposed to new ideas from outside the organization and can stimulate new thinking within the organization. "The individual manager controls in large measure the kind and quality of ideas he will hear, by the questions he asks and the interest he shows in the answers. In that part of the job concerned with innovation, each manager must be responsible for stimulating the flow of ideas by appropriate questions and interest and by considerate screening of the idea he receives."[21] Most of the ideas received are likely to be rejected; however, acceptance or rejection must be based on standards and appropriateness and be in harmony with organizational goals. Only a few ideas will merit further investigation and careful evaluation.

Innovative managers recognize that innovation doesn't just happen. An idea without development remains·an idea, good or bad. Innovation is deliberate, purposeful, and, in most cases, a planned process or program. There is an objective or goal to be achieved that requires resources to develop an idea into a program or innovation to be incorporated into library operations. "In . . . concentrating effort on the best ideas, the manager takes up the bare essence (which is the idea) and breathes life into it; he gives it form and dimension. He makes the idea his own, not in the sense of taking it from the originator, but in the sense of giving commitment, and adding the weight of his own recommendation to the request for additional development."[22]

Innovation and change require an organi-

zational structure that facilitates the flow of communication up and down. Ideally, innovative ideas should originate at both ends of an organizational hierarchy. Administrative ideas originate at the top and move down while technical innovation originates near the bottom and moves up.[23] A great many words have been written about managerial styles and communication in libraries. McAnally and Downs suggest, "The director has to surrender some of his old authority and becomes more of a leader"[24] in a more participatory environment. The staff dissatisfaction discussed by McAnally and Downs in 1973 has not abated in 1979 despite the good faith efforts of many library directors and programs, such as MRAP.

Dickinson, in his review of participative management, concluded, "Some library managers are unwilling to admit that they want and need control over the operations for which they are accountable. . . . participative management or power sharing should not—and cannot, if it is to be successful—mean an abdication of responsibility for the library on the part of administrators and managers, in the name of democracy."[25]

Innovation and idea generation rarely occur in groups. Individuals have ideas. Management is the catalyst needed to bring an idea to the point of innovation. The usual library committee structures are not conducive to idea generation or innovative thinking. In using committees in the innovative process, managers should keep the words of L. J. Peter in mind: "No committee could ever come up with anything as revolutionary as a camel—anything as practical and as perfectly designed to perform effectively under such difficult conditions."[26] Committees are useful in studying specific issues and defining problems. A special task force drawn from appropriate departments of the library can be useful in drawing up plans to implement and integrate an innovation into library operations.

In the process of managing innovation, library users can be valuable. People responsible for developing new library programs should be sensitive not only to the user's needs but also to the user's wants. There may be substantial differences between needs and wants. If innovation is to suc-

ceed, users will need to be convinced that it is worthwhile.

A manager or library director may work at fine-tuning the climate of the library to produce innovation or new ideas and find that there is no response. He or she may proclaim in a loud voice that upward communications are welcome but find a quiet telephone or empty mailbox. If libraries are to implement significant change and staff is to be part of that change, library administrators will need actively to encourage change.

This encouragement should result in serious review of new ideas and innovation proposals as well as follow-through in development and feedback to the innovator. In addition, it may be necessary to alter the rewards and punishment system substantially so that innovators are recognized and rewarded with salary increases or perquisites.

Lastly, the library director desirous of closing performance gaps and shaping a meaningful role for the library in the future must present possibilities with enthusiasm, commitment, and confidence. He or she must communicate a sense of excitement and ability to make improvements in the future.

CONCLUSIONS

Innovation is purposeful economic and social change. If libraries are to continue their important contribution to the instructional and research missions of academic institutions, a climate conducive to change and generation of new ideas must be created. Library administrators must view innovation seriously and provide follow-through to develop ideas into innovations that can be integrated into library operations. Librarianship may be the fastest-changing and most exciting profession today. The potential to improve information service through technology is largely unrealized. Transforming potential into reality will require capital, innovation, perseverance, and leadership.

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