Changing Management Techniques as Libraries Automate

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the one certainty about the times ahead . . . is that they will be turbulent times....In turbulent times, the first task of management is to make sure of the institution's capacity for survival,...to adapt to sudden change, and to avail itself of new opportunities. (Drucker, 1980, p. 1)
  If there is going to be one constant in the future it will be change....The pace at which it takes place is likely to accelerate, with change being felt nowhere more strongly than in processes involving information han-dling....Libraries will need to adjust...to different and more sophisticated de-mands and to develop new roles in order to meet users' needs. (Adams, 1986, p. 109)

INTRODUCTION

PROBLEMS ADJUSTING TO technological changes in libraries are but reflections of similar problems occurring throughout society. The world is entering a new technological age which will fundamentally change society: an age dominated by computers and communications systems. The change is both rapid and revolutionary, and the future will bring even more rapid and more radical changes to gathering, process-ing, and dispensing information in libraries (Adams, 1986, p. 109; Huber, 1984, pp. 928-51).

At the same time, cultural values are changing. A new social awareness has emerged as we become more diverse, more independent, and more highly educated. More than ever before, we acknowledge the right of every individual to be free, to participate in our democratic processes, and to strive to achieve his or her fullest potential. We are increasingly committed to resolving a host of contemporary issues—e.g., human rights, equal opportunity, and a clean and safe environ-ment. Yet our culture continues to be affected by energy shortages, violent economic fluctuations, environmental dilemmas, and dramatic

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changes in international commerce. These difficult conditions have complicated our perception of the world and limited our faith in technology as an instrument for improving the human condition, particularly as competition for the world's limited resources intensifies.

The stresses and challenges of coping with change under these conditions have caused organizations to look for new and better methods of organizing and managing themselves. Their search for a more effective, dynamic, flexible, and competitive management system is leading managers, workers, and scholars to a renewed vision of the value of participative management, a theory introduced over two decades ago but not then widely applied in America. The trend toward applying participative management in American organizations is so pervasive that a recent American Management Association (AMA) report concluded of it, "we are witnessing the beginnings of a new tradition in designing the American workplace" (American Management Association [AMA], 1985, p. 39).

PARTICIPATIVE MANAGEMENT STYLE

Traditionally, libraries and businesses have been run by authoritarian managers with decisions made at the top and workers expected to follow directions. In the 1950s and 1960s, such social scientists as Douglas McGregor (1960), Rensis Likert (1961), and Robert R. Blake (jointly with Jane S. Mouton) (1964) began to propose new patterns of management as more productive and humanistic. For the purpose of this article, these innovations will be considered to characterize participative management rather than providing a more narrow and precise definition. They include such attitudinal aspects as McGregor's (1960) theory Y construct that views people as naturally active, self-directing, and enjoying learning and growing when the work conditions support them (pp. 47-49), and Likert's (1961) emphasis on expressing confidence and trust in subordinates (pp. 4-10). Likert profiled organizational characteristics in seven major processes: leadership, motivation, communication, interaction-influence, decision-making, goal setting, and control. In each he described behavioral patterns characteristic of four different systems." Systems 1 and 2 are authoritarian while system 3 is labeled consultative and system 4 participative. Likert reports that high productivity derives from such patterns as free communication up, down, and among peers, with extensive friendly interaction; and cooperative teamwork in setting goals, making decisions, and evaluating performance. Despite his differentiation between the consultative and participative management styles, we will consider them both as participative, since moving toward them from the traditional authoritarian styles increases staff participation and productivity. Blake and Mouton (1964) talked of managerial styles structured from the interactions of two variables: concern for production and concern for people. These two variables serve as the axes of a two-dimensional grid with values from 1 to 9. The

number 1 in each instance represents minimum concern and 9 stands for maximum concern (pp. 8-12). Separate chapters describe major styles, which are identified as 9,1; 1,9; 5,5; and 9,9 depending on the magnitude of concern for the two variables. For example, a managerial style identified as 9,1 would have high concern for production and low concern for workers. Most closely identified with participative management is the 9,9 style which is highly concerned for both production and people. Of it, Blake and Mouton (1964) say: "Needs of people to think, to apply mental effort in productive work and to establish sound and mature relationships on an hierarchical plane and with one another are utilized to accomplish organizational requirements" (p. 142). Self-control, self-direction, and teamwork operate in this style, with broad involvement in planning, decision-making, and control. Commitment, motivation, and productivity are the consequences (Blake & Mouton, 1964, pp. 144-48).

Participative management was derived from a post-World War II search for a "theory of organization based on the management principles and practices of the managers who are achieving the best results in American business and government" (Likert, 1961, p. vii). Its antecedents included the famous Hawthorne Works study of Elton Mayo (Roethlisberger & Dickson, 1939), carried out toward the end of the 1920s, which ushered in the Human Relations School as an antithesis to the Scientific Management School, and the Lippitt and White (1952) study of the influence of various leadership styles on worker behavior.

Likert's theory of participative management was derived from the results of hundreds of studies carried out largely in profit-making organizations. They demonstrated that not only did participative management enhance productivity, but worker satisfaction increased. Likert (1961) also expressed confidence that the results would apply equally to profit-making and nonprofit organizations (p. vii).

While their research and attention were directed largely at profit-making organizations, in the 1970s librarians began to ask whether these concepts were also applicable to such nonprofit organizations as libraries. Marchant (1970; 1976) tested the theory in research universities, using multiple regression and path analysis. He found that the more participative libraries had the most satisfied professional staffs; their faculties, in turn, rated their libraries highly. The libraries he studied distributed across Likert's systems 2 and 3, none falling into the exploitive extreme of system 1 nor the truly participative aspects of system 4.

Applying participative management to the work environment has taken several different forms. Among them have been the following:
1. Job enrichment, which is a broad label covering increases in the variety in individual jobs, expansion in the range of tasks undertaken, and extension in responsibility for decisions.
2. Job rotation and cross-training, by which people learn related skills,

thus improving flexibility and breadth of knowledge. Related is pay-for-capacity, wherein workers are paid for breadth and range of skills.

3. Gainsharing systems that distribute savings resulting from improved performance.
4. Flextime, which allows workers some control over the hours they work. It includes authorizing the four day work week.
5. Job sharing, whereby two people share one job.
6. Quality circles or problem-solving teams, in which groups of employees work as teams to solve problems. Related to these circles or teams are joint labor management committees and work or communication councils.
7. Formal training in participative management.
8. Self-managed work groups, given substantial responsibility for their work and products.
9. Parallel organization structures that are responsible for managing change, quality of work life, and innovation issues.
10. Project based organization, using groups that are responsible for specific tasks and projects.
11. Multiple reporting structures, wherein workers are simultaneously responsible to two or more separate units of an organization.
12. Employee-owned organizations that allow opportunities to become owners of the organization (AMA, 1985, p. 8).

RECENT TRENDS

The research of the 1950s and 1960s exposed the negative social impacts of conventional authoritarian management methods as well as proposing remedies. But during those years, many U.S. organizations listened, but few were willing to change. Some organizations experimented with job enrichment and other participative approaches, but these experiments were rarely sustained and many failed (Lawler, 1986, pp. 1-20).

During the early 1970s, the Secretary of Health, Education, and Welfare assigned a task force to review the nature of work in America and propose changes that would improve the quality of work life. One chapter of the report, emphasizing the high cost resulting from dissatisfaction with work, proposed the redesign of jobs to use such concepts as autonomous work groups, integrated support functions, challenging job assignments, rewards for learning, participative management, and participation in profits. General Foods was reported as building newly designed plants that incorporated radical new approaches to work and management in order to provide a high quality of work life and high productivity. Such companies as Banker's Trust, Corning Glass, and Texas Instruments reportedly had restructured jobs to make them more satisfying to the workers. In the process, they reduced turnover, saved money, and increased the quality of performance (*Work in America,*

1973, pp. 93-120). While the book carried a measure of authoritativeness as a consequence of being the consensus of a special task force assigned by Elliot L. Richardson, then Secretary of Health, Education, and Welfare, it served simply as further encouragement for managerial reform and not as a watershed document.

Even so, the transition moved forward rather ponderously but consistently. The 1970s was a period of experimentation and some change. Many studies explored the ramifications and success of these experiments, and they generated a great deal of debate concerning the success and effectiveness of the new participative approaches to management. Most organizations felt there was no reason to change because American businesses were highly profitable and American managers viewed their style of operation as the reason for America's post-World War II economic prosperity. Even though the new participative method had been successful in some instances, and even though studies had revealed that conventional management methods were contributing to low worker motivation, high turnover, high absenteeism, poor product quality, alcoholism and drug abuse, mental and physical illness, organizational conflict, and worker stagnation (Sashkin, 1984, pp. 5-22; Sashkin, 1986, pp. 62-75; for a review of studies related to worker health and management style see Lewis, 1986, pp. 137-48). U.S. managers were hesitant to change because their profits were high (Lawler, 1986, pp. 1-20). They chose to adhere to the philosophy: "If it ain't broke, don't fix it."

When American inability to compete internationally became clear in the latter years of the 1970s and became critical in the 1980s, executives finally realized that the old ways would no longer serve. Several best-selling books popularized the concept of participative management as a means of reversing America's trade imbalance and improving productivity. A particularly good book was Ouchi's (1981) *Theory Z.* His major message was describing how Japanese corporations use participative methods to out-produce American competitors. He also identified American corporations that are highly productive because of their participative management. John Naisbitt's (1982) *Megatrends* reported several trends in American society leading into the twenty-first century. Two major trends were a shift toward participative management and a strong need for "high touch" supportive human relations as a counter balance to the high technology of the information era. Shortly thereafter, Tom Peters's (1982) *In Search of Excellence,* which advocated the use of participative and humanistic concepts, sold more copies than any previous book on management.

Throughout the 1980s, many highly successful, fast-growing, innovative organizations have developed a common participative, entrepreneurial management style (Senge, 1987, pp. 8-11). Researchers and managers began reporting with greater frequency that organizations using new participative methods were achieving successes. In

1985, the American Management Association surveyed 10,000 of its members and reported that the success some organizations were experiencing was a consequence of using various participative work alternatives. The report said:

> When the current findings are considered in the light of other research . . . results show that certain companies are "progressive" in introducing more alternatives (and doing so earlier) than most other firms. Further evidence shows that such progressive companies achieve greater profitability. Over time, there is a strong link between workplace innovation, product innovation, and superior financial performance. (AMA, 1985, p. 10)

The success experienced by some of these companies led them to treat their management practices as proprietary and confidential. In other words, they felt that their use of participative methods gave them a competitive edge, and they did not wish to reveal the methods they were using to their competitors.

Of the several procedures used to democratize the workplace in recent years, the most popular has been quality circles. The number of quality circles has grown in U.S. businesses from about 1,000 in 1964 to 87,500 in 1978. By 1984, more than 36 percent of all U.S. businesses surveyed by the AMA were using quality circles (AMA, 1985, pp. 30-31, 38). Though popular, quality circles are limited in the contributions they make. They generally serve well initially and are characterized by a high early success rate. But early success is often the result of a limited number of easily solved problems. The circles commonly lack authority to make decisions and are limited to recommending action. Their assignments are often restricted to resolving problems of productivity and quality, and they are usually not allowed to consider personnel and management issues. Workers involved in the circles become accustomed to participative interactions that are not allowed on their regular jobs, and the contrast leads to dissatisfaction and distrust of their supervisors. As they become less productive, management resistance can set in and lead to their abandonment (Lawler & Mohrman, 1987, pp. 42-54). Recognizing the success of well-managed worker involvement but wanting to free themselves from these limitations, some organizations have moved beyond quality circles to implement total organizational transformation involving greater employee participation. Richard Boyle reported such a transition occurring at Honeywell. After experimenting with quality circles, one division of Honeywell developed a steering committee to create and monitor task teams established to tackle specific assignments and to measure their progress. The division moved successfully toward a flatter, more participative structure concerned with both productivity and employee needs. He reported such results as an improved work climate, a threefold increase in the minority worker retention rate, improved employee relations and performance evaluations, and a greater employee understanding of long-range corporate goals (Boyle, 1984, pp. 74-83).

Today, participative methods have been developed and tested sufficiently so that their viability has been established. More to the point now is how to manage participative management to achieve desired results. The main point of Boyle's paper was precisely that, and he described how his company did it successfully. Much of Donald Sager's (1982) book, *Participatory Management in Libraries*, deals with the practical aspect of applying the theory to the library environment. Debate continues regarding the effectiveness of participative management, but the number of successful companies reporting its use continues to grow. Critical reports now tend to emphasize specific delimitations rather than the viability of the method (Locke, et al., 1986, pp. 65-79). A major reason for the failure of participative experiments, for example, has been blamed on inept and antagonistic management rather than on shortcomings of the theory (Saporito, 1986, pp. 58-65).

Little doubt remains that the use of participative management methods will continue to grow in the future. The technological, economic, personnel, and cultural changes that are now forcing American management to accept and apply the principles of participative management can be expected to continue. Information technology will change the way organizations are managed, the way they are structured, and the way jobs are designed (Burton, 1988; Shaughnessy, 1982). The automation of manufacturing and the transition of the U.S. economy from heavy industry to the service and information sectors will change the nature of work from manual labor to decision-making. The baby boom generation, socialized in an era of affluence and better educated than their parents, will continue to demand greater participation. Major legislation guaranteeing civil rights, equal opportunity, worker safety, and employee rights have made fundamental changes in the American workplace. Women and minorities in the work force are expecting their newfound rights established under the law to continue and even expand. The greatness of the American political system is tied to the democratic ideal; now the American workplace is benefitting from the application of democratic principles.

INNOVATION AND PARTICIPATIVE MANAGEMENT

The same changes that are moving American organizations toward greater participation are requiring American businesses to be more innovative in order to survive. Huber (1984) has observed that an organization's survival is enhanced by having structures and technologies well suited to its environment (p. 929). These principles are equally true for libraries. Because libraries are at the heart of the information technology revolution, they are experiencing an environment of rapid and radical technological change. Managing the transition will require of them the capacity not only to tolerate change but to design their own transition. To adapt and to lead in this new age, librarians must be both flexible and innovative.

Participative management contributes to flexibility and innovation in organizations. Brian Reynolds (1986) writes from his review of management research, "the conditions we are now seeing; turbulence, stress, declining resources, and the exploding use of technology, demand an emphasis on organic, flexible, and participatory organizations" (p. 45). By contrast, organizations which are stratified, formalized, and centralized are less dynamic, adaptable, and innovative. Judy Reynolds and Jo Bell Whitlatch (1985) cite numerous papers which support this conclusion, including the work of Michael Aiken and Jerald Hage (1970; 1971). Hage and Aiken's research concludes that decentralized, participative organizations support a higher rate of innovation; and Helen Howard's (1981) study of innovation in four academic libraries supports these conclusions for library settings. Kanter (1984; see also 1983) feels that participative management allows organizations to use their people and their good ideas better:

> By building an environment in which more people feel included, involved, and empowered to take initiative, companies as well as individuals can be the masters of change instead of its victims.
>   The source of new ideas is people. That's why an organization's way of educating and involving people, distributing them among assignments, and rewarding their efforts are so critical in it's ability to innovate. (pp. 44-45)

Researchers at M.I.T., studying innovative, fast-changing organizations, found that highly successful, innovative organizations have in common a participative, entrepreneurial management style. Management gives the employees decision-making power and then works to establish clear links between the employees' efforts and the rewards the employees receive. Employees of these companies share a collective organizational vision of the future. Little if any management hierarchy exists in these organizations. Most of them have flat organizational structures with many people influencing important decisions. They are successful because they create organizational and personal growth through risk, responsibility, and learning. Leaders in these organizations typically are servant leaders. They know that their authority derives ultimately from the respect of those they lead, not from the status of their position (Senge, 1987).

Studies seeking to determine which leadership theory most closely matches subordinates' perceptions of good leadership found that subordinate evaluators consistently gave high marks to managers who were participative in their behavior (Hornstein et al., 1987). In turbulent times, participative managers need to be strong leaders (Nurick, 1985, pp. 183-91). A major attribute of strong leaders is an extraordinary focus of commitment which attracts people to join in bringing the vision to fruition (Bennis & Nanus, 1986). Leaders in today's organization have the responsibility to catalyze creativity and innovation. They can do so by maintaining a high level of motivation within the work force; by providing for workers' continuing education, training, and profes-

sional development; and by promoting worker participation and encouraging the exchange of ideas among workers (Peters & Austin, 1985).

THE IMPACT OF TECHNOLOGY ON MANAGEMENT AND ORGANIZATIONAL STRUCTURE

Most people see technology affecting their lives in one of two ways: (1) technology is bad and suggests a waste of resources, centralized organizations, loss of personal freedom and dignity, inequality, consumerism, deskilled jobs, and unemployment; or (2) technology is good and suggests increased personal freedom, participatory democracy, more leisure time, more knowledge, and an improved quality of life. The literature reviews in Burton (1988), and Attewell and Rule (1984) on the effect of new technology on organizations suggest that both of these views of technology are justified. Burton reports that information technology has been shown to centralize and decentralize "authority within the organisation," that it can increase and decrease "opportunities for employee participation and involvement," that it can allow workers "greater access to 'management information' [or] strengthen management control over the flow of information," that it can change or freeze organizational structure, and that it may limit or increase job satisfaction. After reporting these conflicting results, Burton makes the important point that the effects of technology on people, organizations, and management can be controlled and directed. Technology can humanize or dehumanize the workplace, and an important determining factor is managerial philosophy (Burton, 1988, pp. 60, 63-64). Using a participative philosophy in the design and implementation of an automated information system will enhance its acceptance by the staff and provide an environment that encourages innovation and creativity. A creative staff will adapt to change and use these systems to achieve appropriate ends.

The character of computers has also affected who makes decisions. When mainframe computers were dominant, they encouraged centralized decision-making. Now, microcomputers and communications networks are decentralizing decision-making. Today's technology is rendering traditional organizational structures obsolete, and the technologies of the future will encourage the use of participatory models. That today's most successful high tech companies are using participative models appears to be a reflection of this trend (Peters & Waterman, 1982; Senge, 1987).

As managers recognize that, to be effective, they must manage people and information in ways different than in the past, they are discovering that their organization's two most important assets are human resources and information. Burton (1988) comments: "There is now a greater appreciation of the fact that the technology is only a (sophisticated) means to an end, and attention is being shifted towards

effective *exploitation* of technologies and the strategic possibilities offered by [information technology]" (p. 62). Zuboff (1985a; 1985b) advocates "informating" organizations rather than automating them. Instead of replacing workers with technology and allowing technology to enslave the organization, she would educate and train workers to use data produced from automation technology to develop more efficient and more effective organizations, process models, production techniques, and automation systems. Machines should be used to facilitate human creativity and data analysis abilities rather than stifle them (Zuboff, 1985a, pp. 103-39; Zuboff, 1985b, pp. 5-18).

Zuboff's ideas are valid in library settings, and they are not new. Her informating systems are merely participative management information systems. Like participative management, management information systems (which need not be for managers only) were introduced some time ago but are yet to be applied on a wide scale in libraries. We have automated the library, but generally we are not using these systems to informate. Libraries need management information systems. Without them, librarians have little feedback on how well they are achieving their goals. The automated systems existing in libraries today are technology pushed systems and were not designed as informating systems or even as management information and support systems. Peter Brophy (1986) writes:

> Librarians pay lip-service to the need for highly developed management information systems but in practice, when offered a choice, nearly always prefer to have developmental effort put into improvements to the operational aspects of their automated systems.... Automated systems seem to be primarily about *control* at the micro level rather than about exploiting services or encouraging library use. (p. 129)

Imagine harnessing the creative powers of your colleagues and unleashing them to meet their and the library's goals using the computing power available today. Using microcomputers and communications networks, librarians could create simulations to test, for example, the effects of changes in loan periods on circulation rates and on consequential increased costs of reshelving. Or they could perform sophisticated use studies and use the results to create acquisitions models. Eventually we may even design systems that will help optimize the service we deliver with the limited resources available.

FUTURE TRENDS

Libraries are information systems in the process of entering the high tech information age, but many of them are managed using the same model used by industrial age mass production plants. If we wish libraries to function effectively, they must adapt to a more appropriate post-industrial model. Vincent Giuliano (1984) explains how the two models contrast (pp. 25-27).

The modern industrial age organization is managed for efficiency and is characterized by economy of scale; centralization; standardiza-

tion; routine operations; and a complex, segmented, bureaucratic structure. It typically changes slowly. Information is distributed on paper, filtering slowly from one hierarchical level to the next. The information processing system itself is centralized. Offering only limited access to the information it processes, the system is controlled by management and system technologists. Managers are typically reactive, taking action to change only when trouble emerges. They often have extremely narrow definitions of productivity which concentrate on the quantitative aspects of mechanical outputs instead of the capacity of the organization to satisfy customer needs (Kanter, 1984, p. 40). The worker's intellect is not utilized to capacity, and the worker is often unmotivated and uncommitted to the organization.

By contrast, the postindustrial model is decentralized and is characterized by a focus on quality, "demassification," and short product-life/service-life cycles. The information era organization is information- and knowledge-driven. It serves specialized targeted markets. Its management is participative and responsive. Strategy and planning oriented, management sets the organization's purposes and vision which are held collectively by all employees. The long-term health of the organization is emphasized, as are maximum effectiveness and the maximum utilization of resources. The entrepreneurial spirit of people in the organization is allowed to develop and manifest itself. (See the article by Keith M. Cottam in this issue of *Library Trends.*) Developing motivated and committed workers is an important goal. Workers are allowed to participate in setting their own goals, and they are encouraged to make voluntary commitments to their coworkers and management. Information is accessible to all workers in the organization rather than just to managers. Information flows instantaneously, and these decentralized information systems are highly linked and often networked.

Organizational structures are flat in the information era organization. Reynolds maintains that the need for greater efficiency and the universal access to information through use of computers will flatten the traditional pyramidal shape of libraries, and the roles of personnel in library organizations will continue "blurring and evolving into mixtures based on expertise and competencies" (Reynolds, 1986, p. 31).

Huber (1984) believes that: "Post-industrial society will be characterized by *more and increasing knowledge, more and increasing complexity* and *more and increasing turbulence*" (p. 931). By turbulence, he means rapid and radical change. For an organization to stay at the forefront of its business, it must understand and use a growing body of relevant information. Yet its control by an authoritarian manager will become increasingly difficult and will press the organization to use teams of workers to control information and share in the decision making process. Complexity will increase because specialization and diversity will increase. Growing complexity increases the number of

societal or organizational components and the interdependency of those components. Huber believes that increasing the speed of change in the postindustrial world will require: (1) more frequent and more rapid decision-making; (2) more frequent and more rapid innovation; and (3) more rapid, continuous, and wide-ranging information acquisition. Huber (1984) further claims that: "While on one hand decision-making units will be motivated to increase their heterogeneity and size (so as to include people having various types of expertise and representing various constituencies), on the other hand efficiency considerations will cause this pressure to be resisted..." (p. 936). Allowing people to participate in decisions quickly and from remote locations through the use of expert and decision support systems, along with advanced communication technology, can help reduce that resistance. With the use of computer networks and electronic mail systems, librarians are already coming to work in the morning to find on their personal computer screens lists of items from various people requiring their responses. This sort of participation will increase dramatically as libraries adjust from the industrial to the postindustrial model of management.

As organizational structures change, our workplace vocabularies and methods of compensating workers will also change. According to Zuboff (1985b): "The images associated with physical labor can no longer guide our conception of work" (p. 17). The AMA (1985) survey report concerning alternative work arrangements predicts:

> Changes will require us to revise our notions and standards of internal equity in organizations, especially those relating to compensation principles and practices. Increasingly, work alternatives raise fundamental issues about the equity of compensation, and of status, rank, and positional differences within most organizations. The long vertical hierarchies that have been traditional in large organizations will become untenable, perhaps arcane, not simply for reasons of ineffectiveness but also for their incompatibility with new organizational designs and work alternatives. As junior-level employees gain increasing responsibility for more significant tasks, as their activities begin to overlap with those of higher levels of management...compensation and reward systems have to become "flatter" and more equitable in every sense. (p. 39)

CONCLUSION

How do library automation and information technology affect the management of libraries? Two general viewpoints exist: (1) technology is bringing a new age of enlightenment, decentralization, personal freedom, and participatory democracy to our libraries; or (2) technology is bringing about an Orwellian world of decreased personal freedom, with rigid centralized control, little originality or creativity, and class structures with the wealthy dominating the information poor (Burton, 1988, p. 57). Which viewpoint will prevail largely depends on how library managers choose to manage.

If they feel compelled to monopolize the library's decision-making processes, they probably will succeed in the short term, but at the expense of innovation and staff morale and declining service. But if improving service is more important to them, they will use participative

alternatives to create humane working environments where innovation and high performance can prosper. Over the long haul, the transition to a participative approach that fits the pattern of a modern information system will be required for the library to survive and flourish.

Sashkin (1986) argues that participative management is an imperative even if improved productivity cannot be proven. He feels that managers are ethically responsible for their subordinates' well-being. He considers participative management as a vehicle for assisting them in reaching their potential and becoming responsible for their actions, their work, their development, and their organization.

Griffen (1982) applies a similar argument in addressing library managers. The library is an open system that exchanges material resources for information. Yet many library managers who recognize the value of user surveys, community-based planning, and user needs hesitate to apply these same open system concepts to their employees. Griffen (1982) claims that automation efforts will succeed when we integrate the concept of the library as an open system into daily management practices (p. 226).

Zuboff (1985b) offers the analogy of looking through a kaleidoscope for the effect that technology has on our world and our organizations. She sees technology as shaping the limits of what is possible and what is barely imaginable, eroding assumptions about the nature of our reality, and creating new choices (p. 5). Technological innovations will change the world we live in and how we view that world. Technology is the force that turns the rim of Zuboff's kaleidoscope.

The analogy of the kaleidoscope breaks down, however, when human choice determines the direction of technological innovation and the vision and implementation of new organizational designs. Zuboff (1985b) observes that, within the available choices, human beings construct meaning, assess interests, and make choices. Technology cannot determine what choices will be made for what purposes (p. 6).

Advancing information technology is changing our world. We basically have two choices, two paths to follow in managing our libraries: do we automate or informate—do we manage autocratically from a hierarchy or participatively involve our colleagues and colearners; do we waste our human resources, damaging the lives, minds, and spirits of our colleagues, or do we rely on and encourage the human capacity for teaching, learning, insight, and creativity? Our goal as librarians is to maximize our resources to most effectively serve our users. A revolution in information technology is occurring. It is a revolution that will essentially shatter the effectiveness of traditional, scientific, and authoritative methods of management, and it will undoubtedly lead to profound changes in libraries, librarian functions, and user expectations. The future is up to us. Veaner (1985) urges us to seize the initiative, lead these changes, and not allow ourselves to be dragged about by them (p. 222). We must accept the challenge.

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