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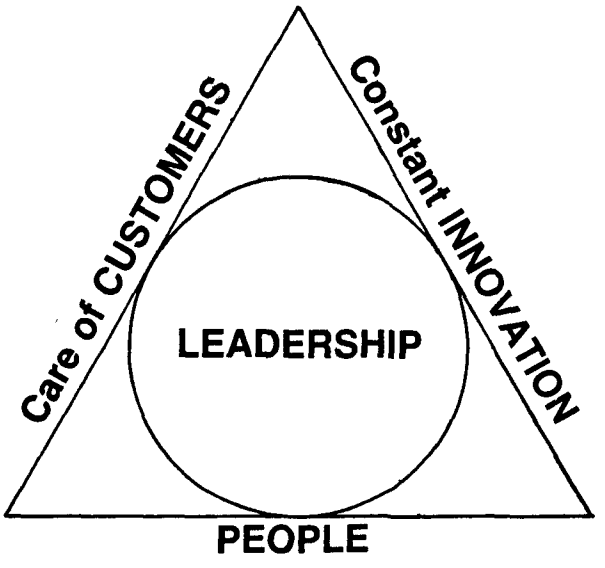
Office of the Future
The Manager's Role



OFFICE OF THE FUTURE: THE MANAGER'S ROLE

DECEMBER 1988

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INTRODUCTION

The new technology that is being introduced into the office environment is beginning to make the "office of the future" a reality. Managers are finding that as a result their roles, as well as the roles of those they work with and supervise, are changing. An understanding of the new technology and how it can contribute to efficiency through the facilitation of communications and improvement of procedures previously done manually is becoming increasingly essential for the modern manager.

This bibliography, which is divided into five sections, contains citations to a variety of articles relevant to managers and their involvement with the new office technology. The first section discusses the different types of technology. The second section relates to management interaction with the new technology, including management resistance and training in the use of new technology in the office. The third section deals with policy and planning for the introduction and integration of technological innovations into the "office of the future," while the fourth section discusses the effects of the new technology on productivity. A final section focuses on the changing role of the manager. Also included is a list of bibliographies prepared by the EPA Headquarters Library.

Citations were selected for their relevance to the special interests of EPA program staff. A descriptive abstract is included with each journal article citation. The majority of the citations are to journal articles published since 1984, with a lesser number from earlier years. The bibliography was compiled using the ABI/INFORM, MANAGEMENT CONTENTS, and COMPUTER DATABASE online databases from DIALOG.

For additional copies of this bibliography or information on obtaining the articles or books cited, contact Anne Twitchell, Head Reference Librarian, EPA Headquarters Library, 382-5922.

I. THE NEW TECHNOLOGY

0380770
Artificial intelligence: it's time to get ready.
Jarvis, Pamela
Office v108 Aug, 1988, p15(2)

Applications for artificial intelligence technology are no longer restricted to large companies in high-technology industries such as aerospace. But applications are now available for the financial industry. AI systems encapsulate a body of knowledge in some field. When asked to make a decision, the system reviews its options, makes inferences, and explains its reasoning. The system then communicates in the language of its user. The purpose of expert systems is to augment, rather than replace human decision making. The cost of most AI technology is still beyond the reach of many offices, but managers should begin to research vendors, industry contacts, and equipment capabilities so they will be ready when AI technology becomes more affordable.

87041131
Hypermedia: Finally Here
Perry, Tekla S.
IEEE Spectrum v24n11 PP: 38-39 Nov 1987
AVAILABILITY: ABI/INFORM

Recent technological advances now make it possible to create a practical hypermedia system that incorporates sounds and images with text. These advances include: 1. the ability to encode digital information on optical media, 2. the digital storage of music on compact disks and audiotapes, 3. digitizing cameras, 4. software for "painting" in full color on a computer screen, and 5. hardware that captures, stores, and manipulates video images for computer use. In addition, a prototype system--called digital video interactive--has been developed to overcome limits in disk capacity, transfer rate, and motion sequences. However, software programs are needed to exploit and coordinate information from all these media. One of the most significant hypermedia products to date is HyperCard, by Apple Computer Inc. Other products, such as CD interactive (CD-I), soon will be released, with initial applications expected in entertainment, continuing education, service manuals, and information systems. References.

88000114
Why the Hype for Hypercard?
Anonymous
Training v24n11 PP: 12-17 Nov 1987
AVAILABILITY: ABI/INFORM

Apple Computer's new HyperCard software for the Macintosh computer is receiving a great deal of attention. Gloria Gery, a training consultant who specializes in computer issues, says HyperCard deserves its hype for 2 reasons: 1. The program is so simple that virtually anyone can use it. 2. It can make computer-based training more flexible and learner-centered. It is a database "environment" that allows users considerable flexibility in retrieving information just the way they need it. HyperCard can integrate text, graphics, sound, animation, and video. HyperCard is used in much the same way a stack of index cards is used. Any information can be entered on a card, which is then put back in the "stack." The program allows the user to link any piece of information on one card to information on any other card in any stack. Apple is offering the program free to any Macintosh purchaser.

0371448
Replacing management's crystal ball with a spreadsheet program.
Janosko, Ann P.; Jensen, Oscar W.
Planning Review (a publication of the Planning Forum) v15
July-Aug, 1987, p21(4)

Worksheet or spreadsheet software gives management a simple but powerful tool for enhancing business forecasting efforts. The typical spreadsheet can incorporate any of four different forecasting models: average growth, average incremental growth, average rate of growth, and forecasts for more than one model. Examples are presented for each of the four models, illustrating how both simple or sophisticated methods can be easily computed in the computer spreadsheet format. Spreadsheet program flexibility and computer attributes combine to permit frequent updating of information, giving managers a firmer grasp on the validity of their current assumptions and the decisions which result.

0365076
CD-ROM: optical storage medium of great impact. (compact disc read-only memory)
Kuflik, Terry M.
The Office v105 March, 1987, p74(2)

Compact disc read-only memory (CD-ROM) is an optically based storage medium that has a large capacity for sound, words, or graphics. CD-ROM discs have long lives, are easy to use and store, and allow random access to their contents. Because CD-ROM disks cannot be altered, their best use is with data which do not change frequently, as in parts directories or encyclopedias. On-line systems are useful when data are updated at least monthly. CD-ROM technology involves generating a master disc and then copies. The master discs cost up to $10,000 each; consequently, CD-ROM is not suitable for archive storage. Producers of CD-ROM discs do not employ a standard format and new formats are under development.

0378792
The CD-ROM debate: what is its potential value? (compact disk, read only memory)
Mortensen, Erik
The Office v107 May, 1988, p71(3)

Questions exist as to the utility and applications of compact disk, read-only memory (CD-ROM) and write-once, read-many-times optical storage technologies, but their potential will only be resolved with more experience in their use. CD-ROM advantages include storage capacity up to 600 Mbytes on one side of a 4.75-inch disk, immunity from head crashes, greater reliability, low-cost replication in large quantities; space savings; and ocal control and searching when accessed through a personal computer (PC). Disadvantages include lack of rapid updating, lack of hardware and software standards, little knowledge of archival lifetime, and slower data access. Applications include database publishing, training systems, on-line information, and archiving, but not applications that must be frequently updated. Accessing hardware and software for a PC costs $1,000 to $2,000.

87014070
Latest Productivity Buzzword: It's Executive Management System
Menkus, Beldon
Business Month v129n3 PP: 64-75 Mar 1987
AVAILABILITY: ABI/INFORM

One of the keys to obtaining the corporate competitive edge in today's international marketplace is executive ability to make more effective use of office automation technology. A recent study by Stanford University revealed that most executives use computers to review information rather than to help forecast and plan. However, the study also indicated strong executive interest in improved access to large corporate databases and increased use of electronic and voice mail systems. One type of software product in the executive workplace is the ''executive information system'' (EIS). EIS will enable executives without computer skills to utilize the resources needed to enhance their daily work performance. Both desktop and laptop personal computers are being developed to meet these needs. Other techniques that are improving and will enhance EIS include: 1. local area networks, 2. electronic mail, 3. facsimile equipment, 4. voice mail, and 5. audio and video teleconferencing.

86022828
Efficient Document Management Through Local Area Networks
Adams, Robert V.
Words v15n1 PP: 35-37 Jun/Jul 1986
AVAILABILITY: ABI/INFORM

A new approach to managing business documents uses local area network (LAN) technology in combination with: 1. long-distance data communications, 2. graphics-oriented professional workstations, 3. personal computers, 4. electronic file systems, and 5. electronic printers. Cost reductions have helped make LAN equipment more popular and increased the versatility of network systems. Small network laser printers have the same resolution as larger models and are well-suited for quick production of reproduction masters. Network systems also offer efficient document preparation from research through creation and formatting, to final publication and dissemination. Xerox Corp. office network systems use the Ethernet local communications network, which is an open network that allows the use of other vendors' equipment. The electronic printing system is a key element for effective local network-based document management. Use of an integrated network system provides each team member immediate access to the others' ideas, text, and suggestions.

0353152
Expert systems: the next challenge for managers.
Luconi, Fred L.; Malone, Thomas W.; Morton, Michael S. Scott
Sloan Management Review v27 Summ, 1986, p3(12)

In this age of the 'microchip revolution,' effective managers are finding ways to learn and profitably use myriad applications of the new microprocessors. The most intriguing application to emerge is expert systems. The authors discuss how these systems can be used in a broad range of business applications. They argue that the knowledge that can be feasibly encoded in an expert system is not sufficient by itself as a basis for making satisfactory decisions. Rather, they believe the focus should be on designing expert support systems that will aid, rather than replace, human decision makers.

85034084
Executive Workstations: Issues and Requirements
Power, Daniel J.; Hevner, Alan R.
Information & Mgmt (Netherlands) v8n4 PP: 213-220 Apr 1985
AVAILABILITY: ABI/INFORM

One of the fifth-generation computer products under development is a powerful executive workstation that is an integrated hardware/software system able to provide business executives with powerful capabilities to use for making and implementing decisions. Relevant and sometimes controversial issues and workstation requirements are reviewed in the context of a scenario portraying the executive using the workstation. The executive workstation should include a variety of classes of software: 1. an integrated operating environment, 2. office management software, 3. operational status and scheduling software, 4. graphics software, 5. communication and networking software, and 6. expert systems for planning and decision making. Hardware specifications include user interfaces, a display screen, a user recognition unit, a video input camera, and sufficient storage. References.

0339203

Micrographics And Records Management.

Williams, R.F.
Cohasset Associates Inc. , Chicago, IL

Office Vol.101, No.4, April 1985, P. 160,162-163.

Documents can be retained in their original format using modern facsimile technology. Optical discs are more dense than hard discs and consequently, are a less expensive storage medium. Fiber optic communiction lines speed documents communications. The combination of scanning, optical storage and fiber optic local area network will add capabilities to records management systems. New electronics technology for records managemet offers instant communication, random access, simultaneous access, same screen access and display, document annotation, mutiple display and management control. A chart shows the complementary relationship of various records management mediums.

II. LEARNING TO MANAGE NEW TECHNOLOGY

87006800
Apprentices of Technology
Bernstein, William L.
Management World v16n1 PP: 22-23 Jan 1987
AVAILABILITY: ABI/INFORM

As office automation increases, the demand for middle managers without technological skills is decreasing. In order for middle managers to enhance their value and potential for their company, they must become experienced in utilizing office automation (OA). With corporations becoming more dependent on electronic information transmission, those unable to employ the technology will find themselves left out. The first step for managers is to determine the intentions of their organization regarding OA. If the company offers training, they should take advantage of it. If not, the choices are to move to an organization that provides training or to train themselves. Before obtaining a personal computer, managers should determine their job requirements in order to select the proper software. After obtaining compatible hardware with which the manager is comfortable, managers should begin the process of self-training. They should start with simple procedures, learning commands building into more intricate processing.

86027898
Managers Need Office Automation
Butler, Gary
Computing Canada (Canada) v12n15 PP: 9 Jul 24, 1986
AVAILABILITY: ABI/INFORM

A survey by Woods Gordon of office automation (OA) acceptance showed that, while overall acceptance of OA increased from 60% in 1984 to 81% in 1985, manager response was 22%, the lowest acceptance level of any group of employees. The 3 fundamental reasons managers resist OA are: 1. inaccurate or insufficient needs definition, 2. ineffective training and support, and 3. insufficient attention to technology concerns. The analysis of needs must be the first step in any automation of office operations. Tools available for managers do not seem to match their needs. Those that could be matched to managers' needs are: 1. electronic mail, 2. telephone messaging, and 3. computerized time management. A necessity is good training programs.

86024460
Overcoming the Executive Fear Factor in Office Technology
Anonymous
Modern Office (Australia) v25n2 PP: 20-21 Mar 1986
AVAILABILITY: ABI/INFORM

Executives starting out with personal computers (PC) find that fear is the biggest problem. Once that is overcome, incompatibility becomes the major issue. A completely integrated and coherent information system is needed, but incompatible hardware, software, and systems make this difficult to achieve. As users switch between different terminals, workstations, and PCs, the variety of keyboard layouts is counterproductive and frustrating. Even on the same hardware, different systems having different commands can be confusing. Interconnection between different hardware is a major concern, as well as the problem of differing protocols. In spite of the existence of some standards, manufacturers have created variances. The popular technical image of an office automation system is a building that is wired and connected to various hardware devices. While current problems are serious, there are solutions. The primary need is for a conceptual plan that oversees the entire office and information system requirements. Tables. Charts.

85033456
Managers Rate OA Concerns
Brereton, Stan
Management World v14n9 PP: 26-27 Oct 1985
AVAILABILITY: ABI/INFORM

A questionnaire was sent to a sample of administrative managers across the US to ascertain their primary concerns about office automation (OA). The leading area of concern was effectiveness and efficiency, (how OA will help workers do their jobs better). Other areas of concern cited were: 1. management decision making, 2. electronic mail, 3. working at home, 4. managerial qualifications, 5. implementing new technologies, 6. staffing the automated office, 7. job tenure, 8. teleconferencing, 9. implementing decisions, and 10. safety. In the area of safety concerns, for example, managers displayed interest in how to find out whether video display terminals and other OA equipment can damage employees' health. In the electronic mail area, one concern was whether the reduction in correspondence costs might also be associated with an increase in the flow of unnecessary information.

85020130
Getting Comfortable with Your Computer
Margarita, Peter
Management World v14n5 PP: 18-19 May 1985
AVAILABILITY: ABI/INFORM

Many managers do not feel comfortable with their personal computers (PC) despite some experience with them. However, most are able to overcome old habits. A common misconception persists that a person must be a typist in order to use a PC. However, most managers do not input large quantities of typed data. An alternative to the usual keyboard, the ''mouse,'' has been introduced to avoid typing altogether. For some managers, computerization is synonymous with losing control of their records. Computers make data more accessible rather than less, and back-up copies safeguard against losing quantities of data. As more people become familiar with the PC, there will be less dependence on a few people to operate the equipment. In addition, temporary services are training employees to fill in at computerized offices. A key to being comfortable with computers is realizing that they are efficient at manipulating data, but people are required for planning and creating. Charts.

85010581
Pacifying High-Level Resisters
Beaver, Jennifer E.
Computer Decisions v17n3 PP: 136-139 Feb 12, 1985
AVAILABILITY: ABI/INFORM

Managers often feel threatened by office automation (OA). They can use inter-departmental politics to resist OA or refuse to use the equipment. To ensure a successful implementation, OA strategists should recognize this resistance and try to respond to managers' fears and complaints. Group training sessions can reduce OA failures. Another approach, the pilot project, predicts the best way to implement OA. It also reduces resistance by involving a small group of managers who can serve as ''opinion leaders'' to support the concept. Pilot projects have been used by CIT Financial (Livingston, New Jersey) and at AT&T offices in Basking Ridge, New Jersey. To reduce one of the main causes of resistance, OA implementers should understand what managers do. This allows them to predict how management will respond.

85008268
Aiming OA Towards the Top
Goldfield, Randy J.
Modern Office Technology v30n2 PP: 55-68 Feb 1985
AVAILABILITY: ABI/INFORM

The concept of office automation (OA) started with little more than the installation of word processors for clerical workers. Today it represents an integrated system of microcomputers for every staff level. OA improves the quality and timeliness of decision-making and makes shared information more readily available, enabling executives, whose product is knowledge, to perform their jobs more effectively. However, management has been resistant to use computers because they have traditionally gained information from a network of people. Since managers are people-oriented, they view interaction with a computer as an isolating experience; they are also the least likely group of workers to have been exposed to computers. In order to overcome management's resistance to OA, the computer must seem more human. Interfaces which appeal to managers include speech recognition, touch-sensitive screens, and pointing devices such as the mouse. Diagrams.

82029514
What Managers Really Do All Day
Tisdall, Patricia
International Mgmt (UK) v37n10 PP: 48,51,53 Oct 1982

New electronic-based research experiments studying advanced office systems can now achieve precise measurements of activities in real working environments. The UK subsidiary of International Business Machines Corp. (IBM) tested how managers and other professionals were reacting to work in an electronic ''paperless'' office. The study found that executives spent much less time creating documents than they thought they did. Perceived time was 6 times longer than actual time. A study by Booz Allen & Hamilton also found wide discrepancies between how executives thought they spent their time and how they actually spent it. If the IBM study is correct, how does office automation increase productivity? A Bell Canada study showed that executives tend to use their computer terminals mostly to send short informal messages, and IBM found that managers send an average of 18 messages a week as opposed to only one finished document. Sending these messages facilitates the work process by keeping people informed simply and quickly. Executives in general, however, have resisted using new forms of office equipment personally--even the dictating machine--for fear of being unable to learn to use the new equipment. Graphs.

82024072
Training at the Management Level
Kirk, John
Computer Decisions v14n9 PP: 74-77,228 Sep 1982
AVAILABILITY: ABI/INFORM

The office of the future may not come about unless middle managers and senior-level executives learn to use computer workstations as an everyday managerial tool. So far, not many managers are using computer workstations. Workstations cost $15,000-$20,000 each, and training such a diverse group is a complicated task. Further, state-of-the-art systems simply cannot do enough to interest management. Training may be the biggest problem. Time is a major factor in training and usually, enough management time is not available for training. Training must be done quickly and on a workstation that is easy to understand. Executives should be trained without using computer jargon. Training should not take place in the executive's office where frequent interruptions can occur. It may be easier for an outside instructor to train an executive than it would be for a subordinate.

225750
New Training, Work Analysis Methods Needed to Manage Office of Future.
Young, R.T.
Industrial Engineering, Vol.14, No.7, July 1982, P. 66-68.

The office of the future will tend to use less paper in favor of electronic communication. It will also provide better access to computers to more employees and increasingly develop shared information networks. Using computers for training personnel will reduce management's training responsibilities, but will also take longer. Data processing personnel must improve their communications skills in order for the office of the future to function effectively. There will be structural changes in the office, and data security will become a much more important problem. Managers and work analysts will have to learn how to monitor office productivity without affecting employee relations.

81001202
The Office of the Future: Coping with the People Factor
Hayman, Carolyn
Management Today (UK) PP: 131-136 Nov 1980
AVAILABILITY: ABI/INFORM

Office personnel, including managers, need not be an obstacle to office automation, provided that its introduction is handled sensibly. Any analysis of the scope for productive investment in automated equipment must look beyond the task to be performed and concentrate on the extent to which better performance of that function will improve overall organizational performance. The first step in successful automation is the identification of applications that will significantly help employees to do the jobs they consider to be important. Although personnel are generally in favor of new systems, goodwill can be dissipated by inept handling of implementation. Staff must be carefully selected for word processor training, and it appears that the staff levels likely to benefit most from office technology are junior to middle managers and professionals. Whatever equipment is installed, the existing level of service should be at least maintained and, preferably, improved. The extent to which investment in office technology can be justified depends on whether output of individuals and groups can be identified and measured. Chart.

III. PLANNING AND IMPLEMENTATION

86030795
The Technological Imperative
Schlegel, Rob
Jrnl of Accounting & EDP v2n2 PP: 66-69 Summer 1986
AVAILABILITY: ABI/INFORM

In the computer technology area, some machines are obsolete before they are purchased. The key question is how to employ all this new technology cost-effectively. To provide the necessary leadership, managers must know how to institute policies, standards, and procedures that support daily work practices and when to adopt computer assists that will improve service or profit. Another danger is trying to tackle complex problems with simple tools where errors can creep in and be transmitted throughout a firm's database. The influx of the personal computer has created a new backlog of design tasks. Other problems that should be addressed are: 1. data integrity, 2. the maintenance and continuity of end-user software, and 3. the inaccessibility of data. Charts.

85038972
Implementing New Technology
Leonard-Barton, Dorothy; Kraus, William A.
Harvard Business Review v63n6 PP: 102-110 Nov/Dec 1985
AVAILABILITY: ABI/INFORM

US companies spend a great deal on research and development (R&D), but there often remains a gap between the inherent value of the new technology and the ability to put it to work effectively. Those managing technological change must act in a difficult dual role as both technological developers and implementers. A number of key challenges face managers charged with implementing new technology: 1. A marketing perspective should be assumed in order to involve users in a new technology's design phase and prepare the organization to receive the new technology. 2. Implementation managers must develop internal marketing plans in light of the multiple internal markets. 3. Legitimate resistance to the changes that new technology will bring must be anticipated. 4. The proper degree of promotion must be determined so that effective promotion does not take a back seat to pure ''hype.'' 5. A pilot operation should be conducted before total introduction of the innovation. 6. An

implementation team under the leadership of an individual of executive status should also be assembled. References.

83001951
A Socio-Technical Approach to Planning and Implementing New Technology
Margulies, Newton; Colflesh, Lora
Training & Development Jrnl v36n12 PP: 16-29 Dec 1982
AVAILABILITY: ABI/INFORM

Two basic models can be used to guide and direct the implementation of technological change: 1. the socio-technical systems model, and 2. the life-cycle planning model. This approach to formulation of change strategies supplements existing theory and supports the basic principles of implementing change. Important aspects are: 1. ongoing communication, 2. involvement, and 3. careful planning. The socio-technical system of organizations comprises the interrelated technological, human, and managerial subsystems. Steps to integrating transitional planning are: 1. initial scanning, 2. analysis of the human system, 3. development of the integrated plan, and 4. proposals for change. A generic 6-step implementation plan has been developed. It involves: 1. new technical system design, 2. new human system design, 3. human system change plan, 4. new technical system change plan, 5. development of the integrated plan, and 6. implementation of plan. Chart. References.

80002937
The 'People Factor' in the Office of the Future
Connell, John J.
Administrative Mgmt v41n1 PP: 36-37,74,76 Jan 1980
AVAILABILITY: ABI/INFORM

The core of the Office of the Future, from a technological perspective, is an integrated telecommunications network which interconnects a variety of office machines. Further, introduction of Office of the Future technologies necessitates planning on an unimagined scale if the results are to be effective. The first problem is that many concerned individuals are neither organized nor trained nor ready to tackle such an assignment. Second, experience has illustrated that office personnel resist technology, especially at the middle management level, because they believe technology tends to be inflexible and unresponsive to specific user needs, unforgiving of errors, and a constraint on personal creativity. What is needed is a strategy for planning which includes 6 important steps: 1. learning about

the Office of the Future, its ramifications, potentials, and problems, 2. developing an overview of office operations, 3. identifying high potential opportunities for applying new technologies, 4. determining what functions should be represented on a planning team, 5. developing a charter for the proposed planning team, and 6. obtaining senior management approval.

79019930
Office of the Future: More Than New Technology?
Carlisle, James
Computerworld v13n45 PP: 38 Nov. 5, 1979
AVAILABILITY: ABI/INFORM

The office of the future involves much more than the "convergence of computer and communications technologies." Many "strange encounters" can be anticipated as new technologies are refined and introduced to all levels of management and professionals. Real automation in the office of the future requires careful examination and revision of policy geared toward management communication and control. Office of the Future, Inc., Guttenberg, New Jersey, has come up with an approach for office automation focusing on support for the manager and his responsibilities rather than on the new technologies per se. It builds ownership and commitment by users. The first phase involves analysis of existing work processes. The second phase involves development of a number of prototypes utilizing capabilities such as electronic mail, text editing, etc. Each suggested application must result in improved productivity.

IV. IMPACT OF PRODUCTIVITY

88023075
The Dark Side of Computing
Spain, Tom
D&B Reports v36n3 PP: 54-56 May/Jun 1988
AVAILABILITY: ABI/INFORM

Barbara Garson has written The Electronic Sweatshop, which may be the most provocative study of office computing to come along since personal computers became standard office equipment. Her point of view is summed up in the book's subtitle: How Computers Are Transforming the Office of the Future into the Factory of the Past. In the last few years, computers have altered significantly the degree to which workers call their own shots on a job. At the same time, computers have been used to measure performance. Garson is convinced that a substantial portion of office workers are being monitored, probably as many as 50%, and she is surprised at the speed with which the monitoring capability is penetrating the workplace. Also, she was enlightened by how far up into management such tracking had moved. Other corporations examined for the book used the computer's ability to make a variety of instant calculations to provide instant evaluations of a worker's daily performance. Garson reports that, when people are under constant electronic surveillance, they indicate a constant state of tension at work, the potential human costs of which are obvious.

The Electronic Supervisor: New Technology, New Tensions
Washington, DC: Congress of the United States, Office of Technology Assessment, 1987. HF 5549.12.E44

This book deals with the use of computer-based technologies to measure how fast or how accurately employees work. New computer-based office systems are giving employees new ways to supervise job performance and control employees' use of telephones. A broad range of questions related to the use of new technology in the workplace and its effects on privacy, civil liberties, and quality of working life are discussed.

86007156
Augmented Meeting Support: Increasing Executive Effectiveness
Meyer, N. Dean; Bulyk, John C.
Information Strategy: The Executive's Journal v2n2 PP: 24-29 Winter 1986 AVAILABILITY: ABI/INFORM

Managers are frustrated at spending too much time at meetings that are often unproductive. However, the use of augmented program support, a blending of office automation (OA) tools and organizational development (OD) skills, offers a solution to the problem. By using a microcomputer attached to a video projector, participants can view their input on the screen and can see the relationship between ideas, altering the outline and agenda as they go. The tools allow the participants to actively work with their ideas. A process analyst, using OD skills, observes the group, providing feedback. The process analyst: 1. keeps the discussion on track, 2. points out actions that exclude relevant ideas, 3. encourages the expression of minority opinions, 4. keeps track of time, and 5. reminds the group of the remaining agenda. With recent experimental groups, augmented program support: 1. increased task orientation, 2. enhanced participation, 3. favored those who were concept-oriented, 4. permitted real-time automatic recording, and 5. allowed participants to alter thought structure and content.

86016033
The Impact of Computers on the Employment of Clerks and Managers
Osterman, Paul
Industrial & Labor Relations Review v39n2 PP: 175-186 Jan 1986 AVAILABILITY: ABI/INFORM

The rapidly increasing use of computers in organizations has led to concern that computers will undermine employment of clerks and managers. In the present paper, a bureaucratic reorganization hypothesis is developed which proposes that computer usage will be accompanied by some employment stimulation effects that will partially offset displacement of clerks and managers. Clerical staff to support computerized operations will increase. In addition, by increasing productivity and lowering unit costs, computers may enable organizations to expand output, thus increasing demand for clerical and managerial employment. Finally, the coordination function provided by clerks and managers will become more important as computer usage increases its efficiency. The bureaucratic reorganization hypothesis is supported by an empirical analysis of national data on computer usage by industry for 1972-78. It is shown that, while computer usage is associated initially with a significant employment drop for clerks and managers, employment subsequently increases.

Information Payoff: The Transformation of Work in the Electronic Age
Strassman, Paul A.
Free Press, 1985. 234p.
HF 5547.5.S79

This book explains the emerging role of information technology and its influence on productivity. Discussed are efficiency and effectiveness approaches to productivity and how they are viewed from the perspectives of the employee, the organization and the executive. There is particular emphasis on the role of the decision makers who will influence investments in the new technology.

85039372
Office Automation and Executive Productivity
Goldstein, Mitchell H.
National Productivity Review v4n4 PP: 416-418 Autumn 1985
AVAILABILITY: ABI/INFORM

Managers and executives are generally the last within their companies to have computer terminals on their desks. Many executives have been put off from using office automation (OA) tools by the difficulty in learning to use the computers and associated software and incompatibility of many microcomputers with corporate databases. Recently, Environetics International (New York) implemented OA systems in the legal department of a large corporation. Everyone in the firm, from attorneys to clerks, has a terminal and uses text processing systems to draft and edit documents. The organization is pleased with the advantages of its new system, which permits all staff members to use such tools as electronic research and electronic mail. Productivity has improved at all levels, and acceptance has been 100%. Users have become proficient in using the system in ways that go beyond the usual scope of their jobs.

80016566

Now It Is The Manager's Turn to Increase Productivity

Anonymous

Modern Office & Data Mgmt (Australia) v19n4 PP: 4-6,10 May 1980 AVAILABILITY: Rydge Publications Pty Ltd., P.O. Box 2540 G.P.O., Sydney 2001, New South Wales, Australia

Increasing the productivity of the manager will provide more long-term benefits than increasing clerical productivity. According to a survey conducted by the management consulting firm of Booz-Allen & Hamilton, 84% of respondents achieved office automation objectives except in the areas of cost reduction and productivity improvement of the professional. Managers initiate automation, according to the survey, with data processing managers and administrative department managers generally playing a leading role. The major benefits expected from automation were: 1. service, 2. quality, and 3. clerical productivity. The most important and also most difficult step in automation is planning the systems. The future automated office with integrated systems requires extensive planning, but managers currently have neither the training nor organization to undertake such planning. Managers must also overcome a resistance to technology, especially on the middle manager level. They need to develop a strategy for planning through steps such as identifying high potential opportunities for new technology and must also determine how to measure productivity.

V. CHANGING ROLES OF THE MANAGER

88006587
The Impact of Automated Office Systems on Middle Managers and Their Work
Millman, Zeeva; Hartwick, Jon
MIS Qtrly v11n4 PP: 479-491 Dec 1987
AVAILABILITY: ABI/INFORM

Middle managers' perceptions of the impact of automated office systems on their jobs and work were investigated using a survey of 75 Montreal middle managers. The results indicate that the managers perceived that a variety of changes had taken place but that these changes had made their jobs more enriching and satisfying. More demands were placed on the managers, who were required to develop additional individual skills and to increase the accuracy of their work. The managers indicated that the changes had given them more autonomy and that their jobs had become more important and interesting. Their relationships with coworkers had not been affected or had improved, according to the managers. Instances in which automation had a negative impact on jobs and work apparently were infrequent. It also was found that managers who had had first-hand experience with automated systems were more likely to be enthusiastic about their impact. Tables. References.

86019208
Office Systems: New Managers for New Technologies
O'Connor, Bridget
Administrative Mgmt v47n5 PP: 13 May 1986
AVAILABILITY: ABI/INFORM

New office technologies are changing office systems, leading to the need for a new type of manager. In most large companies, the management information systems (MIS) department is responsible for the office systems function. In other corporations, telecommunications personnel or the word processing department control that function. However,MIS and telecommunications executives often have no background in end-user computing or management of the implementation of new technologies. Word processing managers may possess the needed human relations skills but are technically limited to word processing applications. The solution is managers who understand both the technology and the way to manage the people involved.

These new managers should be able to train and retrain users in new technologies and new applications. In addition, they should be sensitive to the ergonomic requirements.

85011455
Renaissance Managers: A New Breed for Tomorrow's Electronic Office
Mueller, Robert K.
Today's Office v19n10 PP: 32-36 Mar 1985
AVAILABILITY: ABI/INFORM

The survival of today's corporations depends on having managers who show the same kind of creative thinking that characterized the leaders of the European Renaissance, a period exemplified by a new spirit of individuality and glorified intellectualism. There is now a trend toward new thinking, evidenced by some progressive companies that have reduced their management hierarchies. Events responsible for these changes include: 1. the failure of rigid hierarchies to act rapidly and decisively in complex situations, 2. increased use of computerized telecommunications networks, and 3. the decline of the large conglomerate. Effective managers of the future will: 1. demand a free and participative environment, 2. prefer intellectual over programmed activity, and 3. operate in an open and enterpreneurial system. The driving force behind the manager of the future is a deep belief that self-expression is preferable to cold efficiency and order, and that self-actualization is a better motivator than fear.

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