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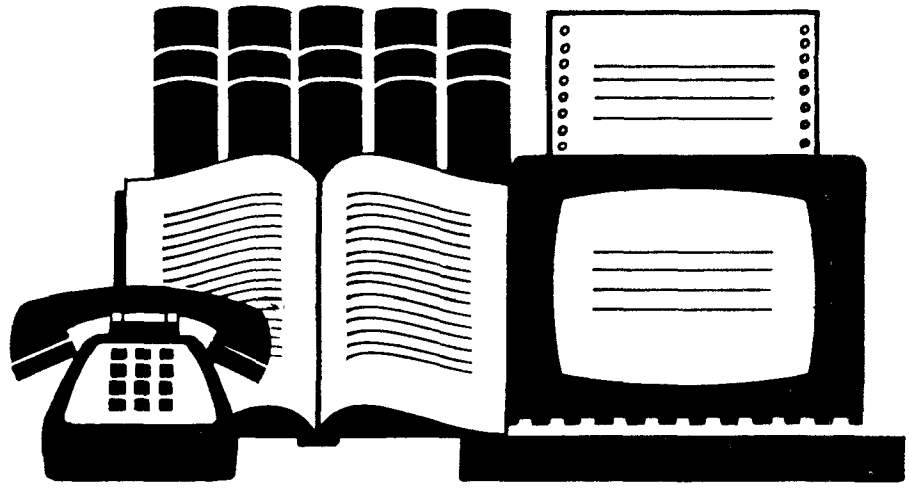

BIBLIOGRAPHY ON

INFORMATION RESOURCES MANAGEMENT

November 1985

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TABLE OF CONTENTS

Introduction..... i

I. Background and Concepts..... 1

II. IRM Planning..... 15

III. Future of IRM..... 27

IV. Selected Case Studies: The IRM Experience..... 35

INTRODUCTION

This bibliography was prepared for the use of the Information Resources Management (IRM) Steering Committee by Brigid Rapp, Head Librarian. It is an educational tool for managers and staff and provides information on key concepts and status of IRM activities. The bibliography includes literature citations from 1980 (when the Paperwork Reduction Act was passed) to the present. It documents the controversy over the definition of IRM. It also traces the development of IRM from the previous concepts of office automation and management information systems to the current user-oriented state of the art. A survey of expert opinion on future developments of IRM is included, as are case studies of IRM as implemented in various organizations.

The bibliography is organized by the following four categories: (I) background and concepts; (II) IRM planning; (III) future of IRM; and (IV) selected case studies: the IRM experience. The citations include books, journal articles, reports and conference papers. Within the four topics, the citations are organized in alphabetical order by first author's last name, or if there is no author, by title.

A comprehensive literature search using pertinent online databases was performed to compile this bibliography. From the search, citations were selected for their relevance to EPA's information resouces management program. However, there is a great deal more literature available on all aspects of IRM; for example, data element dictionaries or telecommunications. An EPA librarian can assist in identifying other titles for further research.

Whenever possible, a descriptive abstract is included with the citation. The source of the citation and abstract is noted by an alphabetic code enclosed in parentheses at the end of the entry. Those symbols represent the source of the abstract. The key to those symbols follows:

(AB) ABI Inform
Data Courier, Inc.
620 South Fifth Street
Louisville, Kentucky 40202

(CD) Computer Database
Management Contents
P.O. Box 3014
2265 Carlson Drive
Northbrook, Illinois 60062

(EI) Ei Engineering Meetings
Engineering Information, INC.
345 East 47th Street
New York, New York 10017

(ERIC) Educational Resources Information Center
ERIC Processing and Reference Facility
4833 Rugby Avenue, Suite 303
Bethesda, Maryland 20014

(ISA) Information Science Abstracts
IFI/Plenum
302 Swann Avenue
Alexandria, Virginia 22301

(INS) INSPEC (Information Services in Physics, Electrotechnology, Computers and Control)
Institute of Electrical and Electronics Engineers
445 Hoes Lane
Piscataway, New Jersey 08854

(MC) Management Contents
P.O. Box 3014
2265 Carlson Drive
Northbrook, Illinois 60062

(NTIS) National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22161

I. BACKGROUND AND CONCEPTS

I. BACKGROUND AND CONCEPTS

GAO's Views of Information Resources Management
Anderson, William J.
ARMA Records Mgmt Qtrly v16n1 PP: 31-34 Jan 1982
The Paperwork Reduction Act of 1980 established information resources management (IRM) principles. The General Accounting Office (GAO) was an early supporter of this public law. Information resources management is seen by GAO in its purest form as the management of data and information in a manner that encourages and promotes the achievement of agency and program goals and objectives. The key elements of the Paperwork Act are: 1. the establishment of a strong central management structure in the Office of Management and Budget, 2. departments and agencies implementing their charter of responsibilities, and 3. an assessment of the opportunities for applying information technology to reduce expenses and improve program operations and delivery of services to the public. The GAO considers the Paperwork Act to be landmark legislation and will continue to be extensively involved in assessing for Congress the progress toward implementing the act. (ABI)

The Law of the Data Jungle.
Appleton, D.S.
Datamation Vol.29, No.10, Oct. 1983, P. 225-226+. 3 Pages.
As users proliferate, the chances for information pollution increase. Information Resources Management (IRM) planning can help. Over the past thirty years, the world has spent an estimated $400 billion building databases and end-user applications. Many lines of code are added daily. IRM's objectives are to manage, store, give access to, and provide the ability to manipulate and communicate data. The first problem of data management is to establish a consensus structure for data. The second problem is to figure out what to name the elements of that structure. Data integration's primary problem is to provide the ability to add to the consensus data structure. Data ownership can be categorized as private, shared, and common. In the beginning, all data are private. The best of the data is shared. The best of shared is common. A diagram shows the IRM objective relating to data processing and end-user responsibilities. A second diagram shows the three-schemata architecture of data and a third shows the role of the conceptual schema. (CD)

Information Resources Management (IRM): A Revolution in Progress
Becker, Louise Giovane
Bulletin of ASIS v6n6 PP: 26-27 Aug 1980
Although lacking a concise or universal definition, the concept of information resources management (IRM) has become a basis for planning more responsive and coordinated information-management organizational structures, in both government and the private sector. Congress has long shown an interest in the management of information as it related to federal government. Other interested organizations have also attempted to improve IRM. The Paperwork Reduction Act of 1980 provides a framework for federal information-management policies that are compatible with the IRM concept. However, the Act could force realignment of current IRM structures, which

could result in flexibility in developing agencies structures and encourage experimentation with various arrangements. Since the IRM concept is still developing, there is a special need to study the implications of concentrating information-management responsibilities, and the appropriate type of leadership required by such changes, in organizational structures. (AB)

Tailor Specific Data To Specific Needs: New Thrust of Information Management
Brinberg, H.R.
Management Rev.,70,8-11,Dec. 1981
Over the years, the focus of information management has been on technology--how to get more output per unit or per dollar of investment. Now content, not quantity, is more important; delivering information to fit the user's need is the prime objective. (ISA)

Expert Answers 4 Key IRM Questions
Diprimio, A.
Bank Syst. and Equip. (USA) Vol.21, No.3 74-6 March 1984
Information Resource Management (IRM) is emerging as a new approach to information management to overcome information problems and dissatisfaction. Four key questions arise: how does it work? What is the role of the IRM officer? What is the relationship of IRM to Strategic planning? How can a bank overcome resistance to implementing IRM? IRM is a new approach that centralizes control of information systems management in an Administrator. He or she analyzes, selects, acquires and uses information sources and resources to develop information systems that support administrative planning and decision-making. IRM provides a framework for coping with problems inherent in developing and managing information systems. The IRM approach also includes setting bank policy dealing with all aspects of information generation, collection, processing, storage, retrieval, dissemination and resources allocated to these activities. An IRM officer, must be someone with experience and talent at analyzing information problems, designing information systems and networks, interviewing information users (including senior executives) and interacting comfortably and effectively at all management levels. The IRM officer can take the goals set forth in the business plan and design an information system to provide the information needed to track progress on the objectives. (INS)

Software Scene: IRM and DSS: Useful Concepts or Buzzwords?
Frank, W.
Asian Computer Monthly No.69, July 1983, P. 46.
New catchwords have arisen to describe data processing operations. After MIS, has come Information Resource Management, or IRM and decision support systems or DSS. MIS was created as a way to make computer systems a tool of management. DSS is characterized by user-friendly computer systems, facilitation of decision-making, and increased productivity of decision-making. DSS emphasizes planning, data interaction, and data management systems. IRS is characterized by two completely different definitions for information resource management. The emphasis now is on

making the data to be extracted fit the requirements of management, which can be described as a decision support system. (CD)

GSA Establishes Office of Information Resources Management.
Anon
Records Management Quarterly Vol.17, No.2, April 1983, P. 48.
The General Services Administration has established an Office of Information Resources Management. This office performs the functions previously performed by several other agencies. Frank J. Carr has been named Assistant Administrator. (CD)

Government Roundtable on Paperwork Reduction-Part 2
Anonymous
Information & Records Mgmt v16n1 PP: 28-32,49-50 Jan 1982
As part of a roundtable discussion on paperwork reduction held during the US Government Micrographics Conference and Exposition, government administrators and micrographics professionals addressed: 1. enacting legislation to develop a management framework for the huge information handling and paperwork problems of the government, 2. managing human and financial resources more efficiently, 3. utilizing a total approach that is information-oriented, 4. developing timely training programs for key managers, and 5. keeping abreast of new technology, concepts, and products. A representative sample of comments includes: 1. It is anticipated that the government will spend over $500 million on word processing by 1985, but there is little evidence that personnel has been curtailed or even reviewed as a result of new equipment acquired. 2. Government agencies have at their disposal training workshops for improved records management, but it is difficult to find individuals willing to serve as workshop directors. 3. Clear and understandable texts on information resources management are needed, and legislation can provide a mandate for action on the federal paperwork burden. 4. Problems are inherent in enforcing microfilm standards in federal agencies, the situation in Virginia being a case in point. (ABI)

IRM Revisited
Guimaraes, Tor
Datamation v31n5 PP: 130-134 Mar 1, 1985
Many management information systems (MIS) managers are uncertain as to the meaning of information resource management (IRM), according to a recent study by the Weatherhead School of Management at Case Western Reserve University. Through interviews with MIS managers from 41 different firms, the study found that most companies really have not implemented IRM. The school eventually selected for closer study 6 organizations that had implemented IRM according to the school's criteria. The chief information officers at these firms experienced such problems as a general lack of understanding of the company's current computing resources. There appear to be 2 reasons why IRM has not been more widely adopted: 1. resistance of senior management, and 2. lack of knowledge on the part of MIS managers. Things MIS managers should plan to do soon include: 1. View data administration as the cornerstone for IRM implementation. 2. Delegate technical tasks and the operational management of the MIS department to immediate subordinates. (ABI)

IRM Professionals Can Win Manager's Recognition-Part 1
Haase, William F.
Jrnl of Systems Mgmt v32n5 PP: 19-23 May 1981 CODEN: JSYMA9 ISSN:
Information resources management (IRM) tends to be perceived as a service function and thus taken for granted, but it should be able to take its place beside the other ''staples'' of an organization-manpower, money, machines, and material. IRM can facilitate such areas of the organizational operation as: 1. special data correlations to pinpoint problems, patterns, and trends, 2. development of hierarchical information structures, 3. computer graphics, and 4. data base searches. Unfortunately, IRM professionals seldom are part of the management cadre. In order to facilitate corrective action for this situation, this analysis: 1. describes a method whereby IRM professionals can broaden their perspective so they become multidimensional rather than one-dimensional, 2. provides a more realistic basis for IRM professionals to perceive how managers work, and how they use data to make decisions, and 3. provides insights into self-and-system-centered influence and power. The manager/IRM professional relationship must be improved; awareness by each of the functions of the other is a good beginning. (ABI)

IRM: The Invisible Revolution
Horton, Forest, Jr.
Computerworld v16n33 PP: In Depth 1-8 Aug 16, 1982 CODEN: CMPWAB ISSN:
While a conclusive definition of information resources management (IRM) has yet to be reached, there is more agreement that information is a resource that requires management. In a report to the president in 1977, the Commission on Federal Paperwork indicated that government must treat information not as a free good but as a costly asset requiring management. IRM currently is in a temporary realignment period while companies consider what information assets exist and how to manage them in a complete life cycle context. The reasons companies regard information as their most valuable asset include the importance of accurate, timely, and complete information to the success or failure of a project. Managers need to understand how information differs from and is similar to other resources. Any organizational realignments resulting from a decision to manage information as a resource need to be evolutionary in design. Potential IRM managers include librarians and statisticians. At present, the schools offering strong information management curricula are those for library and information sciences rather than business schools. (ABI)

Management of Information Resources Management Studies
Horton, Forest Woody, Jr. (Commission on Federal Paperwork, DC)
American Society for Information Science. Management of Information Systems. Proceedings. 7th Mid-Year Meeting of Asis. May 21-24, 1978. Rice University, Houstin, Texas. (1978.) TX Chapter, Asis. 9 p., Beginning Microfiche 7, Row 2, Column 2, 1 Illus. 0 Ref.
This paper deals with one specific class of information system, namely the system which manages the organization's information resources. It employs the "newer" notion of information resources management (IRM) and defines IRM system in terms of the major classes of information it would embrace (data, document and literature holdings in an organization); the kinds of product input data flows (inside and outside sources); the kinds

of products and services the IRM system would generate; users of the products and services (different levels of management, technical, other professional and clerical/analytical); and finally the uses to which the products and services would be put. (ISA)

The Paperwork Reduction Act of 1980-Reality at Last
Horton, Forest Woody, Jr.
Information & Records Mgmt v15n4 PP: 10-11,52-53 Apr 1981 CODEN: INRMBV
President Carter signed the Paperwork Reduction Act of 1980 (P.L.96-511) on December 11, 1980. The result may be the most significant management reform since the Hoover Commission almost 50 years ago. The Act was developed from a study by the Paperwork Commission. The major thrust of the Commission's findings was that government does not view information as a valuable asset; as a result it does not deal with information as it does with other resources. While the Commission did not advocate reducing needed information, it did point out the great redundancy of information collected and the amount of unnecessary data collected. The Commission proposed to manage information in an orderly and systematic fashion using Information Resources Management. Although some agencies opposed the Act, many agencies are already implementing it. The Act attempts to minimize costs and paperwork burdens, and integrate information gathering policies and practices. (ABI)

Implementing the Paperwork Reduction Act: Some Progress, but Many Problems Remain
General Accounting Office, Washington, DC. General Government Div.
Report No.: GAO/GGD-83-35; B180224
20 Apr 83 71p
Languages: English
The Paperwork Reduction Act of 1980 included objectives of reducing paperwork burdens on the public, minimizing Federal information costs, and achieving savings and improved service delivery through better management of modern information technology. The Office of Management and Budget was charged with these Government-wide responsibilities. OMB has reported substantial reductions in paperwork burdens. Limited progress has been made, however, in other information resources management areas such as improving the acquisition and use of information technology, overseeing the Federal statistical system, and developing uniform information policies. (NTIS)

Improving Government Information Resources Management
Office of Management and Budget, Washington, DC.
Mar 82 121p
The report highlights Federal agency efforts to improve Federal information resources management under the new authority granted by 'The Paperwork Reduction Act of 1980,' P.L. 96-511. The first section of the report, 'Information Resources Management in the Executive Branch - Strategy and Approach,' outlines the general approach to addressing these needs, and describes actions taken to date. It also explains the two basic tenets of the management strategy, those being that (1) information resources management should entail the management of the total information

life cycle from collection to dissemination, and (2) information is an economic resource and should be managed as other economic resources are managed. The bulk of the report, describes the agency information resources management reviews that OMB will be monitoring and evaluating during the first year of the three year review cycle (called for in 44 U.S.C. 3513). The 26 agencies included in this report were selected because they are heavily involved in information related activities (including information collection, use and dissemination), and/or they spend a significant portion of their budget on automatic data processing (ADP) or telecommunications activities or equipment. (NTIS)

Improving Government Information Resources Management. A Status Report.
110 pp.,Mar 1983,Office of Management and Budget,Washington, DC,Pub. No: PB83-191973

In March 1982, the Office of Management and Budget issued a document. That publication highlighted efforts of 26 federal agencies to improve the management of their information resources under the authority of the Paperwork Reduction Act of 1980, public law 96-511. This is a follow-up to that publication. It presents a status report on the 66 projects included in last year's publication. In preparation for this progress report, the agencies were asked informally to supply information on their efforts to improve the efficiency and effectiveness of their use of information resources affected by these projects. The report contains an analysis highlighting the results of the completed projects in terms of improving the management of programs, service delivery, and government productivity; and reducing government costs and public reporting burden. The major portion of this report is comprised of the reports on the individual agency projects describing the current status of the projects. Finally, possible future activities for improving the management of federal information resources are suggested. (NTIS)

Information Resources Management.
Jackson, C.
Air Force Comptroller, Vol.15, No.3, July 1981,P. 20-21.

The Paperwork Reduction Act of 1980 is examined. The act became effective April, 1981. It changes the concept of information from a free good to a management resource to be managed as any other resource. Highlights of the law are presented. (MC)

John Diebold Talks About Information Management
Anonymous
Computerworld v16n49 PP: In Depth 2-28 Dec 6, 1982

John Diebold, of the Diebold Group Inc., was one of the first proponents of information resource management (IRM). His views on the status of IRM today are expressed in an in-depth interview. A study conducted by his firm in 1977 showed that 84% of the top firms surveyed had no overall information policy; today, he believes, most senior managements are still unaware of the existence of IRM. A representative sampling of his comments includes: 1. It is of utmost importance to develop a corporate information policy to help achieve the mission of the individual enterprise. 2. There is no effective bridge between the people who direct the enterprise and

those who understand information technology. 3. A hopeful trend, though, is the shift in the role of the management information system (MIS) manager toward being more of a corporate policymaker. 4. A major challenge is to retrain MIS professionals so they can view themselves and their role in a different light. 5. The systems analyst and the MIS department will move more into a consultative role, helping users define and solve their problems. (ABI)

IRM Seen Cure for Unwieldy Management
Kirchner, Jake
Computerworld v14n44 PP: 16 Oct 27, 1980
Louise Becker, an information sciences analyst with the Library of Congress's Congressional Research Service, suggested to a National Bureau of Standards (NBS) symposium that information resources management (IRM) might help Federal agencies and private companies achieve more effective and democratic exchanges in information. IRM generally involves a management structure which coordinates authority over the functions of policy management budget, procurement and technical services, bringing responsibility together for: 1. developing information objectives, 2. developing and planning for reporting requirements, 3. establishing and managing information policy, 4. allocating resources and support, and 5. planning for information requirements. Before adopting an IRM system, an organization must clearly define its goals and understand its objectives to prevent the concentration of too much power in the IRM office. (ABI)

The Dawn of IRM
Kull, David
Computer Decisions v14n10 PP: 94-108,188 Oct 1982
Information resource management (IRM) is a struggling new concept which promises important applications for its data processing (DP) and management information predecessors. At Computer Decisions 1982 roundtable discussion, panelists agreed that a special blend of technical and managerial expertise is required of an information resource manager. A sample of the comments regarding IRM includes: 1. Vince Sloan, manager of corporate information systems planning operations at General Electric, defines IRM as consideration of data and system resources as capital assets. 2. Panelists agree that although IRM and management information system (MIS) are similar, it is necessary for IRM to be more than a good MIS. 3. According to Donald Marchand, director of the Institute of Information Management, Technology and Policy, University of South Carolina, the cost of information often leads organizations to develop an IRM system. 4. Richard Mezger, executive vice-president of Research and Planning Inc. (Cambridge, Massachusetts), says IRM belongs in all companies, regardless of size. Mezger considers the First National Bank of Boston's program as illustrative of a successful IRM program. (ABI)

Information Resource Management
Martin, A.
SRI Internat., Menlo Park, CA, USA
Sponsor: AFIPS
OAC'83 Conference Digest. The Fourth Annual Office Automation Conference

131-2 1983
21-23 Feb. 1983 Philadelphia, PA, USA
AFIPS Press, Arlington, VA, USA
291 pp.
Summary form only given. Presents the concept and theory of information resource management, the role of the information resource manager, and the benefits of establishing IRM. IRM is discussed from a vendor perspective and an alternative to the data dictionary implementation is described. A user describes the end user services available through the information center, yet another tool and technique possible through their support of IRM. (INS)

Do Not Let IRM Become Another Buzzword
Mehra, Besant K.
Infosystems v28n12 PP: 58-59 Dec 1981
Rather than emphasizing the management of information as a resource, information resource management (IRM) should be viewed as the management of resources required to provide information. Success of IRM concepts is dependent on executive management and the information systems executive. Key user groups' managers should participate in the implementation of IRM concepts. All organizations will benefit from the coordination of the often fragmented information processing and handling environment, and treating IRM like a management function subjects IRM to the same management techniques and scrutiny as other functions. In implementing IRM, some guidelines include: 1. stating overall objectives of IRM and how they relate to corporate goals, 2. providing a new organizational structure and responsibilities of key personnel, and 3. designing a mechanism for identification and implementation of new requirements, including user feedback. Those charged with implementing IRM concepts will have to be user-oriented professional business managers rather than just technically oriented data processors. (ABI)

Evolution from Data Processing to Information Resource Management
(Student essay)
Plusch, S. P.
Army War Coll., Carlisle Barracks, PA.
16 May 84 33p
With the tremendous growth in the capability, complexity, pervasiveness, and cost of information systems in recent years, corporate America has realized that information is a vital corporate asset (resource) and must be managed as such. Congress has mandated that Federal agencies improve their ability to manage information through the Brooks Act of 1965 and the Paperwork Reduction Act of 1980 (also sponsored by Congressman Brooks). The process of gaining control of an organization's information has been called information Resource Management (IRM). This paper is a survey of the essential elements of IRM focusing on methods that are used to develop an Information Systems Architecture (ISA). This is particularly timely since HQDA recently completed a Information System's Planning (ISP) exercise, and created a new Deputy Chief of Staff for Information Management (DCSIM). A summary of the important findings of this study are presented. The late Bernard Shaw once wrote, To be in Hell is to drift, to be in Heaven is to

sheer. This paper attempts to survey the course for planning the near and long-term information needs of large organizations including the U.S. Army. (NTIS)

The Feds Discover IRM
Schatz, Willie
Datamation v27n6 PP: 71-75 Jun 1981
The federal government has embraced the concept of information resources management (IRM) due to the constraints imposed by the Paperwork Reduction Act of 1980. The Act established IRM as a mandatory government management concept and set up the Office of Information and Regulatory Affairs within the Office of Management & Budget as the focal point of information management policy/oversight. A recent survey by The Diebold Group indicates that the use of information resources has become a specific business tool for every area of corporate operations, but that management information systems (MIS) departments spend less than 1% of their budgets in education and training in the IRM area. The main problem that IRM faces is its intangibility, and big business may tend to view it as a drain on corporate resources. The fact that IRM has reached government level indicates that the concept is pervasive in today's business climate. (ABI)

Information Resource Management an Introduction for Managers
(Final rept.)
Smith, Shirley J.
Army Aviation Research and Development Command, St. Louis, MO.
Report No.: USAAVRADCOM-TR-81-F-1
Aug 80 75p
Information Resource Management (IRM) is bringing changes -- perhaps even forcing changes -- within large organizations, whether business, industry, or government. The phrase and the concept reflect the growing awareness that information is a resource of an organization -- just as are its personnel, finances, inventory, and physical plant. It is in fact, a resource which is essential to the decision-making process. An important component of this new era of information management is the evolving technology of computer software and hardware dedicated to database management. Sophisticated software packages (Data Base Management Systems) have been available for several years. Their best use requires a high level of analytical expertise of a kind which is not often found within the typical data processing department. This report serves as an introduction to IRM for managers. It presents the results of a long research study of the published literature which describes the experiences and recommendations of managers, database systems analysts, consultants, and academicians. (NTIS)

Information Systems Management
Spinelli, J.J.
Vitron Management Consulting Inc., New York, NY, USA
Wilson, C.B. (Editors)
Sponsor: NBS
Proceedings of the Computer Performance Evaluation Users Group (CPEUG) 18th Meeting (NBS-SP-500-95) 5-9 1982

25-28 Oct. 1982 Washington, DC, USA
Publ: NBS, Washington, DC, USA
Information is the direct 'product' of the total organization business system. Information is a function of the totality of all organizational resources. IRM is the function that represents the business system encompassed by the organization's own existence that is used to product and disseminate the information resource. (INS)

The IRM Showdown
Stonecash, J. C.
Infosystems v28n10 PP: 42-48 Oct 1981
The traditional resources of a business are people, machines, money, and markets. Each of these has value, each has costs, each has qualities, and each has design alternatives. Information is no different. Just as management has realized the value of creating functional specialists for personnel, finance, engineering, and marketing, it also is realizing the value of creating an information resources management (IRM) function to assist the manager in managing information. IRM is a response to the increasingly complex business environment of today, where an external stimulus demands a faster, more accurate, more targeted response than ever before. IRM has to earn its place in the organization through being useful. For the IRM professional, that means to do today what can be done with existing tools. (ABI)

Information Resources - Are We Overlooking This Major Asset?
Van Steyn, Donald G.
Today's Executive v6n1 PP: PW5-PW8 Winter/Spring 1983
The concept of information resources management places value on information and insists that it be viewed as a corporate resource and be appropriately managed. Many companies do not manage information as a whole, resulting in the inefficient performance. One successful approach to evaluate a company's information resources is to bring in consultants to assist in a study and in the implementation of the study's results. Another approach is to form a committee consisting of those in company presently supervising various aspects of the information resources. The committee makes a study and creates an overall plan and recommendations, with or without the use of consultants. Recommended steps for the successful management of information resources are: 1. Assign a senior manager or form a committee. 2. Have either of these examine the present setup. 3. Identify the areas where significant dollars are being spent. 4. Determine how well these areas are being serviced by the information resources. 5. Determine the present investment in information resources and in the resources' management. 6. Determine the number of microcomputers purchased and their usage. 7. Analyze the data to form a rational business judgment. 8. If necessary, assign an information resource executive to lead the restructuring effort. (ABI)

The Information Cycle
Venkatakrishnan, V.
Datamation v29n9 PP: 175-180 Sep 1983
The information management business seems to be in a state of tumult.

Even in this dynamic environment, though, certain things remain constant. These include: 1. application backlogs, 2. a substantial maintenance effort, 3. slow response, 4. a shortage of professional programmers, and 5. end-user frustrations with long development times. Information resource management (IRM) is the discipline of comprehensively managing a company's information. It has 5 distinct, but interdependent parts: 1. human resources, 2. planning, 3. data, 4. applications, and 5. networks. The success of IRM is directly related to the degree of synergy among these functions. Top management involvement and commitment must exist. There must be a long-range plan which is clearly understood and followed, and a mutual trust between user management and information system management. (ABI)

The Elusive Data Administration Function
Welson, J.-L.
Dept. of Comput. Applications and Inf. Syst., New York Univ., NY, USA
J. Inf. Syst. Manage. (USA) Vol.1, No.3 70-5 Summer 1984
For more than a decade, the function of data administration (DA)-also known as data base administration (DBA) and information resource management (IRM)-has been with us in one form or another. As the confusion regarding the appropriate name indicates, no clear, acceptable definition for this function has emerged. This article attempts to give a strict definition of the data administration function. (INS)

Concept of Corporate Information Resource Management Catches On
Wilson, A. H.
Computing Canada (Canada) v11n11 PP: Software Report 8-9 May 30, 1985
The purpose of an Information Resource Management (IRM) group is to learn about all the data in an organization and ensure that it is shared wherever possible. IRM is a formal approach to data design and management, and the IRM group must: 1. show developers and end-users how to properly utilize the corporation's data, and 2. provide a central data service when appropriate. Logical designs should be developed in an evolutionary manner; one system or subsystem should be developed at a time and then incorporated into the total scheme. If the physical data design deviates from the logical design, the reasons for such deviation should be documented by the IRM group, so that separate database records can be merged if warranted in the future. The entire organization, particularly novices of 4th-generation end-user tools, can benefit from the knowledge of a successful IRM group. (ABI)

The IRM Perspective
Wood, Charles C.
Computerworld v17n17 PP: In Depth 11-17 Apr 25, 1983
Information resource management (IRM) is a perspective and an approach often associated with specific implementation tools and techniques. Underlying IRM is the recognition that information is an important organizational resource that can be handled efficiently and effectively with traditional resource management tools and techniques. It presents the theory that traditional resource management techniques, such as inventorying, cost accounting, and budgeting, can be applied to information itself. It also posits that automated tools can be successfully applied to

organization-wide information. Past approaches have focused on managing resources that go into providing information. IRM concentrates on managing information as an organizational resource. IRM is a synthesis of several approaches that have shown themselves useful in managing information. It combines general management, computer systems management, library science, and policymaking and planning approaches. It is the next step in the evolution of information management theory, not a panacea or a fully developed approach. (ABI)

IRM Regards Data as Major Corporate Resource.
Wood, C.C.
SRI International, Menlo Park, CA
Information Systems News June 13, 1983, P. 50.

The major distinction between past approaches and information resource management (IRM) is that the former have concentrated on management of the resources that go into providing information, such as people and computers, and the latter concentrates on management of information as a resource. IRM is a quasi-centralized approach that retains centralized authority and control only for those matters that need to be centralized and distributes the balance. A data dictionary is the tool that to date has been applied effectively to IRM. (CD)

Survey: What's in a Name?
Yasin, R.
MIS Week Vol.4, No.15, April 13, 1983, P. 33.

McCormick and Paget Inc. recently conducted a survey to determine the names corporations use to describe the information systems function in their company. Thirty-three percent of the companies responding to the survey use MIS to describe this function, while only three percent use IRM (Information Resource Management). Some companies concerned with changing the traditional image of the DP department now use the terms information services and information systems to describe this function. A table showing the percentage of companies in various industries using each of these terms is included. (CD)

II. IRM PLANNING

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Managing Information: The Solution Will Come in Time
Carey, John F., Jr.
Office v95n1 PP: 95-96 Jan 1982
Information resources management (IRM) has been receiving increased attention, and if information technology and processes are to succeed, certain resource management fundamentals must be observed to govern their management. The Paperwork Reduction Act of 1980 cites 3 basic objectives of IRM: 1. maximizing value and benefits from the use of information in achieving organizational goals, 2. minimizing the cost of all phases of gaining and using information, and 3. establishing accountability, including evaluation criteria, for the efficient use of information. Although managers in both the public and private sectors are becoming aware that information is a valuable resource, the information resource and its handling have been much abused. When information is known to have utility and value, it must be made available to share, and IRM is the key to achieving this goal. Entities at both the federal level and in the private sector must examine and decide on both the use and costs of information in order to manage it more effectively. Techniques such as variance analysis would be helpful in assisting management in making decisions about information expenditures as IRM programs are put into operation. (ABI)

Information Resource Management - A Costing Perspective
Carroll, Diane
Information Mgmt v17n10 PP: 24-26 Oct 1983
Information resource management (IRM) is a management approach whereby information is managed like other resouces, such as money and people, are managed. Within a government agency, resource management entails, among other things, estimating costs for future requirements, accounting for costs incurred in the past for resource acquisition, and budgeting for the resource. There are many interim steps that must be taken before government agencies can actually budget for information. The value of information is really its worth or usefulness to the users of the information. The reason for estimating the cost of future information is to provide managers with a total dollar amount that represents the information resource cost. The documentation that shows how a cost estimate is reached is as important as the dollar amount actually derived. The estimation of information cost is based on determining the costs of such resources as personnel, equipment, and supplies, which are used to acquire, develop, and produce information. (ABI)

Diebold: MIS/IRM Function Weak on Skilled Resources.
Anon
Systems & Software Vol.3, No.9, Sept. 1984, P. 85.
A study by the Diebold Group concluded that management information systems (MIS) and information resource management (IRM) do not adequately fulfill current business needs. Closer cooperation with the end user is needed. More emphasis should be placed on planning for the future and less on hardware. (CD)

Planning For The Changing Information Technology
Ericson, B.
T. Tagel and Co., Stockholm, Sweden
Convention Informatique 1981. The Means of Computerisation 141-8 Vol.a 1981
21-25 Sept. 1981 Paris, France
Publ: Convention Informatique, Paris, France
2 Vol. (496+402) pp.
(19 Refs)

Information has become one of the most important resources of an enterprise. The information systems determine to a large extent the success or failure of a business. However, the rapid change in the information technology has made it difficult to plan the use of this technology in today's corporations. This paper outlines a framework for overall planning of information resources and their use. The planning process is treated as part of the overall information resources management. Planning is necessary, especially in a period of rapid technological development. The planning process must be a continuous process and should lead to greater flexibility in the corporation's information systems. A holistic view is proposed and the whole corporation should be treated as a system. The plans must be created through cooperation between the various personnel categories and build upon existing systems and resources. (INS)

Planning for IRM
Friedlander, Betty J.
Jrnl of Systems Mgmt v36n6 PP: 16-19 Jun 1985

Deficiency in the information resource management (IRM) area can cause such problems as poor data quality and difficulty in accessing data. Seven major components of IRM are: 1. management and control structure, 2. computer technology structure, 3. communication technology structure, 4. data acquisition structure, 5. data application structure, 6. logical data structure, and 7. data transform structure. For successful IRM, management methodology, control, and style must reflect a data-driven philosophy. Selecting a successful approach to IRM requires an understanding of one's own environment. The methodology employed must ensure that the IRM plan is fully aligned with the organization's future goals. After assessing the environment, it will be possible to identify a strategic position that defines the degree of IRM maturation that is most complementary to the enterprise. The next step is to put into place the strategic plan by which the maturation process itself will be managed. This plan should identify: 1. the projects to be undertaken, 2. data standards, and 3. the degree of maturation to be achieved over a period of time. (ABI)

Significant Changes in Data-Driven Philosophy
Friedlander, Betty J.
Office v10lnl PP: 156 Jan 1985

Database technologies have been developed independently of each other. Out of need to balance the various technologies and keep them working cohesively was born the concept of information resource management (IRM). Symptoms of deficiencies in the IRM area include uncontrolled data redundancy, inadequate data security, and inability to manage the growth of computer usage. To avoid these problems, management methodology, control,

and style must reflect a ''data-driven'' philosophy. ''Date-driven'' means such things as having a common logical data structure and corresponding data dictionary for the enterprise. In a data-driven environment, 2 changes are common: 1. creating a function that defines and manages the firm's logical data structure and data transformation standards, and 2. having the user work hand in hand with the data administration function. There are no short cuts to adequate IRM planning. (ABI)

The Changing Picture of Federal Office Systems
Gularson, Charles; Smith, Cheryl
Computerworld v18n47 PP: In Depth 11-18 Nov 19, 1984
Federal government office systems program directors have found that federal government systems are undergoing such widespread changes as: 1. larger systems purchases, 2. more single-vendor microcomputer buys, 3. more systems integrator-type procurements, 4. greater integration of micros, and 5. increasing incorporation of office systems organizations into information resource management departments. Internal networking is in the early stages in government offices, and private branch exchanges (PBX) and broadband networks are being pilot-tested more frequently. Integration is still a problem since most agencies use many vendors. More than 90% of all federal agencies implemented electronic mail and spreadsheet applications in 1984. However, there has been little applications development in the area of graphics, and few agencies have comprehensive systems that merge text and graphics. Information resource management (IRM) departments are becoming increasingly responsible for office systems, and the nature of the IRM department is changing in response. (ABI)

Federal IRM-Seeking a Path Through the Paperwork Jungle
Head, Robert V.
Infosystems v28n4 PP: 54-60 Apr 1981
Something is wrong with federal government information systems management, and in view of the size and complexity of federal information systems, improvements must be made before malfunctioning error prone and paperwork-heavy systems result in a formidable managerial disaster. Warning signs and danger signals include: 1. complaints about delays and inaccuracies, 2. the inability to protect rights of individuals from intrusive practices of federal agencies, and 3. obsolescence of equipment, systems, and personnel. In some areas, the federal government should emulate the information management practices of the private sector where problems have not manifested themselves to the same alarming degree. However, this solution is not a panacea, for significant differences exist between government and private sector data systems, and computational problems within federal agencies exist today that would tax even the largest information processors. The Paperwork Reduction Act of 1980 is a primary step in the right direction, and private industry will benefit from the government's experience in proving out in practice the tenets of information and records management. (ABI)

IRM and Reality.
Head, R.V.

New York Times (National Edition) Vol.13, No.1, Jan./Feb. 1984, P. 11-12.

The Information Resources Management (IRM) concept views information as an organizational asset and studies information processes and flows within an organization. The Paperwork Reduction Act of 1980 is credited with having introduced the concept into federal government although the phrase does not actually appear in the Act. Although IRM may be an interesting way of viewing organizations and information, managers would be better advised to concentrate on understanding changing computer technology. (CD)

Whose Critical Success Factors?
Horton, Forest Woody, Jr.
Information Mgmt v18n7 PP: 26,29 Jul 1984

There are 2 highly touted approaches to linking corporate strategic planning to information needs assessment, to which information managers are being increasingly exposed: 1. Business Systems Planning (BSP), developed by IBM, and 2. Critical Success Factors (CSF), developed by Massachusetts Institute of Technology's Sloan School. Although both approaches are very useful, the techniques should not be stretched to do more than they were designed to do. The BSP/CSF doctrine calls for carefully soliciting the inputs of the middle and lower levels of managers. However, at some point toward the middle level when the needs of top management meet the bottom's needs, the need to shoehorn the 2 arises. Information managers must avoid this course. Employing modern Information Resources Management, managers should, instead, understand that their job calls for helping employees help themselves. (ABI)

Tie IRM to Business Strategy to Gain Management Approval
Hyman, Joan Prevete
Bank Systems & Equipment v21n7 PP: 67-69 Jul 1984

To sell the information resource management (IRM) concept to senior management, it must be tied to the firm's business strategy. Selling IRM may be impossible unless management understands and appreciates what it can do for the organization. Effective IRM programs can give banks and thrifts an advantage over the competition. According to Donald Marchand of the University of South Carolina, IRM should be a top-down strategy; as such, it is an issue that the bank president cannot ignore. Impetus for IRM may well come from an operations officer who becomes dissatisfied with the current processing system and suggests IRM to top management. According to James Marpe of Arthur Andersen & Co., winning management over to IRM requires clear demonstration of its widespread benefits. The case for IRM must be presented by someone who has a good rapport with management, says Anthony DiPrimio of the Federal Reserve Bank of Philadelphia (Pennsylvania). (ABI)

IRM Provides a New Challenge for Today's DP Manager
Anonymous
Data Mgmt v21nl PP: 17-19 Jan 1983

With information resource management (IRM), the hardest concept to grasp is the management process itself. The data processing (DP) manager must be prepared to serve as an ''information professional,'' to fuse other areas

of the organization into a cohesive, synergistic information system. The professional must determine the information needed to meet the organization's objectives. The major hurdle is to get upper-management to view information as a resource that can and should be managed. In order to be successful as an information professional, the DP manager must: 1. be able to function equally with organizational bureaucrats, 2. get a wide exposure to information availability, and 3. replace the service outlook with a managerial outlook. DP managers must become self-centered rather than system-centered. IRM is still a new concept and very few companies use it. However, the professional should realize that there are organizations that cannot effectively use IRM concepts. (ABI)

Information Management: Centralization vs. Decentralization
Anonymous
Information & Records Mgmt v16n3 PP: 22-25,54 Mar 1982
A group of information management experts, assembled by IRM Magazine, met recently in Chicago, to discuss fundamental questions about management and control of information. In most companies today, the control of information is divided among a number of persons, such as the data processing (DP) manager and the micrographics manager. There is a need to centralize information control under a single company officer. Security of information requires not only restriction of access, but it also requires upper level management to access DP data bases directly rather than through a secretary. Automated information systems will be used first by companies, such as banks, which regard information as an integral part of their business rather than a side product. The information manager in a company needs to be able to integrate all the separate organizational entities and solve business problems, as well as understand the technologies involved in any automated system. Such managers need a more general education than that provided to specialists such as programmers. (ABI)

Information Resources Management Plan
Federal Aviation Administration, Washington, DC. Office of Management Systems.
Aug 83 208p
Country of Publication: United States
This Plan documents the Federal Aviation Administration's long-term plan for applying systems analysis and automated data processing technology to its information needs. As a long-range Plan, it provides a sound basis for both the Executive and Legislative Branches to properly appraise funding needs. It retains the flexibility needed to accommodate future technology as it becomes applicable to individual subsystems and it becomes evident that the new technology with improve our return on investment. The Plan begins institutionalizing a process of regular and comprehensive assessments of FAA's information posture and needs. This Plan is the framework for the development, operation, and management of agency information resources and for the regular review of performance as well as resource and priority decisions. The FAA will follow through on this planning effort with the detailed requirements documentation, system specifications, cost benefit analyses, and the other actions sound system management requires. (NTIS)

Information Resource Management Requires Data Analysis
Kubicki, Mary H.
ARMA Records Mgmt Qtrly v19n1 PP: 10-14 Jan 1985

Information Resource Management (IRM) involves managing information to ensure that it is accurate and available throughout the organization. Before information management can be achieved, the corporation must know the extent of the information it owns. An inventory of information will place the information in one of 3 categories: 1. operational information, 2. tactical information, or 3. strategic information. A Business/Enterprise Model has been developed that identifies and defines the organization's business functions and the categories of information required to perform those functions. Once the model is completed, a detailed information analysis should be conducted on each of the functions of the business. Another activity in the search for information is data analysis at the operational level of the organization. The project team performing the inventory should become familiar with all business activities before conducting interviews on information use. (ABI)

Commit or Hold Off? The Short- vs. Long-Term Tug of War
Martin, Alexia
Administrative Mgmt v43n9 PP: 24-25,75 Sep 1982

Office automation involves the use of computers and communications technology to furnish both information and information-handling services directly to office employees. In order to automate effectively, administrators should first take time out for strategy development and long-range planning, which, in turn, will channel short-term implementations within a long-term view of what is good for business. An office automation direction statement can help in the planning efforts. Information Resource Management (IRM) means the use of resource management devices and methods to treat information as a company-wide resource. Making the information and technology available where needed in a cost-effective manner, through policymaking and coordination, is IRM's goal. The most significant IRM tool is the data dictionary, which can be used for organizing, storing, and manipulating attributes of information that are shared among organizational groups and activities. (ABI)

IRM: How Will Top Management React?
Matlin, Gerald L.
Infosystems v27n10 PP: 40-48 Oct 1980

IRM, information resource management, must be looked at in the total picture of pay off and profits for the organization. Effective utilization of resources will lead to increased profits. Information must be looked at as a resource the same as personnel, facilities, and inventory. The cost of gathering information in such a manner as to present it as a resource is a major factor in developing a valuable IRM. Proper information management will lead to more effective cost control management, and a new resource which could add to the overall profit picture. In developing an IRM program, the developer must be conscious of the difficult learning process within the organization. Cost versus benefits of information management must also be closely analyzed. Pilot projects must be developed to show the use of the system within the organization. It must also be shown how

effective management of information can be used in further development of the organization. (ABI)

Important Issues in Information Resource Management
Morland, D.V.
Strategic Planning, NCR Corp., Dayton, OH, USA
Sponsor: AFIPS
OAC'83 Conference Digest. The Fourth Annual Office Automation Conference
133-8 1983
21-23 Feb. 1983 Philadelphia, PA, USA
Publ: AFIPS Press, Arlington, VA, USA
291 pp. ISBN 0 88283 038 4
In his poem, 'The Hollow Men', T.S. Elliott noted, 'between the idea and the reality...falls the shadow.' This paper provides some insight into several shadows surrounding the implementation of IRM. The objective is to identify and to delimit the central issues-technical, social, and political-so that those who seek to apply IRM theories may better understand the problems they will face. (INS)

Information Resources Management: Management Focus on the Value of Information and Information Work
Otten, Klaus W.
Jrnl of Information & Image Mgmt v17n8 PP: 9-14 Aug 1984
Capital and labor have been joined by information resources as the 3rd productive factor in business. The unique characteristics of managing information involve integration of information tools into the work process and assistance to top management in implementing information-oriented management approaches. The introduction of information resource management generally follows 6 important steps: 1. assessment of information resources and information work, 2. communication pattern analysis, 3. coordination of interdependent activities and technologies, 4. budgeting as a control mechanism, 5. infrastructure changes to motivate managers and coworkers toward information literacy, and 6. strategic planning for predictable changes in the operating environment. Information resources management is a transitory function because of a changing inventory of information resources (including technological changes) and a changing information environment. (ABI)

Management of Information Resources (Part One)
Petersohn, Henry
Information & Records Mgmt v15n8 PP: 24-25,54 Aug 1981
Information Resources Management (IRM) problems can arise in defining information, managing the component information handling functions, and evaluating the benefits and costs of information acquisition and use. Understanding what organizations are involved in information processing is a major step toward managing information resources. However, in the haste of proposing a solution, the scope and nature of information resources are often overlooked. There are 3 different perspectives that can be used to better understand the concepts of information organization. These are: 1. information functions related to flow, 2. information functions related to process, and 3. information functions related to organization. There are 2

major organizational entities that process data: 1. Bulk processing is provided by data processing. 2. Word processing is used in the office environment. (ABI)

Management of Information Resources: Basic Concepts and Principles of Organization (Part 2)
Petersohn, Henry
Information & Records Mgmt v15n9 PP: 65,77 Sep 1981
Too often, information resource management (TRM) is left almost entirely to the discretion of individual operating managers. However, IRM is too vital and too complex to be handled without clear, concise directions. Part of the management philosophy regarding IRM should address who will carry out its functions, as well as how it can be used to the overall benefit of the organization. Although data processing, printing, and publications groups are the most obvious functional groups involved in information processing, specific criteria can be used to identify and label a specific group in its information function. A coordinated approach can minimize the total costs and delays in subsequent information processing steps. The number and strength of the existing interfaces among IRM functions is indicative of the effectiveness of such coordination. Five interfaces are: 1. regular management level meetings, 2. meetings by staff members of different information processing functions, 3. formal working arrangements between information processing functions, 4. physical transfer of data between functions, and 5. the existence of a formal IRM function. (ABI)

Management of Information Resources (Part 3)
Petersohn, Henry
Information & Records Mgmt v15n10 PP: 22-23,56 Oct 1981
There are 5 steps to information resources management (IRM): 1. establishing a management philosophy on what constitutes useful information, 2. identifying all functional groups now involved in information processing, 3. determining existing interfaces between these groups, 4. preparing a set of coordinated objectives for each functional group in order to eliminate duplication overlap and failure to pass information, and 5. measuring corrective directions to assure cost-effective performance of each functional group. A previous study addressed steps 1-3, and this segment covers the final 2. The operations of one functional information processing group should support the effective operation of other related functional groups in a cost effective manner. Cost effective performance has 3 aspects: 1. defining specific performance objectives, 2. establishing costs of meeting them, and 3. determining cost effectiveness by comparing benefits of meeting objectives to costs incurred. Specific performance objectives must include: 1. period of time allowed for production of information, 2. form of the information, 3. latest data of data included, and 4. total quantity of data included in the information product. (ABI)

GSA Turns Consultant (Information Resource Management)
Roeder, W.A.; Bennett, S.A.
Gov. Data Syst. (USA) Vol.14, No.2 32-3 Feb. 1985
The Paperwork Reduction Act has forced federal managers to assume a new

role-a role of managing information as a resource. In conjunction with this new emphasis, the General Services Administration (GSA) initiated several programs specifically designed to help managers manage information. One of these involves information resources management (IRM) planning. GSA recognized the need for IRM planning assistance and established the federal IRM planning support program (FPSP). The FPSP offers a full range of planning support services to assist agencies with their information resource needs. The FPSP has provided assistance to a number of civilian and defense agencies, including the Federal Aviation Administration (FAA). The success that FAA has gained from its planning efforts was not accomplished without several problems along the way. However, the strong support of the administrator and the commitment of the IRM managers have significantly contributed to the increasingly successful management of information and its related resources within FAA. (JNS)

Information Resource Management. Opportunities and Strategies for the 1980s. A Wiley-Interscience Publication
Synnott, W.R.; Gruber, W.H.
356 pp.,1981,Wiley,New York

User Involvement Strategies for IRM Professionals
Synnott, William R.; Gruber, William H.
Data Mgmt v21n1 PP: 34-35,38-39 Jan 1983
The trend in the 1980s is toward information resource management (IRM) and users must become involved with this information management (IM). Users must be prepared and this may be accomplished by pointing out the improvements and benefits provided by IM. User involvement usually means greater success, so it is important for users to become involved in these phases of development: 1. planning, 2. project team organization, 3. systems development, and 4. post review. An IRM spectrum can range from users having no control over data to users being given complete control. An alternative to these 2 methods of control is the product manager approach to IM. In this method, the product manager is given computing resources, an analyst/programmer team, and other tools necessary to support the users' resource needs. Various options are available with the use of a product manager, from all resources being dedicated to sharing all resources, including the product manager. This method provides an interface between the user and IM, along with future expansion capabilities. (ABI)

Using Technology to Harness Information
Anonymous
Modern Office & Data Mgmt (Australia) v20n8 PP: 20-21 Sep 1981
Robert Landau, an international authority on office technology, recently expounded new theories under the title of Information Resource Management (IRM). IRM involves making information available: 1. to those who need it, 2. when and where it is needed, 3. in the form it is needed, and 4. at a reasonable cost. IRM may be viewed as a design to increase program effectiveness of an organization through the integrated management of the resources devoted to handling information used for decision-making. Landau outlines techniques for information systems evaluation: 1. systems analysis, 2. operations techniques, 3. benefit-cost analysis, 4. planning-programming-budgeting, 5. value analysis/engineering, 6.

management audit, and 7. evaluation. The objectives of IRM are to manage the information life cycle, assign organizational responsibilities, assist in locating information, control redundant requirements, resolve information conflicts, and establish information cost accountability. Implementation of an IRM program requires management and technical actions. IRM has many benefits. (ABI)

What Management Should Know About IRM
Ziehe, Theodore W.
Computerworld v14n42 PP: In Depth/9-14 Oct 13, 1980

Organizations have enormously expanded their capacity for processing data. Information resource management (IRM) can help a firm move from processing data to producing information. Management must acknowledge that information is a resource and that business is the process that converts this resource into assets. IRM is primarily concerned with what to put into a computer and how to relate the data placed in that repository. The plan for an IRM begins with a statement of information requirements. Firms move into IRM through evolutionary changes in commitments to data processing (DP). Planning determines the changes required; specifications define composition and capacity of the DP facility required; and software is the avenue for effecting many of the needed changes. A data base management system (DBMS) provides many of the requirements for the IRM undertaking. At the functional level, the DBMS and microprocessors have filled the void into which management information services (MIS) have fallen, so that the MIS can now operate successfully. The essence of IRM is a reorientation to organizational planning and data management. (ABI)

III. FUTURE OF IRM

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The Issues.
Block, V.
Communication Age Vol.2, No.1, Jan. 1985, P. 13.
According to Francis A. McDonough, the deputy assistant administrator of the Office of Information Resources Management, General Services Administration, the federal telecommunications policy has developed several trends. Such trends will change the way the government procures voice and data communications equipment. Eighty percent of the government's voice communications is intra-agency. (CD)

Information As a Resource. Occasional Paper no. 2.
Cleveland, Harlan
Global Perspectives in Education, Inc., New York, N.Y.
[Jun 1983 11p.; From Harlan Cleveland, "Information as a Resource," The Futurist, volume 16, number 6, December 1982.
This paper examines the characteristics of information as a resource and the implications of so regarding information. Information is defined as the sum total of all facts and ideas available to be known by somebody at a given moment in time, while knowledge results from selecting and organizing facts and ideas into what will be useful to somebody. Wisdom is integrated knowledge which crosses disciplinary barriers to weave into an integrated whole something that becomes more than the sum of its parts. The "informatisation" of society can be seen in the growth of information jobs both nationally and internationally. Information is coming to be regarded as a resource. As such, it has the following characteristics: it is expandable; compressible; substitutable (able to replace capital, labor, or physical materials); transportable; diffusive (tends to leak); and shareable. The information resource is different in kind from other resources. Treating information as a resource has enormous implications for human life; it raises questions in political economy, economics, law, accounting, and education. The information revolution will also cause a reorganization of power and authority, with more openness as a technological imperative in a democracy. (ESR) (ER)

The Fallacy of Information Resource Management
Connell, John J.
Infosystems v28n5(Part 1) PP: 78,82,84 May 1981
According to the Information Resource Management (IRM) Theory, information must be managed just like people or finances. However, data processing is in a state of transition, and information processing professionals must help chart the field's future direction to meet the needs of business. They should not let it grow unchecked into a bureaucratic empire and then have to take drastic measures to restructure it. While information is crucial, it cannot be managed. It is not a typical resource, like money. Its worth is subjective. IRM shifts emphasis from managing information processing to trying to manage the actual information. Instead, the emphasis should be placed on managing the resources involved in information processing and communicating information. The management of the total office should be the target of management. Office management

should hold down escalating costs by improving the productivity and effectiveness of management, rather than of clerks. (ABI)

IRM vs. the Office of the Future
Connell, John J.
Jrnl of Systems Mgmt v32n5 PP: 6-10 May 1981
Two important concepts are emerging in the world of office technology. Information Resource Management (IRM) concerns information per se as a corporate asset which must be managed: its characteristics must be defined and a strategy set in motion to protect it. The advent of integrated telecommunications networks is a significant development fostering IRM; individual technologies must be subordinated to these networks. The Office of the Future concept leads to major changes in the office itself. This concept must be pursued as a means of increasing productivity. It requires significant planning and has behavioral implications, since people resist changes that involve interfacing with new technologies. Thus far, industry has not responded very well either to IRM or to the Office of the Future. Management must acknowledge that most acceptance problems are people-oriented and that sophisticated planning for both IRM and office automation is required. A task force should be set up in the office to study and assess new technologies and their behavioral effects. (ABI)

The Information Age: Can We Come to Grips with It?
Darst, Steven V.
Office v97nl PP: 186,191 Jan 1983
There was only a 4% increase in office productivity in the decade from 1967-1977, as compared to an 83% increase in productivity for factory workers. Office productivity improvement can be achieved by integrating technologies. Voice is used more frequently by information workers than any other information form. It is now possible to combine verbal communications with other forms of digital data such as graphics, computer data banks, and micrographics. Private automatic branch exchanges (PABX) provide versatility and flexibility because they are software controlled. A universal and efficient communications device in the future will be the multifunctional workstation. It is vital to understand the importance of information and treat it as a corporate asset. This necessity has led to wider acceptance of the concept of information resource management (IRM).

The Information Age Still in Its Early Stages.
Diebold, J.
Diebold Group , New York, NY
Information Systems News No.125, Oct. 1, 1984, P. 86.
The past thirty years have seen the rapid growth and evolution of computer technology, which is the basis for industries which now drive our economy. The first stage of this evolution involved the introduction of ADP (Automatic Data Processing) machines in the 1950s and early 1960s. The introduction of third-generation computers, which could serve a wide variety of data processing functions, led to the concept of MIS (Management Information Services). Continuing advances in computer and communications technology led to the need for users to develop the concept of IRM (Information Resources Management), which was first put forward in 1976.

The 1990s will see an even greater proliferation of computers and information utilities. A new concept, knowledge management, will be required to cope with the availability of limitless information. (CD)

New Directions in Information Resources Management: Issues in the Implementation of New Technologies.
Diener, Carol Wasserman; Semsarzadeh, Gholam Ali
Aspen Systems Corp, Rockville, MD, USA
1984: Challenges to an Information Society, Proceedings of the 47th ASIS Annual Meeting. Philadelphia, PA, USA Oct 21-25 1984
Sponsor: ASIS, Washington, DC, USA
Source: Proceedings of the ASIS Annual Meeting 47th v 21 1984. Publ for ASIS by Knowledge Industry Publ Inc, White Plains, NY, USA p 38-41 1984
The design and implementation of an electronic information resources management system in an organization whose existing systems are largely paper-based raise a number of key issues that affect organization policy as well as procedures. Using the International Monetary Fund as a case study, some of these issues are identified and alternative approaches are considered. Emphasis is placed on identification and analysis of the issues rather than on their resolution. (EI)

IRM: Putting Theory to Work
Fosdick, Howard
Infosystems v32n8 PP: 33-34 Aug 1985
Information resource management (IRM) promotes the direct, active management of corporate data to make the data work for the company. IRM focuses on corporate productivity and uses applied and integrated technologies to attain company goals. However, IRM is still an unestablished approach facing several obstacles. Few organizations have implemented fully integrated information management systems based on the mix of technologies IRM proposes, and few companies have an information resource manager or chief information officer. IRM must broaden its support to include all areas of the corporate information function and must neutralize issues pertaining to individual power or status. While IRM needs to develop a method of quantification, this will not be as important as successful IRM experiences. IRM must not oversell itself by promising more than can be reasonably done. To perpetuate itself, IRM will require individuals familiar with at least one baseline technology and who possess good administrative and political skills. (ABI)

Information Resource Management: A Brief Overview
Francella, Kevin
Data Mgmt v21nl PP: 15-16 Jan 1983
Information resource management (IRM) regards information as a resource, just as people, machinery, materials, and money are regarded as resources. IRM is defined as management's ability to obtain accurate information in a timely manner at the lowest cost. IRM encompasses: 1. computer and telecommunications technology, 2. software applications, 3. traditional management technology, and 4. the people to develop and use them. Information was first viewed from an economic viewpoint by Adrian M. McDonough, a professor at the University of Pennsylvania, in 1963. Today,

there is still controversy over the issue of information being considered a resource. As the US becomes an information society, information is being considered as a tangible asset, but managers and executives are not accustomed to this classification. An ''information professional'' will emerge who is trained in advancing information-handling technology. Some companies will learn to manage their information, while others never will. References. (ABI)

Strategies and Tools in Transition
Marchand, Donald A.
Business & Economic Review v29n5 PP: 4-8 Jun 1983
Much confusion exists today over the appropriate role and scope of the information management function in business organizations. Over the past 40 years, information management has gone through several evolutionary stages. The first stage, the physical control of information, occurred in the late 1800s to the late 1950s. At this time, the information management function was a lower level, support-oriented background activity. The management of automated technology - 1960s and 1970s - was characterized by the separate evolution and application of electronic data processing, telecommunications, and office automation technologies. At this stage, technical management activities were confined to middle-management levels. During the 3rd and current stage - information resources management - the strategic objectives of the information management function have shifted away from the physical control of paperwork or technologies toward the application of resource management techniques to information resources. The 4th stage is already beginning to emerge, although most organizations will not move into this stage until the 1990s. This stage will focus primarily on the content of information itself and how it is used and valued. Its main objective will be to enhance the way executive personnel actually develop and use information in analytical activities. References. (ABI)

Research-Oriented Perspective on Information Management
Trauth, Eileen
Jrnl of Systems Mgmt v35n7 PP: 12-17 Jul 1984
The information management domain is complex and involves a shift in perspectives and management practices. The focus shifts from maintaining technology that satisfies data requests to developing systems to provide real answers to information needs (information resource management). New and convergent technology facilitates this activity. Management must move from an input- to an output-oriented approach. Thus, new considerations for planning and control are necessary. Information resource management's (IRM) primary concern is with the effectiveness and the value of information, providing a basis for control. Because of the increased scope of information activities, social and political forces must be considered when managing information as a vital resource. A successful management approach would be based on a holistic perspective capable of integrating the diversity of information technologies and activities within an organization. Successful corporations will be those that manage information as a major resource. References. (ABI)

Present status and future development of information management (in management information systems)
Winkelhage, F.; Eschenroder, G.
Gesellschaft fur Math. und Datenverarbeitung mbH, St. Augustin, Germany
Microprocess. & Microprogram. (Netherlands) vol.15, no.1 1-10 Jan. 1985

An attempt will be made to indicate the present problems of information management in business organisations, followed by an approach to creating a comprehensive information management system, centring around the concept of information resource management (IRM). Finally, some account will be given of the implications for business organisations and administrations. (INS)

IRP/IRM methodologies
Wood, M.R.
Helix Corp., Westlake Village, CA, USA
Frailey, D.J. (Editors)
AFIPS Conference Proceedings of the 1984 National Computer Conference
343-8 1984
9-12 July 1984 Las Vegas, NV, USA
Publ: AFIPS Press, Reston, VA, USA

Within the next 10 years, the social, psychological, behavioral, and managerial disciplines necessary to develop and support information resource planning (IRP) and its subsequent management (IRM) will be integrated into most corporations. The assimilation, and therefore, impact of these nontechnical disciplines will completely reshape the way organizations evaluate, acquire, and use technologies available to them. More specifically-although the EDP industry has traditionally been the primary provider of information processing technologies-the most crucial challenge facing EDP professionals today is to broaden their exclusively technical focus to include the new disciplines and methodologies that support organizational requirements as a whole. This paper focuses on defining what information resource planning is, who should be involved in the process, and the implied impact of IRP and IRM on organizations. (INS)

IV. SELECTED CASE STUDIES: THE IRM EXPERIENCE

IV. SELECTED CASE STUDIES: THE IRM EXPERIENCE

Proposed Management Control Requirements of the U.S. Coast Guard Information Resources Management Architecture
(Master's thesis)
Ashforth, W. R.
Naval Postgraduate School, Monterey, CA.
Mar 84 72p

This thesis places the Information Resource Management Architecture of the U.S. Coast Guard in the contagious growth stage of Nolan's model of organizational computer growth. Control is the next stage predicted by the model. The financial accounting basis of EDP chargeback and control systems is examined as a precursor to developing five management control requirements of the IRM architecture. These include (1) aggregate financial accounting for information services, (2) an auditable user access/authorization scheme, (3) a user-oriented chargeback system, (4) pricing to establish an information marketplace, and (5) an information decision tool to assist in user tradeoff decisions between information services, Finally, an integrated system to satisfy these requirements at the Coast Guard District Office level of the IRM architecture is described, based on a Local Area Network system. (NTIS)

Word Bank Learns Value of Effective IRM Strategy.
Beeler, J.
Computerworld Vol.19, No.6, Feb. 11, 1985, P. 31.

For the World Bank, the primary benefits of implementing its information resource management (IRM) strategy is an improved understanding of the strategic significance of information resources. It took a two-pronged approach to formulating an organization wide strategy. It used IBM's Business System Planning methodology to take a top-down view of its operations while analyzing itself from a bottom-up perspective. (CD)

Debate over DDP Leads McAuto to IRM
Borlin, Dave
Computerworld v16n8 PP: Special Report 42,46 Feb 22, 1982 CODEN: CMPWAB

The McDonnell-Douglas Automation Co. (McAuto) has traditionally provided data processing support to other components of the company. With the emergence of distributed data processing (DDP), McAuto found itself to be not only the sole-source provider of centralized data processing but also the approval agency for all requests to distribute within the organization. The centralized vs. DDP debate grew within the firm, and a corporatewide study of the situation was undertaken. The result of the study was the implementation of an information resource management (IRM) organization which has reduced the political battles within the firm over DDP. Next, the question of how McAuto could support DDP efforts was addressed. The 2 functions of DDP change planning and DDP daily planning were implemented. Each has its own roles and responsibilities, and their presence defines the role of McAuto in the DDP function. The objectives of this cooperative central/distributed approach to management and administration of DDP sites include: 1. implementing user and centralized IRM responsibilities with

minimal duplication, 2. making maximum use of each DDP site, and 3. making support personnel available 24 hours a day. (ABI)

Data Communications Information Resource Management and Naval Data Automation Command
(Master's thesis)
Branson, J. L. ; Yee, T. H.
Naval Postgraduate School, Monterey, CA.
Sep 84 131p
Data communications, as in emerging technologies, poses managerial problems for the Navy. The problems involve keeping knowledgeable about new technologies, evaluating their application, and controlling usage to ensure compatibility with organizational strategic goals. An IRM framework is utilized to examine the problems and to discuss the viewpoints of and decision problems faced by the user, as a buyer, and central management, as the provider of information based services. Alternative means of providing the service include outside consultants, NAVTELCOM, NAVDAC/NARDACs or expanding an individual activities staff. Each of these is a viable option and each is analyzed. The authors recommend the formation of a steering committee, comprised of representatives from NAVDAC and NAVTELCOM, to provide strategic direction and policy and an organizational Technology Team to provide targeted assistance as a significant step toward managing the implentation of this emerging data communications technology. (Author) (NTIS)

Analysis of Information Resource Management within the Deputy Chief of Staff for Plans, U.S. Army Military Personnel Center
(Master's thesis)
Broome, R. E.
Naval Postgraduate School, Monterey, CA.
Mar 85 88p
Organizations are becoming increasingly aware of the need for identifying and controlling their information resources. The Paperwork Reduction Act of 1980 explicitly tasks federal agencies with establishing information policy and mechanisms for implementing that policy. As a result, increasing emphasis is being placed on information resource management (IRM). The Deputy Chief of Staff for Plans, U.S. Army Military Personnel Center, has expressed a critical need for improved information resource management. At present, manpower projections developed through the use of manpower modeling by DCS Plans, determine the Army's manpower policies for both the officer and enlisted force. Not only does this shape the structure of the force, but it has a major budgetary impact on the Army. This thesis will model the current information resource management structure of DCS Plans and propose a solution. (NTIS)

The Design of an Information Management Program for Headquarters, Department of the Army. Study Synopsis
(Contract study, Oct 78-Feb 80)
Young (Arthur) and Co Washington DC
13 Feb 80 7p
The synopsis addressed the situations in which the Army staff has applied

information management in various situations, how the Information Resource Management (IRM), concept can be applied to the Army's situation, and provides recommended organizational model for HQDA (overall) and its functional staff agencies for managing information as a resource. (Author) (NTIS)

The Design of an Information Management Program for Headquarters, Department of the Army. Phase 2. Detailed Report
(Final rept. 1 Aug 79-26 Feb 80)
Young (Arthur) and Co Washington DC
26 Feb 80 216p

The basic question addressed in Phase 2 of the study is the development of policies, detailed procedures, a proposed organizational design, and a micro-level implementation milestone plan for implementation of the distributed IRM program for management of automated information at Headquarters, Department of the Army (HQDA). The study develops nine policy concepts for information management. The functions of the eleven IRM functional programs are completely developed. A methodology for costing information is developed. An information system for internal management of IRM, the Information Resource Information System is fully specified. Organizational design to include designation of required personnel resources by type are included for each distributed organizational element. IRM program cost estimates are also included. The study recommends that the IRM Resource Management Office which manages the overall programs be established at the highest levels of HQDA in Office, Chief of Staff directly reporting to Director of the Army Staff. Ten of the eleven IRM functions are distributed to three major Army staff elements. (Author) (NTIS)

The Design of an Information Management Progam for Headquarters, Department of the Army. Phase 2. Management Summary
(Contract study, Aug 78-Feb 80)
Young (Arthur) and Co Washington DC
26 Feb 80 30p

The report summarizes the Phase 2 detailed report. Included are automated information problems, principles of managing information as a resource, benefits of IRM. Also contained are the study's 10 recommendations, IRM program resource requirements, and proposed organizational models for implementing the distributed IRM program at HQDA. (Author) (NTIS)

Management Principles to be Considered for Implementing a Data Base Management System Aboard U.S. (United States) Naval Ships under the Shipboard Non-Tactical ADP (Automated Data Processing) Program
(Master's thesis)
Dixon, Robert Harrison
Naval Postgraduate School, Monterey, CA.
Dec 82 87p

The increased administrative burden being placed upon the Fleet increasingly affects ship performance and personnel morale and retention. The Shipboard Non-tactical ADP Program (SNAP) is being instituted in order to alleviate these burdens. However, the 'applications approach' being used

with SNAP is not sufficient to meet both the functional and management needs of the Fleet. The management environment necessary to satisfy both of these needs are discussed. The central theme is that of centralization and standardization of data, its definition, and its control. Fundamental to the above philosophy is the concept of Information Resource Management (IRM). Automation of IRM should be done via a Data Base Management System (DBMS). The critical tool required to transfer IRM results to a DBMS is the Data Dictionary System (DDS). Additionally, two crucial management positions, the IRM manager and the Data Base Administrator (DBA), are essential to the success of this data base approach. (Author) (NTIS)

IRM (Information Resources Management) Long Range Plan FY 1983-1987.
Volume 1: Executive Summary
(Final rept.)
Department of the Interior, Washington, DC.
Aug 82 13p
The plan lays out the roadmap and strategy for improving the Department's information resources in support of the natural resources and other assets management responsibilities of the Department. The plan is produced in three volumes. Volume I is an Executive Summary. (NTIS)

IRM (Information Resources Management) Long-Range Plan FY 1983-1987.
Volume 2: Plan Overview and Environment
(Final rept)
Department of the Interior, Washington, DC.
Aug 82 126p
The plan lays out the roadmap and strategy for improving the Department's information resources in support of the natural resources and other assets management responsibilities of the Department. The plan is produced in three volumes. Volume II describes the overall IRM goals and objectives, the planning process, and the planning environment. (NTIS)

IRM (Information Resources Management) Long Range Plan FY 1983-1987.
Volume III: IRM Projects and Functional Plans
(Final rept)
Department of the Interior, Washington, DC.
Aug 82 316p
The plan lays out the roadmap and strategy for improving the Department's information resources in support of the natural resources and other assets management responsibilities of the Department. The plan is produced in three volumes. Volume III also includes Bureau estimates of personnel and dollar resources to carry out the selected projects during each of the five years in the 1983-1987 planning period. (NTIS)

IRM (Information Resources Manage) Long Range Plan - FY 1983-1987
Department of the Interior, Washington, DC.
Aug 82 455p-in 3v

IRM (Information Resources Management) Long-Range Plan, FY 1984-1988 (Update). Volume 1. IRM Projects and Major Information Systems
(Final rept)
Department of the Interior, Washington, DC.
Sep 83 88p
Volume I of the FY 1984-1988 IRM Long-Range Plan update includes: (1) an Executive Summary, (2) recent changes in the organization and management of information resources in the bureaus, (3) an updated technological forecast, (4) a brief status report on FY 1983 LRP project implementation, and, most importantly, (5) the identification of IRM projects to be jointly undertaken by the bureaus and the Department during FY 1984-1988. Volume I also includes, as appendices, an Office Automation Functional Plan and a compilation of major information system development efforts planned by the bureaus during FY 1984-1988. (NTIS)

IRM (Information Resources Management) Long-Range Plan: Fiscal Year 1984-1988 (Update). Volume 2. ADP and Telecommunications Acquisition Plan
Department of the Interior, Washington, DC.
May 84 51p
This Department of the Interior (DOI) Five-Year ADP and Telecommunications Acquisition Plan represents the first major planning effort within the Department directed specifically to the area of information technology procurement. This document is considered to be an integral part of the FY 1984-1988 Information Resources Management (IRM) Long-Range Plan (LRP) the main purpose of which is to provide guidance for improving management of the Department's information resources. (NTIS)

Information Resources Management Plan.
Federal Aviation Administration, Washington, DC. Office of Management Systems
208 pp.,Aug 1983,FAA,Washington, DC,Pub. No: AD-A131 964/9
This plan documents the Federal Aviation Administration's long-term plan for applying systems analysis and automated data processing technology to its information needs. As a long-range plan, it provides a sound basis for both the executive and legislative branches to properly appraise funding needs. It retains the flexibility needed to accommodate future technology as it becomes applicable to individual subsystems and it becomes evident that the new technology with improve our return on investment. The plan begins institutionalizing a process of regular and comprehensive assessments of FAA's information posture and needs. This plan is the framework for the development, operation, and management of agency information resources and for the regular review of performance as well as resource and priority decisions. The FAA will follow through on this planning effort with the detailed requirements documentation, system specifications, cost benefit analyses, and the other actions sound system management requires. (ISA)

Managing End User Computing: One Agency's Approach
(Final rept.)
Squires, F. N.
Coast Guard, Washington, DC. Office of Command, Control, and

Communications.
Sponsor: Department of Transportation, Washington, DC. Office of the Secretary.
Report No.: DOT-SRP-84-8
May 84 38p

This report describes the Coast Guard's management of end user computing. In doing so, it describes some of the history of how microcomputer technology began to infiltrate the organization in the late 1970's, the lessons learned from decontrolling the acquisition of low cost computers, the introduction of a Coast Guard Standard microcomputer system for distributed processing and local applications, and how end user computing fits into the wider spectrum of the Coast Guard's Information Resources Management (IRM) Architecture. This document is intended to inform Coast Guard management of the progress the Coast Guard has made in end user computing, and to share the Coast Guard's experience with other organizations who are wrestling with the problems of managing the explosion of end user computing. (NTIS)

The World Wide Military Command and Control Information System--Problems in Information Resources Management
(Report to the Congress)
General Accounting Office, Washington, DC. Mission Analysis and Acquisition Div.
Report No.: MASAD-82-2
19 Oct 81 78p

GAO's evaluation of the World Wide Military Command and Control Information System modernization effort showed that continuing problems associated with providing automated support for command and control functions are not being properly addressed by DOD. DOD's efforts are not yet completed; however, the methods employed and progress to data are unlikely to enable the replacement of the World Wide Military Command and Control Information System to meet its intended goals. Further, these efforts are proceeding far too slowly to be considered responsive to the need to improve current system performance. DOD anticipates 10 more years will be necessary to modernize the system. GAO's evaluation of the modernization program shows that substantial changes are needed in the program's management structure before the system can be fully and effectively modified. (NTIS)

Information Resource Management for Naval Shore Activities: Concepts and Implementation Strategy
(Master's thesis)
Worley, D. L. ; Cronauer, H. T.
Naval Postgraduate School, Monterey, CA.
Sep 84 147p

The authors provide a method for implementing IRM (Information Resource Management) in Naval shore activities. The research stemmed from the authors' perception that hardware procurement was overshadowing the determination of actual information system requirements. The framework presented approaches an IRM implementation from the perspective of the activity's commanding officer. The emphasis is on the information needs of the commanding officer and the criticality of identifying the information

requirements prior to automating an information system for the activity. The evolution of IRM is discussed and precedes a presentation of an IRM infrastructure for the shore activity. The authors include a case for an IRM professional within the Navy. The thesis concludes with a detailed checklist to aid the commanding officer in the thought processes required to initiate the implementation of IRM for a Naval shore activity. Originator supplied keywords include: Information engineering and implementation strategy. (NTIS)

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