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# The Blackwell Encyclopedic Dictionary of Management Information Systems



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## Preface

Computer-based information and communications systems are critical resources for competing successfully in the information age. These systems are vital to products, services, and management processes. A new organization function has been established to plan, implement, and manage the information technology infrastructures and systems required by an organization. An academic discipline has emerged to teach and research the use of information technologies in organizations and the management of information resources. The size of investment in information resources and its importance to the effectiveness and efficiency of organizations justify the business function and corresponding academic discipline.

A variety of names are applied to the new organization function and academic discipline. The term, Management Information Systems or MIS, is widely used. Other often-used terms are information systems and information management. Management information systems is used for this encyclopedic dictionary of the field both because it is the most widely used and also because it clearly identifies the management and organization context for the systems.

A useful starting point for a user of *The Blackwell Encyclopedic Dictionary of Management Information Systems* is the article, MANAGEMENT INFORMATION SYSTEMS. It defines and describes the scope of the organization function and academic discipline. Historical background is contained in the article, HISTORY OF ORGANIZATIONAL USE OF INFORMATION TECHNOLOGY. Underlying concepts are found in articles on INFORMATION CONCEPTS and SYSTEM CONCEPTS APPLIED TO INFORMATION SYSTEMS.

The focus of this encyclopedic dictionary is on information systems in organizations and the management of information resources. There are articles describing the concepts, processes, and tools employed in planning, building, and managing information systems. The coverage does not



include technical details of information and communications technologies. However, since management information systems employ these technologies, there are management-level explanations of technical terms that are relevant to organization dialogue about requirements and applications.

The articles and definitions in the dictionary have been written by academic and professional colleagues working in the field of management information systems. They have responded well to instructions to make the descriptions technically correct but understandable to a reader who is not a specialist in the field.

GORDON B. DAVIS

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THE BLACKWELL ENCYCLOPEDIA OF MANAGEMENT

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## A

### Accounting Use of Information Technology

The use of information technology in accounting is reflected in an *accounting information system (AIS)*. It is an information system that collects, stores, processes, and reports information regarding the financial transactions of an organization. A major objective of an accounting information system is to provide the necessary controls over the processing of transactions to ensure that the organization's financial activities are recorded and reported accurately, fairly, and on a timely basis.

Accounting information systems are the most common information systems utilized in business. Every firm uses at least one. They are a combination of manual (i.e. people-oriented) and automated (i.e. computer-based) components that work together to accomplish the accounting system objectives. Due to the critical and often enterprise-wide role of accounting applications, an organization's set of integrated accounting applications may be its largest information system. The accounting information system can be described in terms of its processing activities and its use in business accounting cycles.

### *Accounting Information Processing Activities*

Accounting information systems are a subset of the broader category of organizational information systems. As such, they perform the basic data processing functions.

In the input stage, the system collects and records data such as sales orders, shipping data, and vendor payments into the system. Forms such as invoices or bank deposit slips that contain the input data are called source documents. If necessary, data from non-machinereadable source documents (such as a handwritten price tag) are entered into machinereadable form for use in subsequent computerized processing. Common AIS input devices include keyboards for manual data entry, scanners to read universal product

codes (UPCs, or bar codes), and magnetic ink character readers (MICR) in banking.

In the processing stage, accounting applications perform primary accounting operations, utilizing the data that was collected in the input stage. The most common data processing operation is the updating of organizational files and databases to reflect the completion of a transaction. Transaction processing typically uses one of two modes: batch or online. In batch processing, individual transactions are accumulated over a specified period of time (hourly, daily, weekly, etc.) and are then processed as a group to update the relevant files on a periodic basis. A payroll system is an example of an application that is typically processed in batch mode. In online processing, relevant files are updated immediately, one transaction at a time, as the transaction occurs. Online systems are more complex and expensive than batch systems, but they provide greater database integrity since they reflect a more accurate state of the world. A sales order entry system that updates the inventory file immediately upon completion of a purchase is an example of an application that utilizes online processing.

In the output stage, an accounting system produces documents that describe financial transactions that have been processed. At the single transaction level, a customer's sales receipt or a bank's deposit receipt are examples of outputs. Examples of outputs that depict aggregated transactions include monthly bank statements and packing slips for a product shipment. At an even more aggregate level, and