

## OVERVIEW OF INSURANCE INFORMATION SYSTEMS (112-1)

*[An **information system** is an organizational component that provides a service to management.*

*An **accounting information system** accumulates, classifies, processes, analyzes, and communicates financial information.*

*A **management information system** performs the same functions as an accounting information system for both financial and nonfinancial information.*

*An **insurance information system** provides information needed to direct an insurer's operations.]*

### EO 1. INSURERS NEED EFFECTIVE INFORMATION SYSTEMS TO

1. **meet social responsibilities**--by providing financial information to company owners, managers, creditors, investors, analysts, and customers **and**
2. **meet regulatory responsibilities**--by providing required by the states.

### EO 2. [Internal controls

1. *protect the organization against waste of resources,*
2. *ensure reliable accounting data,*
3. *secure compliance with managerial policies, and*
4. *facilitate personnel and departmental performance evaluations.]*

*[**Administrative controls** govern management's authorization of transactions.*

*[Internal accounting controls have become more important in recent years due to the influences of*

1. *The Foreign Corrupt Practices Act of 1977,*
2. *the American Institute of Certified Public Accountants,*
3. *state insurance departments,*
4. *independent auditors, and*
5. *laws developed to address questionable business practices.]*

## INTERNAL CONTROLS DEFINED BY THE AMERICAN INSTITUTE OF CERTIFIED PUBLIC

ACCOUNTANTS: The Foreign Corrupt Practices Act of 1977 amended the Security Exchange Act of 1934. **It requires companies registered with the US Securities and Exchange Commission (SEC) to**

1. make and keep books, records, and accounts that accurately reflect the company's assets and transactions **and**
2. devise and maintain a system of internal accounting controls to assure control objectives are met.

State insurance departments and independent auditors have also emphasized the need for internal controls.

Insurers should meet the internal control standards of Statement of Auditing Standards (SAS) No. 1, which states that **internal accounting controls should provide reasonable assurance that**

1. transactions are executed in accordance with management's authorizations,
2. transactions are recorded as necessary to permit asset accountability and preparation of GAAP financial statements,
3. assets may be accessed **only** with management's authorization, **and**
4. recorded assets are periodically compared with existing assets and appropriate actions taken in the case of any discrepancies.

### EO 3. FORMS AND TYPES OF INFORMATION:

**Information** consists of quantitative and qualitative data that have been organized to aid decision making.

**Information** is meaningfully organized data. **Data** are meaningless, unstructured, raw facts.

Organizations use **feedback information** to regulate business activity and evaluate business goals.

There are **three types of feedback information**:

1. **Scorekeeping information**--describes what has already occurred.
2. **Attention-directing information**--is targeted to the information user's interests.
3. **Decision-making information**--forecasts the effects of decisions.

**FORMS AND TYPES OF MANAGEMENT INFORMATION:** Management information often takes the form of statistical (quantitative) data, but it may also take the form of qualitative data (regulatory changes, revised underwriting guidelines). Much of an organization's knowledge exists in nonstructured information systems (word processing documents, e-mail messages, spreadsheets, etc.).

**The types of management information are**

1. **external** (state and national economic and political information, industry information) *and*
2. **internal** (historical, current, and predicted operating results).

**The manner of reporting may be** periodic, on request (**on-request reporting**), or triggered by exceptional circumstances (**exception reporting**).

Electronic reference materials greatly improve access to and use of information.

**THE FOUR CONSIDERATIONS IN ORGANIZING INFORMATION:**

1. **How will the information be used?**
2. **How much information will be needed and how often?**
3. **Will the underlying data be available and easily accessible?**--If not, the organization may not be able to afford to produce the information.
4. **What will be the cost of going without the information?**--This guides whether to produce costly information.

*[Automated information systems, like manual systems, are only as good as their underlying data.*

*Also, computers can **not** make decisions; they can only provide information for human decision-making.*

*Whether automated or manual, **a firm's information system must be dynamic, flexible, timely, accurate, accessible, and secure.***

EOs 4 + 5. **INSURER INFORMATION IS USED FOR**

1. **MANAGING--Management** plans, budgets, controls, and evaluates the activities of the organization. Managers require information to manage functions.

**The four phases of management and their information needs:**

- a. **Planning**--establishes the firm's goals.  
**Short-term planning** (one to eighteen months) requires specific, detailed information.  
**Long-term planning** (one to five years) requires less specific information.  
**Planning information needs include** past experience and forecasts of future economic, industrial, and company-specific variables including number of employees, number of policies written, number of policies in-force, written premium, earned premium, overall losses, catastrophe losses, noncatastrophe losses, expenses, and profits.
- b. **Budgeting**--controls the firm's expenses.  
The insurer may follow NAIC expense classifications or develop its own.  
Past and current expenses should be organized into the chosen expense classifications.  
**Budgeting information needs include** historical and current expenditure results, future economic expectations, and the goals established in planning.  
**Information should be targeted to the three main budgeting categories:** operational budgets, long-range planning budgets, and capital budgets.
- c. **Controlling**--organizes the resources needed to achieve the firm's goals.  
**Controlling information needs include** actual operating results, planned operating results, number of employees, number of policies, written and earned premiums, losses, and expenses.

- d. **Evaluating**--compares actual results to planned results.  
**Information needs** are the same as for planning, budgeting, and controlling, *but* the information must be organized to facilitate comparison between planned and actual results. Graphic display of information can increase the efficiency of evaluation.  
**Accounting managers need** detailed and accurate records.  
**Supervisors need** information that focuses on results, performances, and the responsiveness of the information system.  
**Middle and top managers need** information that focuses on overall performance and financial results.
2. **PRICING**--sets prices for the offered products. Actuaries, in both rating organizations and individual insurers, require pricing information. Rating organizations calculate and file **prospective loss costs**, which are historical loss and loss adjustment expenses trended for future loss development. Insurers calculate and file their individual **expense constants** based on their own expense data and provisions for profit.  
**Information needs include** premiums, losses, and expenses for each group of policies.  
**Premium information should include** amounts, exposures, and number of policies.  
**Loss statistics should include** the number and amounts of claims.  
**Expense information should include** loss adjustment expenses, commissions, acquisition expenses, general expenses, and taxes.  
Precise information is needed to estimate as accurately as possible the ultimate cost of insurance, which in turn dictates insurance rates.
3. **STATISTICAL REPORTING**--collects, organizes, and files information required by state laws. Independent statistical agencies gather information from insurers and file it with states as needed.  
**Statistical reporting information needs include**
- premium and loss statistics for each geographic location of the risk type**--policy type, deductible, amount of insurance;
  - conditions particular to each insured**--building construction type, VIN, number of employees; *and*
  - volume of each line of insurance written.**
- Statistical agencies tell insurers exactly what information to report and when.  
State agencies require detailed statistical information to develop reliable insurance rates or to determine that insurers' own rates are adequate, not excessive, and not unfairly discriminatory.
4. **FINANCIAL REPORTING**--files information on the insurer's financial condition with insurance regulators, investors, creditors, agents, policyholders, and tax authorities.  
**Information needs include** fixed maturities, equity securities, cash and short-term securities, investment income accrued, premium balances receivable, deferred acquisition costs, and more.  
Information is organized according to either **SAP (Statutory Accounting Principles)** or **GAAP (Generally Accepted Accounting Principles)**. **SAP** are required by state insurance departments. They emphasize the insurer's balance sheet solvency, as if it were about to be liquidated.  
**GAAP** are used to prepare all other financial statements.  
GAAP emphasize the insurer's income statement profitability as a going concern.  
**SAP differ from GAAP in these ways: SAP**
- charge business acquisition costs against income as incurred,
  - treat certain assets as nonadmitted,
  - reflect federal income taxes as taxes actually payable,
  - prohibit accrual of debit adjustments on policies with retrospective premiums, *and*
  - do not require accrual for probable losses from premium inadequacy affecting an entire line of business.
- The major property-casualty assets are** bonds and common stock.  
**The major life-health assets are** bonds and mortgage loans.

5. **SERVING CUSTOMERS--Customer service** provides information to agents and policyholders.
 

**Policyholders' information needs include**

  - a. what products and services are available,
  - b. who offers them, *and*
  - c. how much they cost.

**Agents' information needs include**

  - a. personal data about customers and prospective customers,
  - b. policy and coverage identification (types, limits, deductibles),
  - c. premium charges,
  - d. premium collection, *and*
  - e. other information needed to run their agencies efficiently.

**Customer service information applies mainly to these five functions:**

  - a. **Policy issuance service**--The customer's application provides the information needed to issue the policy. That information is verified at each renewal.
  - b. **Loss control service**--The insurers marketing representatives, adjusters, and other personnel communicate loss control information to insureds to reduce the frequency and severity of losses.
 

**Insurers generally encourage their insureds to practice safety, guard against crime, abstain from insurance fraud, and make efficient use of their insurance.**
  - c. **Claims handling and processing**--Claims handlers get the information they need to handle and process claims from the customer, the agency, the loss report, and the policy.
 

**Property-casualty insurers need to know the type, time, date, and amount of loss *and* premium paid information.**

**Life insurers need to know the date and cause of death or disability, beneficiary, amount of in-force insurance, outstanding policy loans, *and* premium paid information.**
  - d. **Annual report to policyholders**--provides policyholders with insurer financial information, including premiums, losses, loss adjustment expenses, administrative expenses, profit (or loss), investment income, dividends, and income taxes.
  - e. **Agency communication**--Insurers send regular reports to their agencies that reflect each agency's book of business and special concerns.
6. **REGULATING**--The insurance industry is regulated mainly by state insurance departments. Each state has a commissioner, superintendent, or director of insurance whose staff make up the state insurance department.
 

**State insurance departments focus on insurers'**

  - a. **market conduct**--includes sales and advertising, underwriting, rating, and claims practices. State examiners assess market conduct through financial examination and complaint analysis.
  - b. **solvency**--is monitored through insurers' Annual Statements.
  - c. **rate adequacy**--exists when an insurer's rates are approved as reasonable, adequate, *and* not unfairly discriminatory. Each state has its own rating laws.
7. **TAXES, FEES, AND ASSESSMENTS**--Each entity that taxes an insurer demands the tax and the supporting information used to compute the tax. Most of that information comes from the Annual Statement.
 

**The gross premium tax** is computed on gross premiums received by the insurer, minus deductions for specified items (returned premiums, cancellations, policyholders' dividends).
8. **REINSURANCE RELATIONSHIPS--Reinsurance** (insurance for insurers) **gives the reinsured** increased capacity, protection against catastrophes, stable underwriting results, surplus relief, *and* expert advice.
 

Each reinsurance agreement dictates what information the reinsurer needs from the reinsured. The flow of information from primary insurers to reinsurers is often too slow and not detailed enough for proper data classification.