

Lecture 3: Managerial Accounting Systems

Learning Objectives

1. To discover methods of providing top-down and bottom-up information flows.
2. To learn about the information systems that produce reports for internal use.
3. To understand how account codes are used to produce accounting reports.

Accounting information systems recognize events, record them, summarize them and report accounting information. This sequence of activities constitutes a flow of information. In managerial accounting information systems, information flows in two directions. A **top-down flow** originates from events that occur at the top management level. Systems record these events and report them to employees at lower level. AISs provide a **bottom-up flow**, when events occur at the lower level. These are recorded, summarized and reported to top management. These flows are provided by **budgeting** and **responsibility reporting systems**.

1. Top-down information flow

An organization's budgeting system provides a top-down information flow. This AIS produces periodic budgets, which provide managers in accordance with organization's plans covering the next budgeting period. Budgets help achieve overall organizational objectives. An effective budgeting system is designed to work within the organization's structure. It requires that top management develop policies concerning the organization's objectives, communicate these policies with policy statements and set performance goals.

Organization structure

An organization structure provides the environment through which information flows. It is communicated by using organization charts and job descriptions.

Policy statements

Company's policy statements identify top management's expectations concerning the behavior of the employees. One common policy statement is the **code of conduct** – a document that describes the ethical standards employees are expected to follow.

An effective budgeting system requires that management establish performance goals for each segment of the organization. Top management then communicates these goals to managers of the segments by issuing periodic budgets. This system is known as a **performance budgeting system**. It translates company's objectives into goals that are meaningful at the subsidiary, division and department level.

As the information flows to successively lower levels, it becomes more specific and detailed. The process is called as **information amplification**.

2. Bottom-up information flow

Bottom-up information flows originate with events occurring at the lower levels in the organization structure. The system that records, processes and reports these events to managers at higher levels is the **responsibility reporting system**. Often companies implement systems that provide for both responsibility reporting and performance budgeting. These systems are known as **responsibility accounting systems**.

Responsibility reporting systems record performance (monetary, statistical) measures at each segment in the organization. In a responsibility accounting systems, reports compare these performance measures with the performance goals established by the budgeting system.

Responsibility centres

Responsibility accounting systems accumulate performance measures and goals at the lower level in the organizational hierarchy. An organizational unit where a manager controls financial measures is a **responsibility center** (e.g. 1 supervisor and several employees). These centers also exist at each higher level in the organizational structure. A higher-level responsibility center consists of a manager and all the responsibility centers reporting to that manager. It may be a **cost**, a **profit** and an **investment center**.

Performance report

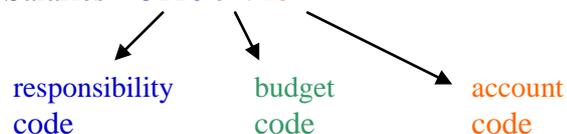
A responsibility accounting system produces information in performance reports. The information disclosed on this report depends on the performance measures controlled by the manager – e.g. the report for cost center discloses the budgeted and the actual costs attained for the budgetary period, the difference between these amounts (called a **budget variance**) etc. At each successively higher level, the reports become less detailed, specific and highly summarized. This process is known as **data reduction**.

Classification and Coding

A large company may have hundreds of responsibility centers, so the responsibility accounting system produces a lot of totals (e.g. budgeted and actual revenues, costs for each center and for each month). The system accumulates this much data by the process of classification and coding.

The system **classifies** transactions when it groups them by responsibility center and by account. The system **codes** a transaction when it assigns to it a combination of characters that distinguishes the classifications to which it belongs. The system uses **responsibility codes** (numbers uniquely identifying a responsibility center), **account codes** (numbers identifying a general ledger account) and **budget codes** (numbers identifying the budgeted amounts for a responsibility center).

Example of coding: Budgeted Wages and Salaries = 5110-9-710



The performance reports produced by a responsibility accounting system are useful to managerial purposes. Their form and content are inadequate for financial accounting because they do not comply with the disclosure requirements of general accepted accounting principles. However, an accounting information system must produce both financial statements and responsibility reports.

Lecture 3 - Questions and exercises

Q 3-1: Describe two directions of information flow:

- a) Top-down information flow
- b) Bottom-up information flow

Q 3-2: Define the Code of Conduct.

Q 3-3: Distinguish between the scopes of the following systems:

- a) Responsibility reporting system
- b) Responsibility accounting system

Q 3-4: Define a Responsibility center.

E 3-1: Cost Performance Report

At the basic research department of Alpha Research Corporation, the consumption on research chemicals is sound to be \$32 per day for the nonvariable portion and \$12 for each hour of research activities undertaken. Chemicals consumed and research hours worked during the first week in May 2010 are as follows:

| Day of week | Chemicals consumed | Hours worked |
|------------------|--------------------|--------------|
| May 3, Monday | 550 | 44 |
| May 4, Tuesday | 675 | 52 |
| May 5, Wednesday | 830 | 62 |
| May 6, Thursday | 620 | 51 |
| May 7, Friday | 730 | 55 |
| Total | 3405 | 264 |

Required: Prepare a report for the manager of basic research department for the week ended May 7, 2011. Use the following columnar headings:

| <i>Day of week</i> | <i>Budget allowance</i> | <i>Actual consumption</i> | <i>Favorable (unfavorable) Variance</i> |
|--------------------|-------------------------|---------------------------|---|
|--------------------|-------------------------|---------------------------|---|

The main source:

BOCKHOLDT, J. L. *Accounting Information Systems: transaction processing and controls*. 5th edition, Boston: McGraw Hill Education 1999, ISBN 0-07-116098-1

The supplementary sources:

CAREY, M., KNOWLES, C. *Accounting: A Smart Approach*. 1st edition, New York: Oxford University Press, 2011, ISBN 978-0-19-958741-4