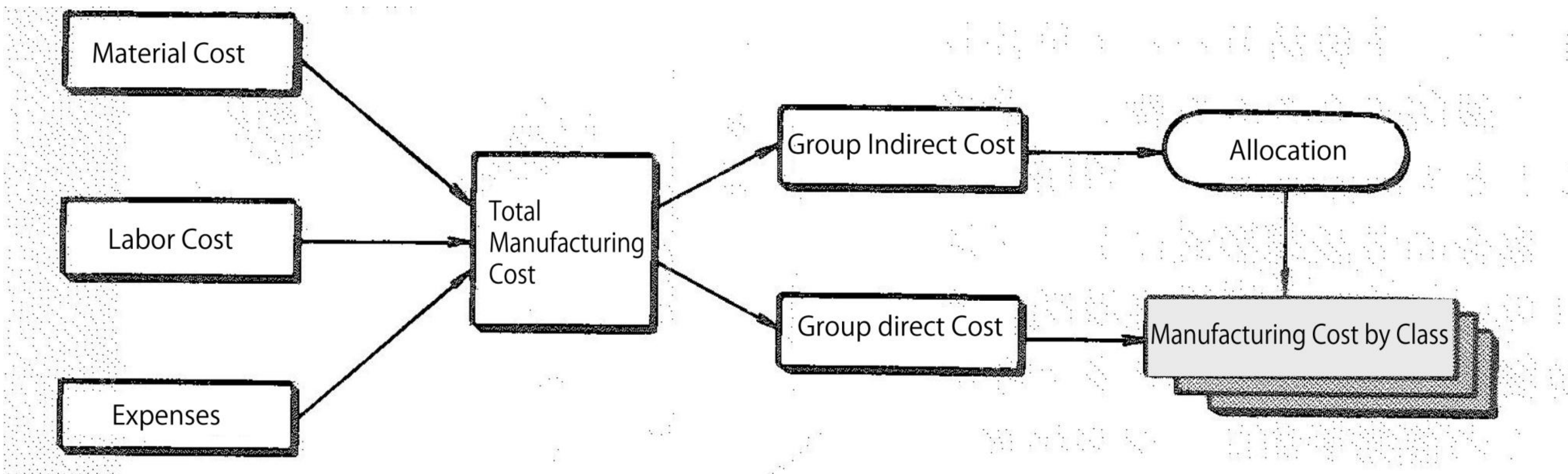
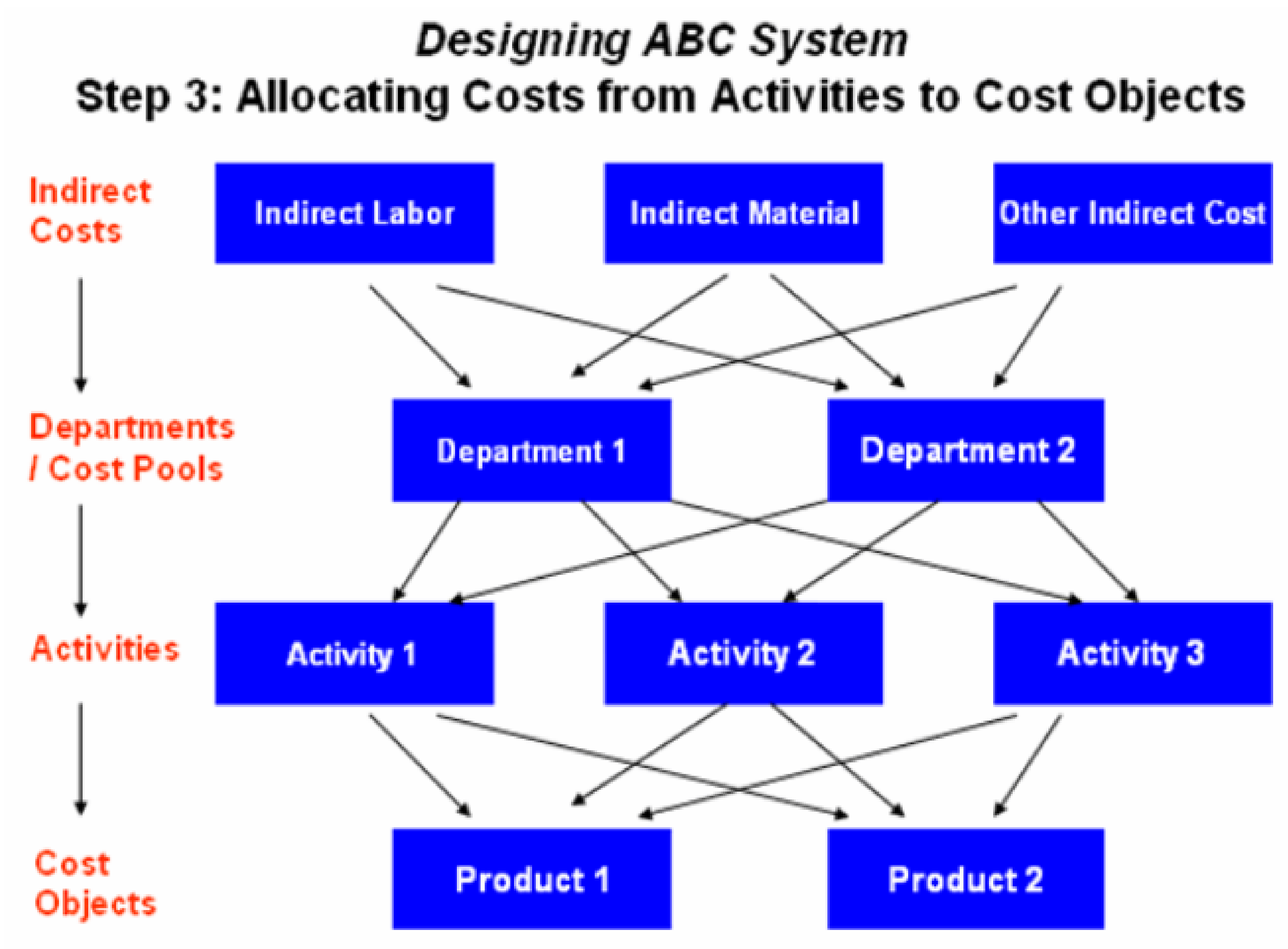
Activity-Based Costing

Total Class Costing

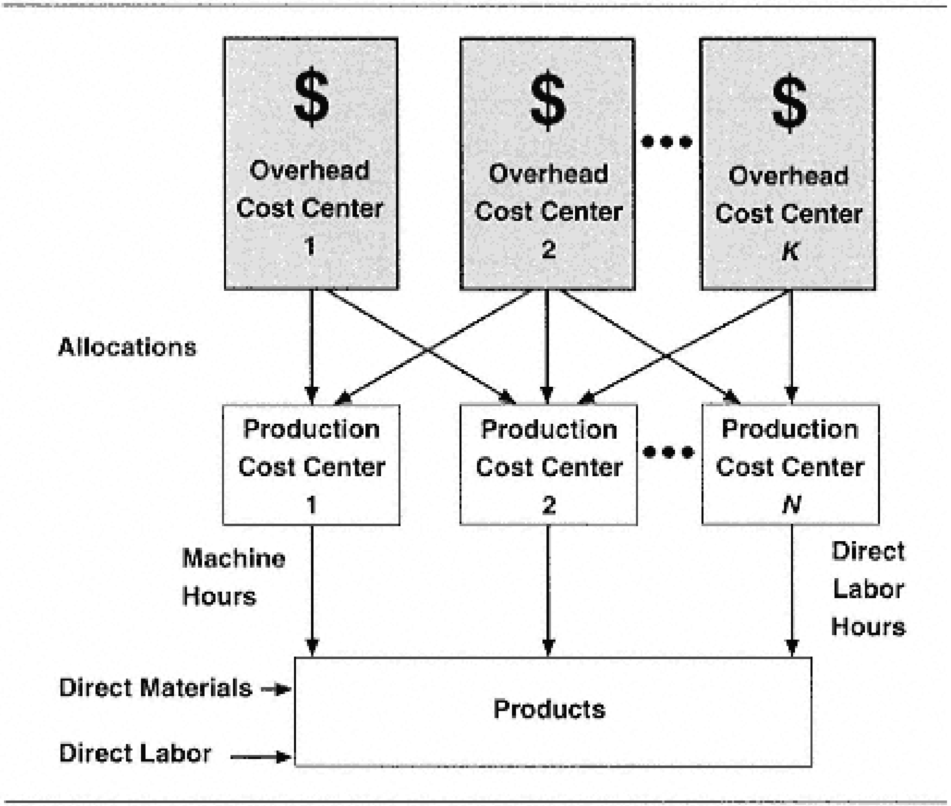


Designing ABC System

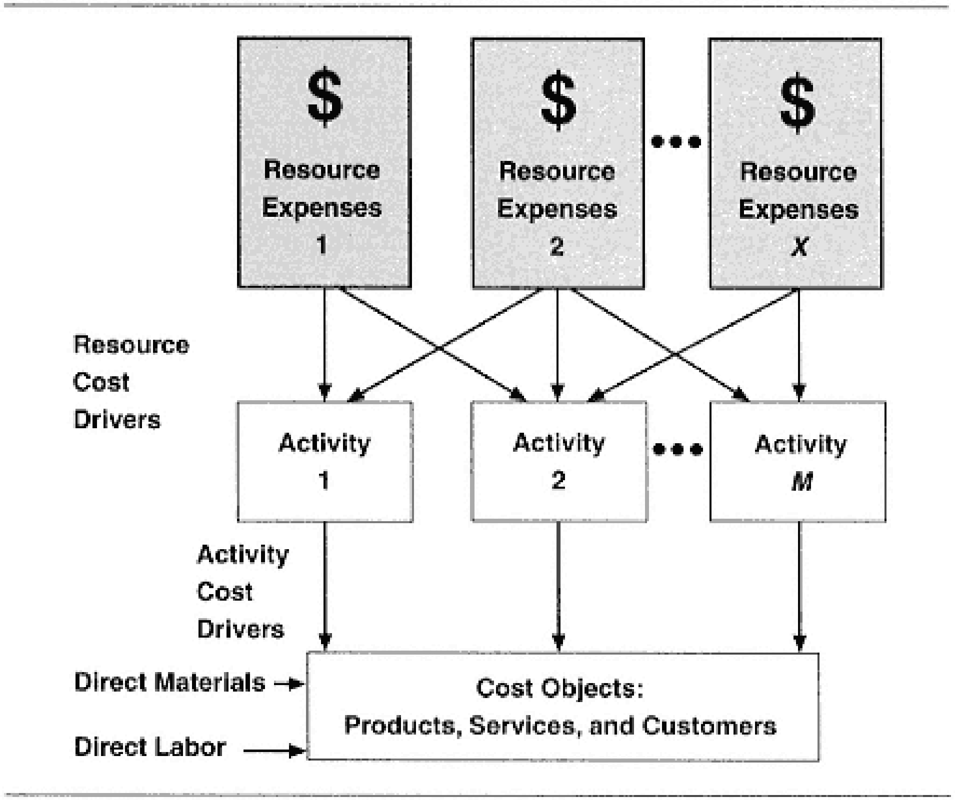


Traditional System vs. Activity-Based Cost System

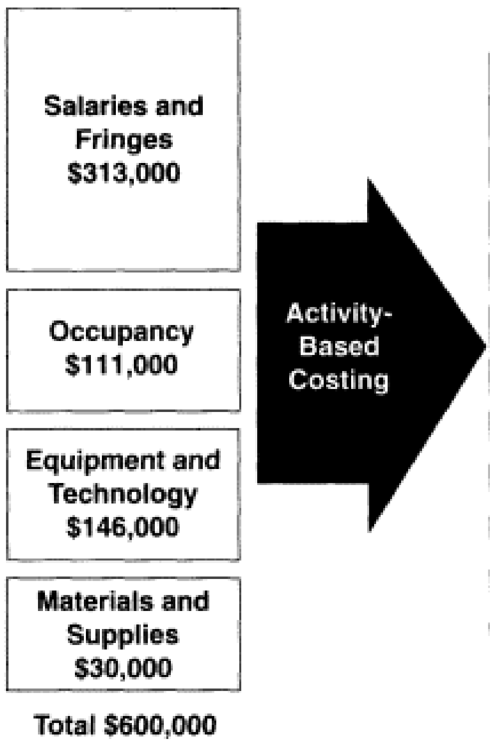
Traditional System



Activity-Based Cost System



Activity-Based Costing Shifts Analysis from Expense Categories to Activities Performed

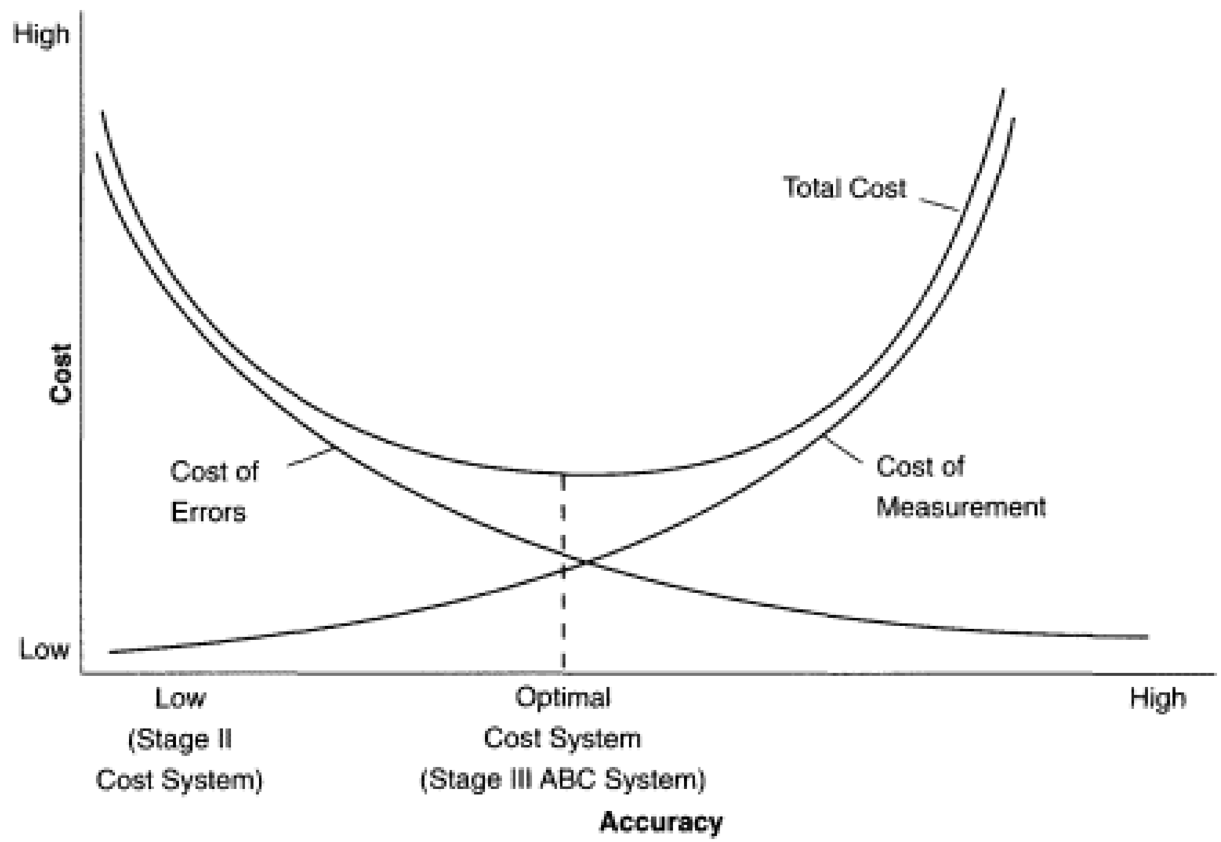


Activity	Salaries and Fringes	Occupancy	Equipment and Technology	Materials and Supplies	Total
Process Customer Orders	$ 31,000	$ 5,300	$ 12,600	$ 800	$ 49,700
Purchase Materials	34,000	6,900	8,800	1,500	51,200
Schedule Production Orders	22,000	1,200	18,400	300	41,900
Move Materials	13,000	2,100	22,300	3,600	41,000
Set Up Machines	42,000	700	4,800	200	47,700
Inspect Items	19,000	13,000	19,700	800	52,500
Maintain Product Information	36,000	2,800	14,500	400	53,700
Perform Engineering Changes	49,000	32,000	26,900	2,400	110,300
Expedite Orders	14,000	900	700	500	16,100
Introduce New Products	35,000	44,000	16,100	18,700	113,800
Resolve Quality Problems	18,000	2,100	1,200	800	22,100
Total	**$313,000**	**$111,000**	**$146,000**	**$30,000**	**$600,000**

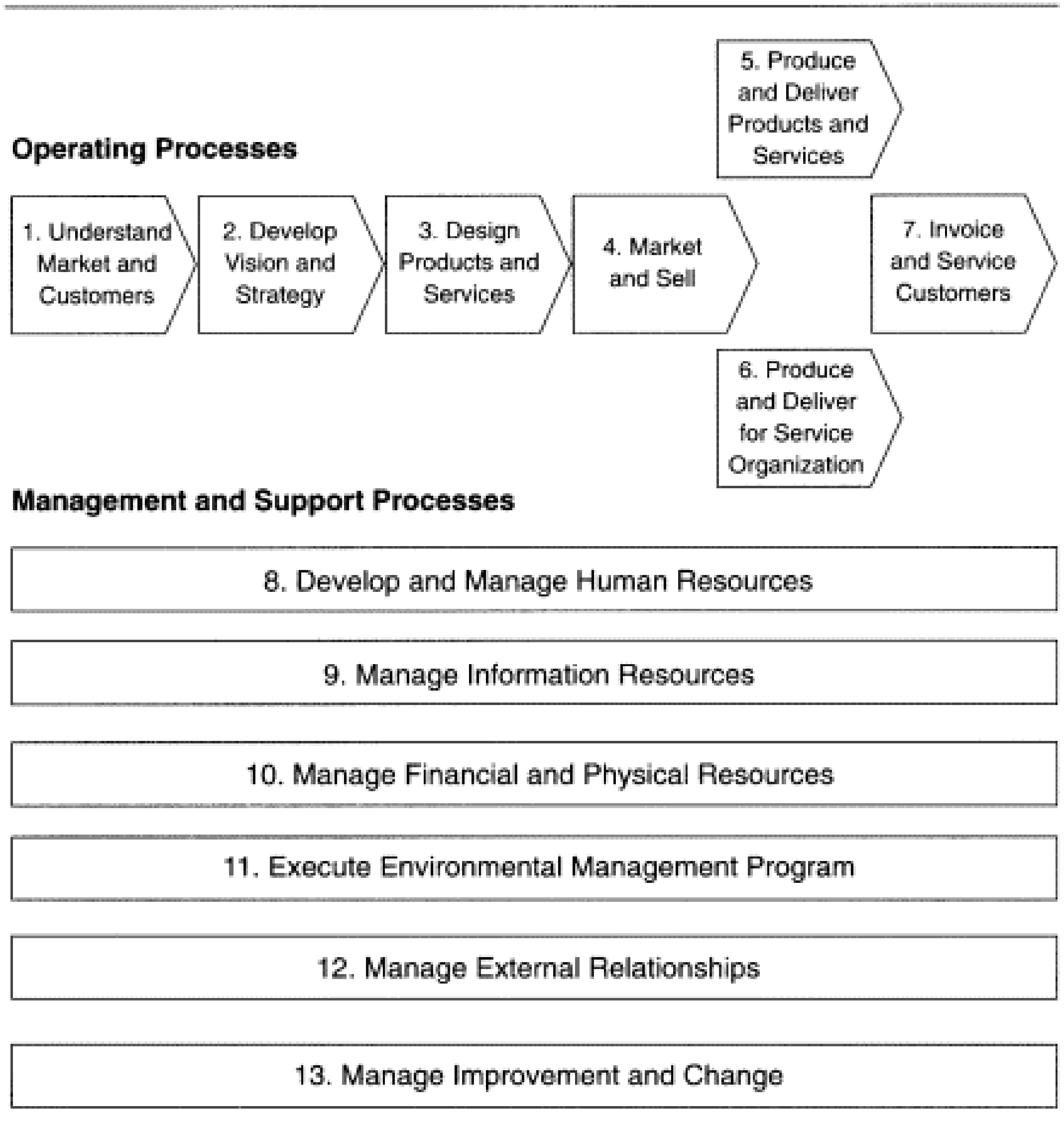
ABC systems are developed through a series of four sequential steps

- Step 1. *Develop the Activity Dictionary*
- Step 2. *Determine How Much the Organization Is Spending On Each of Its Activities*
- Step 3. *Identify the Organization's Products, Services, and Customers*
- Step 4. *Select Activity Cost Drivers That Link Activity Costs to the Organization's Products, Services, and Customers*

Activity-Based Costing: Designing the Optimal ABC System



Source: Reprinted with permission by the Houston-based American Productivity & Quality Center



Source: KPMG Peat Marwick LLP

Operating Processes

1. Understand Market and Customers
1.1 Determine customer needs and wants
1.2 Measure customer satisfaction
1.3 Monitor changes in market or customer expectations

2. Develop Vision and Strategy
2.1 Monitor the external environment
2.2 Define the business concept and organizational strategy
2.3 Design the organizational structure and relationships between organizational units
2.4 Develop and set organizational goals

3. Design Products and Services
3.1 Develop new product/service concept and plans
3.2 Design, build, and evaluate prototype products or services
3.3 Refine existing products/services
3.4 Test effectiveness of new or revised products or services
3.5 Prepare for production
3.6 Manage the product/service development process

4. Market and Sell
4.1 Market products or services to relevant customer segments
4.2 Process customer orders

5. Produce and Deliver Products and Services
5.1 Plan for and acquire necessary resources
5.2 Convert resources or inputs into products
5.3 Deliver products
5.4 Manage production and delivery process

6. Produce and Deliver for Service Organization
6.1 Plan for and acquire necessary resources
6.2 Develop human resource skills
6.3 Deliver service to customer
6.4 Ensure quality of service

7. Invoice and Service Customers
7.1 Bill the customer
7.2 Provide after-sales service
7.3 Respond to customer inquiries

Management and Support Processes

8. Develop and Manage Human Resources
8.1 Create and manage human resource strategy
8.2 Cascade strategy to work level
8.3 Manage deployment of personnel
8.4 Develop and train employees
8.5 Manage employee performance, reward, and recognition
8.6 Ensure employee well-being and satisfaction
8.7 Ensure employee involvement
8.8 Manage labor/management relationships
8.9 Develop Human Resource Information Systems (HRIS)

9. Manage Information Resources
9.1 Plan for information resources management
9.2 Develop and deploy enterprise support systems
9.3 Implement systems security and controls
9.4 Manage information storage and retrieval
9.5 Manage facilities and network operations
9.6 Manage information services
9.7 Facilitate information sharing and communication
9.8 Evaluate and audit information quality

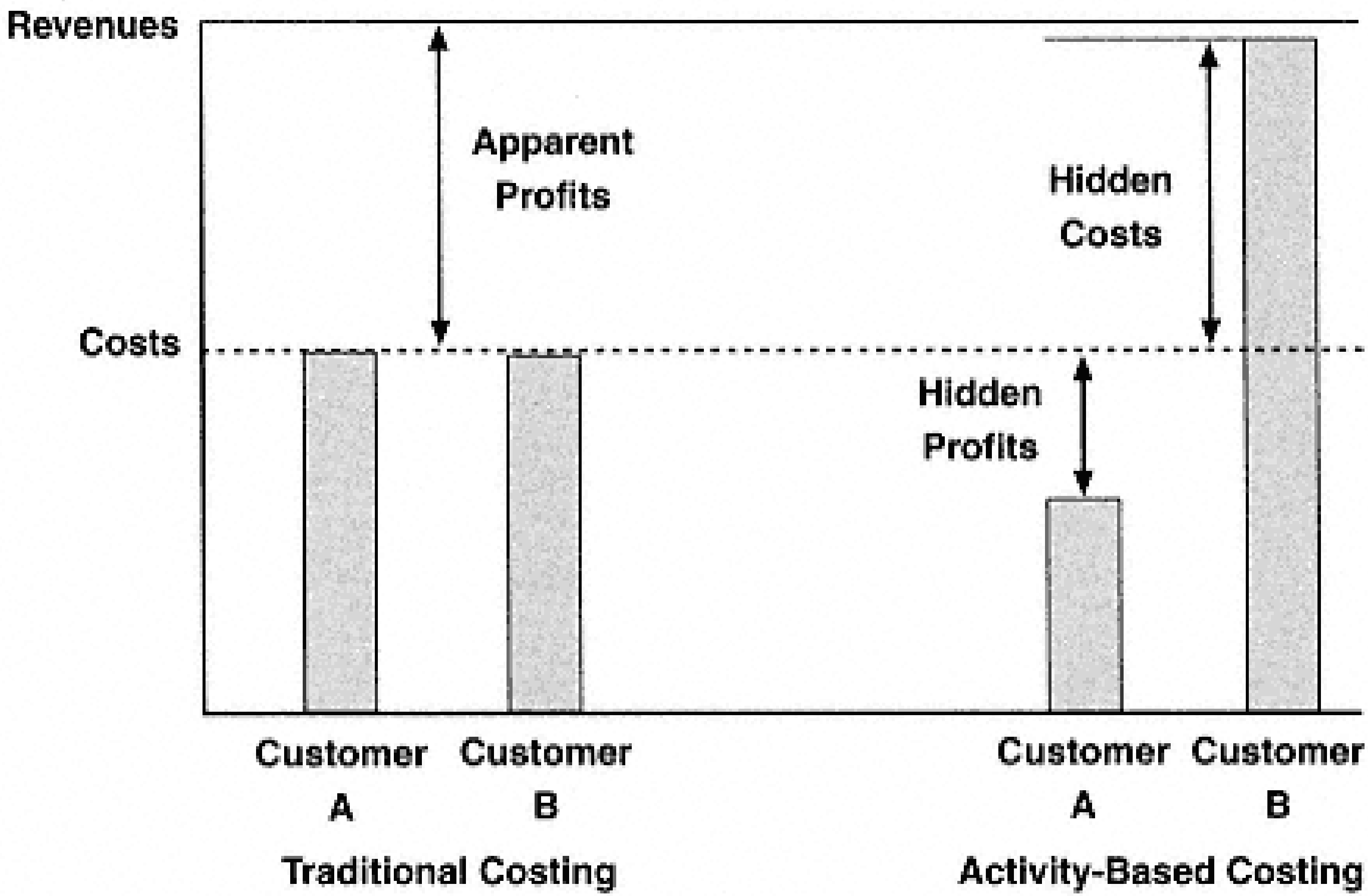
10. Manage Financial and Physical Resources
10.1 Manage financial resources
10.2 Process finance and accounting transactions
10.3 Report information
10.4 Conduct internal audits
10.5 Manage the tax function
10.6 Manage physical resources

11. Execute Environmental Management Program
11.1 Formulate environmental management strategy
11.2 Ensure compliance with regulations
11.3 Train and educate employees
11.4 Implement pollution prevention program
11.5 Manage remediation efforts
11.6 Implement emergency response program
11.7 Manage government, agency and public relations
11.8 Manage acquisition/divestiture environmental issues
11.9 Develop and manage environmental information system
11.10 Monitor environmental management program

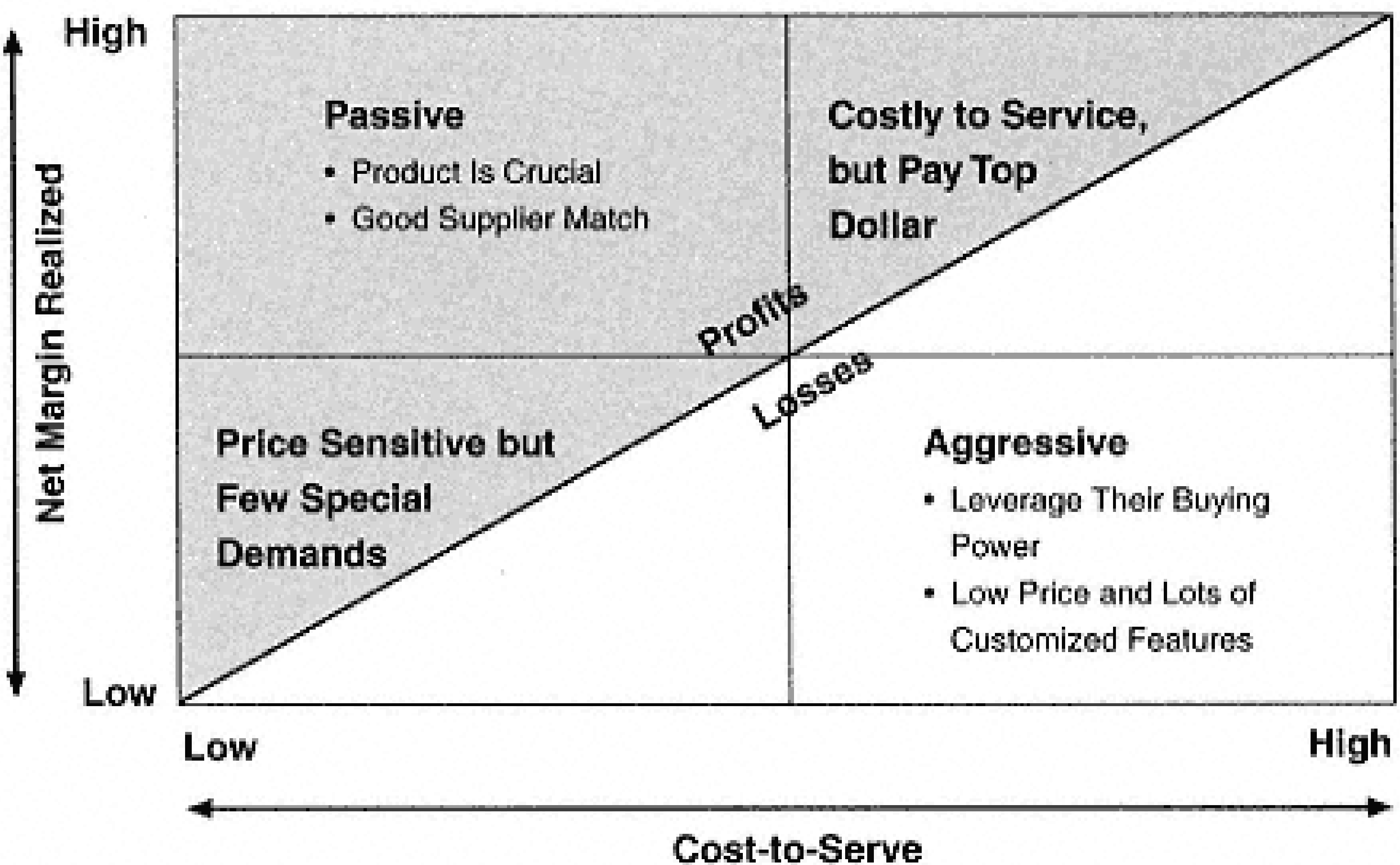
12. Manage External Relationships
12.1 Communicate with shareholders
12.2 Manage government relationships
12.3 Build lender relationships
12.4 Develop public relations program
12.5 Interface with board of directors
12.6 Develop community relations
12.7 Manage legal and ethical issues

13. Manage Improvement and Change
13.1 Measure organizational performance
13.2 Conduct quality assessments
13.3 Benchmark performance
13.4 Improve processes and systems
13.5 Implement TQM

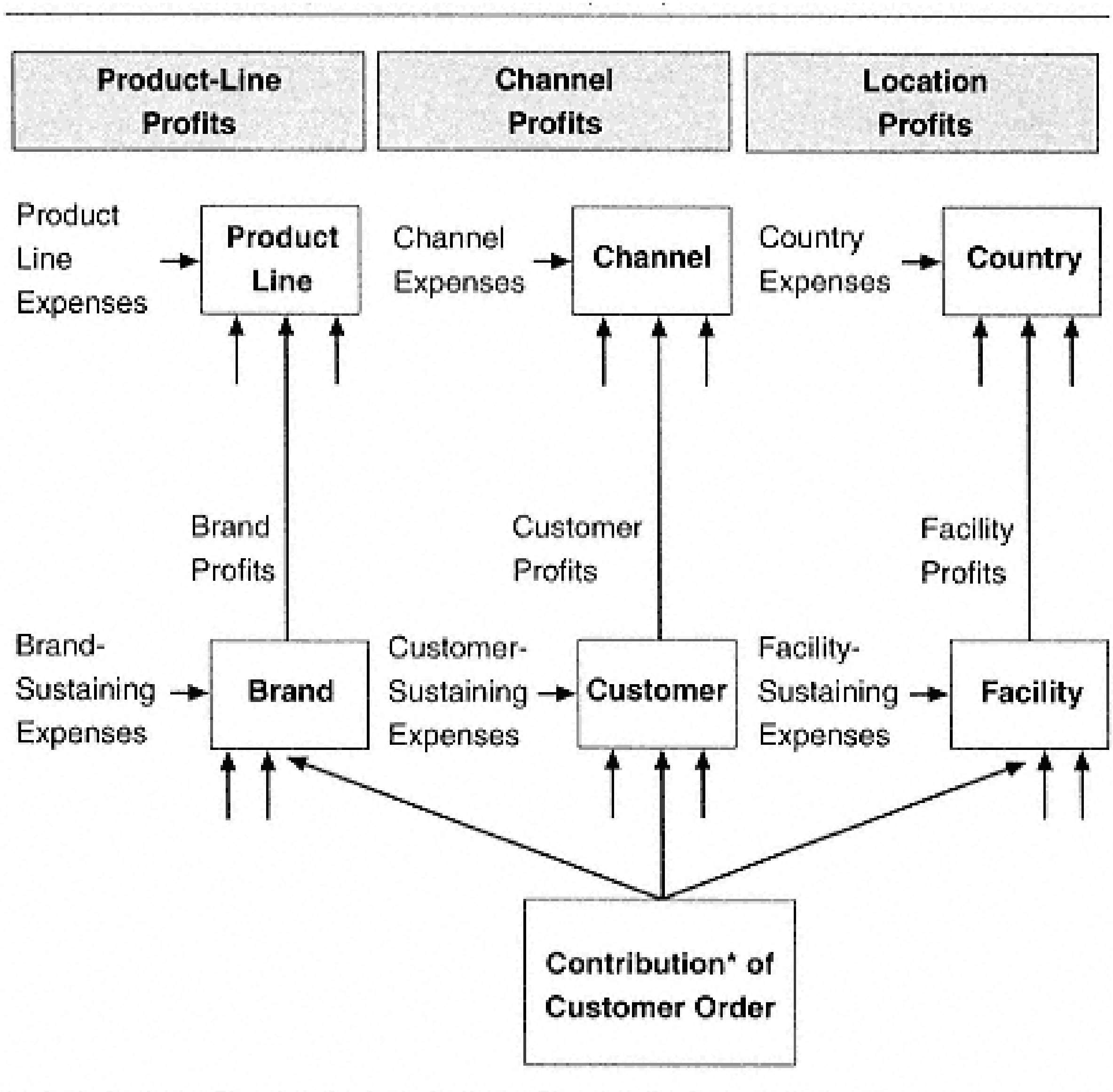
Hidden Profit and Hidden Cost Customers



Customer Profitability



Activity-Based Profitability Map



ABC and Operational Systems Are Integrated

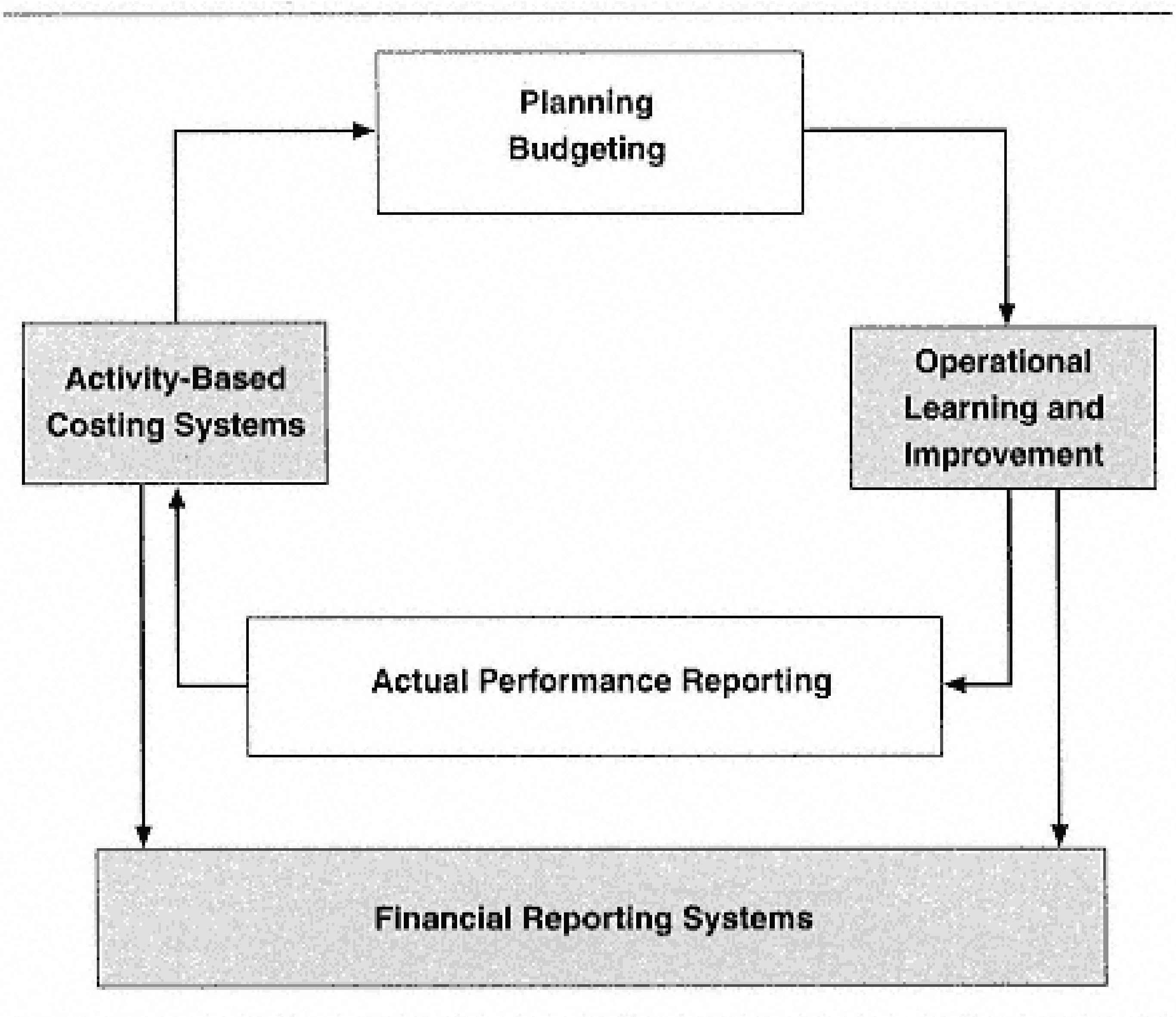
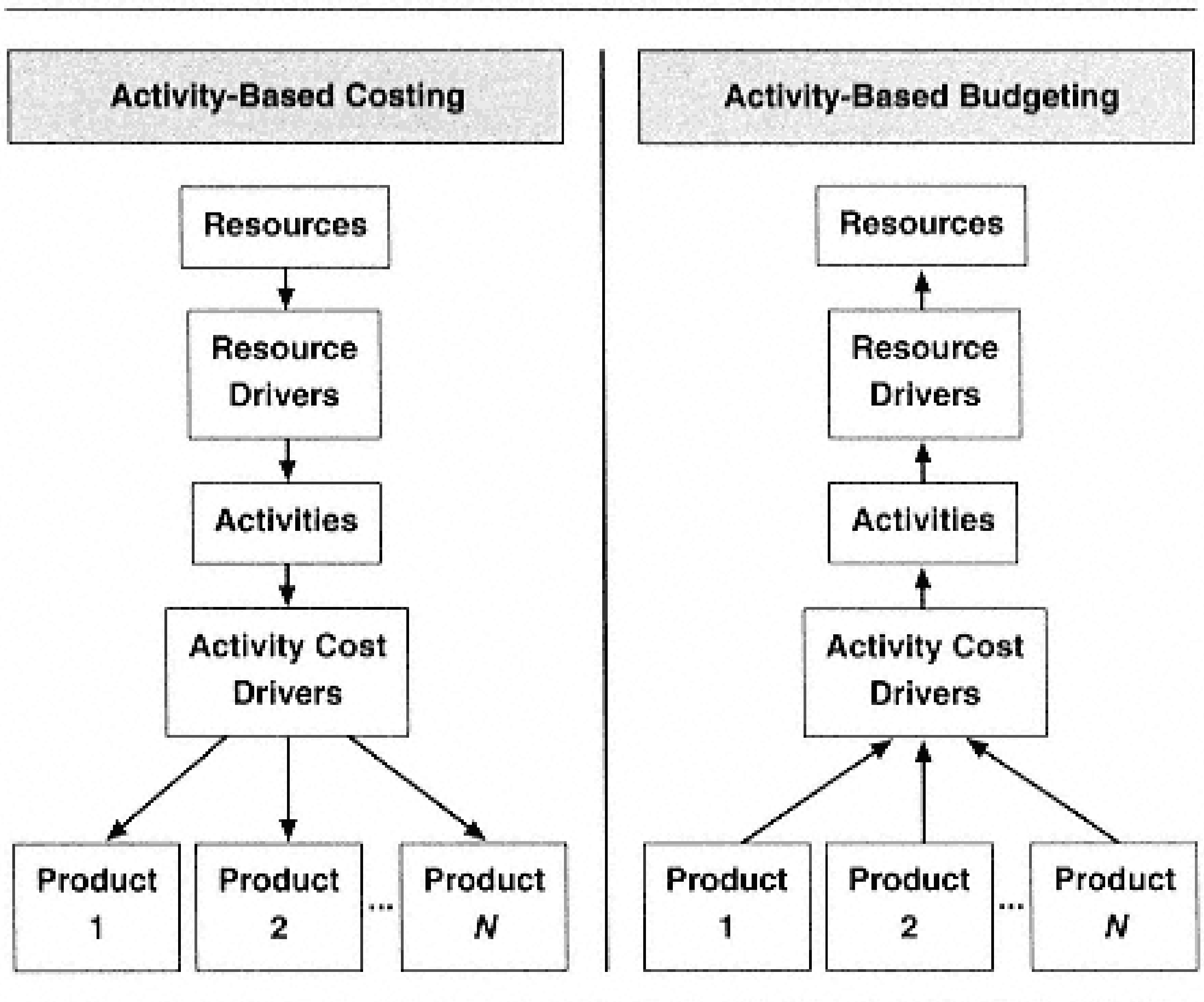
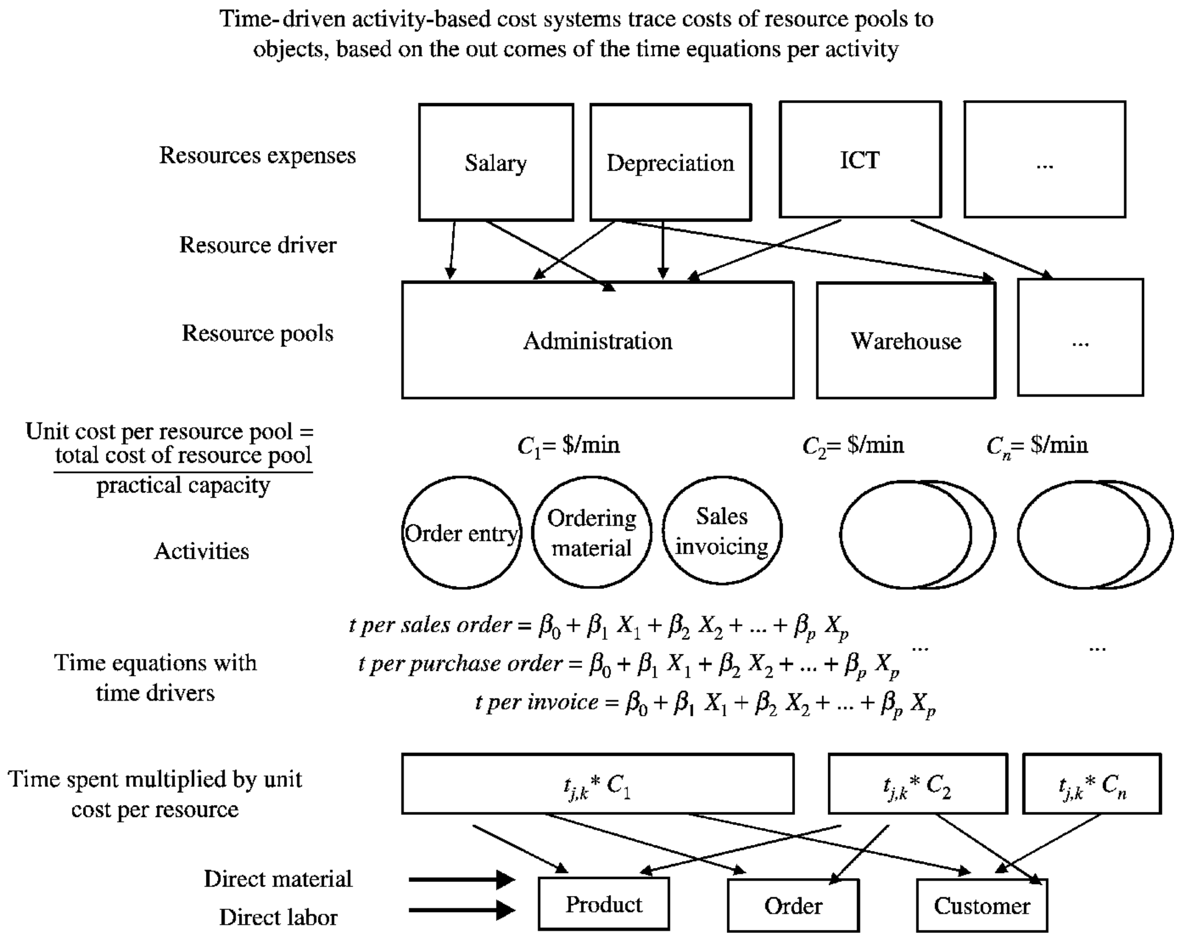


ABB Reverses the Causal Relationships of an ABC Model



Activity-Based Costing



C_n – total cost of the resource pool n

$X_1, \ldots, X_p$ – p time drivers for each activity j; e.g. 1 time driver (number of order lines) for the activity of sales order entry

$t_{j,k}$ – time spent on the activity j in a specific situation k, e.g. time spent entering a sales order XYZ with 3 order lines.

Activity-Based Costing

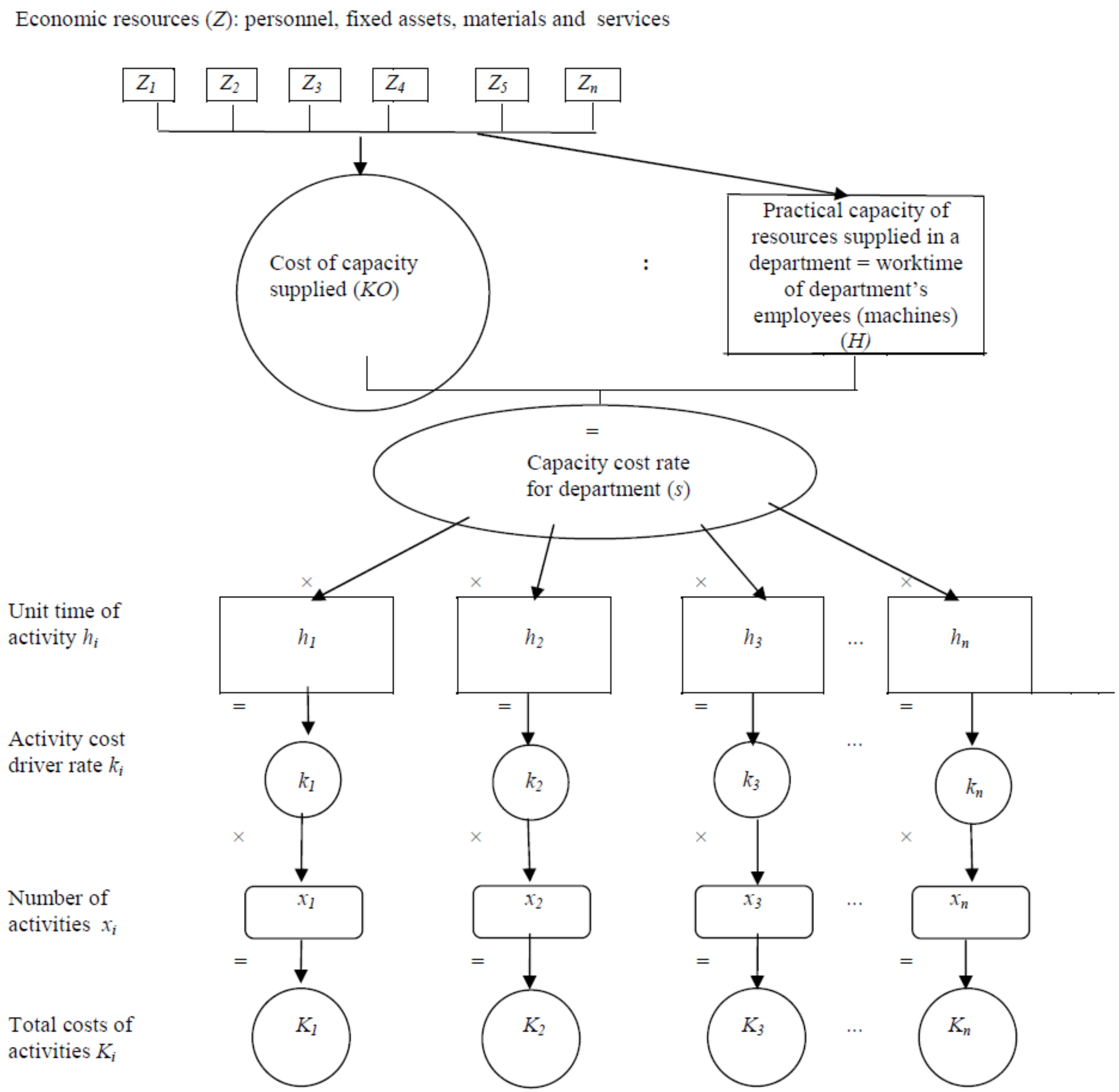
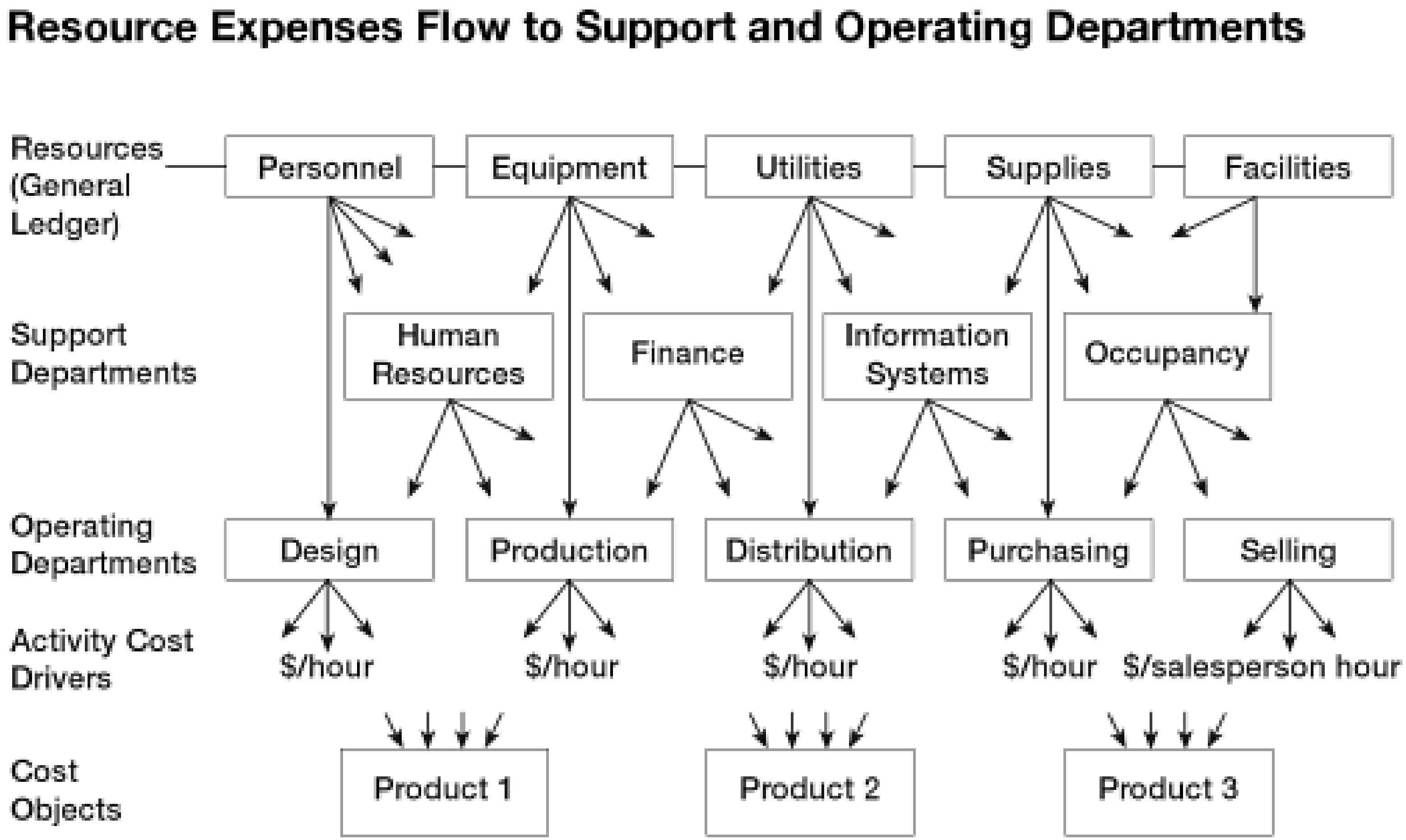
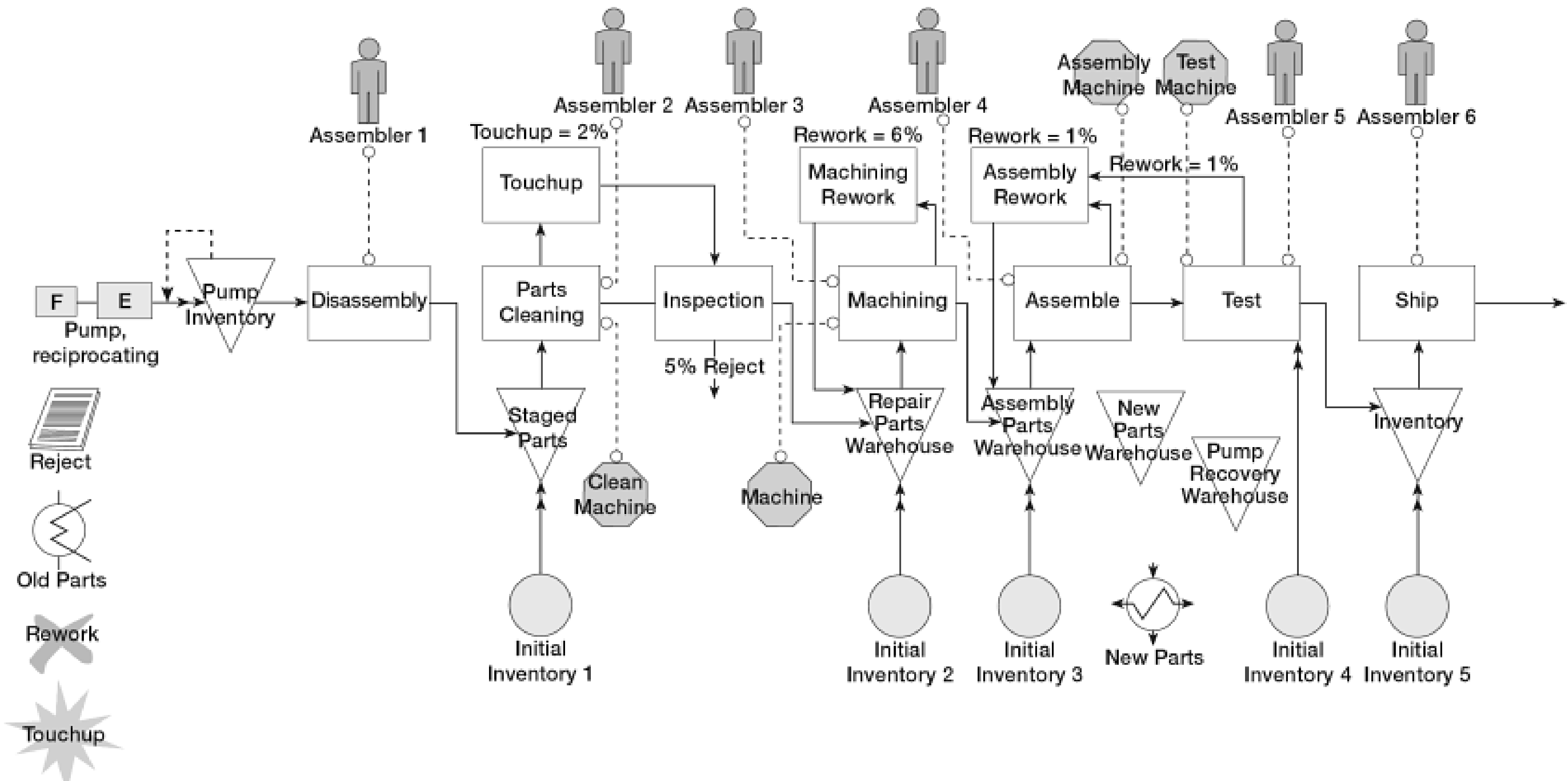


Figure 2. Activity cost calculation under TDABC (Source: Szychta (2008, p. 296))

Activity-Based Costing

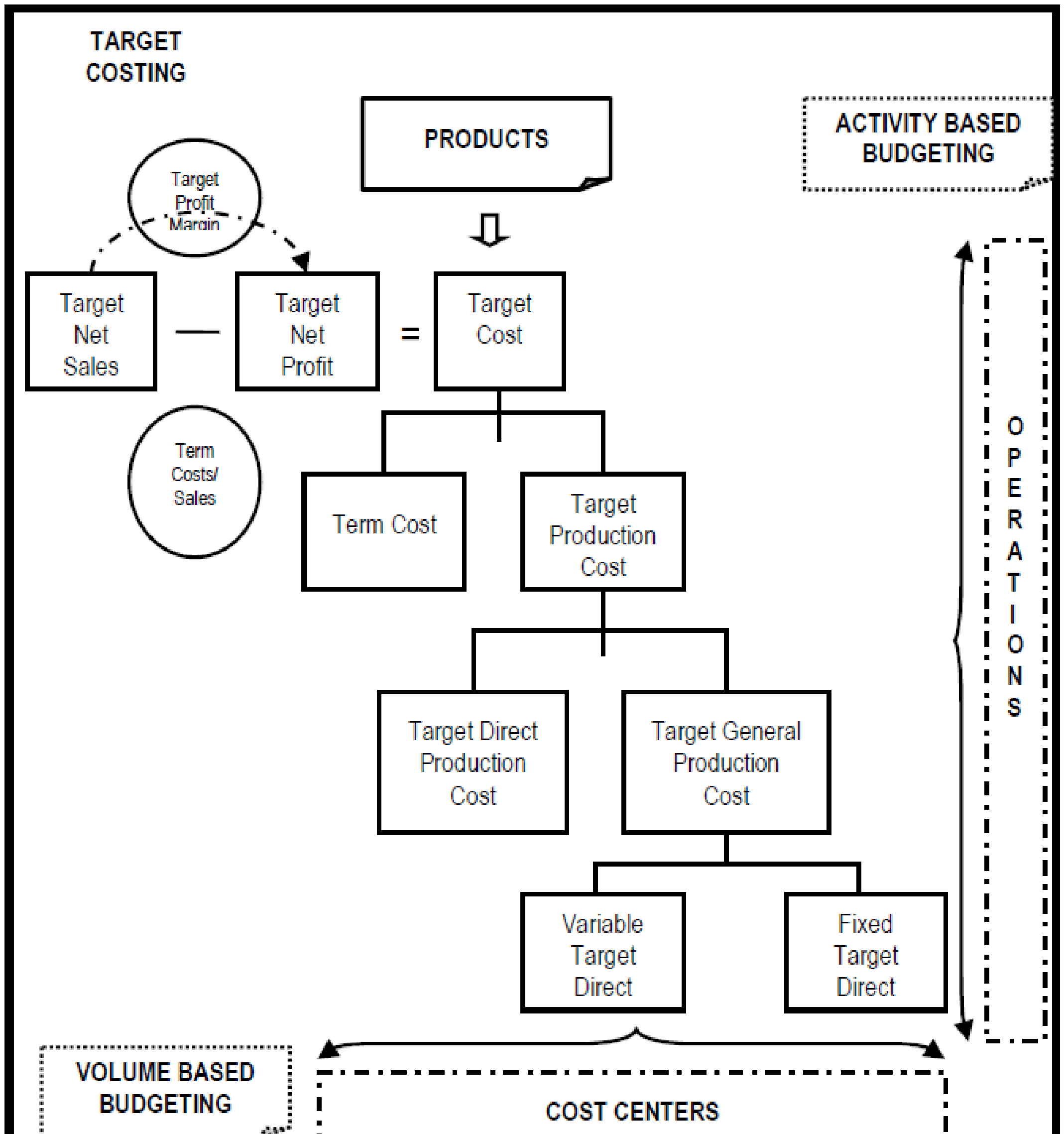


Activity-Based Costing

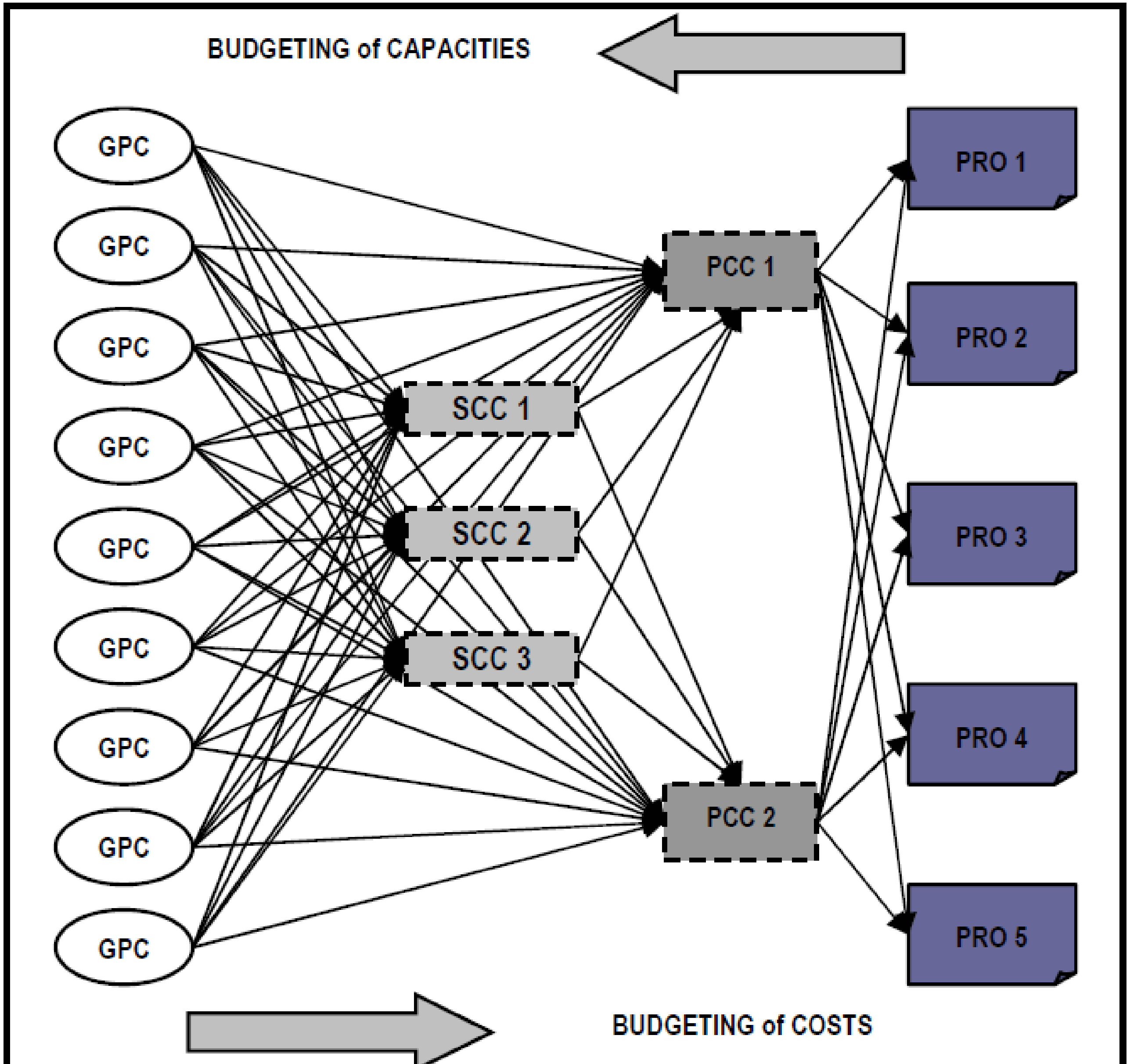


Activity-Based Budgeting

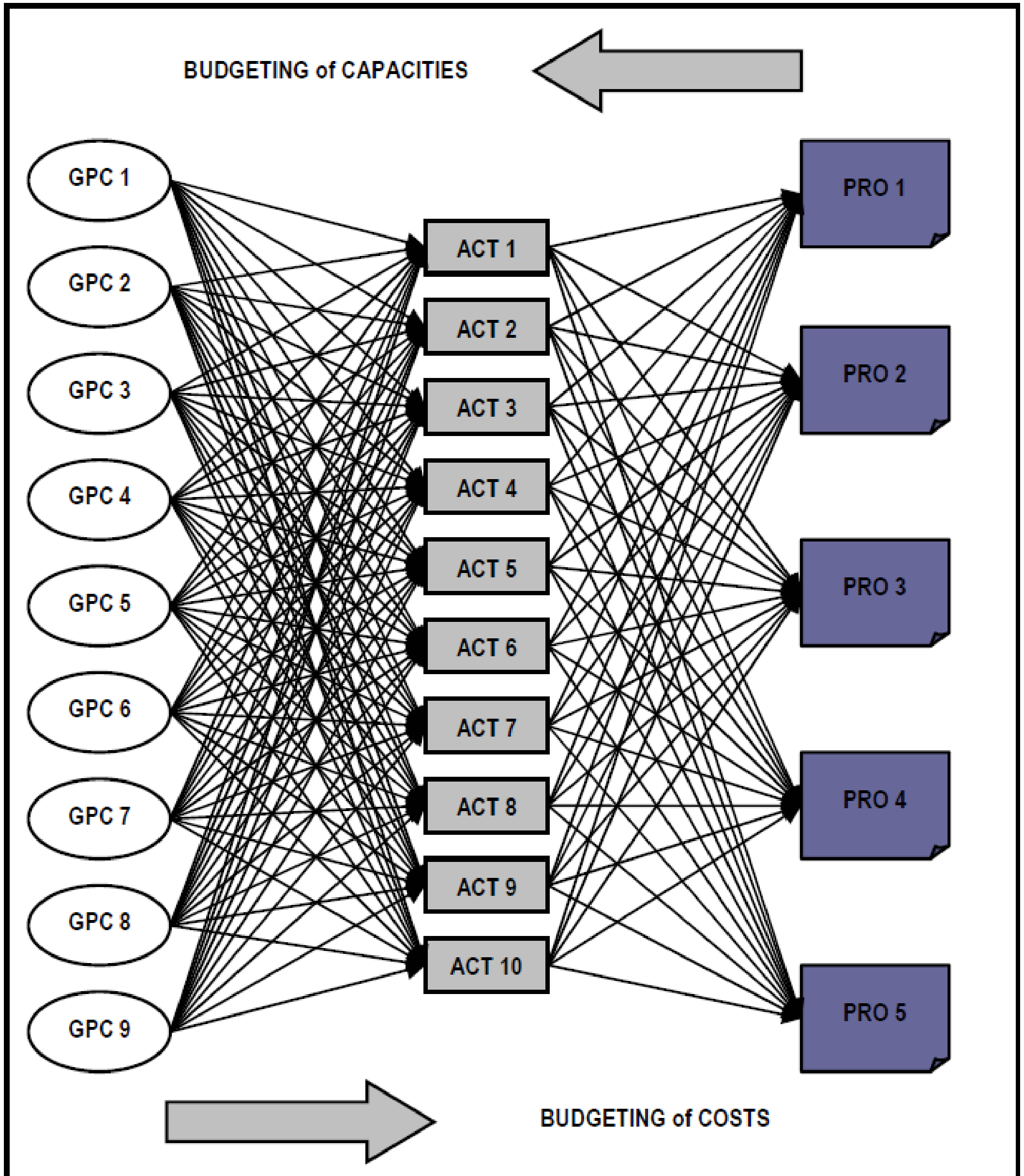
Activity-Based Budgeting



Activity-Based Budgeting

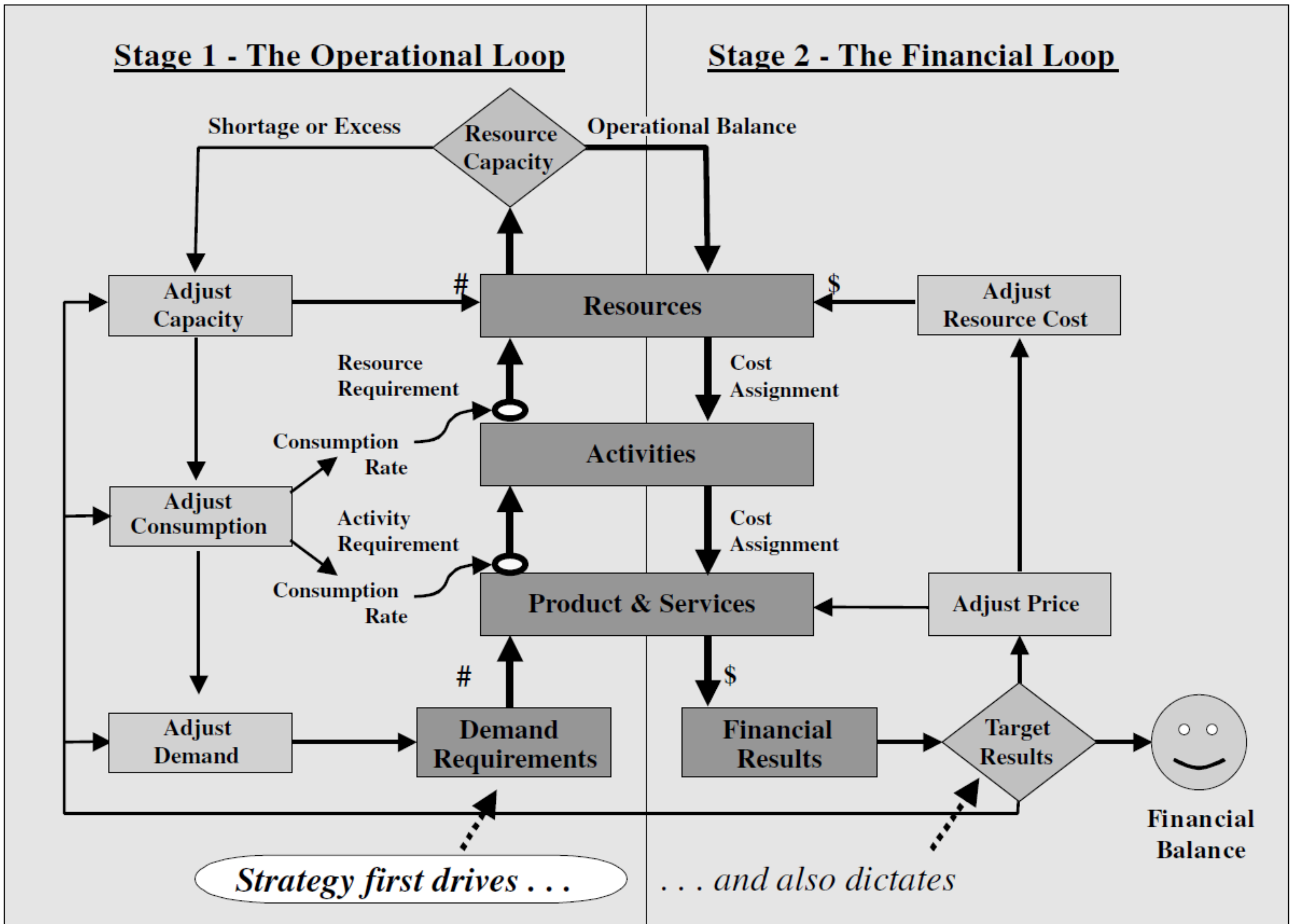


Activity-Based Budgeting

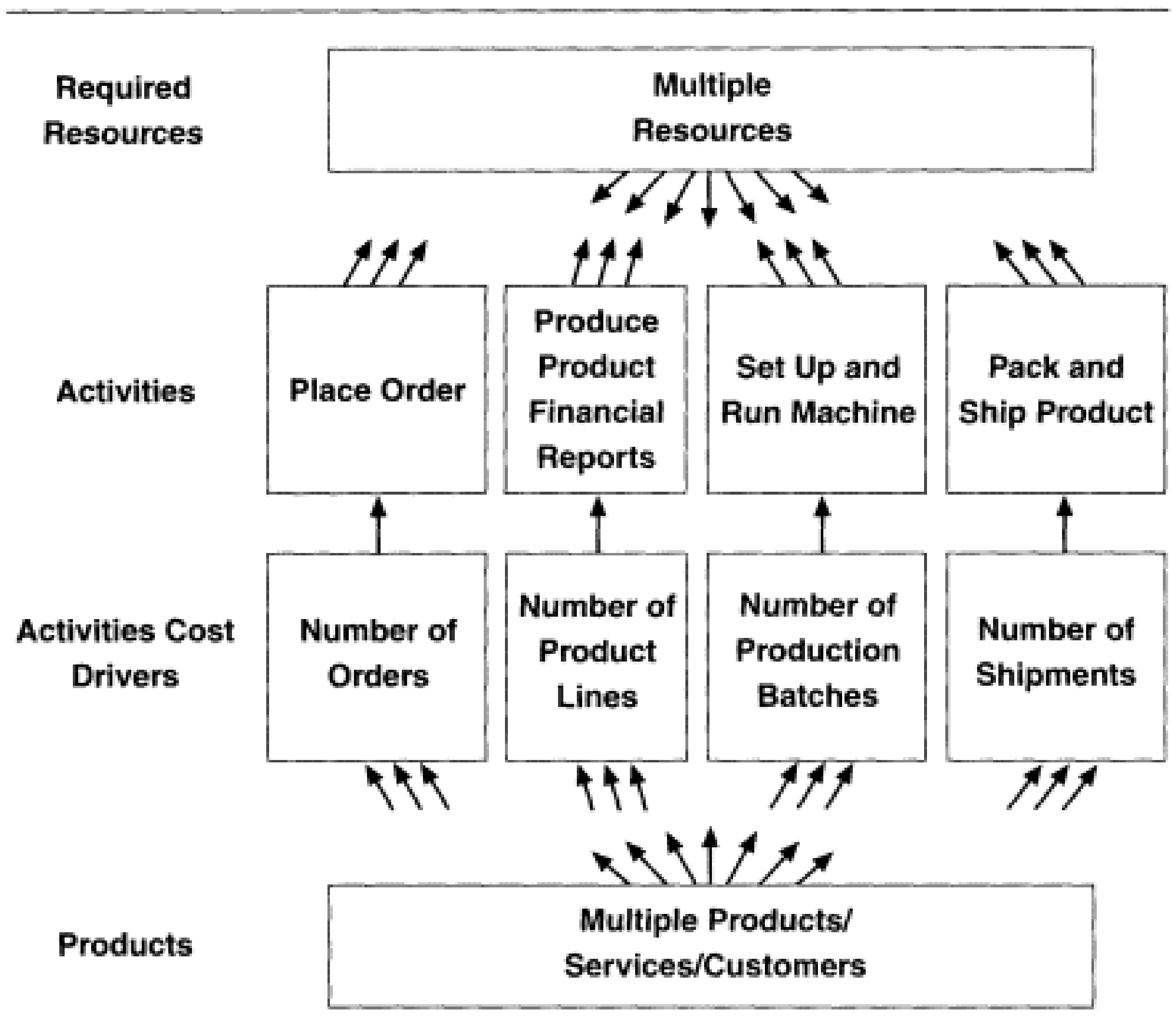


Activity-Based Budgeting

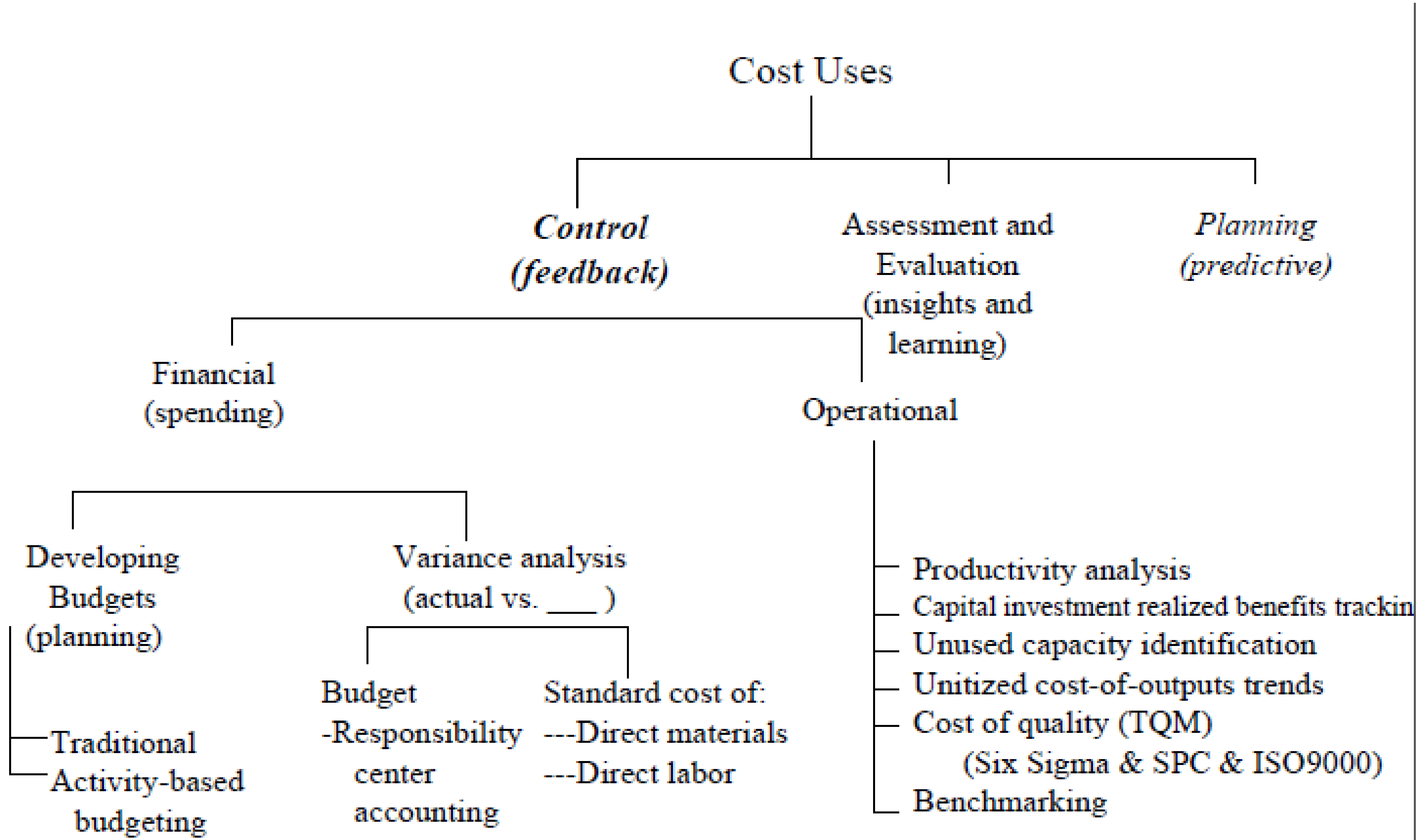
Overview of the ABB-Approach



Activity-Based Budgeting Works from Products to Resources



Cost Uses


Cost Uses
Control (feedback)
Assessment and Evaluation (insights and learning)
Planning (predictive)
Financial (spending)
Operational
Developing Budgets (planning)
Traditional
Activity-based budgeting
Variance analysis (actual vs. ____)
Budget
-Responsibility center accounting
Standard cost of:
---Direct materials
---Direct labor
Productivity analysis
Capital investment realized benefits trackin
Unused capacity identification
Unitized cost-of-outputs trends
Cost of quality (TQM)
(Six Sigma & SPC & ISO9000)
Benchmarking

Appendix

CIMA Official Terminology

CIMA Official Terminology: Cost defined/classified by element and by nature

1. Direct materials cost
2. Direct labour cost
3. Direct expenses
4. Prime cost
5. Indirect materials cost
6. Indirect labour cost
7. Indirect expenses
8. Overhead cost

Types of cost

TYPES OF COST

- **DIRECT COST**

A direct cost is one that is traceable to and the responsibility of a particular operating department or division. Most direct costs are variable by nature and will increase or decrease in relation to increases and decreases in sales revenue. For this reason, direct costs are considered to be controllable by, and the responsibility of the department or division manager to which they are charged. Examples of these types of costs are cost of sales–food and –beverages, wages and salaries, operating supplies and services, and linen and laundry.

TYPES OF COST

- **INDIRECT COST**

An indirect cost is one that cannot be identified with and traceable to a particular operating department or division, and thus, cannot be charged to any specific department or division. General building maintenance could only be charged to various departments or divisions (such as rooms, food, or beverage) with difficulty. Even if this difficulty could be overcome, it must still be recognized that indirect costs cannot normally be considered the responsibility of operating departments' or divisions' managers. Indirect costs are frequently referred to as undistributed costs.

TYPES OF COST

- **CONTROLLABLE AND NONCONTROLLABLE COSTS**

If a cost is controllable, the manager can influence the amount spent. For example, the kitchen manager can influence the amount spent on food. However, it is unlikely the kitchen manager can influence the amount spent on rent, especially in the short term. The mistake is often made of calling direct costs controllable costs and indirect costs noncontrollable costs. It is true that direct costs are generally more easily controlled than indirect costs, but in the long run all costs are controllable by someone at some time.

TYPES OF COST

- **JOINT COST**

A joint cost is one that is shared by, and thus is the responsibility of, two or more departments or areas. A dining room server who serves both food and beverage is an example. The server’s wages are a joint cost and should be charged (in proportion to revenue, or by some other appropriate method) partly to the food department and the remainder to the beverage department. Most indirect costs are also joint costs. The problem is to find a rational basis for separating the cost and charging part of it to each department.

TYPES OF COST

- **DISCRETIONARY COST**

This is a cost that may or may not be incurred based on the decision of a particular person, usually the general manager. Nonemergency maintenance is an example of a discretionary cost. The building exterior could be painted this year, or the painting could be postponed until next year. Either way sales revenue should not be affected. The general manager has the choice, thus it is a discretionary cost. Note that a discretionary cost is only discretionary in the short run. For example, the building will have to be painted at some time in order to maintain its appearance.

TYPES OF COST

- **RELEVANT AND NONRELEVANT COSTS**

A relevant cost is one that affects a decision. To be relevant, a cost must be in the future and different between alternatives. For example, a restaurant is considering replacing its mechanical sales register with an electronic one. The relevant costs would be the cost of the new register (less any trade-in of the old one), the cost of training employees on the new equipment, and any change in maintenance and material supply costs on the new machine. As long as no change is necessary in the number of servers required, the restaurant’s labor cost would not be a relevant cost. It would make no difference to the decision.

TYPES OF COST

- **SUNK COST**

A sunk cost is a cost already incurred and about which nothing can be done. It cannot affect any future decisions. For example, if the same restaurant had spent $250 for an employee to study the relative merits of using mechanical or electronic registers, the $250 is a sunk cost. It cannot make any difference to the decision.

TYPES OF COST

- **OPPORTUNITY COST**

An opportunity cost is the cost of not doing something. An organization can invest its surplus cash in marketable securities at 10 percent, or leave the money in the bank at 6 percent. If it buys marketable securities, its opportunity cost is 6 percent. Another way to look at it is to say that it is making 10 percent on the investment, less the opportunity cost of 6 percent; therefore, the net gain is a 4 percent interest rate.

TYPES OF COST

- **FIXED COST**

Fixed costs are not expected to change in the short run of an operating period of a year or less, and will not vary with increases or decreases in sales revenue. Examples are management salaries, fire insurance expense, rent paid on a squarefoot basis, or the committed cost of an advertising campaign. Over the long run fixed costs can, of course, change, but in the short run they are not expected to change. If a fixed cost should change over the short run, the change would normally result only from a decision of specific top management.

TYPES OF COST

- **VARIABLE COST**

A variable cost is one that changes in direct proportion to a change in sales revenue. Very few costs are strictly linear, but two that are (with only a slight possibility that they will not always fit this strict definition) are the cost of sales of food and beverages. The more food and beverages sold, the more costs will be incurred. If sales are zero, no food or beverage costs are incurred.

TYPES OF COST

- **SEMIFIXED OR SEMIVARIABLE COSTS**

Most costs do not fit neatly into the fixed or the variable category. Most have an element of fixed cost and an element of variable cost. As well, they are not always variable directly to sales on a straight-line basis. Such costs would include payroll, maintenance, utilities, and most of the direct operating costs. In order to make some useful decisions, it is advantageous to break down these semifixed or semivariable costs into their two elements: fixed or variable. Ways of doing this will be discussed later in this chapter.

TYPES OF COST

- **STANDARD COST**

A standard cost is what the cost should be for a given volume or level of sales. We saw some uses of such standards in Chapter 5. Other uses would be in budgeting (see Chapter 8), in pricing decisions (Chapter 6), and in expansion planning (Chapter 12). Standard costs need to be developed by each establishment since there are many factors that influence standard costs and that differ from one establishment to another. Let us look at some of the ways in which an analysis of the type(s) of cost(s) with which we are dealing would help us make a better decision.