Accounting

Transaction Processing and Tactical Management

A large portion of the resources in accounting departments is devoted to transaction processing. Systems are designed to capture data and produce standardized reports. Tracking the financial data provides a model of the business—especially the financial aspects. Order processing, inventory, accounts receivable, and accounts payable model the acquisition and sale of products from the firm. Fixed asset reports and depreciation track the purchase, operating costs, and remaining value of major assets of the firm. Payroll, withholding amounts, and tax records monitor employee activities and payments.

Accounting departments also support tactical management throughout the company. Standard reports such as cash-flow analysis, income statements, and balance sheets provide an indication of the current financial status of the firm. By comparing current and prior reports, managers can spot trends and make changes to correct problems. Operating budgets and capital spending plans are created to help managers compare alternatives and plan future expenditures. Similarly, the accounting departments are in charge of tax-management tactics to minimize tax bills and avoid penalties.

MIS support for transaction processing is explained in Chapter 4. The fundamental component is the use of databases to store the data, control shared access to authorized users, and produce reports for managers. In addition to providing access to the data, MIS supports tactical management with decision support systems that evaluate the various models and produce graphs and reports. Most organizations have customized accounting software packages to collect data, produce reports, and perform comparisons. Increasingly, the data can be transferred to personal computers on which models can be created and evaluated using spreadsheets and other financial modeling tools.

If there are failures in the MIS support for accounting transaction systems, some common symptoms will be observed. Reports will be delayed and inaccurate. Managers will complain about not being able to get the data they need. Meetings may degenerate into discussions of the true values of the basic financial numbers. Some managers will be forced to use their own time to adjust reports and create graphs to make comparisons. In extreme cases, departmental managers will begin keeping their own accounting records.

Control Systems

Because of their responsibility for the accuracy of the financial data, accounting systems also provide important control systems to minimize theft and fraud. Financial statements produced on a regular basis track the major expenses and revenues of the firm. Capital budgeting is used to monitor and allocate purchases of expensive items. Similarly, accounting systems are often responsible for analyzing costs and benefits from projects and to monitor project expenditures on a regular basis. Reports on the changes in financial position display the major sources and uses of funds in the firm. Unexpected or overly large changes in these reports could be indications of problems. Similarly, departments and projects are expected to submit and follow budgets. Variances from the budgeted amounts are closely monitored in an effort to control expenses.

MIS support for accounting controls comes from maintenance of historical data to use for comparisons and from assisting in evaluating the basic accounting models. Spreadsheets are often used to draw graphs for highlighting trends and evaluating variances between budgeted and actual expenses.

Errors in accounting control systems can be serious. If the controls are inadequate, there is increased potential for fraud or theft. For example, a county government in Tennessee lost thousands of dollars from 1990 to 1992. An employee created a fictitious company that allegedly sold several products to the government. The money was paid to the company and pocketed by the employee and no products were delivered. Better control systems and information management could have identified the discrepancy between expenses and deliveries.

Control systems can also be too strict—to the point where it is more expensive to provide the accounting paperwork than to suffer the loss. For example, most departments are allocated petty cash to spend on small items each year because it is too expensive to record small expenditures. The costs of generating purchase orders and tracking payments through a paper-based accounting system often exceed $50 per order.

Strategic Support

Virtually every firm has its own accounting system. Although certain standards have to be met, each system is created and customized to fit the specific situation of the firm and its management and owners. These systems are defined and maintained by the accounting departments. However, because the firm changes over time, so will the accounting system. It is up to the accounting department to modify its systems as the company changes or as the *generally accepted accounting practices* are modified.

Accounting systems are used to evaluate potential mergers and acquisitions. By creating a standard financial model of the firm it is possible to compare firms, even if they are in different industries.

The accounting department is also responsible for evaluating strategic alternatives in terms of accounting and tax policies. Occasionally a firm will alter its financial structure to take advantage of changing tax laws or because of changes in the market.

MIS support for strategic changes is more complicated. Decision models can be used by managers to evaluate the various choices. Any company undergoing restructuring would want to examine changes in cash flows, costs, and profitability. With a computerized model of the financial system, these changes could be simulated to identify potential problems and benefits.

Example

The foundations of traditional cost accounting systems were designed in the 1920s. The traditional methods identify costs according to basic categories, such as salaries, fringe benefits, supplies, and fixed costs. This method works well for a manufacturing firm in which most of the costs are due to labor, and the company produces a few products using the same processes. Through the 1960s, most large U.S. manufacturers fit this mold, and the standard accounting methods worked well. Today's manufacturers produce a much wider array of products and spend more on supplies, capital, and fixed costs than on labor. As explained by Terence Pare in *Fortune*, consider a company that makes two types of pens:

Dana Corp. Auto Parts

Salaries	$371,917
Fringes	118,069
Supplies	76,745
Fixed Costs	23,614
Total	$590,345

Figure 1

Traditional cost accounting totals expenses in a limited number of predefined categories. It is difficult to determine how much it really costs to make a product—especially if there are multiple products.

one black, the other purple. Ten times as many black pens are produced as purple ones. It takes eight hours to reprogram the machines to switch pens, which is the major overhead cost. In traditional accounting, the overhead costs are allocated to each pen based on the levels of production, so 91 percent of the switching costs will be allocated to the black pens and 9 percent to the purple ones. This method understates the costs of producing the low-

	Salaries	Fringes	Supplies	Fixed Costs	Total
Process sales order	$91,253	$28,969	$18,830	$5,794	$144,846
Source parts	85,882	27,264	17,722	5,453	136,321
Expedite supplier orders	45,450	14,429	9,379	2,886	72,144
Expedite internal processing	31,466	9,989	6,492	1,998	49,945
Resolve supplier quality	29,988	9,520	6,188	1,903	47,599
Reissue purchase orders	28,498	9,047	5,881	1,809	45,235
Expedite customer orders	17,482	5,548	3,607	1,110	27,747
Schedule intracompany sales	11,195	3,554	2,309	711	17,769
Request engineering change	10,524	3,341	2,172	668	16,705
Resolve problems	10,488	3,330	2,164	666	16,648
Schedule parts	9,691	3,078	2,001	616	15,386
Totals	$371,917	$118,069	$76,745	$23,614	$590,345

Figure 2

Activity-based costing pushes accounting to more detailed levels. Instead of simply recording the total costs (bottom row), we estimate the costs at each processing step. This detail provides a better picture of where and how costs are incurred.

volume purple pens.

An accounting method that is better at identifying costs for complex manufacturing processes was designed by professor Robert Kaplan, called **activity-based costing (ABC)**. The fundamental difference is that ABC allocates costs by examining a detailed breakdown of the production activities. In the example of the pens, each activity carries a cost.

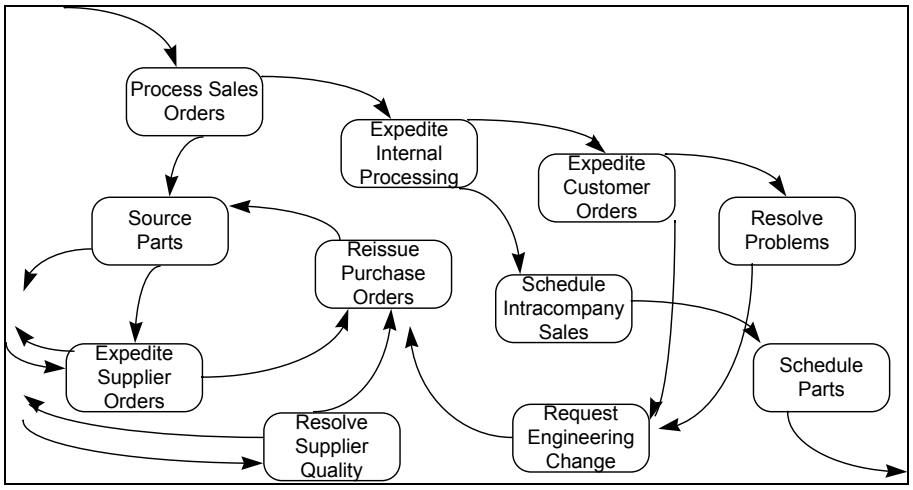

Figure 3

Activity Based Costing. The process diagram is a useful tool to display processes and the flow of data (or products) through a system. Activity-based costing assigns costs to each process by categories such as salaries, fixed costs, and so on.

Production of purple pens would entail activities such as processing orders, buying supplies, and reprogramming the production machines. The production system is decomposed into its various subsystems, as explained in Chapter 3. Only now, using ABC, each activity or subsystem carries a cost. The cost of producing an item

is obtained by adding the costs from each subsystem that it uses.

Figure 1 illustrates a traditional approach to accounting for costs. It identifies costs for each major category. The ABC method is shown in Figure 2. Notice the increased amount of detail. In particular, the cost attributed to each process is itemized. As illustrated in Figure 3, these values are found by breaking the production process into smaller subsystems and then estimating the costs attributable to each step.

Exercises

1. Use the accounting example of activity-based costing. Build a spreadsheet that computes the ABC schedule in the text. Now, create a second version of the table to use for next year's forecast. Salaries are projected to increase by 5 percent in every area, except in *process sales orders*, where they will increase by 6 percent. New fringe benefits will add another 1 percent to everyone's benefits. Supplies are expected to change as follows: process sales orders, source parts, and schedule parts will increase by 5 percent. Reissue purchase orders, expedite customer orders, resolve supplier quality, expedite supplier orders will rise by 7 percent. The others will decrease by 4 percent. Fixed costs will be the same in all areas, except request engineering change and resolve problems, which will decrease by 20 percent. Given these changes, compute the new totals. Create a set of graphs that will show how these changes will affect the company.

2. Find a small company and analyze its processes. If possible, estimate the costs for the each process.