Data Processing in a Small Business

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Data Processing—Punched Cards—Tabulating Machines—these are all familiar phrases which have become part of today's business vocabulary. The complexity of the economic system has caused almost as great a change or revolution in the scope of the accounting function as the Industrial Revolution caused in the change of the economic system.

The economic system described by Adam Smith in his classic work "The Wealth of Nations" did not require punched cards or tabulating equipment. However, since that time in the seventeenth century, the industrial development of the world has been tremendous.

Because of technology, mass production and a free competitive system, there has been the production of more goods for more people. This increased output has resulted in the need for the organization of more equipment, larger plant facilities, and greater personnel in many locations, often throughout the world.

A factor complicating the economy further has been the relaxation of the "laissez-faire" theory and the resultant increase in government regulations. Tax regulations have been imposed upon business, and methods have been geared to the philosophy of tax collectors, rather than the long term thinking of the individual entrepreneur. Legislation regulating many business activities, together with the granting of increasingly larger numbers of government contracts, have required records and accounting systems conforming with government requirements. As a result many businesses have found it advisable to maintain more than one set of accounting records, in order to satisfy the regulatory agencies, and at the same time to present realistic information to the management and to the owners.

Therefore the accountant has been challenged to meet the needs of the 20th century economy. As American resourcefulness and ingenuity have solved the problems of increased low cost production by the efficiency of the "production line," it has also conquered the complexity and the vastness of the accounting function.

Today the accounting department has been recognized as an important source of profit, instead of the necessary evil of yesterday. Because of today's data processing methods and automation, reports on every phase of a company's business are quickly available to guide management's current decisions and future planning.

The punch card has become one of the symbols of data processing, and one of the most versatile is the marginal punched Key-sort card of the Royal McBee Corporation. Keysort is the punched card method that put the original record to work, and is adaptable to variable volume and operations.

The Keysort card of original entry is designed to provide for the information desired, and the perimeter of the card is planned to reflect this. The margin of the card is divided for each classification to conform to pre-arranged codes, Operation Numbers, Job Numbers, Account Numbers, etc. The information on the card is key punched into the margin (at a rate of approximately 900 per hour). The cards are then sorted and tabulated.

The punching can be done on a variety of types of simple inexpensive equipment which is available on a reasonable rental basis. Sorting of the cards by various classifications is carried out with a stylus or sorting needle. Insert of the stylus into the group of cards results in the separation of notched cards from the group, making classification a simple manual procedure.

To provide greater adaptability, Royal McBee has introduced a low cost versatile punched card process machine, known as the Keysort Tabulating Punch. This machine punches quantities and amounts into the body of the original Keysort record card while it accumulates and prints totals on tapes. The tabulating feature automatically processes these cards through all stages until all reports are prepared.

The tabulating punch can punch two quantities into the body of a Keysort card while printing, at the same time, these quantities on a tape, accumulating the amounts for totaling. The punch feature can also reproduce punch quantities from a pre-punched card. It automatically punches the accumulation into the summary cards.

The quantities, amounts, time intervals, etc. written on the card at the source can be punched into 8 fields on this card. This punching is done, in effect, to items that are being totaled for verification with some type of control. Actually, the cards are not being punched just for the sake of putting the desired information into the card; but rather the punching is accomplishing a function that would ordinarily be done on an adding machine. Once the cards have been punched, they can be run through the tabulator after each sorting to accumulate the information
for as many classifications as may be coded on the perimeter of the cards.

Since there are as many applications as there are persons using this method of data processing, any description of the use of Key­sort must be made in general terms. This dis­cussion will attempt to illustrate a method of labor distribution, job costing, and accounts payable as carried examples.

To begin, weekly clock cards are placed at the time clocks for each employee to ring at morning, noon and evening. At the job level there is a brown Keysort labor time card, which is used by the productive workers. A blue card is used for indirect workers. Code numbers are assigned to all operations and to all types of nonchargeable time. On these cards the employees record starting and stop­ping time on the job, job number, department code, name, clock number, customer, opera­tion code, machine number and cost center. A new card is used for each job or period of time involving a different operations.

At the end of each work day, the brown and blue cards are collected and sorted to separate the direct and the indirect, and the informa­tion furnished by the employee is punched or coded into the margin of each card. The cards are sorted by clock number. The elapsed time on each card is determined and added to­gether for each employee. This total must agree with the hours indicated on the clock card. The total hours for the day are posted on a summary card for each employee.

A green summary card is headed up for the employee for each different cost center in which the employee may have worked that day.

The employees’ individual cards are sorted into centers. The total time spent in each center is recorded on the correct summary card. Chargeable and nonchargeable time are entered in separate columns.

The nonchargeable cards are separated from the chargeable cards. The chargeable cards are sorted into job number sequence and filed in the chargeable time file by order number, and made available for the cost depart­ment.

The nonchargeable cards are accumulated until the end of the week, when a report of nonproductive hours by kind of employee is made.

At the end of the week the green summary cards of each employee are totaled. The total hours worked are extended by his hourly rate. The total of these extensions must agree with the gross earnings as computed by the payroll department. The value of the total hours worked on each summary card becomes the total charged to the cost center. The value of the nonchargeable time becomes the indirect charge to the cost center. The difference between the total charge and the indirect charges becomes the direct charge to the cost center.

The summary cards for the department are sorted by the cost centers. The direct, in­direct and total charges for each center are totaled and these totals are recorded and ac­cumulated. To these totals of the cost center is added the foreman’s salary. The grand total of all cost centers for a department must agree with the payroll for that department.

The totals of chargeable hours for each cost center are recorded and accumulated until the end of the month. The total of these repre­sents the number of chargeable hours worked in the cost center during the month. An hourly rate for each cost center is established by dividing the total years expense for a cost center by the total chargeable hours for the year worked in that center. Consequently this hourly rate represents labor and factory burden. It is advisable to review this inclusive rate from time to time.

A Keysort card is also used for accounting for the material used. Requisitions for mate­rials are made in duplicate. After they are punched, one copy goes to the storeroom and the second to the cost department where they are costed and then sorted by job number.

Outside services and purchases are coded on a Keysort card in duplicate in the voucher register, one copy going to the cost depart­ment where it is handled in the same manner as the material requisitions.

When the job has been completed and shipped, the cost department takes from the files the chargeable labor cards and the mate­rial cards for that job. A summary card is made and is used to accumulate all the costs for the finished job. Total labor costs by op­eration are posted to this card and are added together to determine the total labor and burden. The material cards are likewise posted in total to the summary card. To these totals is added a percentage to include admin­istrative and selling expenses.

The labor and material cards remaining in the open file constitute the work in process inventory at a given time.

To summarize, with Keysort, the following information is available for up-to-the-minute management reports:

1. Control of labor hours or units
2. Cost of operation and cost center
3. Chargeable and non-chargeable time
4. Check of labor rates
5. Actual material used
6. Work in process inventory

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AUDITING UNEMPLOYMENT BENEFITS PAID TO EMPLOYEE BY THE STATE

When the state unemployment bureau furnishes the employer with a summary of the charges made to the employee's account for payments made to the employee, a check should be made to see if the person who was paid benefits is eligible for them.

First, determine that the person paid benefits is your employee, that he worked in the period paid and that the amount of benefits paid is correct. He may have had earnings which would cancel the benefits or would entitle him to a partial benefit only. You are allowed a certain time to protest the charge and can receive credit for any charges made in error to your account if the protest is timely.

Supplemental Unemployment benefits are calculated on the basis of a percentage of the employees earnings less the state unemployment benefits. Therefore, it is necessary to verify the amount of benefit paid and the validity of the claim.

Coletta J. O'Brien, Cleveland Chapter

ENDORSE WITH CARE

When endorsing checks for deposit, follow the words "For deposit only" with the name and address of the depositary bank.

Checks endorsed "For deposit only," without the name and address of the bank have been known to fall into the hands of unauthorized persons who have only to open an account in a bank under the endorser's name, deposit the checks, and then withdraw all of the funds within a short time.

Eileen Griggs, Los Angeles

TIGHT CONTROL OVER CONSTRUCTION LABOR COST

Before quitting time each day, the foreman or supervisor in the field, telephones the home office the hours worked by each man, the over-time hours, the job number or code and whether or not the work is on schedule. By turning in the time each day, the cost and distribution can be computed daily and each job's progress reviewed. Any labor costs not in line with the estimate of the job will signal a trouble spot to the home office as well as to the field supervisors.

By figuring each day separately, at the end of the pay period, the time can be quickly summarized to a total pay. This facilitates getting the pay into the hands of the workers where time elements and union agreements are involved.

This procedure could also be adapted for use by a small machine shop.

Mary I. Russell, Cleveland

THE NATURE OF RESEARCH

Dr. Helene M. A. Romanauskas well states the increasing recognition of the importance of research to the science of accounting. Particularly does she relate all accountants to the responsibility for this research with this statement: "In his every day work, the accountant has many opportunities for new ideas and he has a moral obligation to his client and to his profession to develop them, and by applying scientific methods as practical tools for the future, expanding the perimeter of the accounting theory." (The Woman C.P.A., June 1960)

—Congratulation to Marion K. Charles for a thorough coverage on the tax status of voluntary payments to widows of employees.

Did reading this issue of the Woman C.P.A. stimulate your thinking? Was something of especial interest or help to you? Did you disagree with something you read? You are invited to say so in your piece in the Comment and Idea Exchange.

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A simpler application of the Keysort System is the use of the peg board for accounts payable, general journal and general ledger. The board is designed for the multiple single write system. The Keysort card is inserted for the distribution of the entry to the proper account. At the end of the period, the cards are punched for account number, sorted, totaled, and in the case of accounts payable, the entry to accounts payable for the period is made.

Note: While this article describes a specific system offered by one company, others manufacture and market similar equipment which is being utilized by small businesses.