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Some Problems in the Installation of Accounting Systems*

By WILLIAM A. ULLRICH

Perhaps it was on that memorable Christmas eve, about a century ago, when Mr. Fezziwig, in Dickens' *Christmas Carol* closed his account book with a bang, and climbed down from his high stool, that the first rumblings of the storm were heard.

Certain it is that for many years Mr. Business Man knew that a storm was brewing, but he did little to prepare for it. Several years ago the storm broke, and by the lightning flashes of the federal income-tax law Mr. Business Man saw the shaky condition of his financial house. During these years the accounting chaos of one business concern after another has been revealed by these flashes.

Sometimes the lightning has struck, to slightly either injure or even to annihilate, and among the shattered fragments of his financial house the twentieth-century Mr. Scrooge has called lustily for the only help in sight, Mr. Accountant.

Mr. Accountant, soaring in his airplane called *Improved Accounting Methods*, has heeded the S. O. S. and is gradually lifting the unfortunate business man out of the ruins to rise with him into the pure air of accurate accounting methods.

While the keeping of records and the science of accounting is undoubtedly as old as civilization itself, double-entry book-keeping was not used until about the time Columbus discovered America. Organizations of accountants have been in existence for a little more than fifty years, but it is less than a quarter of a century that the real value of accurate accounting methods has been recognized. The development of these methods has resulted largely from the deliberations and discussions of accounting organizations, chief of which is the American Institute of Accountants.

This subject, *Some Problems in the Installation of Accounting Systems*, is a large one, and since the time is limited, we shall try to keep in mind Josh Billings' remark, when he said he did not care how much a man said, so long as he said it in a few words.

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To make a list of perplexing questions is not our chief concern, but to make a satisfactory settlement of these problems is the task constantly before the practising accountant, and if this paper presents any ideas that will even provoke constructive criticism, it will have achieved a measure of its purpose.

Perhaps a definition of the word "system" will enable us to get a clearer understanding of our subject, and correct the ambiguous use of the term.

"System" is defined as the orderly combination or arrangement of parts or elements into a whole; the complete exhibition of essential principles or facts arranged in a rational dependence or connection. A careful reading of this definition shows that the word "system" is often misused, as it is sometimes applied to a simple method or mode of doing some one thing, such as a method of posting.

When an adding or typewriting machine representative says to his prospective buyer: "If you buy my system, you will not need an accountant," he is confusing a method with a set of principles. His machine may post the accounts in the manner for which it was designed, but in doing this it certainly does not furnish the user with an accounting plan and practice which takes into consideration the whole of his business. No doubt the improper use of the term "system," as applied to these incomplete methods, has been the cause of much of the criticism of all systems. On account of this indiscriminate use of the word "system," I prefer Mr. Scovell's term, "Accounting Plan and Practice."

There are so many phases to the successful management of a business and so much information that an accounting system should show, that even when we consider the best systems, we feel that they have but scratched the surface.

One of the first problems which presents itself is the personnel and policy of the management. In commenting upon the success of some men in his profession and the failure of others, a prominent industrial engineer stated that "if the directing heads of the firm possess no executive ability, you need not try to install better methods by beginning on the office boy."

It has been my privilege to observe the installation of a large number of accounting systems, and this experience has led me to believe that there are some men whom the best accounting

plan can not help. They are not interested in improved methods, and will not be governed in their policy of management by results shown through the introduction of these methods.

I have in mind a corporation that decided to have a general accounting and cost system installed. This concern was established in 1854 and had such a reputation for good work that it received many contracts without naming a price in advance. When the completed cost of an individual contract or job did not agree with their estimate, they would say, "To hell with the cost system," and continue their old methods. The final result was a receivership and the dissolution of the corporation.

A problem of primary importance to the accountant is to awaken the interest of the management to a change in policy when new methods show their old course to be wrong.

Jim Crow says: "Don't try to teach an old dog new tricks; get a new dog." While we should often like to get a new dog, it is sometimes necessary to continue working with the old dog.

When Harrington Emerson, the well-known industrial engineer, was addressing a meeting of business men in Detroit, someone asked him, "Do you not have trouble with labor in the installation of your methods?" He replied, "No, my trouble is with the management, who wants results yesterday."

The management must be convinced that it takes time to develop a correct accounting system. It can not be done in a day, a week, or a month. In addition to the new plans and instructions which the accountant may give, it requires continued effort on the part of the organization for which he is working to develop an adequate system. Like getting an education, there is more work required on the part of the student than on the part of the teacher. Too many system installations are made with the management thinking the accountant waves a magic wand which will produce wonderful results without any effort on the part of themselves or their organization.

In this connection we must also solve the problem of handling other persons of the organization. We have sometimes an all-wise bookkeeper or egotistical cost accountant who does not believe in new methods, except possibly his own.

Not only may we have to meet the objections of these individuals, but there are differences in the qualifications of the personnel, and while one may readily grasp a new plan, another may

not, and it will require more patient teaching thoroughly to instruct the latter.

We have met some employees who seemed to have the ability that foreman Pat on the railway gave Mike credit for having when he said to him: "Here, Mike, put down that wheelbarrow and take up this shovel; what do you know about machinery anyhow?" Oftentimes, however, when such persons are trained, they become interested workers and boosters for the new régime.

The accountant's success depends largely on his ability to "sell" his ideas to the management, then to those who handle the details, and to keep them "sold" until his installation proves its own worth.

Not only should he be well informed, but he should know how to handle men and how tactfully to teach others. This requires the exercise of patience and all of the other virtues that St. Paul names.

It is the work of the accountant to analyze and classify. "Analysis" means the minute or critical examination of anything complex, for the purpose of separating it into its constituent parts. The ultimate aim of any accounting plan and practice is that the business for which it is designed shall be more successfully and profitably conducted.

Therefore, it is of primary importance that we get an adequate conception of the problems involved and the factors to be considered. Too often a hurried consideration of these problems has been the cause of the failure of a system installation.

The solution of these problems may best be approached through the means of a careful examination and if possible a complete audit of the books and records.

This examination should cover selling, financial and manufacturing policies of the business. This may mean an investigation of marketing possibilities, methods of distribution of product, credit-granting, financing, etc., while the audit of the books and records would reveal the adequacy or inadequacy of the methods of accounting in use; the statistics which are being gathered for managerial uses; the analysis shown by the existing accounts; the completeness and accuracy of the accounts of the balance-sheet, such as valuation of inventories, equipment and other asset accounts; whether the liabilities are fully stated and proper reserves set up for depreciation.

This means that all of the asset and liability-accounts carried into the new accounting plan would be verified. At the same time, this examination would show the inadequacy of the cost accounting, if the client is carrying on a manufacturing business.

If a new, modern, general accounting plan is installed while an antiquated cost system is allowed to continue its worthless course, we have a combination like hitching Papyrus or Zev to the one-hoss shay.

This examination will assist us in determining how much detail we shall arrange for in the beginning of our installation, and whether or not we have enough competent help to handle the records. Some executives seem to think that records should be compiled without clerical effort, and that anyone can keep a set of books; as the Milwaukee man who said to me: "We can get a girl to keep our books after we get your system, can't we?" I replied: "We can furnish the system, but *you* must employ a competent bookkeeper."

Here, again, we learn that it is often best not to attempt to install the complete system at one time. Especially is this true if we have employees who are not well qualified to take up the work, or if we are working for a client who has had little or no system.

A complete system may be too much for all of the organization to learn or absorb at one time, and they will become discouraged and say that they can never do the work required. Especially may this occur where a cost-accounting plan is involved.

If the general accounting plan is first installed and used long enough to run smoothly, we can then add new methods without tendency toward confusion, with the result that soon the entire plan so installed is working more satisfactorily than the old. Many times under this plan have we heard the expression, "We would not go back to our old system for any money."

This is an important problem and should be given very careful consideration.

When we make a study of manufacturing, our problems multiply, since there are more factors to consider, as those concerning:

First—Planning; which takes into account the quantity and kind of product to be manufactured.

Second—Production; the detailed manufacturing processes.

Under this head we include men, materials, machinery and methods.

Third—Cost accounting; records measuring the results of our planning and production methods, including also the detailing and classification of our manufacturing accounts in a logical manner, so that they may be used for purposes of budgeting, establishing controls, and compiling standard burden rates.

The subject of the classification of manufacturing accounts is a problem in itself, especially if we are planning a system for the several plants of a given industry for the purpose of getting uniformity of costs.

Some may say that planning, production and costing lie in the field of industrial engineering, but my observation has been that the work of some industrial engineers has resulted only in the installation of a useless cost system. It is the function of the accountant to analyze and classify, and as cost accounting requires this ability, then why should not the accountant outline the cost system? Especially is this true when we consider that to be of the most value, all cost accounting must be tied in with the general books.

The results of all manufacturing and commercial effort must be measured and recorded in accounting terms. Without a correct accounting of the results of such effort, we are unable to gauge the efficiency of our factors of production and to establish standards showing comparisons of these results. It is the work of the industrial engineer to evolve the best method for handling a process or doing a certain thing, but it is certainly the province of accounting to measure and record the results of these efforts.

Mr. Jordan tells us that "the credit for slowly but surely forcing the issue of cost accounting, belongs to the accounting profession." This statement comes from an industrial engineer, and I believe it is true, then why should not the accountant fortify himself with sufficient practical and mechanical knowledge to do the work which rightfully belongs to his profession?

To illustrate some of the foregoing problems, let us cite one or two instances from our experience in system installation:

In 1917 we were engaged to install a complete accounting plan for an old-established corporation. One of our preliminary recommendations was that an appraisal be made of the entire plant. The books showed but one account for buildings, machinery and equipment, and it was impossible to make a satisfactory

Some Problems in the Installation of Accounting Systems

analysis of this account. This appraisal was completed in May, 1917, and before it was delivered in June, a fire destroyed about half of the plant.

We found in use here the customary cash journal of twelve or fifteen columns, and the majority of expenses classified as "general." We began the installation with a simple general accounting plan which provided for the classification of equipment accounts, analysis of expenses and the adjustment of the fire loss.

After the new factory buildings were completed, we were requested to outline a cost-accounting plan. By this time we were well acquainted with the personnel of the company and knew some of their whims and shortcomings.

An examination of the factory proved that they did not have adequate manufacturing methods. Parts were being made or machined without drawings or specifications, resulting in such losses as the bursting of fly-wheels when pinions were pressed into their centers. Parts were processed without careful investigation as to what machine could best perform the operation or as to the amount of work any one machine could do. Assemblies were made in a hit-and-miss fashion, so that orders were filled in a like manner, and not after any well-laid plan of production. We convinced the management that under such conditions it would be of little use to compute costs, as the thing necessary to reduce costs was improved methods of production.

We then outlined in detail simple planning and production methods to meet their needs. After much labor, these plans were put into operation and a man was employed to take charge of production. In less than two years, with even these incomplete methods, their production was tripled, without any increase in equipment and very little additional labor. This was reflected in an increased ratio of profits, year after year.

During this prosperous time, a large addition to the factory was made, which later proved to be an over-expansion. The president of the company authorized this addition of new buildings against the advice of other directors. Last year he passed away and the business is now under other management. We are still assisting this concern in solving its new problems and there has never been any question in the minds of the officers of this company as to the value of accounting services.

Another illustration is that of a manufacturing corporation formed some twenty years ago by four men, each holding an equal number of shares of stock. One of these men was sales manager, another office manager, another bookkeeper, while the fourth was superintendent of the factory.

Each of these men worked very hard in his own department to make it a success. The business prospered and a few years ago three of these men decided to retire from active work, selling a portion of their stock to a younger man, who was made general manager. Upon coming into the business, this man found that although these four men were hard workers, they had not planned for and built an organization, so that when any one of them was absent from his department, there was no directing head.

Many of their methods of handling details in the office, the factory and the shipping-room, were as incomplete as their organization, and factory costs were figured by adding a lump sum of 20 per cent. to estimated material and labor costs. In handling this engagement, we made a careful examination of all of their methods and installed a general accounting system, which included a detailed analysis of manufacturing accounts for the purpose of establishing standards for our burden rates. The cost system was not installed until fifteen months later.

This procedure meant that the general accounting plan was running smoothly and that it furnished correct data for the establishment of standard burden rates for machines and departments. In addition, the office, order, and sales departments, as well as factory organization, were built up so that when it came time for the installation of manufacturing costs, it was only necessary to get additional cost-accounting details.

In this case we get all of our labor distribution from the Stromberg Cost Recorders, thus saving much clerical effort, and all the costs necessary for the intelligent pricing of the product are gathered in the purchasing department with a minimum clerical effort.

This plan gives full information regarding the operation of machines and other equipment, the hours run, cost of repairs, etc. The management says their company has all of the methods and gets more information than some other plants in the same industry which have much more elaborate cost systems.

Some Problems in the Installation of Accounting Systems

In this paper I have made no attempt to discuss questions of principle or to establish any hard and fast rules of procedure. The problems mentioned show how the ingenuity of the accountant is taxed to find new ways to solve the many difficulties which present themselves.

Often the success of the system installation depends upon the judgment exercised by the accountant in deciding these questions; therefore a very careful study should be made of all the problems involved before any decisions are reached.

This is the work of the accountant at its highest development; it deals with mathematics, economics, and problems of human nature. It is an interesting vocation for the man who loves his work, because he is helping his fellows to make two blades of grass grow where one grew before, and to eliminate some of the needless waste that is a burden on the business of this country.