

Incentive Wage Systems¹

With Particular Reference to the Gantt Task and Bonus Plan

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IN DISCUSSING this subject my object is not, as has been the case of most of those who have dealt with it, to describe in a technical or academic way the numerous incentive pay systems that are known by the names of those who have devised them, but rather to present to you in what I hope may be a convincing manner:

1. The fundamental principles that underlie the classes into which the various pay systems may be logically grouped;

2. The objects that each class is intended to accomplish;

3. The vast difference that exists between the class advocated by Taylor and his associates and all others.

Basic Classes of Wage Systems

When I first became interested in industrial management there were only four generally known systems of wage payment: (1) day work, (2) ordinary piece work, (3) Taylor's differential piece work, (4) Halsey's premium plan. General or group profit sharing and the contract system may have also been found in isolated instances. Straight day work we may disregard, as it may not properly be considered in any direct sense as being an incentive to anything except inefficiency.

The other three fall into two main groups, as will also virtually all other incentive pay systems. These Taylor designated as: (a) Drifting Systems, (b) Task Systems.

The drifting systems group would include straight piece work as well as the Halsey premium plan and all of the many modifications thereof, such as those bearing the names of Rowan, Emerson and others. For a time it seemed as if every individual who blossomed forth as a so-called efficiency engineer was fired by an ambition to have a pay system

known by his name. One case has recently come to my attention in which an individual went so far as to utilize his name as a designation of time elements or units of work performed.

Taylor's use of the term "drifting system" in connection with Halsey's premium plan was objected to by Halsey, while Henry R. Towne, whose profit-sharing plan Taylor included with Halsey's, not only raised no objection but concurred with Taylor.

Essential Differences Between the Two Main Classes

The chief characteristic of the drifting systems is that while they aim to offer an incentive to the worker to produce more than he would under day work and to reward him for such increased production, the management evades, or at least does not consciously and fully assume, responsibility for determining *how much work should be produced, the manner in which it should be produced or what facilities may be essential to obtaining the higher production*. Neither does it fully assume responsibility for selecting and training the worker or for rendering him service beyond the practice prevailing under the ordinary old style management. In short the burden of responsibility and of initiative for the increase of production is placed squarely on the shoulders of the workman.

In this we may see, as in many of the ideas that have dominated the workers and their unions, a mental or psychological reversion to the prefactory days of craftsmanship, when the master workman provided his own facilities and produced a complete article with little or no assistance.

These drifting systems may under certain circumstances be justified as expedients or as intermediate stages in the progress of an industry toward something better. In many cases they may, however, prove to be an obstacle to progress and lead to serious trouble or disaster, as I shall endeavor later more fully to show.

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Efforts to utilize these systems in connection with scientific management may be attended with better results than without, but in greater or lesser degree, their effectiveness sooner or later, will diminish.

On the other hand the task systems, of which up to the present time there are to my knowledge only two—Taylor's differential piece-work and Gantt's task-and-bonus plan—to be successfully applied necessitate that the management assume its proper share of responsibility for the attainment of results. They are designed to meet the needs of scientific management.

Indeed, they cannot and should not be used except under the rather highly standardized conditions and precision of planning and control found only under a well developed application of scientific management. The other forms of wage payment are better adapted to what have been characterized as the "unsystematized" and "systematized" stages through which it seems necessary for management to progress before attaining the so-called scientific form.

Task Systems Require Scientific Management

The task systems of payment involve the obligation for carrying out in practice what Taylor referred to as the four principles of scientific management. Briefly stated, these are:

1. The development of a science or art in the place of rule of thumb in each industry.

2. The scientific selection and training of the workers.

3. A proper division of responsibility between the management on the one hand, and the scientifically selected workmen on the other.

4. The bringing about of what Taylor termed "hearty co-operation between the management and men."

In order to apply a task system the management must know at least as much about the doing of the work as do the workmen, and it ought to know more—certainly more than any *one* workman. This knowledge it acquires by analytical studies of the equipment, materials, processes and all conditions affecting the work. As a result of such studies it brings together and codifies not only the combined best traditional knowledge, but eliminates that which is unsound and adds through research and experiment much of value to that which pre-

viously existed. The development of high-speed steel was one outcome of such investigation. Improvement of equipment, of methods and the establishment of standards are another result of these studies. This is briefly what is involved in the application of the first principle of scientific management. Without this it is obvious that the management is in no position to say definitely, as a task, how long it should take to do a given piece of work. Without the application of this principle neither the management nor the worker can have any honest confidence in the rates set.

Injustices, Inequalities and Shortcomings of Drifting Systems

Under all systems other than task systems there will almost invariably be found among a given number of workers engaged in doing the same kind of work a wide variation in earnings; taking the earnings or the production of the best as 100 per cent the range will extend downward frequently to 40 per cent.

Where there is some variety in the work done, such as would be the case, for example, in folding handkerchiefs, to which I referred in my paper on standards—where there would exist variation in size, in kind of material or the kind of fold—this variation in earnings might be accounted for in part by what the workers term "good work" and "bad work." "Good work" means that for which the piece rate or premium rate has been set relatively too high, and "bad work" that for which the rate is unreasonably low. The injustice and evils of inequalities of rates when set by unscientific methods I shall take up again later. However, unequal rates are only in part responsible for such great variation in earnings as I have cited, as such variations will be found even where the work of each operator is identical.

The main cause, apart from unstandardized conditions and delays for which the operator is in no sense responsible, lies in the failure of the management properly to apply the second principle set forth by Taylor—*first* to select the workers, if not in a manner scientific in the fullest sense of the word, at least intelligently with regard to the fitness of the individual for the work to be done; and *second*, which is of even greater importance, to train the worker by giving such instruction, assistance and encouragement as may be needed to bring the

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