Time studies as a basis for rate setting

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TIME STUDIES AS A BASIS FOR RATE SETTING

As Developed in the Taylor System of Management

*Time study for rate setting is the means to attain the fundamental objects in manufacturing of high wages and low labor cost.*

*Frederick Winslow Taylor*
TIME STUDIES
AS A BASIS FOR
RATE SETTING

BY
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Member Taylor Society
Member The American Society of Mechanical Engineers

WITH A FOREWORD BY
CARL G. BARTH

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Executor of the Estate of
FREDERICK W. TAYLOR
TO MY MOTHER
FOREWORD

NEW ideas always slowly find their way into popular favor. Unfortunately, some ideas while thus slow in getting under way, once they have taken root, spread further and faster than they can be properly assimilated by their votaries.

A striking example of this is the idea of "unit-time-studying" the various classes of human labor performed in the industries, in the manner first suggested and practiced by the late Dr. Frederick W. Taylor, now generally recognized as the Father of Scientific Management, of which form of management unit-time study forms such an important element that managers and other executives, quite generally, have lost sight of other elements that are even more important, for, without these as a foundation, proper time studies to be used as the basis of equitable task and rate setting are impossible.

While Doctor Taylor invented and used unit-time studies in a limited way some fourteen years earlier, it was not until June of 1895 that he gave the idea to the world in a paper entitled "A Piece Rate System," which he presented at the Detroit meeting of the American Society of Mechanical Engineers. Here he said:

"Practically the greatest need felt in an establishment wishing to start a rate-fixing department, is the lack of data as to the proper rate of speed at which work should be done. There are hundreds of operations which are common to most large establishments, yet each concern studies the speed problem for itself, and days of labor are wasted in what should be settled once for all, and recorded in a form which is available to all manufacturers.

"What is needed is a hand-book on the speed with which work can be done, similar to the ordinary engineering hand-books. And the writer ventures to predict that such a book will before long be forthcoming. Such a book should describe the best methods of making, recording, tabulating, and indexing time observations, since much time and effort are wasted by the adoption of inferior methods."

However, greatly to his disappointment, Doctor Taylor found at that meeting that his audience was so little prepared for his ideas and methods, that the discussions of his paper, though many and varied, centered entirely on his method of "differ-
ential piece rates” of paying for a task, instead of on his manner of determining the time allowance for the task, by means of unit-time studies.

It was not until he again presented his ideas as a part of a more general scheme of management, in his second paper before the same society—“Shop Management,” read in December, 1903—that a limited number of shop managers and manufacturers began to realize what he was aiming at, in addition to the exceedingly few who, in the meanwhile, had fallen under his personal influence.

The importance that Doctor Taylor placed on time study is further emphasized by his statement that his object in writing his book, “Shop Management,” was to call attention to this mechanism of management, and make sure that it should receive the consideration that it deserves. In fact, on fifty-two pages of that book there are references to time study, and on page 58 is this paragraph:

“The writer most sincerely trusts that his leading object in writing this book will not be overlooked, and that scientific time study will receive the attention which it merits."

Since that time, the idea has spread much more rapidly than has an adequate realization of the difficulties that are connected with the making of time studies, and also of those that confront the person himself who undertakes to put time studies over in a shop; so that a great deal that is attempted along these lines miscarries in whole or in part. First of all, the mistake is only too often made of sailing into time studies before the shop equipment and methods have been properly standardized; and second, the mistake is made of supposing that a man of merely clerical experience provided with a stop-watch, can either on his own initiative make usable time studies, or may readily and quickly be taught how. However, this is far from the case, for time studies cannot be separated from motion studies, and motion studies cannot be made by a person who does not fully appreciate the purpose of the motions made by the operator he observes. Where a machine is involved he must also understand that machine, and the difference between its correct and incorrect operation and manipulation in every detail.

He must also be able, promptly, to size up an operator as to his standing in his class, as to slow, medium fast, fast, or extraordinarily fast and expert. With this ability he can, after gaining sufficient experience, with almost equal satisfaction arrive at correct minimum unit times for equitable
rate setting, no matter what grade of operator he may observe. However, it is at all times easiest and best to make observations on a first-class, but not extraordinarily expert, operator.

It is because Mr. Merrick was a full-fledged machinist of several years experience before he, some eighteen years ago, took up with time studies and rate setting as his specialty, under my own direct supervision and Doctor Taylor himself as the supreme leader, that I have such confidence in his work in this field that I have always refused to break in other men to make time studies and set rates for my own clients, and insisted that this be turned over to Mr. Merrick whenever he has been available.

It is also because of this that I express my confidence that what Mr. Merrick has to offer the reader in this volume is of real value.

Buffalo, N. Y.

February, 1919.

Carl G. Barth.