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EVALUATING FOOD SERVICE PRODUCTIVITY BY ACCURATE MEASUREMENTS

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The authors stress the shortcomings and strong points of productivity measures utilized in the institutional market.

Present United States Department of Agriculture statistics indicate that American consumers spent \$165 billion for food in 1974. Out of these food dollars, the farmers received 33 cents; assembly and processing operations, 31 cents; transportation, 5 cents; wholesalers, 6 cents; retail food markets, 13 cents; and food service operators, 12 cents.

The current inflationary-recessionary imbalance of our economy has spiraled the costs of raw materials, equipment, and labor, as well as those for practically everything else associated with a normal marketing operation. Improving our productivity may be one of the few methods with which we can counter-balance the rising costs of marketing functions. Although we should make every effort to increase our productivity, we should give the same amount of consideration to the accurate evaluation and measurement of productivity.

The inadequate determination of optimum labor requirements and of acceptable levels of performance has contributed significantly to the financial collapse of many food service establishments. The

reasons for this unfortunate circumstance are twofold. First, the majority of food service operators do not understand what a standard productivity measurement is and how it can be used, and they misinterpret the implications of poor performance of superior performance. Second, the majority use labor cost ratios (dollars labor cost divided by dollar sales) as a productivity measurement.

To measure a quantity, we must first establish a standard unit of measurement. The standard unit of measurement for labor is man-hours^{2/} or man-minutes. Labor productivity measurements must be expressed in terms of minutes or hours to achieve stability.

Traditionally, engineers and economists use three formulas to evaluate productivity:

Standard productivity measurement = $\frac{\text{input}}{\text{output}}$

Budgeted man-hours (forecasted or actual) =
standard productivity measure
X units of finished production
(forecasted or actual)

Performance (percent) =

$\frac{100 \times \text{budgeted labor hours}}{\text{payroll hours}}$ (forecasted or actual)

A standard productivity measurement for dining room employees, for example, should be expressed in terms of standard man-hours (input) per 100 customers (output).

A standard productivity measurement is used to determine budgeted man-hours. Budgeted man-hours are defined as the product of the productivity measurement multiplied by the units of finished production.

Let us assume that restaurant "X" has developed a standard productivity measurement of 10.52 standard man-hours per 100 customers for dining room service. The operator of this restaurant forecasts a customer count of 500 for the next day's business. Using this information, he can project a budgeted labor schedule for the next day's business and determine the level of performance at the end of the next day. The labor budget for the next day is computed by multiplying 10.52 standard man-hours per 100 customer by 5.00 hundreds of customers. Theoretically, the product--52.6 man-hours--is the number of man-hours which should be scheduled. Budgeted man-hours are used to determine performance. Performance is defined as budgeted man-hours divided by payroll hours, or the actual man-hours paid.

At the end of the forecasted day's business, the operator of restaurant "X" calculates performance by multiplying the budgeted labor hours by 100 and dividing the product by the actual payroll hours. Then let us further assume that restaurant X's payroll hours for the forecasted day were 64.0 man-hours. The performance in this case would be 82.8 percent ($100 \times 52.6 \text{ budgeted man-hours} \div 64 \text{ payroll hours}$).

Based on the engineers' and economists formulas for evaluation of performance, an 82.8 percent performance would indicate that the operator of restaurant X scheduled too many employees for a

customer volume of 500, with the result that some employees were idle. If our calculations had shown a performance of 120 percent, this result would have indicated that the operator or restaurant X did not schedule enough employees for a customer volume of 500, and customer service would have been poor. This example is based on the premise that the forecasted customer count was accurate or that the number of customers forecasted equaled the actual customer count. Performance could be calculated in a similar manner to show the effect of forecasting accuracy.

In real life situations, however, additional factors that are not accounted for in the traditional engineers' and economists' formulas have a direct impact upon the computation of productivity. A more realistic formula or "recipe" for performance includes three key ingredients: Training, motivation, and physical resources. Equal emphasis must be placed on each of these ingredients before maximum performance can be obtained.

The first ingredient of the performance recipe is training. Does the employee know how to do the job? Obviously he will not achieve an acceptable level of performance if he does not receive training in the skills required to produce quality menu items and provide satisfactory services. Training requires an investment of time and money and a positive management commitment.

The second ingredient is motivation. Does the employee want to do the job? The nonproductive time that results from an "I don't want to do it" attitude must be eliminated. Industrial psychologists tell us that three key factors motivate employees in the performance of their jobs. (1) A complete piece of identifiable work is assigned, (2) maximum responsibility to make decisions is afforded, and (3) feedback on performance is given as soon as possible.

The third ingredient is physical resources. Does the employee have adequate lighting, tools, proper room temperature, quality raw material (food), and a well designed work station? Is the employee physically capable of performing the work? In far too many instances, poor equipment layout results in excessive walking, and hot working conditions in our kitchens results in employee fatigue.

Qualitative measurements can be used to evaluate each of the three key ingredients in the food service performance recipe. Training and motivation are commonly evaluated by means of IQ, aptitude, and attitude tests.

The inherent problems in the use of qualitative measurements are the error of human judgment and the accepted fact that humans do not react to the elements of their environment in a standard or predictable manner. Therefore, the only realistic measurement we can use to evaluate productivity is a quantitative one, such as man-hours per 100 customers served or man-hours per 100 menu orders of such items as bacon and eggs. The knowledgeable user defines the extent of the productivity problem through quantitative measurements and seeks solutions through qualitative measurements.

Unfortunately, the most common labor productivity measurement being used by our industry is the labor cost ratio³ or "percent labor cost." The labor-cost ratio is an inadequate productivity measurement for several reasons. Foremost of these reasons is that the ratio is determined from dollar measurements. In 1964, the average hourly wage rate paid to nonsupervisory employees was \$1.25.⁴ As a result of inflation, this wage rate increased in a ten-year period. Menu prices have also increased during this ten-year period. The consumer price index for "meals away from home" has increased by 27 percent for the same period. Conse-

quently, the division of escalating wage costs (at a rate of 6.4 percent per year) by escalating menu prices (at a rate of 2.7 percent per year) does not provide a satisfactory measurement of productivity. Productivity measurements expressed in terms of labor cost ratios are based on historical records, or past performance. As a result, the labor cost ratio directly reflects poorly motivated and trained employees in many instances.

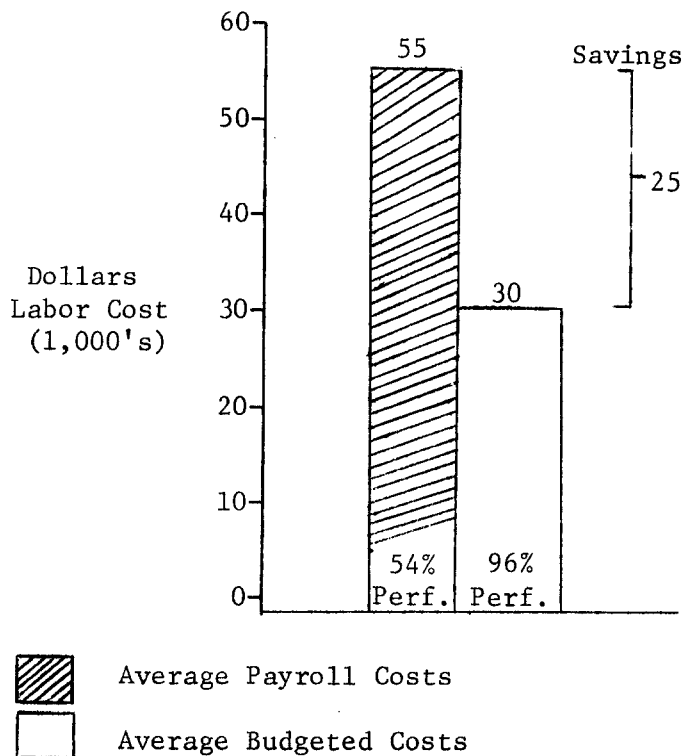
In an effort to alleviate some of the inaccuracies and nonproductiveness that currently exist in our industry, the Food Distribution Research Laboratory has conducted several research projects in this area. The objective of this research program was to develop productivity measurements that can be used to evaluate and improve performance and to design and evaluate new methods of reducing costs of operation. Although the completed research to date has been successful, an enormous amount of work remains to be done, especially in the areas of training and motivating employees.

One of the research studies recently completed involved a productivity study of twelve fast-food restaurants. Productivity measurements and performance for three types of fast-food restaurants a cafeteria, a self-service cafeteria, and a multiple-cash-register establishment--were developed.

Figure 1 shows the annual potential labor cost saving of the average restaurant that participated in this research. Average payroll costs of \$55,000 were incurred, at a performance level of 54 percent. Our research shows that if employees were properly trained, motivated, and scheduled on the basis of workload requirements, a performance level of 96 percent could be achieved, and budgeted costs of \$30,000 would be incurred. A labor-cost saving of \$25,000 per year would result. The performance level is limited to 96 percent, because the

majority of operators who participated in this research indicated that they were unable to recruit part-time employees for less than a four-hour work shift. An additional labor saving of \$7,000 per year could be realized through improved layouts and methods improvements.

Figure 1.--Annual Potential Saving in Labor Cost for Fast Food Restaurants Through Scheduling, Motivation, and Training.



FOOTNOTES

- 1/ The revised data presented in this paper was previously published by the Cornell H.R.A. Quarterly, Vol. 15, No. 4, February 1975.
- 2/ Labor of one man for one hour.
- 3/ Labor cost ratio is 100 X dollars labor cost divided by dollar sales.
- 4/ Does not include tips.