



Measuring Labor in School Meals Programs

Nancy Christensen, Susan W. Arendt, Catherine Strohhahn, and Tianshu Zheng

Introduction

- The National School Lunch Program (NSLP) serves over 5.3 billion lunches annually (USDA, 2012).
- Food costs are usually calculated accurately (USDA, 2008), but labor costs are typically allocated on a straight line basis to meals (Cater, Conklin, & Cross, 2005).
- Cost allocation does not enable operators to quantify labor costs of producing specific menu items, to differentiate menu items requiring high expenditures of labor from low, nor to determine the differences in labor requirements when recipes or methods are changed.

Purpose of Study

- Exploratory research seeks to determine if the labor requirements to prepare specific menu items can be measured, whether the distribution of measurements is normal, and whether confidence intervals are sufficiently narrow.

Methodology

- Single production site of small Midwestern school district in pilot study.
- Time-Driven Activity-Based Costing (TDABC) techniques (Vaughn, Raab, & Nelson, 2010) and direct video-recorded observation were utilized.
- The time required to complete operational steps (such as mixing) when preparing similar entrees using similar techniques was determined.
- Descriptive statistics were calculated and histograms plotted.

Results

- Preliminary analysis indicates that mean time to complete each operational step varied little from one production site to the next.

Applications

- Findings of this research will enable operators to estimate labor needs when making decision such as make-versus-buy, menu planning, recipe change, or process change.
- These will further affect staffing scheduling, budgeting, menu development, and equipment selection.

Time per Step, 25-Portion Pan

STEP	MEAN TIME	RANGE	NUMBER OF OBSERVATIONS
Measuring temperature	4.7 sec	2-24 sec	25
Adding ingredients	20.1 sec	4-57 sec	26
Mixing complete product	46.2 sec	29-75 sec	13

References

Cater, J., Conklin, M., & Cross, E. (2005). *NFSMI financial management information system* (NFSMI R-86-05). Retrieved from <http://www.nfsmi.org/documentlibraryfiles/PDF/20080225031916.pdf>

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Vaughn, P., Raab, C., & Nelson, K. B. (2010). The application of activity-based costing to a support kitchen in a Las Vegas casino. *International Journal of Contemporary Hospitality Management*, 22 (7), 1033-1047. DOI: 10.1108/0959611011066662