



CASE STUDY:

Using historical data to build more profitable menus in school nutrition programs

BACKGROUND

WHAT IS MENULOGIC K12?

MenuLogic K12 is an online software used in the K-12 school nutrition industry as a productivity and financial management tool. It is used to record and store production records online and then transform the data from the production record into extremely useful information. South Madison Community School Corporation (SMCSC) started using MenuLogic K12 in March 2017 to record production records and started using the information collected to plan menu cycles during school year 2017-18. The purpose of this case study is to show the financial impact that utilizing objective, historical data to plan menus can have on the overall Profit/Loss of a school nutrition department operating budget.

THE PROBLEM

HOW SMCSC PLANNED MENUS BEFORE

School menus are traditionally planned with a heavy emphasis on nutrition compliance as the leading factor in determining which menu items to place on a menu cycle. SMCSC was no different. The second-most determining factor for SMCSC was menu item popularity. Determining menu item popularity involved using a combination of methods, all of which have issues making them unreliable as described (see table).

BASELINE

District:

South Madison Community School Corporation

of Schools: 6

2016-17 Annual Revenue:

\$2,200,996

% Free/Reduced: 30%

Administrative Staff Involved:

Director & Menu Planner

PREVIOUS METHODS USED TO DETERMINE MENU ITEM POPULARITY

METHOD	ISSUE(S) WITH METHOD
Gathering opinions of Managers and Staff	Information is subjective and can be influenced by any number of factors
Reviewing daily meal counts from Point of Sale (POS) reports to identify menu cycle days with high meal participation	No way to know which menu item (if offering multiple) contributed to high participation Does not take into account major attendance fluctuations
Reviewing POS reports to identify items sold in largest quantity	Difficult to evaluate easily because for information to matter, must also know how many times it was offered, which requires significant manual effort
Food item purchase history from distributor	Difficult to determine whether high purchases are due to high sales as compared to other items or number of times it was offered on menu

Third most important factor in planning was profitability, but SMCSC could not find an effective way to evaluate profitability. Profitability of an item was evaluated using the unit cost of the item and the purchase price to determine the per unit profit. The issue with using this measure alone is that it does not take into account the number of servings a menu item typically sells or is likely to sell. It also does not account for the number of ala carte servings the menu item typically sells and is likely to sell. Take, for example, a Pizza with a unit cost of \$.50 and a Cheeseburger with a unit cost of \$.30 (both with equal selling price). Using unit cost alone as a measure of profitability, the Cheeseburger is more profitable. When you take into consideration that the Pizza is sold more in meals and ala carte,

the Pizza might become the more profitable item when considering total cumulative profit versus per unit profit. SMCSC had no way to quantify cumulative profit per menu item beyond using the per unit profit (purchase price - unit cost).

THE MENULOGIC K12 METHOD

HOW SM CSC DID IT

The overall goals SM CSC focused on while using MenuLogic K12 were:

- ▷ Increase revenue
- ▷ Decrease food and supply expenses
- ▷ Ensure what is actually being served to students is what the Director and Menu Planner had intended

Two menu cycles were planned for SY 17-18 (Fall and Winter) using information gathered from MenuLogic K12 to choose which items were placed on menus. To prepare for planning the menu cycle, the Director and Menu Planner utilized the MenuLogic K12 Item Performance report to choose the highest performing entrees and ensured those entrees were on menu cycle. The lowest performing entrees were taken off and all other entrees were chosen or not chosen using their ranking as an indicator. The Director also looked at the average Profit/Loss of each lunch cycle day district-wide (i.e. Week 1 Tuesday Lunch) and identified which days had the most profit and the most loss and used that information to help balance when entrees were offered. The goal was to serve the most popular foods that are also relatively profitable. The total amount of time taken to find this information in MenuLogic K12 was less than 2 hours for each of the two menu cycles.

By planning menu cycles that included entrees that were more popular, the intention was to increase revenue in the form of more meals and more ala carte servings of entrees.

Because profitability was considered, the goal was to lower the food/supply costs at the same time as increasing revenue.

Another method used to decrease food/supply expenses was to use MenuLogic K12 Item Performance to identify Worker Bee entrees - those that are popular, but have below average profitability. SM CSC wanted to keep these entrees on the menu (in some form) because the students like them. SM CSC worked to tweak the recipes to lower the unit food/supply cost or to replace the item with one that was comparable, but had a lower food/supply cost. For example, a \$.70 unit cost Yogurt Entree was replaced with a \$.37 in-house made Lunch Box Pizza Stacker at the elementary level (both popular vegetarian alternate choices). Essentially, SM CSC looked at these popular but below average profitability entrees and worked to tweak the ingredients to lower the unit food/supply cost. Another example included using USDA ground beef to prepare taco meat in-house, which lowered the unit cost of a number of popular recipes.

INCREASE REVENUE

- Sell more meals
- Sell more ala carte entrees

DECREASE COSTS

- Reduce unit cost of popular entrees by adjusting recipe
- Foods that are sold most are lower unit cost

ENSURE COMPLIANCE

- Identify areas where site did not follow menu, proper portions, district guidelines. Resolving these issues can also decrease costs
- Ensure all USDA requirements are met as menu planner intended

OPERATIONAL ISSUES UNCOVERED

- Using the MenuLogic K12 Production Results report, SM CSC recognized that at one site the fruit/vegetable servings per meal (and therefore cost per meal) were higher as compared to other sites on same menu cycle. After observation, it was found that Manager and Cashiers were requiring students to get both a fruit and a vegetable that were not required via Offer vs. Serve.
- Chef Salads include the offer of a 2G Dinner Roll. After reviewing online production records, SM CSC noticed that no dinner rolls were being sold. Upon further investigation, it was discovered sites that were not preparing and offering the Dinner Roll in order to save preparation time.
- Using the MenuLogic K12 Production Results report, SM CSC identified high waste costs at a site. The Item History & Projections report identified fruits and vegetables as the most wasted food at this site. It was then found by discussing with Manager and through observation that this waste generally happens at the end of service because fruit/vegetable bars were supposed to stay full. The Manager and Director worked together to create a system in which the last servings only of fruits and vegetables were covered so that the servings could be sold again.



During the first few weeks of collecting production records using MenuLogic K12, Director and Menu Planner spent time reviewing records for accuracy of completion and also compliance with intended menus. There were several issues discovered through this process in which staff had misinterpreted or did not understand a rule and were serving incorrectly. (See "Operational Issues Uncovered")

THE RESULTS

FINANCIAL IMPACT

Results analysis focused on the difference between SY 16-17 (previous menu planning methods used) and SY 17-18 (using MenuLogic K12 to plan menus). Results are based on actual financial information from district revenue and expenditure reports for the time periods specified.

REVENUE

Ala Carte sales saw the largest increase in revenue. A breakdown of ala carte sales types shows that extra entree sales had the most significant increase (+13%). There were no changes in ala carte prices from SY 16-17 to SY 17-18. There were also no significant changes in ala carte only product offerings (i.e. chips, drinks). Changes in meal revenue were likely due to increased prices and reimbursement.

OVERALL REVENUE ANALYSIS				
	SY 16-17	SY 17-18	DIFFERENCE	% CHANGE
Meal Revenue <i>Includes price +reimbursement</i>	\$1,384,235	\$1,422,092	+\$37,857	+3%
Ala Carte Revenue	\$739,841	\$777,090	+\$37,249	+5%
Other Revenue	\$76,920	\$76,858	-\$62	
Total Revenue	\$2,200,996	\$2,276,040	+\$75,106	+3.5%

REVENUE BREAKDOWN ANALYSIS				
	SY 16-17	SY 17-18	DIFFERENCE	% CHANGE
Extra Entrees	\$310,316	\$349,866	+\$39,550	+13%

EXPENSES

Overall food and supply costs decreased by 8%. The average cost per lunch and breakfast contributed to this decrease as described in table below. Other possible reasons for this decrease were examined, including changes in commodity bid pricing, bread pricing, and milk pricing. Pricing was examined by using item purchase history from SY 17-18 and applying prices from SY 16-17 to determine what the same purchases would have cost at SY 16-17 prices. The commodity pricing actually showed a slight increase (+\$1300), while the bread pricing change was insignificant. Decrease in milk pricing did account for approximately \$9,904 of savings. All other savings can be fairly attributed to menu planning and the choices of items that were planned.

FOOD & SUPPLY COST BREAKDOWN ANALYSIS				
	SY 16-17	SY 17-18	DIFFERENCE	% CHANGE
Average Cost per Lunch	\$1.39	\$1.28	-\$.11	-8%
Average Cost per Breakfast	\$.83	\$.81	-\$.02	-2%

OVERALL FOOD & SUPPLY COST ANALYSIS				
	SY 16-17	SY 17-18	DIFFERENCE	% CHANGE
Food & Supply Cost of Goods Sold	\$1,022,502	\$939,417	-\$83,085	-8%
As a % of Revenue	46%	41%		-5%

OVERALL PROFIT/LOSS

After combining the 3% increase in revenue and the 8% decrease in food & supply expenses, the overall profit margin (profit/total revenue) of the department increased from 2% to 8%. Other Expenses (Labor, Overhead) increased \$17,738. These expenses are not impacted by MenuLogic K12, but show that the gross profit would have been even higher had these expenses remained consistent with SY 16-17.

OVERALL PROFIT / LOSS				
	SY 16-17	SY 17-18	DIFFERENCE	% CHANGE
Total Revenue	\$2,200,996	\$2,276,040	+\$75,044	+3.5%
Food/Supply Purchases	\$1,015,188	\$935,841	-\$79,347	-9%
Other Expenses <i>Labor, Other</i>	\$1,139,999	\$1,157,737	+\$17,738	+1%
Profit	\$45,809	\$182,462	+\$136,655	+298%
Profit Margin	2%	8%		+6%

THE INVESTMENT

IS IT WORTH IT?

The financial investment for SMCS is \$5250 annually. This is equivalent to 0.2% of the annual budget. Based on this case study, SMCS can expect a profit of \$182,462, which is an increase of profit of \$136,655. After removing milk cost decreases because these were not as a result of MenuLogic K12, \$126,751 of increased profits can be attributed to changes made possible as a result of using MenuLogic K12. By taking the cost of MenuLogic K12 as compared to this increase in profit, this is over a 2400% return on investment.