Portland Public Schools (PPS)
Use of Analytics to Optimize Child Nutrition Programs

Background

Portland Public Schools (PPS) is an urban school district in Portland, Oregon. With approximately 47,000 students in 81 schools, it is the largest school district in the Pacific Northwest. Approximately 21,600 PPS students participate in school nutrition programs offering free or reduced price meals.

PPS has a long history of operating successful child nutrition programs by effectively administering a strong nutrition program with positive fiscal results. Historically, they attributed much of their success to internally developed business information systems utilizing spreadsheets to analyze transactional and archival data from multiple systems such as point-of-sale (POS), student information system (SIS), back-of-house (BOH) and financial accounting.

This method provided important insight into the performance and operational parameters across individual sites within the district. Metrics such as Participation Rate, Meals per Labor Hour, Cost as Percent of Revenue and others were commonly included in this analysis. These "analytical insights", then allowed targeted process-improvement efforts leading to improved levels of success.

The Challenge of Sustaining Disciplined Analytics

Although PPS had attained a palpable level of success using analytics to guide program management and process improvement, there were several issues challenging ongoing success:

- Upgrades and changes to internal IT systems, causing breakage of the data-collection methods.
- Personnel turnover causing disruption of the technical knowledge needed for maintaining the manual analytics solutions that had been put into place.
- Limited in-house resources for building and maintaining the various IT components required for robust data collection and timely analytical reporting.
- The need to bring in new measures and metrics to support a more robust set of industry-standard Key Performance Indicators (KPIs) established by the Council of Great City Schools for food service operations.
- The need to more easily customize KPI reports to achieve better-targeted peer-comparison of site performance against peer group averages.

The Challenge of Finding the Right Tools

There were no readily available options in the marketplace that could meet the specific challenges PPS was facing.

The Solution

PPS turned to inTEAM, its long-time technology solution partner for assistance. Starting in school year 2011-2012, PPS agreed to become a beta site for inTEAM's Decision Support Toolkit (DST), a Business Intelligence (BI) solution designed around inTEAM methodologies and Key Performance Indicators (KPI's) for measuring performance at the site and district-wide level. This arrangement allowed PPS to leverage the work that inTEAM had already embarked upon with the initial design of DST. It also allowed inTEAM to fine-tune DST functionality according to the feedback provided by PPS, which was based on PPS's previous experience, forward-looking approach and newly emerging needs.

DST has turned out to be the technology solution PPS had been seeking.

Solution Details

Although a disciplined approach to analytics requires commitment and effort, it is now possible for PPS to analyze site performance using industry-standard Key Performance Indicators (KPIs) established by the Council of Great City Schools for food service operations. These crucial metrics are all delivered through configurable DST reports including:

♦ **Meal Participation Report** – Shows the number of meals served for the time frame requested for each eligibility category. It also presents the Average Daily Participation (ADP) for each category as a percentage of those eligible.

♦ **Meal Revenue by Fund Source** – Shows the program revenue broken out across individual sources including, Federal, State and Local.

♦ **Revenue by Program** – Each program (NSLP, SBP, ASSP) generates revenue. This report displays revenue for each program and computes its share of total revenue. When compared to peers, this information is useful in determining whether the school or district is maximizing its opportunities.

♦ **Revenue per Student in Attendance** - Per student revenue is a measure of participation. It takes all revenue streams (federal, state and local) and divides it by attendance. In high need districts, the value is likely to be close to the free reimbursement rate. In more affluent districts, it will vary depending on the number of children making purchases in the cafeteria, meals or ala carte. By comparing revenue per student to peer schools (schools with similar demographics), users can assess their market penetration.

- ♦ **Commodity Value Received** – Schools are entitled to USDA Foods based on the number of reimbursable lunches served. Utilizing this entitlement helps offset the cost of food, and maximizing utilization benefits the program. This report displays the per lunch utilization of USDA Foods.

- ♦ **Productivity Meal Equivalent per Labor Hour** – Meals per labor hour is a key metric for program performance. To correctly determine MEq/LH, schools must convert non-meal sales to meal equivalents. DST uses a formula to make these conversions and establishes targets for productivity based on peer groups of similar food preparation and service models.

- ♦ **Labor Cost per Cost Meal Equivalent** – Similar to MEq/LH, labor cost per meal is a good metric for productivity. Unlike meals per labor hour, labor cost per meal reflects local costs as determined by wage and benefit costs. This makes it a good metric for program viability.

- ♦ **Operating Cost % of Revenue** - A standard report for business is cost as a percent of revenue. A business's profitability is the difference between revenue and expense. For school foodservice, the mix and balance of costs is particularly important. Because of differences among district's food preparation and service models, as well as local cost factors, there is no single correct combination of costs. Certain models have higher food costs, but lower labor costs. Others reverse that. DST identifies peers to improve the quality of comparisons.

- ♦ **Operating Statement** – An operating statement is a standard reporting format for a simple, summary view of revenue and expenses.

In addition to reporting, DST provides tools for capturing transactional and archival data from multiple systems such as point-of-sale (POS), student information system (SIS), back-of-house (BOH) and financial accounting. For situations where fine-grain daily data are not available, DST automatically apportions the monthly values into appropriate daily values – based on the calendar of operating days and other available data. As a final processing-step, DST places data into a data warehouse "cube" which contains calculations and logic for smoothing out misleading data anomalies and also optimizes data organization to accelerate report performance.

The Challenges and Rewards of Working with a Beta Implementation

For PPS, being a participant in a Beta program had its own set of unique challenges:

♦ Committing PPS staff-time necessary to support a collaborative effort;

♦ Managing the transfer of knowledge and project-vision in the face of turnover;

♦ Negotiating the inclusion and prioritization of specific enhancements to the software.

However, helping to guide details of the implementation allowed PPS to realize additional benefits. Enhancements to DST that were guided by PPS participation include:

♦ Setting customized KPI goal/threshold values which are used to selectively highlight performance outliers.

♦ Adding supplementary MEq calculations and KPIs to fit existing PPS practices;

♦ Defining custom groups so that report content can be better customized and comparison of site performance can be made across the most appropriate set of peers;

♦ Showing imported data-values so that data from a POS system could be visually verified as complete and correct.

♦ Showing a list of the specific peers being used for each unique instance of peer-group comparison.

Additional Benefits

The new system provides additional benefits which were never available within the previous toolset.

♦ Dashboard charting allows side-by-side comparison of two or more real-time KPI reports.

♦ Suspect data stands out clearly and outlier values are often automatically flagged. Missing data or data entered at an incorrect granularity are easily identified.

♦ Abnormal cases, such as sites where expenses are incurred yet revenue is not collected, are easily identified and isolated for appropriate handling.

♦ Reports quickly identify which specific sites and programs are under performing fiscally, and which profitable sites are offsetting the losses.

♦ Analysis of multiple KPIs helps to identify differences in site productivity and to understand the specific factors involved.

♦ Interactive "drilldown" provides the ability to instantly inspect underlying values to gain a better understanding of the source for roll-up and composite values.

♦ Reports can be viewed online in interactive form or exported to PDF, Microsoft® Excel® or Microsoft Word®.

Looking Forward

"Working with inTEAM on the DST beta program provided Portland Public Schools with the opportunity to help refine a software package that monitors our district-specific KPIs and aligns our metrics with best practices identified by the Council of Great City Schools. DST gives us the flexibility to create peer groups based on programs and demographics so that we can analyze the performance of 81 different schools."

– Portland Public Schools Administrator

Business Intelligence (BI) tools deliver the actionable analytical insights which identify where process-improvement efforts can generate the best return on investment. Historically, PPS has demonstrated the proficiency to capitalize on data analytics. The experience gained during the DST beta shows that PPS has expanded that expertise to leverage a comprehensive set of modern BI tools which include the KPI's established by the Council of Great City Schools for food service operations.

With 2011/12 school year data in place as a baseline, PPS is in position to evaluate the impacts of the Healthy Hunger Free Kids Act (HHFKA) on school year 2012/13. As new data are collected, DST will continue to provide the analytical insights for guiding continuous improvement of PPS child nutrition programs.

About inTEAM Associates, LLC

inTEAM was founded in 1994 by two of the most respected professionals in school foodservice, Dot Pannell-Martin and Gertrude Applebaum. The vision of these award-winning Child Nutrition Directors was to apply their decades of knowledge and experience in creating standardized foodservice systems to help schools develop successful school meal programs. Today, inTEAM's original menu-centric philosophy has not changed. Instead, it has embraced technology to better serve the changing needs of its K-12 and State Department of Education customers.

The core of inTEAM's product line is the Decision Support Toolkit (DST). DST is inTEAM's umbrella application that seamlessly integrates data from multiple 3rd party transactional systems into a unified database for reporting and analysis. DST offers a single user interface for several applications, including: Menu Compliance, Validation Reviews, Business Intelligence, and Meal Benefits Management System. Since DST is completely web-based it can be conveniently accessed at any time by local education agencies or central State Agency offices.

CONTACT US

inTEAM Associates, LLC
1437 6th St.
Santa Monica, CA 90401

Phone: 1-866-457-4705
email: info@e-inTEAM.com
www.e-inTEAM.com