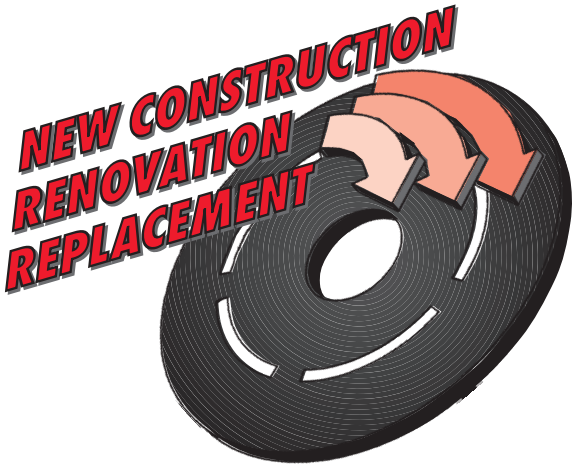
OVERVIEW

The decision-making process for purchasing equipment for a new kitchen or replacing old equipment follows the same steps. Chapter 6 provides in-depth discussion of each step in the process. The first step is to complete the Equipment Selection Matrix (found in Chapter 4). This enables you to document the use of each piece of equipment necessary for your menu. Next, develop a purchasing cycle working backwards from the expected date of use. Once the critical paths for purchasing are established, secure equipment specifications and compute your new equipment needs. It helps you identify the basic parameters required by your operation.

Usually you will find that more than one brand of equipment initially appears to meet your needs. However, each piece of equipment will have different features and benefits. The next step is to compare manufacturers' specifications to determine the value of the respective features and benefits.

The final step is to establish the total cost of ownership through life cycle costing.

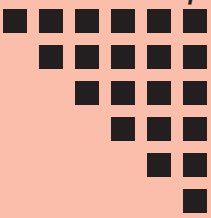


Steps in the Decision Process

Your journey will include a variety of important decisions that will impact employees' efficiency, system productivity, and even student satisfaction for years to come. Yes, the amount, capacity/size, and type of equipment selected may also affect the financial success of the school foodservice program.

The guiding principles (Chapter 1) have provided the foundation of your purchase decisions. In addition, the selection of the individual pieces of equipment must be menu driven - not only today but also in the future. Remember, the menu must reflect customer expectations. A student will turn to a competitor to have his or her expectations met if necessary.

Traveler's Tip



Investigate all applicable local and state code requirements. All equipment must be purchased and installed according to these codes.

Selecting equipment for new or renovated construction projects is not very different from adding or replacing equipment in the decision process. Your selection has a dramatic impact either negatively or positively. A well thought out decision will enhance the ease of operation, reduce fatigue, improve food quality, and even improve the work environment.

What's the bottom line? The decision process and the appropriate selection of foodservice equipment will be in evidence through expenditure of human energy, ease of operation, and maintenance for many years to come.

The decision-making process has several steps. Start the process by using the Equipment Selection Matrix (Chapter 4, Program Profile, Section XVI). Take a typical meal(s) and match the optimum application and use of the equipment to each menu item. This form actually has numerous uses and benefits.

Program Profile uses and benefits:

- ensures that the equipment selection process is menu driven
- directs the issue of quality food standards
- considers environment by addressing utility usage and physical labor requirements
- serves as an excellent tool to qualify and justify equipment to administration

After completing the grid, ask yourself these questions: Does the piece of equipment have multiple uses? Does the piece of equipment have limited use or is it dedicated to a specific menu item? Remember that while flexibility and multiple applications are desirable, you can never forget customer expectations.

For example, hamburgers are a popular menu selection and are served in many schools on a daily basis. If a quality hamburger product is a program "signature" item, you may find that a duplex cooker (grill with a clam shell top) is a worthwhile investment. So, equipment investment for sales generation is a factor. There are some obstacles or restrictions that may apply from a practical point of view in renovation and replacement projects such as space limitations and utility connections available amperage, gas, or water drain.

Traveler's Tip

Early on you will want to verify a variety of details like: steamers need dedicated floor drains (no PVC can be used in the first 3 feet as the pipe will melt and floor will buckle), utility availability, and access options.

Establishing the Purchasing Cycle

Gunn (1995) describes a purchasing cycle or critical path planning as a term used to time the movement of supplies. The same principles apply to equipment purchases. This planning method helps a school district organize and document the purchasing process.

Keep in mind that some school districts have a purchasing department and therefore may have specific/unique deadlines that must be considered. In such a case, these deadlines should be identified and communicated in the planning process.

Also consider that equipment manufacturers usually have a designated lead time to process, manufacture, and ship the order. This lead time will fluctuate during the year due to factors such as scheduled plant closings and holidays. Ask your manufacturer's representative or dealer salesperson to help you with this information.

How do I proceed? First, "begin with the end in mind" (Covey, 1989, p. 99). It is always good to start with the expected installation/startup date and work backwards. In other words, when do you need to have everything related to this new installation complete? Refer to Chapters 8 and 9 for more information to help you through this process.

Finally, you will want to include extra time to allow for unexpected delays. Table 6.1 is a sample time line demonstrating a critical path for a school opening in September.

Table 6.1 Critical Path Time Line Example

Activity	Date
Determine equipment list	April 14
Prepare invitation/bid package	April 28
Release public notice	May 5
Date for opening bid	May 26
Evaluations/tabulation of bids	May 28
Approval (if necessary)	June 2
Notify vender	June 4
Installation/Start-up	August 11

Traveler's Tip

In your time line you may want to allow a wider window for each step to accommodate flexibility and scheduling. In addition, check local district policy. For example, your district may require a 100 day process time.

Traveler's Tip

Allow a minimum of three weeks from installation until the first day of meal service. Keep in mind that construction delays may mean that equipment must be stored for several weeks before it can be installed. Also remember, completing hook-ups can be delayed as well as scheduling equipment representatives to do the use and care training. The bottom line is to be ready for the unexpected. Have an alternate plan for preparing and serving meals.

How to Find Specifications

Equipment specifications are an important part of the purchase process. They will be discussed in detail in Chapter 7.

Equipment specifications may seem to be written in another language, but with study you will find a great deal of pertinent and valuable information. They are readily available from:

- manufacturers' catalogs
- sales literature and point of sale
- equipment testing laboratories (see appendix)
- manufacturers' representatives and dealer sales persons
- trade journals and bounce back cards
- world wide web

Specification sheets are the means by which manufacturers describe their equipment and document important engineering information. These sheets are designed to be an important communication vehicle. In 1992, the Foodservice Consultant Society International (FCSI) – North American Food Equipment Manufacturing (NAFEM) liaison committee developed *Recommended guidelines for foodservice equipment catalog specification sheets.* Now manufacturers format their specification sheets in accordance with the guidelines. In addition, manufacturers comply with Construction Specifications International (CSI) which is a system of cataloging bid specifications in the construction industry.

Traveler's Tip

Do a thorough job of specification writing. The integrity and success of the equipment purchasing process depends on it.

Specification Content

Specification sheets provide detailed information on a front and back page. The front page gives product information including:

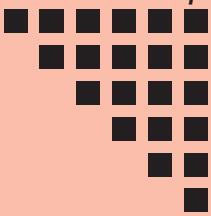
- equipment type
- model number
- capacity
- description of construction materials and finishes
- construction and design characteristics
- performance characteristics
- description of controls
- list of standard features
- description of safety features
- list of optional features available at extra cost
- laboratory certification and approval symbols (UL, NSF, CSA, AGA)
- special notes regarding any geographic limitations like altitude, humidity, temperature
- CSI section number
- date printed

The back page provides detailed engineering information which includes:

- model number
- drawings to scale in English and metric dimensions
- plan view, elevation/sections views
- location of utility connections on plan and elevations
- Computerized Assisted Design (CAD) symbols libraries
- all dimensions - interior, exterior, service, ventilation, air circulation, and clearances
- net and shipment (crated) weights
- crated dimensions - door clearances for building access

- data concerning utilities - gas, steam, water, electric, and ventilating
- miscellaneous information - variations, accessories, options, availability of colors, and finishes
- date printed
- manufacturer's address, phone number, and fax number

Traveler's Tip



Confer with your maintenance supervisor. Let him/her know what you want to accomplish. Verify additional power requirements and gas lines. You will want to order the same type power currently available. For example, if you have 208/60/3 phase you should not order equipment that is 480/60/3 phase.

The Mathematics of the Decision Process

You will want to compute your new equipment needs using a "recipe" method from the specification that will be designed and written. This method includes:

- number of portions required
- equipment capacity
- time constraints

Let's work through the steps:

1. Select representative menus and list equipment to be used.
2. Determine number to be served and portion size.
3. Multiply number of portions times portion size.
4. Calculate portions (weight or volume) and peak serving demands for food.
5. Determine batch cooking times - quantity per cooking cycle per piece of equipment. Compile information on quantities and time required for processing the food item in the specific piece of equipment.
6. Calculate equipment load capacity. Divide equipment load capacity into number of servings to get batch size.
7. Calculate size and number of pieces of equipment needed to produce quantity of food required to meet maximum demands.

The Mathematics

Computing the equipment needs using the critical recipe method:

- number of portions needed
- equipment capacity
- time constraints

Menu item: green beans or whole kernel corn
Equipment: convection steamer
Total number of servings/portion size = 300 ½ cup servings
Serving periods = 3
11:00 - 11:35 - 100 ½ cup servings
11:40 - 12:15 - 100 ½ cup servings
12:20 - 12:55 - 100 ½ cup servings

Number of portions per serving period = 100 ½ cup servings per 35 minute serving period
Student count per minute = average 10 students/minute
Total serving time = 10-15 minutes/100 students
Pan size = 12" x 20" x 2½" perforated full size
Number of portions/pan = 25 ½ cup servings
Cooking times = 6 minutes
Batch size = 4 pans

Analysis

Convection steamer sizes range from three full size (12" x 20" x 2") pans compartment to 24 full size pans compartment.

A minimum of four full size pans per compartment is needed.

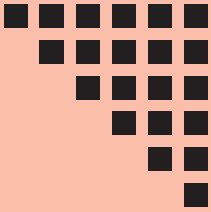
Should other menu items require steaming simultaneously, it would be wise to consider a steamer with a six full size pan capacity.

Analyzing Manufacturers' Specifications

Just as you review a map prior to a long trip, you will want to review and analyze the specifications as part of the decision process. Not only is equipment need/justification part of the process, so is the comparison phase. You will want to compare and contrast manufacturer specifications to determine the value of the respective features and benefits.

Not only do manufacturers provide printed information on features and benefits, they may also provide competitive comparison information. Expect this to be helpful, but take responsibility for the final evaluation as not all manufacturers have the same standard features. One feature may be a standard for one company and an option (extra cost) for another. Compare apples to apples.

Traveler's Tip



It is important to understand the difference between an *option* and an *accessory.* An option is a variance from the standard production model and must be specified at the time of order. An option may *not* be added later. An accessory is also a variance but may be added later as a part. For example, an extra depth convection oven is an option. Cooking racks are an accessory.

Don't forget to consider value-added features also. Manufacturers develop features to add value to their products. Careful analysis of such features should be made to determine the degree of value it adds to your operation. This is called *value analysis.*

According to the National Institute of Governmental Purchasing, Inc. (1977) "value analysis is the technique of studying the total cost and the total savings to a school district on each purchase, instead of studying just the price and the availability" (p. 3-20). Value analysis combines quality and price. The result of the cost analysis is a value judgment as to whether any specific cost is high for value received. What is important to the program is the total value realized and not just the initial cost. This is where the "rubber meets the road" (i.e., where the guiding principles drive decisions).

Value-added features usually represent an added cost. This may, however, represent a long term savings in operational costs, an enhancement in actual operation, or an enhancement to food quality. For example, a fryer manufacturer offers three varieties/types of controls:

- millivolt thermostat control - basic model, temperature variance swing may represent 15˚ F
- solid state temperature control - better temperature accuracy, temperature variance may represent 5˚ F, includes added features and indicator lights
- computer controls - temperature accuracy of 1˚ F, includes added features, programable, energy saving

Consider your menu as you analyze these control options. If the food products on your menu can withstand high temperature variances and maintain good quality, the millivolt controls on the basic module would be an appropriate decision. If not, then the upgraded controls may be of true benefit and worth the added cost.

An additional step in the decision process and value analysis is to consider life cycle costing (LCC). This process establishes the total cost of ownership. The objective is to keep these costs to a minimum.

Life cycle costing was developed by the Federal Supply Service of the General Services Administration in the early 1970s (National Institute of Governmental Purchasing, Inc., 1977). It takes into account all costs including total operation, maintenance, repair, and eventual disposal of a product calculated in present value.

Initial costs and operational costs are easy to calculate. Maintenance and repair costs are sometimes difficult to project. The manufacturer's representative and authorized service agent may provide a list of commonly replaced parts and suggested preventive maintenance with their respective costs. Keep in mind that some repairs may not be projected. Adding these costs to the initial cost and operational costs will give you a good idea of the cost of ownership.

Focus on Replacement Planning

Replacement planning for foodservice equipment is part of a long range strategic plan. Among the benefits of such planning is the forecasting of capital expenditures. It is an important step in the development of good budgeting practices.

Replacement planning schedules should be established for each school, analyzed on a total school system basis, and reviewed annually. During the review, update maintenance and repair costs and analyze the value to determine if the repair cost is worth the value of the equipment.

There are three factors to consider while developing a replacement planning schedule:

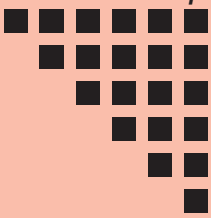
- expected life of equipment
- repair costs
- maintenance costs

Think of replacement planning in terms of owning a car. On average, the car owner will keep the vehicle for four or five years. Cars have a decreasing value over time. In a few years the car is worth less than half of what it cost new. When the car breaks down, not only is transportation interrupted, the owner has to pay the repair bill, which probably wasn't in the budget. At some point the owner has to decide whether the repair is worth the value of the car. Will the repair extend the life of the car significantly or is it more cost effective to buy a new car?

The same process is true for foodservice equipment because value analysis continues throughout the life of the equipment. Developing a replacement planning schedule helps organize this process.

In summary, the decision process is a series of steps that starts with a foundation of guiding principles. It includes completion of the Program Profile Matrix (Section XVI) and continues through the development of the critical path time line, review of specifications, and value added features. Replacement planning is a management process that should not be underestimated in its importance to the future.

Traveler's Tip



Preventive maintenance has a significant impact on the longevity of equipment. A maintenance plan today will be more cost effective than a new piece of equipment "tomorrow".

Reality Check Point

The school construction plan in Hill County is in full swing. The CNP director feels project planning has really paid off. The first school is ready to open in a few weeks. The CNP director receives a call that an oven has gone out at the high school. Rather than just replacing an oven with a similar model they select a model that is similar to one being purchased for Taylor Elementary. The equipment installation date has finally arrived. Unfortunately, the CNP director did not verify the door measurement at the school. The replacement oven would not fit through the door. Maintenance had to remove the door frame to get the oven in the kitchen. Failure to check the door width resulted in unnecessary delays. Remember, pay attention to the DETAILS!

References for Chapter 6

Covey, S. R. (1989). *The seven habits of highly effective people*. New York: Simon & Schuster.

Federal Supply Service of the General Services. (1977). *National institute of governmental purchasing.* Washington, DC: U. S. Government Printing Office.

Food Service Consultants Society International & North American Association of Food Equipment Manufacturers. (1992). *Recommended guidelines for foodservice catalog specification sheets.* Chicago, IL: Author.

Gunn. M. (1995). *First choice: A purchasing systems manual for school food service,* NFSMI-R19-95. University, MS: National Food Service Management Institute.