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Abstract

Restaurant commissaries range the full spectrum from simple storage of food and supplies to multi-million-dollar processing plants. The author discusses the cost effectiveness of commissary units, including their operating costs, quality control, and scope.

Keywords

Donald E. Lundberg, Commissaries, John R. Thompson Company, The Dutch Pantry, Howard Johnson's, Marriot, Karcher Enterprises, Fast food, Commissary cost/benefit analysis

A Look At Restaurant Commissaries

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Restaurant commissaries range the full spectrum from simple storage of food and supplies to multi-million-dollar processing plants. The author discusses the cost effectiveness of commissary units, including their operating costs, quality control, and scope.

The history of restaurant commissaries in this country goes back to the 1890s when the John R. Thompson Company of Chicago prepared foods centrally and delivered them in electric-powered vans to a number of fast-food restaurants.

A commissary is a food service system in which food is processed at a central location and moved to restaurants where it can be further processed and served to the public. Processing of food centrally takes different forms. Vegetables can be prepared for salads and further cooking, refrigerated, and later moved to restaurant outlets. Food can be partially or completely cooked, held at 140° or higher, chilled to 30 to 40°F, or frozen to below zero and held. Later, the food is moved to restaurants for reheating and service.

Restaurant commissaries involve the quantity purchase of food and other restaurant supplies, processing of some of the foods, and delivery to individual restaurants. In-flight kitchens serving the airlines and many centralized school lunch kitchens are similar in function and operation to restaurant commissaries. In some cases, such as with in-flight food service, the commissary operation is the only option available with present technology. For restaurants, the big incentive is economics: It may be less expensive to operate via a commissary than to prepare food on the premises.

Some items, such as condiments, spices, and canned goods, are purchased, stored, and delivered without any processing. Others, such as meat roasts, may be partially cooked, held hot, and delivered to the restaurant units. A roast can be cooked to a temperature of 135°F overnight and then transported via insulated containers to a restaurant where it can be finished and served. Other foods, such as salad ingredients and cold cuts, may be prepared, chilled, and delivered in that form to the restaurant. Food may also be partially or wholly cooked, frozen, chilled, then delivered to the restaurants for reheating and serving; roasts, soups, and hot sauces are examples. Baked items such as breads and sweet rolls can be partially baked, frozen, and finished off at the restaurant.

Types of Commissaries Vary

Commissaries vary in range of activity from simple storage of groceries and supplies and their delivery to several units to the full-fledged food processing plant which may cook, freeze, and deliver foods over hundreds of miles. A small commissary may store only groceries and restaurant supplies, and later take on food processing. A nine-unit restaurant chain in Eureka, California, started as an ice cream plant. Isolated from major food supplies, the chain owner found that warehousing groceries and restaurant supplies assured the availability of products when needed and reduced costs by virtue of large volume purchasing. The owner also became a vendor of groceries and supplies to other restaurant operators in the vicinity. Later, he added a hamburger patty-making operation. As conditions changed, the patty-making part of the commissary was phased out, but the warehousing activity continued. A three-unit restaurant chain in Eugene, Oregon, produces all of its baked goods in the corner of one of its larger kitchens, enough for the needs of all three restaurants.

At the other end of the spectrum are the multi-million-dollar processing plants of Howard Johnson's, Marriott, and Karcher Enterprises, which employ hundreds of people and produce cakes, pies, ice cream, and a variety of frozen items. These plants are located strategically around the country and contain huge freezer spaces as well as food processing spaces. The Dutch Pantry operation makes as many as 4,000 meat loaves at once. Howard Johnson's relies on a network of commissaries along the East Coast to provide food for many of its 1,000 company-owned or franchised restaurants. Four regional commissaries prepare everything from entrees to baked goods, and smaller plants produce ice cream syrups and candy. Items like chicken pot pie and beef burgundy are precooked and frozen in plastic pouches. Later, at the restaurant unit, the meal is heated and garnished.

Marriott's eight-acre complex, Fairfield Farms, in Beaver Heights, Md., is a food factory which has warehouse space for more than 3,000 items, from chicken to toothpick frills, and prepares hundreds of dishes, including 14 different soups, a variety of layer cakes, and eight salad dressings. Each week it grinds 200,000 pounds of hamburger, slices 25,000 pounds of steak, and makes 32,000 pounds of cole slaw. Every week the place produces 10,000 pounds of chili, 14,400 layer cakes, and 10,000 gallons of soup. Ninety-four trucks carry the food to Marriott's 240 eastern dinner houses, coffee shops, and fast food units from Syracuse, N. Y., to Miami, Fla.

The patron in a Marriott-owned Joshua Tree Restaurant, for example, dines on beef ribs, baked potato, and mushrooms, but if anyone wants to compliment the chef, there is none. The commissary even operates a printing shop for items such as menus and placemats. Clam chowder, layer cakes, and chili are dropped off at Bob's Big Boy Restaurants, while salad dressings, ribs, lobster, and frozen steaks are delivered from Fairfield Farms in vacuum packages. (Marriott stopped making ice cream because they could not prevent deterioration during shipping, and the volume did not justify the investment in

special trucks. They also stopped making hamburger rolls.)

Fairfield Farms has specialized equipment. Chicken soup is boiled in 500-gallon kettles and poured into plastic containers, then carried by conveyor belt to blast freezers. In the vegetable room, shredded cabbage for cole slaw is bathed in cold water and spun dry in a huge centrifuge.

Collins Food International (Kentucky Fried Chicken and Sizzler Restaurants) operates four commissaries, one each in Los Angeles, Portland, Tampa, and Santa Clara, Calif. ARA Services operates a 170,000 square foot unit in Philadelphia along with three smaller units in North Carolina, Ohio, and Illinois. Morrison's, Inc. specializes its commissaries: Atlanta has a facility producing cleaning chemicals; Tampa roasts coffee; Jackson, Miss., makes salad dressing, oil, and mayonnaise.

Fast Food Chains Favor Commissary

Fast food restaurant chains favor the commissary/kitchen. Hardee's Food Systems, Inc., Rocky Mount, N.C., operates a specially-built commissary for producing hamburgers, apple turnovers, chili, and syrup for soft drinks. The plant area covers about 60,000 square feet and employs 160 persons. Millions of pounds of hamburger patties are formed and shipped to the more than 100 outlets of the chain.

The Carl Karcher Enterprises Commissary in Anaheim, Calif., presents a case study of operations. The commissary/distribution center covering 149,000 square feet opened in April of 1978. Carl Karcher, chairman of the board of the company, stated that in 1979 the commissary was serving about 300 of the Carl Jr. hamburger restaurants. The financial projection forecasted a savings of \$1 million over the first year of operation. Actually it lost \$1 million. Some 25 items are produced. More than one million pounds of hamburger patties are produced each week and 20,000 pounds of roast beef a month. The kettle room contains three 500-gallon stainless steel kettles installed on platforms. Soups, sauces, and dressings are prepared and cooked at the rate of up to 2,000 gallons an hour. Products can be moved from kettles and about the room via a monorail system. The finished product is pumped into a machine which forms, fills, and seals it into one-gallon containers at the rate of 18 per minute.

An onion room and a cheese room are specially ventilated and controlled for odor and contaminants. Approximately 17,000 pounds of onions are sliced each week.

At the commissary receiving dock raw materials are held for quality control inspection. Each week, approximately 200,000 pounds of boneless meat are received from a number of packing houses. A digital scale provides a quick and efficient means of weighing in the products. Up to 16 trucks can back up to the docks at one time and fit directly into specially designed seals so that perishable products never leave refrigerated air. The freezer is held at -10°F and can hold more than \$300 million worth of products. A full-time USDA inspector has an office upstairs.

Commissaries Are Cost Effective

A major reason for installing a commissary is the cost effectiveness expected. Tax considerations may favor a new investment. An immediate tax credit may be available for a new building and equipment. The interest charged on borrowed money is a deductible business expense. In a period of inflation, the land, the building, and the equipment may appreciate in value; depreciation taken on the building and equipment is also a consideration.

The economies of scale apply in the commissary, as compared to the unit restaurant. With the purchase of specialized equipment and the specialization of work, productivity is higher compared to that of the kitchen employee at the unit restaurant. One commissary employee may do nothing but slice fresh onions, another operate a hamburger patty machine, another assemble salad dressings. Benefits include:

- At the restaurant unit, capital costs of the preparation area can be less since less equipment and preparation is needed. Labor costs can be lower because fewer cooking skills are needed.
- As much as 10 percent can be saved in mass purchasing for the commissary as compared to buying for the individual restaurant.
- Quality of supervision can be higher in the commissary as specialized technical personnel are employed. A higher salary can be justified for a commissary manager than for a unit restaurant manager. Food scientists and quality assurance persons can be hired because of the larger volume of food produced. As a result, food quality and sanitation standards can be better assured than in the individual restaurant.
- With the use of a commissary, food preparation staff can be scheduled at more convenient working hours.
- Better portion control may be possible.
- More uniform quality of food can be produced and its nutritional value better controlled.

Against these benefits are a number of costs. The initial investment in land, building, and equipment can run into millions of dollars. Management could choose from a variety of optional investments: more promotion and advertising, more employee training, more management development, redecoration of restaurants, etc. Or the money available could be invested in stocks, bonds, real estate, or other ventures.

A pro forma statement of operating costs is then made. In addition to real property investment, will delivery trucks be purchased? Will the drivers be unionized? What are the costs of chilling or freezing the foods produced?

Inventory costs can be a major consideration. Food materials purchased and held in storage can represent thousands of dollars tied up which could otherwise be used productively.

The biggest cost of all may be in the form of reduced food quality. Few foods improve with holding in any form, chilled, frozen, or held heated. Almost invariably quality loss occurs from cell breakdown and loss of moisture and flavor elements.

Investment decisions of this type often have been made without taking into account the fact that money in the hand today is more valuable than the same amount of money held in the future. Another factor to account for is the risk being assumed; the higher the risk, the greater the return which should be expected to compensate for the risk. We assume that a dollar 10 years from now will be worth less than a dollar today, an assumption that reflects the concept of time value of money.

Quality, Cost Are Trade-Offs

A decision for or against commissary operation may finally rest upon the trade-off between quality and cost. Frozen hamburger patties are less expensive to produce and distribute than fresh ground meat formed into patties on the premises. The frozen patty formed in the commissary has the potential of lower bacteria count and is less subject to spoilage from refrigeration failure. Yet the frozen product is likely to be more compacted and drier than the fresh meat burger. McDonald's uses frozen patties; Wendy's uses the fresh meat.

Commissary-made soups are probably not as flavorful as freshly-made soups. Pies and baked desserts made on premise and served immediately are generally tastier than those made off premise. Frozen entrees are not usually as flavorful as those made and served at once. The trade-off may be between convenience and lower cost versus the higher quality of on-premise production and higher cost.

The market determines which commissary foods will be acceptable and which unacceptable. Even the highly-touted French restaurants known for on-premise preparation use some pre-prepared products. It is said that in New York City nearly all of the French restaurants buy their Napoleons from one bakery rather than bake them.

Commissary Can Be Limited

The decision to install a commissary is not an all or nothing question. Commissaries can be established piecemeal and used to produce one or a few items: sauces, salad dressings, meat portioning, specialized baked goods, etc. Sometimes the commissary is forced on an organization by the lack of trained personnel in a given locale.

One of the best selling points of a commissary is the ability to purchase centrally to gain a price advantage in volume buying. This does not necessarily entail a building or operating warehouse and delivery system. Suppliers and distributors can transport purchases to restaurant units. Harry Pope of Pope's cafeterias of St. Louis takes the middle ground by purchasing in quantity, then arranging for one distributor to handle the product and deliver it. A truckload of choice aged ribs, for example, is purchased and the deal made with a meat distributor for processing. The Pope chain uses all parts of the beef, which relieves the distributors of the problem of what to do with less popular parts of the carcass. The company has one supplier for vegetables, one for poultry, one for beef, with an alternative source, one for ham, one for soda, one for coffee, and one for dishwashing supplies.

Middle Man Is Cut Out

A modification of the commissary concept is to cut out the middle man by purchasing food supplies in quantity directly through a broker and having them stored in public storage, which provides delivery and insurance. According to some restaurant operators who use the method, it is more cost effective than doing their own warehousing.

Al Levie, owner of the three well-known Gulliver's restaurants in California, operates this way. He purchases such items as crab legs, spinach, and beef by buying at times of the year when supplies are plentiful. He stores in public facilities and has the food items delivered to his three restaurants as needed. Storage and delivery problems are avoided.

Long ago Ben Franklin told his readers that one way to solve a complicated problem is to break it down by lining up the pros and cons, the cons on one side, the pros on the other. The decision of whether or not to have a commissary is complicated. Here are some of the factors, a la Ben Franklin, to be considered:

Commissary Cost/Benefit Analysis

Costs

- Initial investment, considering discounted value of money.
- Opportunity costs: Loss of income from alternative investments such as municipal bonds, stocks. Income as a result of investment in management and employee training, research, and development programs, etc.
- Cost of handling and delivery (trucks and personnel).
- Cost of chilling or freezing and holding foods.
- Because of greater possibility of unionization in a commissary, wages are likely to be higher than in restaurant units.
- Food quality for the consumer may be lower than food preparation from scratch due to drying out of product in storage and transit, drying out and loss of flavor and juices from reheating.
- Cost of holding foods as inventory.

Benefits

- Possible tax investment credit.
- Possible increased corporate income because of deductions for interest charges.
- Savings from mass purchasing versus purchasing for individual stores.
- Economies of scale: Large scale automatic equipment feasible and cost of preparation per unit less. Supervisory costs less. Quality of supervision could be higher because of higher salaries possible for a few supervisors in commissary.
- Food and sanitation standards can be high. Possible to employ a food quality assurance person and other specialized personnel. Better consistency of product.
- Specialization of functions. Each worker does repetitive tasks using more efficient equipment. Greater productivity per hour.
- Possible appreciation in the

- Likelihood of unionization of commissary/kitchen and delivery personnel greater.
- Restaurant managers may resent being unable to negotiate purchases locally and sometimes at lower prices and more convenient delivery times.
- value of the commissary land, buildings, etc.
- Size of kitchen and equipment needed at restaurants reduced.
- Less labor and fewer skills required in the unit restaurant.

The timing of the construction of a commissary and the availability of a suitable site may be important considerations. A company may already own a suitable site or may be able to add to a kitchen to do some centralized preparation for other units with little investment. Restaurant units which already have kitchen space and kitchen equipment gain much less from the installation of a commissary system than new units which can be built with smaller kitchens and less equipment.

Depending upon the amount of financing available, a commissary/kitchen can be built as a part of a strategic long-term plan where the initial capital investment may provide sufficient facilities to service numerous additional restaurant units as they are added. The initial capital investment can be amortized over a long period of time. Cost of a commissary/kitchen, figured as a cost per restaurant served, is reduced as more restaurants are added.