

multi-unit operations do have to transmit such data, and the necessity for doing so creates new IS requirements. Hotel restaurants have even greater IS requirements as these restaurants have to integrate their systems into existing guest room systems and larger networks that include many dissimilar sets of data.

Again, while it was once true that stand-alone operations did not have ability to use IS strategically to maximize profitability in the way that larger operations could, and while hotels often did not place a premium on food and beverage profitability as they had a number of different profit centers besides their restaurants, the increase in the capabilities of information systems, coupled with the reality of the new economy, has made maximizing IS value essential for all types of operations.

A note about franchise arrangements is in order here. Quite often franchisors will require that franchisees maintain particular point of sale (POS) systems so that data will be kept uniformly throughout the network of restaurants. These POS systems have costs associated with them; therefore knowing whether a particular system is required and its cost is a very important consideration in entering into any franchise agreement.

FRONT OF THE HOUSE SYSTEMS

Food and beverage information systems may generally be broken down into two types of system: front of the house (FOH) and back of the house (BOH) systems. Front of the house systems are those that involve the maintenance of guest contact. Therefore, FOH systems include the POS system, table management systems, reservation/wait list management systems, and important parts of the labor management system (most often integrated into the POS). By far, the most important of these systems is the point of sale system.

The POS system is the core system for F&B operations, managing, among other things, the ordering and delivery of all menu items in one or more restaurants and/or bars. Every food and beverage information system must include a point of sale capability. Therefore the POS must be able to handle multiple menus and pricing structures if a restaurant offers happy hour, early bird, lunch/dinner, or any other varied pricing and portioning options. The essential function is to allow servers to transmit guest orders to kitchen personnel for preparation. To maximize efficiency the POS must allow the server to quickly and concisely enter all information pertinent to the guest order, including side dish choices, salad dressing options, doneness, and any special requests the guest might have. The important thing to remember is that this system should work to keep conversation between cooks and servers to an absolute minimum.



Typical POS touch screen (Courtesy of MICROS Systems, Inc.)

To accomplish this both the server and the cook require hardware, of course. In the case of the server, this hardware is in the form of a work station, often a computer terminal placed strategically in the dining room. Often these stations utilize touch screen technology, although older systems are still in use that require servers to enter numbers corresponding to menu items on a keypad. These systems should not be used if they can at all be avoided. A list of essential and optional functions for a POS system appears below:

Point of Sale System Functionality	
Essential	Optional
Allows management to create menu items that can be sold for different prices at different times in different outlets	Allow menu items to be grouped together into combinations with a single price (e.g., quick service value meals)
Allows servers to place orders with cooks and bartenders without verbal communication	Allows servers to process guest credit card purchases

(continued)

Point of Sale System Functionality <i>(continued)</i>	
Essential	Optional
Allows servers to modify menu items (salad dressings, temperatures, etc.)	Allows servers to place “holds” on food items so they can be prepared when guest is ready for them
Ensures that orders get sent to proper personnel for preparation (drinks to bar, salads to pantry, etc.) and specify a secondary location if the primary fails	Allows for prices to change based on time of day automatically (happy hour, etc.)
Allows for the ordering of off-menu items	Keeps and displays counts of special items and short supply items so servers know how many are left to sell
Allows for the insertion of comments	Interfaces with inventory management system
Allows management easy access to menu to change prices, add items, etc.	Provides servers with hand-held capabilities
User-friendly interface	Allows customers to place own orders at kiosks
Server log-in security to ensure that nobody can order for another server	Allows for “splitting” of checks
Allows cooks and bartenders to easily see and understand orders	Allows for server use of handheld ordering devices
Tracks individual server sales	Allows for managers to control employee clock-ins/outs
Tracks employee time and attendance and interfaces with labor management system	Prints checks with sub-totals by guest or by group.
Provides managers with real-time updates of sales and labor	Allows managers to track promotional items and/or server competitions
Allows for ordered items to be voided or discounted with manager approval	Provide a simple way for re-ordering a round of drinks
Prints guest checks on demand	Allow checks to be transferred from one server to another
Tracks sales by item and by group	Allow for the combining of checks
Track all check item voids, corrections, and adjustments	Provide for the full reporting of tips
Provide a full set of operating reports, including cashiers’ shift balances, individual menu item sales, labor expenses, hourly sales, etc.	Record the settlement of checks to cash, check, debit or credit card, to a hotel guest’s room folio or to a club member’s account

A few notes about some of these functions:

- Make certain that the ordering screens are intuitive and uncluttered. Don't make servers work to find what they need or use a system that requires extensive training.
- Make certain that servers can only order for themselves either by requiring a log-in number for each use or the use of a swipe card. Also make certain the system requires that the last thing a server does is log out. Do not allow servers to leave an open screen for anyone to order on.
- It is generally a good idea to have all employees clock in and out using the POS; it allow management to control when they do so and can also require management approval to either clock in or out. Biometric technology is also available that reads an employee's fingerprint as the identification method for logging into the system. This has the obvious advantage of allowing management to be certain that all orders are placed by the employee in question; there are no code numbers or magnetic cards to fall into the wrong hands.
- While it may be inconvenient, it is generally not a good idea to give employees the power to void their own checks or to print multiple copies of the same check; the opportunities for fraud are too great.
- Splitting of checks is not a necessary function in quick service environments.
- Handheld devices for ordering are not a good idea in fine dining establishments; they detract from the ambience and the added speed they may give you is not at a premium. Handheld capability is best suited to restaurants where speed is important.

The hardware capabilities of a proper POS are important. Touch screen terminals for servers must have instantaneous response, given the intense time pressures at peak periods and the need for servers to share workstations. Touch screens are far better than keyboards for server order entry; keyboards should be avoided. The cooks receiving the orders can utilize either printers or video display terminals, each of which has its own advantages. Traditional printers, which merely print out one, two, or three copies of the order onto pieces of paper, are substantially less expensive than video displays (although the cost of video terminals is declining). Printers also take up less space.

Video display terminals, using the same touch screen capabilities as the server order entry terminals, are certainly more expensive, but provide management with a number of advantages which make their higher initial cost a worthwhile investment. First, they have no moving parts, making them far more reliable. Second, the order cannot get lost or become illegible due to mishandling. Third, by placing the terminal properly, the order

becomes instantly visible to many people at once. Fourth, it can provide visual alerts (by changing color or flashing) if an order is taking longer than it should.

The most important advantage to this technology, however, is that by allowing the POS to track the order from entry to completion (rather than from entry to the printing of the ticket on the cook's line) it gives management access to information they never had before, namely the amount of time it takes to complete each individual order. This makes it possible for management to effectively identify the causes of bottlenecks or items that take too long to produce to make them profitable.

There are a number of vendors available who provide POS services. Generally they will not sell software. Rather, they will provide site licenses for operators to essentially rent the software. These vendors include, but are not limited to, Micros Systems, Agilysis Hospitality (makers of InfoGenesis), Aldelo, pcAmerica, Radiant Systems (makers of Aloha), and Squirrel Systems. Be aware that customer support is not necessarily included with the cost of the site license. There are many different customer support plans available, and some are available from vendors other than the POS provider itself. Be very careful in purchasing these plans. Some limit the type and number of calls covered and others limit the time of day when calls may be placed. Be especially careful when evaluating service plans offered by a third party vendor; make sure they have a proven track record and multiple references.

TRENDS IN POS DEVELOPMENT

POS systems have developed substantially in the past few years, with the cost of hardware declining rather dramatically. The software systems themselves, through the use of platforms like Microsoft's .NET, XML, and other Web-based protocols, have become quite sophisticated and can handle essentially all of the functionality required of them. Greater ease of use is the driving force in the further development of these systems. This greater ease of use is not only important insofar as it facilitates the ability of line employees to complete their tasks more quickly and efficiently, it is important in allowing management the ability to interface with BOH systems to provide accurate (and possibly real time) assessments of costs and profitability. There will be more about this later.

There are a number of important trends, however, that bear mentioning here. First, now that credit card transactions can be processed almost instantaneously, customers expect to be able to pay with "plastic" wherever they go. There are a number of credit card processing systems available that speed this process while also guaranteeing customer confidentiality. Many restaurants have instituted curbside service to enhance their revenue streams. Wireless handheld credit card processors speed the payment function dramatically. Before investing in wireless credit card processing,