

changes and promotions to the individual outlet POS systems. These systems are typically more of a hybrid than the pure remote-server-plus-dumb-terminal ASP configuration, and usually have some form of local server at each site communicating with a central corporate server. POS terminals perform highly time-critical functions, and it's not acceptable for them to be down due to a network problem with a remote server. Consequently, even in a single-outlet situation many workstations can run in stand-alone mode even if their local server is unavailable, re-synchronizing data when the connection is re-established.

These systems can also provide central monitoring of the security or service alerts sent to the outlet manager's pager or PDA. The local manager must be aware of such problems to resolve them immediately, of course, but central consolidation and monitoring of all such data from multiple outlets can quickly highlight general training and security issues.

One of the more recent developments in business computing is "cloud computing." Customers engaging in cloud computing do not own the physical infrastructure serving as host to the software platform in question. Instead, they avoid capital expenditure by renting usage from a third-party provider. They consume resources as a service, paying instead for only the resources they use. Many cloud computing offerings have adopted the utility computing model, which is analogous to how traditional utilities like electricity are consumed, while others are billed on a subscription basis. Sharing "perishable and intangible" computing power among multiple tenants can improve utilization rates, as servers are not left idle, which can reduce costs significantly.

Cloud computing has yet to catch on in the restaurant industry, but it is not at all farfetched to believe that it will, especially among smaller operations for whom the cost of IS infrastructure is problematic. By commoditizing IS capability smaller operations can pay for cost analysis, IP, labor management, and other services only as they are used, significantly lowering their costs while at the same time allowing access to far greater functionality. Users can generally terminate the contract at any time, thereby avoiding return on investment risk and uncertainty.

## **ROI OF RESTAURANT INFORMATION SYSTEMS**

Calculating a return on investment figure for any information system has always proven to be quite difficult. Certainly for POS systems it is nigh on impossible to quantify the amount of money such systems generate in any meaningful way. We do know that information systems create value for business, but much of the value it creates is not measurable. We can, however, make some pretty good educated guesses. The value of reducing errors in the purchasing process, for instance, is significant; the National Restaurant

Association estimates that 1 percent of all invoices are incorrect, and in any high-volume operation this can amount to quite a financial shortfall.

We do know that POS systems create a return on investment by speeding table turns, eliminating unnecessary conversation between servers and cooks, and ensuring that all food and beverages served are actually paid for. Further, POS and other FOH applications help to create a positive guest experience, a benefit that is impossible to quantify, but of immense worth just the same.

Calculating a return on investment for I/P systems is a little less problematic. Electronic documents help by making it much easier to do a triple check, comparing items ordered with those received and those invoiced. Not surprisingly the latter two almost always agree, but over-delivery and vendor substitutions can be expensive. Highlighting differences from the order is the first step to effective cost control.

Other factors contributing to I/P systems' ROI include:

- Holding people accountable, by checking that major items ordered (e.g., 10 cases of T-bone steaks) were all tied to sales recorded in the POS system or to specifically-approved spoilage write-offs, and don't just disappear
- Lowest-price bids being kept in the system at all times, automatically
- More precise ordering through managed par levels
- Better communications with the primary vendors, to alert them to future demand peaks and to identify substitutions as soon as an order is shipped

The payoff for companies with high rates of "perfect orders" — those that are complete, in the right place, undamaged and on time — can be substantial. A recent AMR Research survey found that a 3 percent improvement in perfect order fulfillment translated to a 1 percent increase in profits. Companies that ranked high carried less inventory, had shorter cash-to-cash cycle times and were more profitable overall.

## SYSTEM INTERFACES

As discussed previously, restaurant information systems perform better and provide management with higher quality information the more fully integrated they are. Although full integration is not absolutely necessary, certain systems must interface with others for them to be of any use whatsoever. In hotel environments, food and beverage POS systems must interface with hotel property management systems (PMS). Without such an interface it is impossible to place restaurant charges on guest portfolios in anything approaching a timely manner. Essential POS/PMS interface capabilities include: