The Art of Auto

John Bryer, Vice President and CIO, Parkway Corporation

Why automate parking? You know the reasons. Going to cashierless systems allows you to reduce staffing expenses 40% or more, increase revenue 5%-25%, improve customer satisfaction, and generate data and reports to improve operational execution. You get all of this, and a reasonable payback period, while depriving customers and employees of the opportunity to craft their own revenue control rules. Any garage owner not looking seriously at this sort of automation is missing something. So why don't more owners and operators automate? I have my theories, but that's a topic for another day.

In this article, we'll look at some automation lessons learned by Parkway, particularly with cashierless systems. We'll also look at the state of the vendor and purchaser communities, as well as the beneficial role that automated facilities can play in the business community. Finally, we'll take a forward look at a few emerging technologies and consider how they may be exploited in parking.

Looking Back

Early on, Parkway realized the benefits of automating parking operations. In the 1990s, we implemented revenue control technology in both cashiered and cashierless operations. The results were mixed. We had great success with an internally developed cashiered system that was both inexpensive to deploy and effective at gaining control of revenue in smaller operations. We still rely on that system in many of our surface lots.

On the other hand, the first cashierless systems that we deployed in select garages were less successful. As with any early adopters of technology, there is a first mover advantage, but don't forget that the other side of that coin has a "bleeding edge." Though there were clear benefits to Parkway, and several of these systems continue to function effectively, the overall experience taught us that neither we, nor the vendor, possessed the necessary sophistication to execute with the degree of success commonplace in more technologically adept industries.

In all, our early automation excursions were positive and extremely valuable. We have since automated many cashierless locations with pay-on-foot (POF) and pay-and-display systems. One of our more exciting facilities is the Lockwood Garage at Baltimore's Inner Harbor. This facility demonstrates effective use of technology, as well as the role that a parking facility can play in the community.

One particular valuable lesson we have learned is that the highest potential "soft" benefit of automation is the data thrown off these systems. Parkway's data warehouse combines parking, claims, contract, payroll, rate, and financial data to achieve a holistic view of parking operations, providing a powerful management tool.

Over the years, we have learned how to dodge the bullets, and we understand the hard and soft benefits, as well as the hidden costs. Through consulting arrangements with organizations like parking authorities and universities, others have been able to greatly benefit from our experience.

mation

Sellers

By any measure, the parking system vendor community has some catching up to do. Many vendors appear unfamiliar with the basic tenets of sound product development. The concepts of change management, version control, and quality assurance are simply not firmly held beliefs. Those who have embraced structured product development and process control stick out like diamonds in a bowl of oatmeal.

The person responsible for software development of a major parking system vendor once tried to convince me that not having a software release schedule, not giving customers advanced notice of what they can expect in future versions, and not having a solid process for gathering customer input was somehow an enlightened approach. It reminded me of a time, several decades ago, when I was just starting my career as a software developer for a high tech company and software development as a discipline was still in its infancy.

The best vendors are those with a fully-integrated hardware and software offering that is seamless to the user. When a hardware rep blames the software author, or vice versa, it indicates organizational dysfunction. Conversely, when a POF systems vendor avoids differentiating between software and hardware when explaining anomalies, it indicates organizational maturity.

The parking industry has not been a wellspring of technological innovation. The good news is that, for an industry that has lagged others in technology and general sophistication, we're catching up. Forward-thinking technology vendors—and operators—who truly embrace technology are achieving competitive differentiation in the process.

Buyers

At the time Parkway first automated garages in the mid-1990s, we were not sufficiently sophisticated to ensure smooth implementation, but we had the vision to know where we wanted to be. Parkway built the necessary technology and process competence to ensure success with subsequent technology implementations. Along the way, we have been able to foster growth within the vendor community. For those buyers wishing to take maximum advantage of technology, a commitment must be made to building the necessary internal competence.

While the best of the POF vendors do a marvelous job representing the systems they sell, potential customers tend to think that these systems will somehow run themselves, and they give scant thought to how the purchased systems will be integrated into their enterprise. I have a racoon in my back yard who sometimes comes by to visit. He collects shiny things because they are shiny, but I have yet to see him use one of them in a meaningful way. Much of the technology purchased by operators is very shiny, but will never really be used.

Beyond improving front-line operations, these newer systems can be integrated with back office corporate systems to great effect. Done correctly, a balance can be struck between on-site operational control and centralized back office financial manage-

POF lobby at Philadelphia Parking Authority's 10th & Ludlow Garage.

> **Fundamental processes within the purchaser's organization must be changed when automating parking operations and, no matter how consultative the vendor sales organization, it is incumbent on the purchaser to lead.**

ment. Unfortunately, integration of any technology-based system with back office processes requires a level of purchaser sophistication that is not always present. Fundamental processes within the purchaser's organization must be changed when automating parking operations and, no matter how consultative the vendor sales organization, it is incumbent on the purchaser to lead.

Parkers

We've discussed what's important to vendors and purchasers but we have, so far, not discussed the most important part of the equation: Customers. Individual transient customers prefer automated systems as long as they work correctly, although there is an expected level of frustration as they ascend the learning curve. Well-run, clean, well-lit, technology-enabled parking garages can provide a good experience to the individual parker, which can contribute to the customer having an overall good experience in the area.

The specific needs of the parking population for any individual garage must be anticipated and factored into the automation project. For instance, by anticipating the needs of our clientele in an early POF implementation:

■ We were able to develop a pre-pay option to ease the exit rush of theater patrons.

■ We implemented a debit card option that has been greatly received by center city

evening student parkers.

■ We rely heavily on "credit card in, credit card out" payment. Business travelers find this a particularly appealing option, especially when their credit card issuer is integrated with the employer's travel expense reimbursement system.

After the purchasing decision, a key challenge with implementing cashierless systems is determining how to introduce and familiarize clients with the new revenue control system. Person-to-person customer service is one effective tool but, ultimately, signage is the real key to effective deployment and long-term success.

Signage also represents one area of increased installation expense when moving to a cashierless operation. There is a built-in tendency for a customer to pull a ticket upon entering a garage. Using mere signage to change this behavior is difficult. Parkway has learned much about effective signage through the years. One measure of our success with signage is the degree to which it has been appropriated by others.

Neighbors

By creating mixed-use facilities, as Parkway has done in Philadelphia, Baltimore, Toronto, and other markets, potential retail tenants are attracted by the available parking, and they provide a customer base for the garage. Promotional opportunities with local merchants can be used to generate additional business for the parking operator and retail establishments. Automated systems support sophisticated validations that can be better controlled, managed, and audited.

In Philadelphia, a surface lot was replaced with a cashierless garage that has restaurants on the ground floor. The restau-

PAYMENT OPTIONS

FAST
Ticket In & Ticket Out

← TICKET — Take Ticket At Entry Gate

Pay At *Lobby* BEFORE Returning To Your Car

Insert Paid Ticket At Exit Gate

(Credit Cards, Coins & $1, $5, $10 & $20 Bills Accepted at Lobby Pay Stations)

FASTER
Ticket In & Credit Card Out

← TICKET — Take Ticket At Entry Gate

Insert Ticket At Exit Gate Then Insert Credit Card To Pay

FASTEST
Credit Card In & Credit Card Out
No Validations Available With Credit Card In & Out

CREDIT CARD → Insert Credit Card At Entry Gate

Insert *SAME* Credit Card At Exit Gate *No Ticket Required*

For Information On Automating Your Facility Call Parkway At 215-575-4000

rant tenants and patrons don't have parking problems, and the parking operators have demand generators on site.

In Baltimore, the Lockwood Place Garage plays a key role in development of the downtown area by anchoring the Pratt Street corridor and strengthening the ties among the central business district, Inner Harbor, and the entertainment venues along Market Place and throughout the Inner Harbor.

Traffic patterns in the area surrounding the garage to be automated must be understood. Though it is counterintuitive, there are times when increasing throughput at the exit lane is ill-advised. If neighborhood traffic patterns are difficult, a relatively slow payment and exit process can help meter traffic into the surrounding community. Speeding payment may cause more of an exit backup.

Looking Forward

The coming years should see significantly more POF automation as well as increased use of established technologies, such as hands-free facility access. In addition, several technologies present real opportunity for the more forward-thinking vendors.

Automated garages, like the ones in Hoboken, NJ, and Washington, D.C., totally automate the actual process of parking a car, though they lack the revenue control functionality necessary to support transient parkers. After the customer exits his or her auto, a gordian system of elevators, hydraulics, conveyors, and computers moves it to its parking place. Though these systems make effective use of available space within a garage, they aren't without problems. Also, mechanical and electrical

risks not seen in traditional gated facilities may increase costs. All in all, this approach has great promise where space is at a premium.

When coupled with the Internet, wireless and cellular technologies are particularly exciting, and could be better exploited in parking. New ways are being created for customers to interact with parking companies and parking facilities. Applications include advanced purchase, online parking availability, and online account access for monthly parkers. The challenge is for vendors to exploit this technology in a way that provides a clear and quantifiable benefit to operators—not just to show off the technology. Most of what I have seen is very shiny.

Conclusion

The state of technology changes with monotonous regularity. We're fortunate that we can afford to let other, more technology-centric industries sort out the wheat from the chaff. Parking system vendors who have truly embraced technology and who are customer focused should be exploiting proven technologies for significant competitive gain. For you owners and operators out there, pay close attention and partner with organizations who can help you get the biggest benefits from automation. ℗

John Bryer is VP and CIO with Parkway (www.parkway corp.com). Prior to joining Parkway in 2000, he held technology positions at CIGNA, General Electric, and Princeton University.

Signage is the real key to effective deployment and long-term success of implementing cashierless systems.