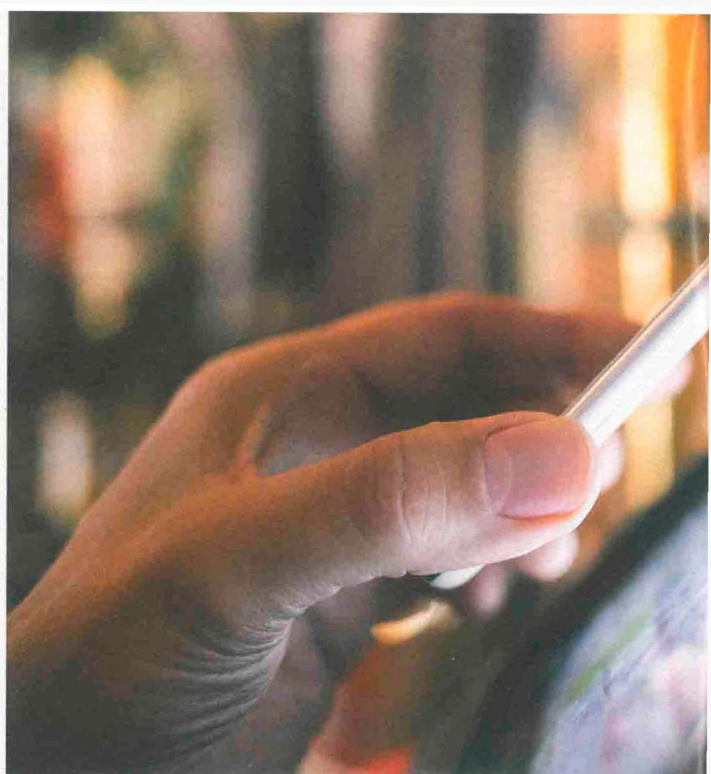


A MOST COMPLEX GAME

Retailers deploying mobile retail systems face hardware and software challenges

by M.V. GREENE

Implementing a mobile retail system can be an endeavor fraught with complexity. While the process can be daunting, many retailers see mobile as a salvation of sorts with very clear benefits. Accommodating expectant customers, generating analytic data for marketing and merchandising or linking point-of-sale systems to inventory and the supply chain are some of mobile's promised opportunities.



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Whether the company is a major chain with hundreds of stores, multiple distribution centers and extensive back-office operations or an independent retailer with a much smaller footprint, observers describe mobile as having the potential to drastically change retail's business model.

The financial path to deployment could be millions of dollars for large chains or the cost of a few smart devices for smaller operators. For any retail organization, though, observers point out that activating mobile presents both hardware and software challenges. Whatever the costs, retailers must find a delicate balance between outlays and expected results, namely enhanced engagement with customers that drive bottom-line revenue.

tailers to add mobile piecemeal without regard for the broader business strategy.

For instance, when e-devices can be used for multiple activities — sales, clienteling, counts and dashboards — the return on investment becomes more acceptable. Another example of potentially positive ROI is capital outlays for contactless terminals to support Europay MasterCard Visa or chip-enabled payment cards, which can be leveraged later for loyalty and digital coupons, he says.

“The phased rollout must be prioritized based on value to the business so earlier phases have meaningful impact that help fund later phases. Timing those investments is always tricky since technology is changing so rapidly. It's crucial to understand your hardware vendors' roadmaps so you're confident the investments have a reasonable lifetime,” Dorf says.

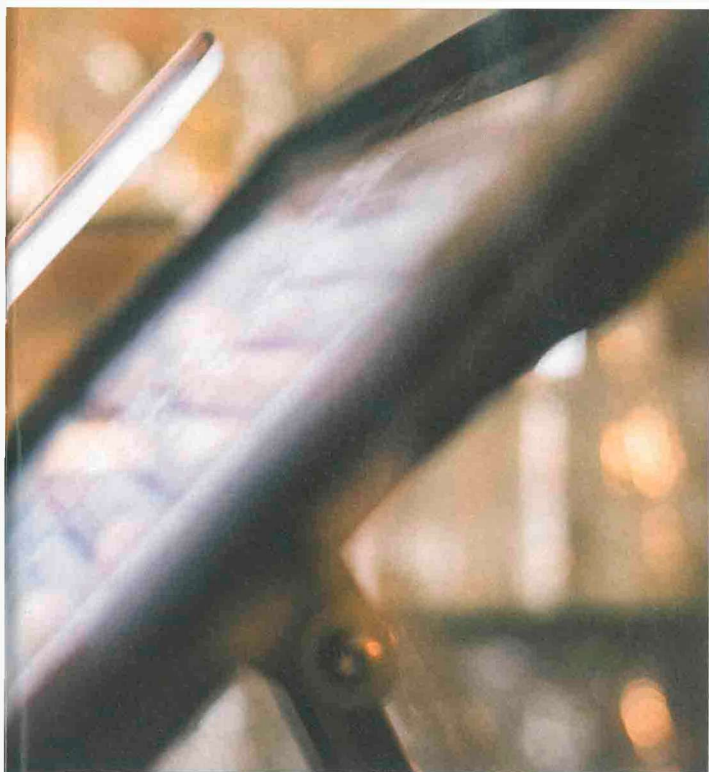
Generally speaking, the first priority for retailers implementing mobile capabilities is enabling consumers to make purchases from their smartphones and tablets. That's fairly basic and the capital outlay is relatively small for most retailers, Dorf says, since upgrades are focused on resources at headquarters. But when individual stores enter the picture, “everything becomes more expensive and complicated.”

Dorf says employing mobile devices at check-out in retail stores is far less expensive when



CAPITAL INVESTMENT

Any mobile retail deployment needs to be attached to a greater technology strategy for the entire business, says David Dorf, senior director of technology strategy at Oracle Retail. He calls it “dangerous” for re-



Kimble says many small retailers are seeing the benefit of employing POS that involves the use of smart devices like tablets, moving away from the traditional cash register to a system that allows them to seamlessly accept alternative payment methods like Apple Pay, PayPal and Bitcoin.

“One of the things we always really emphasize is the value around growing your business,” Kimble says. “It gets beyond sales and transactions — growing business by capturing customer information, marketing to customers by offering rewards and loyalty programs, email marketing and managing inventory more efficiently.”

compared with traditional cash registers. It is the supporting infrastructure — Wi-Fi service, security, charging stations and mobile device management services — that can boost costs and slow rollouts. The thorniest issue most retailers face in implementing mobile payment systems “is a lack of support from the legacy POS,” he says. “Often a major upgrade or replacement of the core POS is required to correctly support mobile POS. Having a unified POS and mobile POS certainly mitigates many issues.”

Dorf advises retailers to “understand the customer’s journey and how mobile devices can best remove friction” before committing capital. An example is in the area of inventory management in the warehouse and store, the key peg of the omnichannel retailing model.

“Mobile POS doesn’t necessarily fit every business model, so adoption [for inventory] isn’t consistent, nor should it be. Sometimes a handheld makes sense, while other times a tablet is more effective,” he says.

In recent years, mobile retail advancements also have created a reasonable capital development path for small, independent retailers, says Reggie Kimble, director of business development at NCR Small Business, which offers a cloud-based POS system.

Kimble says investments no longer require expensive legacy systems with licensing and maintenance fees and hardware costs that typically have been cost-prohibitive for small retailers. “The space that we are in didn’t exist three to four years ago for many of those merchants,” he says.

WI-FI BUILDOUT

On a 10-point complexity scale, Kevin McCauley, director of retail market development for AirTight Networks, figures a Wi-Fi buildout is probably a five or six.

In the retail environment, Wi-Fi can be equally compelling as an external play for guest services or exclusively for the use of store personnel as a private network, McCauley says. That’s the first bridge to cross, he says — understanding the purpose of the deployment.

Once the retailer solves that, the question immediately moves to the Wi-Fi experience, especially as a benefit to customers.

“When you think about a Wi-Fi experience, everyone can tell you about all the bad places,” McCauley says. “You don’t want to be on that list if you are going to offer a guest Wi-Fi.”

He says retailers must carefully calculate coverage: A retailer with a 1,500- to 2,000-square-foot location will have very different coverage needs than a retailer with 4,000 square feet of space.

IHL Group joined with AirTight Networks and EarthLink Holdings on a January study analyzing the retail industry’s plans for Wi-Fi store networking. Greg Buzek, founder and president of the research consultancy, says achieving a better experience for customers should be an overriding goal of Wi-Fi guest deployments.

When the deployment also enhances store operations in the service of customers, Wi-Fi investments start to create a positive busi-



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ness case, Buzek says. More than a quarter of retailers that responded to the AirTight-Earthlink-IHL survey reported that customer loyalty increased following in-store Wi-Fi buildouts.

“Wi-Fi helps level the information playing field between the associate and consumer who has been doing research online,” Buzek says. “The single biggest trend is around getting to a single version of customer data and being able to use that everywhere.”

The survey also found that 82 percent of large to medium-sized retailers have already deployed Wi-Fi in their stores; 57 percent said they offer both guest and employee Wi-Fi availability.

Buzek says the Wi-Fi investment essentially is upgrading bandwidth to store locations, especially if broadband capability already exists.

“The big area of investment will be in the amount of bandwidth and the priority of network traffic,” he says. “There is a great deal of investment to centralize data so that it is available in the same way in all the channels in which a customer shops. This will require bigger pipes to the stores and better management of the bandwidth.”

McCauley says retailers need to firmly establish the value proposition for Wi-Fi, which often isn't clear.

“We're all still in the sales business ultimately, and we're trying to figure out, ‘How am I going to make money with this product, as opposed to [spending] money just to have it?’ The key thing is, if you are going to put in a Wi-Fi service, you want to know about the ROI.”

SECURITY

Any talk of adopting a mobile retail system has to have security as part of the conversation.

Experts in security and privacy protection commend retailers for their eagerness to push forward with mobile retail, but warn that not performing the necessary due diligence could be disastrous.

Brian Kilcourse, managing partner at consultancy Retail Systems Research, recalls the enthusiasm a few years ago when bring-your-own-device strategies emerged as a means for reducing costs. Today, retailers are as enthusiastic to implement Internet of Things applications to enhance services to their customers.

Whether it is BYOD or IoT, he says retailers

must take great care to manage devices that are attached to their networks. Retailers “have not done a good job at all at implementing the infrastructure needed to manage those kinds of environments,” he says.

In many cases, Kilcourse says, retailers do not sufficiently manage wired connections to all the devices in their stores, much less the wireless hosts that are proliferating today in both the consumer and corporate worlds. As retailers open up their networks, they increase their exposure to possible breaches. Kilcourse calls them “pinpricks” to the network.

“These devices are attaching to corporate networks, either directly or indirectly, and they are fundamentally not managed,” he says. “That creates an opportunity for somebody to get in through those things.”

One key conclusion of the 2014 Verizon Data Breach Investigations Report, which is distributed annually by Verizon Enterprise Solutions to analyze and assess cyber threats, was that restaurants, hotels and bricks-and-mortar retailers are top targets for POS intrusions by cybercriminals. The report identifies nine primary threat patterns, which along with POS intrusions include malware aimed at gaining control of systems, web app attacks, denial of service attacks and payment card skimmers.

Kilcourse says provisioning and deprovisioning capabilities, for instance, are central to managing devices in a BYOD environment.

“Consider what could happen if person B could somehow get access to person A's private data while they are connected to your network,” Kilcourse says. “You've got yourself a challenge.”

In devising a security strategy for mobile retail, he says retailers must insist on the development of robust systems from their network providers that are both proactive and reactive to potential breach points. This is vital, he says, because wireless access creates an “order of magnitude of complexity” that the industry truly hasn't considered.

“It's not just being able to plug as many holes as you can see, but also being able to identify leaks as they occur and respond accordingly in something approaching real-time,” Kilcourse says. **STORES**

M.V. Greene is an independent writer and editor based in Owings Mills, Md., who covers business, technology and retail.



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— 2014 Verizon Data Breach Investigations Report