



8 Steps To Success In The Future Of POS

*The Broadband Era, Hardware
and Software Options, POS in the Cloud*



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Executive Summary

POS functionality has improved recently and more advancements are on the horizon. With the technology available today, customers are expecting better service in real time from their favorite stores. In response, 52% of retailers consider modern POS hardware and software a “very valuable” technology to support, according to Retail Systems Research (RSR) in the June 2011 report, *The 21st Century Store: The Search for Relevance*.

While the broadband era allowed for more data transfer capabilities and a multitude of payment options, it also blazed a path for innovative in-store technologies to meet customer demand. Personal scanners and product information kiosks, for example, are considered valuable by 43% of retailers, up from 25% in 2010, the study said.

Many retailers (43%) also are focusing on providing in-store rewards and/or coupons. According to Ken Black, Senior POS Project Manager at RPE, a Tampa, Fla.-based retail consulting firm and systems integrator, many more companies are leveraging customer relationship management solutions. “Gathering customer information has become extremely important in today’s environment,” said Black. “Many companies begin using CRM for return validation and then quickly expand into other marketing uses for the data.”

The retail industry is entering a new era, unofficially called “the age of consumer engagement.” And make no mistake — this experience goes far beyond conducting a simple transaction at POS. Instead, this new retailing landscape merges the physical and virtual worlds.

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- Ken Black, RPE

Real-time engagement technologies, such as the Internet, kiosks, digital signage, even early introductions of mobile “apps,” are revamping retail and putting consumers in control of the shopping experience. In response, merchants that want to conduct business in this next generation of retail are learning to position their POS systems at the center of this Internet-oriented shopping experience. The result: Retailers can deliver the same experience at store level.

“In the past, the main question used to be what hardware to use, what network to add or what technology provider to partner with,” explained Kevin Sternecker, Vice President of Research, Consumer Value Chain, at Gartner. “While these are still important questions, more importantly retailers should focus on what the customer is expecting and how do they want to interact with their favorite retailers,” he



said. "Once those questions are answered, retailers can supplement their POS to respond to this demand, add value, and still increase transaction size."

Because consumers are entering stores armed with product information and pricing via their personal mobile devices, store associates must be armed with at least as much, if not more information in real time. For cost and time efficiency, retailers can access on-demand cloud-based solutions to facilitate loyalty programs, returns, couponing, real-time inventory and gift cards. But that is only the beginning.

By integrating the following eight best practices, retailers can establish a clear foundation for their POS strategy, and remain flexible enough to adopt new solutions as they emerge.

- 1. Meeting The Needs Of The Broadband Era:** Reliability, speed and security associated with broadband are prerequisites for today's mission-critical retail operations.
- 2. To The Cloud Or Not:** *Speed, agility of deployment, and scalability* are the three top reasons companies consider cloud-based platforms.
- 3. The Complexities Of Hardware Choices:** Merchants should remain focused on creating a POS foundation based on a solution built from the ground up.
- 4. Using Technology To Enhance Customer Engagement:** With the swipe of a loyalty card, inputting a telephone number or scanning a barcode on a mobile coupon, retailers can use POS to deliver

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incentives, up sell, cross sell, and most importantly, interact with shoppers on a first-name basis, rather than as an unnamed guest.

- 5. Pricing Solutions In An Unstable Economy:** In a world where the web and mobile technology are enabling consumers to conduct price comparisons anytime and anywhere, many retailers are trying to send a consistent pricing pattern, or price transparency, across all channels — physical and virtual.
- 6. POS In A Mobile World:** Mobility in POS is still in its infancy, but it's already taking on many forms. Handheld devices, like the Apple iTouch, as well as tablet computers are being attached to shopping carts.
- 7. E-commerce And The Cross-Channel Experience:** Thanks to the cross-channel shopper who uses all channels to make an educated purchase decision, retailers are under the gun to centralize and share these processes across all channels.
- 8. Addressing Key Security Concerns:** Retailers must constantly be on the lookout for changes and updates to mandatory regulations, such as the Payment Card Industry Data Security Standard (PCI DSS), which must be addressed by all POS solutions.

1 Meeting The Needs Of The Broadband Era

Current POS configurations are much more complex than the obsolete electronic cash register. Not only is it networked with the corporate office, POS requires a reliable connection to transfer data with credit card companies, suppliers, and now, consumers.

Files shared between stores, corporate and business partners also are more complex as they contain sales data, customer information, even images and video in some cases. These mission-critical data exchanges require a large, reliable network that is "always on" and can quickly transfer data. Connections must have an adequate amount of bandwidth that can handle growing levels of data traffic; and, most importantly, they must be cost-effective. These are the key attributes of broadband.

Reliability, speed and security associated with broadband are prerequisites for today's mission-critical retail operations. Broadband also plays an even more significant role for POS since it can act as the conduit to adopting cloud services. While many retailers may still be supporting dial-up connections, migration

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2 To The Cloud Or Not

Broadband connections and usage continue to increase industry-wide, and part and parcel, so does awareness surrounding the value of cloud computing, a virtual configuration that enables companies to "electronically share" computing resources on-demand.

Speed, agility of deployment and scalability are the three top reasons companies consider cloud-based platforms. The cloud also promises to provide fiscal advantages. For example, companies are not required to purchase software outright, which reduces capital and operations costs. These are two factors that help cloud computing deliver a low total cost of ownership (TCO) and significant cost savings.



Understanding these details first-hand, RPE is helping retail clients navigate cloud computing by providing remotely hosted services. An outsourcing and cloud computing specialist, RPE offers a reliable alternative for retailers looking to avoid hosting and maintaining their own servers and application software.

Systems management services offer a variety of SaaS options, including warehouse management, merchandising management, CRM and POS applications, which can be managed either in RPE's data center or in the retailer's internal data center. The management services also include operations such as monitoring, patching, and user access control.

But there are some risks associated with the cloud. Although the cloud offers many potential benefits for POS, "most chains plan to maintain in-store client/server architecture for critical POS functions for sale transactions," said Black. "If POS cannot connect with the cloud for any reason, retailers may fail to take care of a customer quickly, or worse, lose a sale," he explained.

So, while industry experts believe in the value of cloud computing, they also urge retailers to consider the cloud for nonmission-critical operations, such as personalized marketing and promotions, loyalty functions and efficient returns.

Enterprises will spend \$112 million over the next six years on cloud-related technologies, including software-as-a-service (SaaS), platform-as-a-service (PaaS), and infrastructure-as-a-service (IaaS) options.

- Gartner

At the POS, on-demand cloud-based solutions can easily facilitate:

- Loyalty programs
- Returns validation
- Couponing
- Real-time inventory
- Gift card authorizations

Despite the potential risks of inaccessibility, Gartner reported that cloud computing is the future. In fact, the company predicted that enterprises will spend \$112 million over the next six years on cloud-related technologies, including software-as-a-service (SaaS), platform-as-a-service (PaaS), and infrastructure-as-a-service (IaaS) options.



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"The hype around cloud computing services has increased interest, as well as caution, for CIOs trying to determine where, when and if cloud services can provide valuable outcomes for their businesses," said Frank Ridder, Gartner's Research Vice President. "Organizations need to develop realistic cloud sourcing strategies and contracts that can reduce risk."

3 The Complexities Of Hardware Choices

Retailers have more technology choices than ever before, and new ones continue to emerge. Rather than becoming overwhelmed or confused by the new bells and whistles hitting the retail technology landscape, merchants should remain focused on creating a POS foundation based on a solution built from the ground up. "Retailers are often swayed by PC-cash drawer options, but often these aren't built with the retail environment in mind," said Paul Berry, Channel Sales Executive, IBM.

Overall design also matters, as these systems often are utilized in harsh environments. That said, sealed solutions that can tolerate extreme temperatures, moisture, electrical interference and other contaminants are a must. For example, it's not uncommon to find an abundance of lint at the checkouts of fabric or craft retailers.

"Dust may not cause components to fail, but lint definitely does," Berry said. "Companies should be exploring solutions that have been retail-hardened tested and those that have faced — and survived — the harshest environments."

"It can take between one and three years to roll out a POS platform to a retail enterprise of hundreds, if not thousands, of stores. Yet, if you are supporting off-the-shelf processors that have shelf lives of six to nine months, you are jeopardizing the consistency of operations across your enterprise's POS."

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The same attention should be focused on touch screens. The most popular screen choice is an infrared version that consists of glass beams of light. As users "break" the beams with their fingertips, the button or icon of choice is activated. "It is a totally sealed unit that cannot be penetrated by moisture or dust, and it never has to be calibrated," Berry noted.

An overlay option however, registers functionality when a finger's pressure is applied to a function icon. This functionality also is the overlay touch screen's downfall. "Constant pressure, pushing and poking on a touch screen can cause misreads, and requires regular calibrations," he explained. "In fact, 20% of call center reports stem from recalibrations."

Retailers also must consider the best ways to meet security regulations, and many new devices are designed to accomplish this in different ways, such as providing encryption at the point of card swipe, secure network devices, and secure protocols for data transmission.

Additionally, retailers must evaluate the strength and longevity of the "guts" of these all-encompassing machines,

including fans that can remove heat from the operating chassis, as well as the processors themselves.

Berry warned: "It can take between one and three years to roll out a POS platform to a retail enterprise of hundreds, if not thousands, of stores. Yet, if you are supporting off-the-shelf processors that have shelf lives of six to nine months, you are jeopardizing the consistency of operations across your enterprise's POS."

IBM helps merchants resolve this issue by partnering with Intel and using an embedded processor roadmap, which ensures usage up to three years. "Whether you complete a rollout today or in two years, you will have the same processors, and same consistent service," Berry said. "Coupled with IBM retail-hardened solutions that are designed to last a minimum of seven years — and last as long as 20 years — you will have longevity of service."

When considering POS hardware options, keep these attributes in mind:

- Retail-hardened solutions (units, internal components and peripherals)
- Remote systems management to manage performance and operation of every POS unit across the enterprise
- Total cost of ownership proposition

"Today's open POS systems are robust enough to integrate loyalty software that allows store employees to interact with shoppers not only during checkout, but also, if equipped with mobile solutions, even during the shopping trip."

- Kevin Sternecker, Gartner

4 Using Technology To Enhance Customer Engagement

Loyalty is at a premium these days, and unless retailers are nimble enough to deliver superior customer service and value at the drop of a hat, they can kiss their loyal shoppers goodbye. Clearly, many retailers provide in-store rewards and/or coupons via POS-based loyalty programs. However, too many loyalty programs not only fail to target and reward the most valuable shoppers, but also have become nothing more than clipless coupon programs — and most incentives are no more valuable than spam. By adding solutions that can recognize shoppers as they enter the store, and redeem personalized incentives during checkout, retailers will bolster customer engagement and build relationships.



"In the past, POS systems were batch-oriented, making it difficult to connect with online customer information and interact in real time with the shopper," Sternecker explained. "Today's open POS systems are robust enough to integrate loyalty software that allows store employees to interact with shoppers not only during checkout, but also, if equipped with mobile solutions, even during the shopping trip."

With the swipe of a loyalty card, inputting a telephone number or scanning a barcode on a mobile coupon, retailers can use POS to deliver incentives, up sell, cross sell, and most importantly, interact with shoppers on a first-name basis, rather than as an unnamed guest. (By engaging signature capture devices, many chains are presenting additional marketing images or electronic promotions to the customer as their purchase is rung up.) In return, the transaction data also allows a return validation system to reduce the chance of fraud.

Retailers also are winning over customers with electronic receipts — paperless, digital receipts that are emailed to shoppers following the transaction. Besides reducing paper and streamlining the checkout process, digital receipts also afford retailers an opportunity to enforce return policies. While a receipt is typically required for returns or exchanges, digital receipts require retailers to use customer information, loyalty accounts, even telephone numbers to access consumer transactions. RPE recently implemented this program for an apparel specialty retailer, increasing the interaction with their customers and providing additional marketing opportunities.

40% of retailers consider price transparency a business challenge, up from 11% in 2010.

- RSR Research

True retail winners will find a way to link mobile and online incentives with traditional in-store loyalty programs. Besides recognizing shoppers as they walk into the store, POS will be the tool needed to redeem incentives at the end of the in-store shopping trip.

5 Pricing Solutions In An Unstable Economy

In an unstable economy, price couldn't be more important to a retailer's value strategy. All eyes remain fixed on the fragile stock market as it takes a major tumble one day and grabs large gains the next. Channel blurring is taking a toll on chains as clothing, electronics, even produce are showing up in the least conventional places — making everyone a competitor. Add in emerging channels, such as mobile, and all retailers need a steadfast pricing strategy that will attract shoppers and keep them coming back.



Clearly, in a world where the web and mobile technology are enabling consumers to conduct price comparisons anytime and anywhere, many retailers are trying to send a consistent pricing pattern, or price transparency, across all channels — physical and virtual. Yet, 40% of retailers consider price transparency a business challenge, up from 11% in 2010, according to *Optimizing Price in a Transparent World — Benchmark 2011*, a report from RSR.

Some chains are upping the ante with customized pricing, or value-centric prices based on specific consumer segments, demographics, locations or purchase history. At the core of this strategy is price optimization software.

By coupling consumer demand information with historical sales data, price optimization provides a scientific way to accurately predict the future impact of price and promotion on specific items. Besides revealing just how high or low merchants can stretch prices, the solution forecasts the effect of pricing and promotions on total categories, department sales, profits, units and margins.



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- Forrester Research

6 POS In A Mobile World

Historically, retailers used to drive the direction of technology to consumers. With the growing adoption of intelligent personal consumer devices, “consumers are dictating technology they want to use when interacting with the retailer,” said IBM’s Berry. “There is currently a huge shift in the industry as retailers try to determine how to adapt these mobile technologies to the POS environment.”

Mobility in POS is still in its infancy, but it’s already taking on many forms. Handheld devices, like the Apple iTouch, as well as tablet computers are being attached to shopping carts. Store associates and managers are using tablets to access inventory, conduct daily operations and streamline customer purchases (and most importantly, untether them from traditional POS or the back office so they can offer a personalized shopper experience). And shoppers have access to self-serve, store-based kiosks that provide product information, gift registries, loyalty information and the ability to place orders.

Retailers also are rallying around opt-in applications that customers willingly download to their smartphones. These programs allow the retail store to send coupons to customers when they are in or adjacent to the brick-and-mortar location. At checkout, cashiers can seamlessly scan the coupons displayed on the customer’s smartphone. Additionally, shoppers can

scan QR codes that provide real-time product information, customer reviews and other merchandise attributes to make more informed purchase decisions.

Among the top functionality of retailer-specific apps, both for consumers and store associates, are:

- View exclusive in-store specials
- Access inventory
- Read product reviews
- Review loyalty information
- Access mobile catalogs

Apps not only allow companies to promote and sell products, they also are supporting an emerging phenomenon: mobile commerce — the ability to use the smart device (which is linked to personal debit and credit card accounts) to electronically pay for orders.

These mobile transactions are so hot that they will reach \$6 billion by the end of 2011, \$10 billion by 2012, and \$31 billion by 2016, according to *Mobile Commerce Forecast: 2011 to 2016*, a report by Forrester Research.

IBM is helping chains prepare for this evolution by providing middleware that acts as the conduit between the shopper accessing information, placing an order or paying for a purchase via smartphone or at POS, and the data hitting the retailer's transactional database. IBM currently is working to customize a solution for two retailer clients.

But once again, Black warned, retailers must consider the security implications of these applications. "Combining mobility

with store systems is a two-edged sword," said RPE's Black. "With the security issues brought on by adding wireless applications and devices, a retail store must be extremely careful during implementation and ensure that proper safeguards are performed regularly."

Once the security concerns are alleviated, the biggest challenge for retailers is developing a strategy that will provide the greatest return on investment. To create a successful mobile POS strategy, retailers need to incorporate the following:

- Proprietary mobile devices for consumers to navigate the store, scan merchandise for information and check out orders;
- Handheld solutions for store associates that enable them to interact with the shopper throughout the entire shopping trip, and
- Access that allows shoppers to use their own personal consumer devices to control the physical and virtual shopping experience



7 E-commerce And The Cross-Channel Experience

As the broadband era supports more data transfer capabilities and a multitude of payment options, it also is paramount in supporting a seamless cross-channel shopping experience. Whether consumers shop at brick-and-mortar stores, e-Commerce sites, catalogs, or using mobile commerce, they expect a consistent experience every time, across every channel.

Historically these channels were managed in silos, each with their own inventory management, marketing and CRM profiles, and even payment switches and returns policies. Thanks to the cross-channel shopper who uses all channels to make an educated purchase decision, retailers are under the gun to centralize and share these processes across all channels. Retailers using POS as the glue to tie all these channels together will gain a single view of the shopper — and her purchase behavior — no matter where she shops.

“Gartner predicts that in 2014, 17% of all retail sales will come from channels other than brick-and-mortar,” Sternecker reported. More importantly, cross-channel shoppers are 39% more profitable than single channel customers. This is an 11% jump compared to 2009, according to *The Cross-Channel Wake-up Call: Benchmark 2010*, a study from RSR.

“Retailers have been trying to link their e-Commerce sites, call centers, even in-store web-based kiosks to POS solutions for a while,” Sternecker said. “However, as more shoppers are using their smartphones and tablet computers to make purchases, now

By integrating channels and serving up information at the POS, store associates will finally be able to expertly respond to consumers' questions, and deliver the same product details, inventory levels, and make recommendations based on customer reviews found on the company's e-Commerce site.

is the time for retailers to integrate these emerging channels within POS strategies.”

The benefit: enterprise access to information at the POS. When shoppers enter a store — especially those armed with personal consumer devices that connect to the Web and search tools — currently they have far more access to information than many store employees. By integrating channels and serving up information at the POS, store associates will finally be able to expertly respond to consumers' questions, and deliver the same product details, inventory levels, and make recommendations based on customer reviews found on the company's e-Commerce site.

Taking this concept one step further, some chains are empowering associates with tablet technology, allowing them to connect with shoppers anywhere on the sales floor.



8 Addressing Key Security Concerns

Data security is a concern every step of the way in the process of expanding cross-channel engagement and responsiveness. And retailers must constantly be on the lookout for changes and updates to mandatory regulations, such as the Payment Card Industry Data Security Standard (PCI DSS), which must be addressed by all POS solutions. In addition, many states are now serving up their own regulations regarding how customer data is transmitted and stored.

It is no secret that POS is a breeding ground for security breaches, due to its nature of being a mission-critical, data-capturing tool. And no retailer is immune. Consumers and retailers alike still shudder at the thought of the 2007 breach at TJX, parent company of brands T.J. Maxx, HomeGoods and Marshalls. The company was a victim of a data breach that lifted more than 45 million credit and debit card numbers from its IT systems over an 18-month period. Hannaford Bros. suffered a similar fate in 2008, when 130 million of its credit and



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debit card information was stolen. The mastermind behind the breach was caught and indicted. And sadly, the list goes on and on.

“As companies increase flexibility of their front-end systems — whether migrating to more open POS or integrating more customer touch points — they also take on greater liabilities,” said Sternecker. “Breaches cause significant damage that not only impacts finances, but also takes a toll on consumer confidence. Even if you take all the necessary precautions, a breach still makes you accountable in your consumers’ eyes.”

Eager to protect their citizens’ personal information, many states are cracking down on how retailers transmit and store this sensitive data. Massachusetts for example, issued a law that requires encryption of its residents’ personal data, including names, Social Security numbers, bank and debit/credit card account numbers when stored on portable devices. Companies disposing of a computer with unencrypted personal data are subject to fines between \$100 per name and \$50,000 per incident. The law is considered one of the strictest in the country, according to data storage and protection provider DataMountain.com

Nevada passed a similar law that also included protection of an individual's first name or initial, as well as employee identification numbers and driver's license numbers. Both state laws were passed in Jan. 2010. Meanwhile, 43 states have added Breach Disclosure Laws that mandate data protection of consumer data. These don't specify encryption, but they do limit the liability for companies meeting protection measures and requirements.

RPE is helping retailers put their best foot forward by ensuring its own data centers are secure and protected, keeping retail clients' data safe as well. Specifically, RPE has submitted to and passed a Statement on Auditing Standard (SAS) 70 audit and plans to perform this audit annually. Issued by the American Institute of Certified Public Accountants (AICPA), SAS70, also called Reports on the Processing of Transactions by Service Organizations, defines the professional standards used by a service auditor to assess the internal controls of a service organization and issue a service auditor's report.



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Conclusion

With so many new POS options available — and so many more advancements on the way — retailers are hard-pressed to deliver the best possible customer service. The broadband era is fostering more data transfer capabilities and payment options, as well as supporting many new in-store technologies that helps POS meet real-time customer demand.

To be successful in this “era of customer engagement,” retailers have plenty of opportunities to help them rise above the competition. They must consider the value of cloud computing and how SaaS, PaaS and IaaS configurations will connect with new hardware options, such as all-in-one, retail-hardened solutions. They are reevaluating their loyalty propositions and exploring the best ways to reward and recognize their best shoppers. They are determining if it is time to move beyond price transparency and consider more complex customized prices and optimization programs.

Cross channel also continues to deliver its own set of opportunities — and challenges — as retailers begin embracing more handheld and personal consumer technology at store level. By adding these new solutions, retailers also are facing new security issues and pre-requisites to ensure the safety and security of all mission-critical and sensitive data.

Today's merchants are learning to integrate these points and expertly deliver a shopping experience that exceeds customer expectations. While the best formula varies between retailers, individual companies will succeed as they choose the solutions that balance the cost of implementation versus the anticipated ROI. Merchants mastering this formula will stay ahead of the competition and garner the often-elusive, long-term customer loyalty.





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About RPE

RPE is a leading retail consulting firm specializing in business process improvement, package selection, strategic IT planning and systems implementation to deliver innovative store systems, merchandising and supply chain solutions. RPE is certified for IBM Retail Store Solutions featuring Point-of-Sale Systems to help manage business from the front of the store to the back office. RPE's retail systems and software expertise mixed with IBM's 30 years of unmatched POS market leadership helps stores increase sales and reduce costs. Areas of expertise include JDA Software, Manhattan Associates, Manthan Systems and most other leading solutions. RPE offers cloud computing including hosting, Software-as-a-Service and managed services. Visit www.rpesolutions.com.



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