Closing the Sale with the Connected Consumer: The Future of Retail Payments

Challenges and Opportunities 2009

Sponsored by:

every second. every day.

Written By:
Nikki Baird, Managing Partner
Brian Kilcourse, Managing Partner

Retail Systems Research

EXECUTIVE SUMMARY

For retailers, the “moment of truth” comes at that exact second in time when the customer gives the clerk money in exchange for merchandise. But retail payment systems are undergoing a quiet revolution. Alternative forms of payment are emerging, offering new flexibility to consumers both inside the store and in new shopping channels, and causing a gradual shift from traditional forms of payment. While some look to consumer acceptance of new payment methods as the bar to measure the potential of such innovations, RSR wanted to uncover the motivations of retailers who ultimately must decide to make these new methods available to customers.

Business Challenges

Adoption of new options for cash and cash equivalents, whether they are digital payments via mobile technology, digital coupons and vouchers, loyalty “points” that result in discounts, new forms of debit or credit, or micro-payment, will depend more on consumer adoption of the new technologies than any other factor. Retailers only know that they will have to be able to support the consumer, no matter how she chooses to shop. Four business challenges immediately emerge for retailers: the economic environment and the need to control costs, the customer-centric agenda, cross-channel retailing, and payment data security.

Opportunities

Winning retailers see the opportunity to enhance their brand image with existing customers, shift the business to lower cost payment, and win the interest of a new generation of consumers. But having the ability to continuously lower operating costs is also a powerful motivator. Four opportunities emerged from our interviews on payment innovations: Loyalty, Mobile, the Digital Wallet, and Digital Vouchers/Coupons.

Organizational Inhibitors

For payment innovations, the four business challenges of controlling costs, customer centricity, cross-channel, and PCI have three internal analogs: a culture of risk aversion, decentralized ownership of payment systems, and the economic impact of the store multiplier effect. To overcome organizational inhibitors, retailers should foster a ***creative collision of opportunities*** with small scale projects so that the value identified can be taken to a much larger scale (by virtue of the store multiplier effect), and get the whole company thinking about how the shopping process can be improved or enhanced. Another way to gain momentum around payment innovations is to link them to something the company already has to do. Finally, retailers need to educate the technology industry about their hardware constraints, particularly if dealing with mobile or financial industry hardware providers that have little familiarity with retail challenges - both the store multiplier effect and the rigors of the technology *un*friendly store environment. Any design features that enable future-proofing and/or minimizing the initial cash outlay on the part of the retailer will do far more to speed adoption than the most air-tight business case.

Technology Enablers

While the future path to payment innovations may be not be clear, one outcome that will have to come to pass to enable any progress within retail is the centralization of the payments infrastructure. To truly be cross-channel, retailers need to enable "buy anywhere, get anywhere - and pay once in one channel for all of it." Between channel convergence and payment evolution, a retailer with a modern payments infrastructure has something in place that covers a number of payment scenarios.

BOOTstrap Recommendations

Look at payments from the customer's point of view. Retailers may think that they understand their payment processes, and which may seem very simple, but the reality of the customer may be completely different. Document the process from the customer's point of view. Analyze the customer's process for their pain points, and identify improvements that are needed.

Pursue the simple innovations that go a long way. When testing payment innovations, treat those pilots more like idea labs than pilots. Invite other groups to participate. Their involvement will make the business case more robust, and get everyone thinking about the end-to-end customer process. Also, participate in industry forums and consortiums, in order to have a voice in future innovations.

Table of Contents

EXECUTIVE SUMMARY ii
OVERVIEW 1
- Why It's Important Now 1
- Methodology and Sources 1

BUSINESS CHALLENGES 3
- Shifting Spend: Are Credit and Debit Passé? 3
- The Economy And The Need To Control Costs 3
- Customer Centricity 4
- the Impact of Cross-Channel 5
- Payment Data Security: The Tangled Webs We Weave 6
- Implications 7

Opportunities 8
- Convenience… And A Desire For More Choices 8
- Making Loyalty Pay 9
- Going Mobile 10
- The Rise of the Digital Wallet 11
- The Emergence of Digital Vouchers/Coupons 11
- Clean Convergence or Muddled Mix? 12

Organizational Inhibitors 13
- Mission Critical 13
- Who's In Charge? 13
- The Store Multiplier Effect 13
- Overcoming Obstacles 14

Technology Enablers 16
- The Store As An "Island of Technology": The End is Near 16
- End Point/Payment Capture Technologies 17
- Needed: Industry Standards 17
- And Then There Was Fraud 18
- The Case for Modernity 18

BOOTstrap Recommendations 20
APPENDIX A: Study Participants 21
APPENDIX B: The BOOT Methodology 22
APPENDIX C: About Our Sponsor 23
APPENDIX D: About RSR 24

Figures

Figure 1: Winners drive innovation in payment technologies 2

Figure 2: Winners Understand the Value of Cross-Channel Enablement 6

Figure 3: Customer Experience Trumps Cost Efficiencies 8

Figure 4: Store Change is Expensive 14

Figure 5: Payments Under One Roof 16

OVERVIEW

Why It's Important Now

For retailers, the "moment of truth" comes at that exact second in time when the customer gives the clerk money in exchange for merchandise. Retailers know that tendering the transaction is the last impression that the customer has of the shopping experience, and a poorly handled ring-out can undo all the goodwill created with beautiful displays and friendly staff. For this reason, retailers' payment processing capabilities tend to be the most reliable, albeit inflexible, systems in the application portfolio.

But retail payment systems are undergoing a quiet revolution. Alternative forms of payment are emerging, offering new flexibility to consumers both inside the store and in new shopping channels, and causing a gradual shift from cash and check as the primary tender in favor of credit and debit cards (contactless or otherwise), stored value and gift cards, and even innovative payment structures like PayPal and eBillMe. Additionally, some retailers are beginning to experiment with cash equivalents such as digital coupons or vouchers, as well as accumulated points and other loyalty schemes. Finally, many retailers are moving to make returns processing across all the selling channels easy for customers and employees alike, by implementing digital receipt capabilities.

While In-store POS has traditionally been "ground zero" for retailers' payment processing capabilities, many retailers have made it possible for both traditional and new payment types to be available to the consumer in other channels, such as the web. To support consumers' increasingly cross-channel shopping behaviors, some retailers have begun to utilize new technologies to create flexibility to one of the most calcified parts of a retailer's infrastructure – in fact, enabling store access to some of the payment innovations that have previously only been available online. Additionally, new mobile phones equipped with near field communication chips and software promise to displace card-based payments with "digital wallet" capabilities.

At the same time, credit card interchange fees have risen exponentially faster than even retailers' health care costs, and as a result retailers, still stinging from mandated PCI requirements, are looking for new opportunities to reduce both the risks and the costs associated with accepting non-cash forms of payments.

While some look to consumer acceptance of new payment methods as the bar to measure the potential of such innovations, RSR wanted to uncover the motivations of the other side of the payment relationship, via the retailers who ultimately must decide to make these new methods available to customers. Are retailers ready to take on innovative payment alternatives? What opportunities do they see, and what internal challenges do they face to take advantage of them?

Very few retailers, even Winners, are making the most of payment opportunities. However, the business challenges – driven by consumer demand - may yet force retailers' hands.

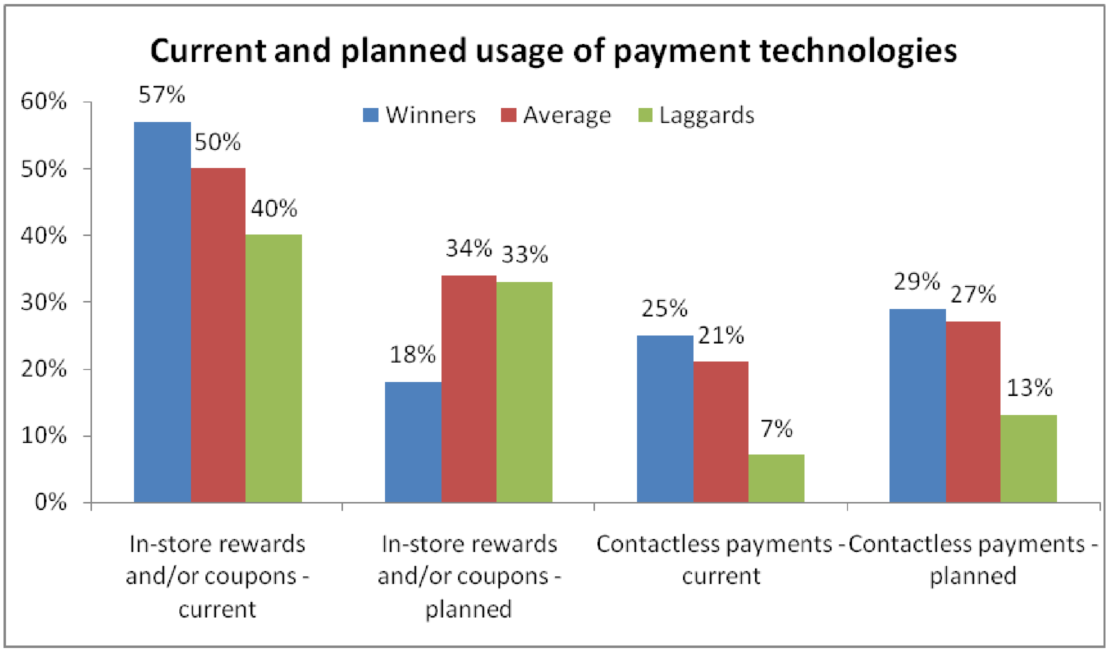
Methodology and Sources

Using data from other related research as a starting point, RSR conducted a series of interviews from February through June 2009. These interviews came from IT owners within retailers, payment switch

providers, eCommerce platform providers, and those hardy souls trying to break into retail with new payment alternatives. Appendix A contains a list and description of the interview participants.

Winners clearly see opportunities around payments. From RSR's research on in-store technologies, winning retailers were much more likely to have implemented both contactless payments and in-store coupons than their peers (Figure 1).[1] Planned adoption also remained high, with laggards and average performers struggling to catch up for in-store coupons. Contactless payments remain an opportunity more in the potential than in adoption.

Figure 1: Winners drive innovation in payment technologies



Source: RSR Research, May 2008

[1] ***The Customer-Centric Store 2008***, May 2008, © RSR Research LLC

BUSINESS CHALLENGES

Retail today is defined not by how retailers want to sell, but by *how consumers want to buy* – and that applies to payments too. With broad adoption of the e-channel, consumers have begun engaging in cross-channel shopping, beginning transactions in one channel and completing them in another. Because of the explosive growth in cross-channel shopping, retailers have come to realize that they cannot count on transactions occurring strictly within the "four walls" of any channel, let alone the store. Winning retailers recognize that one of their greatest opportunities is to create a consistent brand identity, and infuse that brand with a sense of clarity, convenience and value. Payment options, and how they are handled, are an important part of the retailer's brand identity.

This is the fundamental challenge for retailers seeking to offer new and innovative payment forms. Adoption of new options for cash and cash equivalents will depend more on consumer adoption of the new technologies than any other factor. Retailers only know that they will have to be able to support the consumer, no matter how she chooses to shop.

SHIFTING SPEND: ARE CREDIT AND DEBIT PASSÉ?

Today's news is full of stories about the difficulties that businesses are having in securing short-term borrowings necessary to operate. But it's also true that individuals are struggling under the burden of overextended revolving credit. In the current economic climate, consumers' buying habits are changing – cash is once again 'king'. This behavioral change may be long-term. A generational shift is also occurring as "Gen Y" consumers reach adulthood. The new generation of buyers is cash-centric; they use digital cash equivalents such as PayPal, Skype accounts, and Starbucks cards the same way their parents have used credit cards.

> *"Retailers only know that they will have to be able to support the consumer, no matter how she chooses to shop."*

For retailers' part, economic conditions, technology, competitive landscape, and consumer buying habits have seriously eroded margins, and credit transactions have become expensive and risky. The card networks have also created disincentives for retailers to move consumers to debit by systematically raising interchange and other fees so that the cost of a debit transaction is virtually the same as a credit one. The question that retailers are asking is, are there alternative networks that provide new value at lower cost and risk?

In navigating this complicated landscape, four business challenges immediately emerge for retailers: the economic environment and the need to control costs, the customer-centric agenda, cross-channel retailing, and payment data security.

THE ECONOMY AND THE NEED TO CONTROL COSTS

Historically, retailers have added new payment types by "bolting on" new features at the store level. However, with the advent of alternative selling channels, retailers were faced with the need to either convert payment processes to enterprise-level services that are accessible to all selling channels, or to build processing "silos" for each of the channels. Most retailers chose the latter option because they did not know how big or important the emerging channels would become, and these processes have worked for years.

In retail, there is simply no money to spend on something that "ain't broke." The recent economy only underlines the point; retailers must weigh the costs of doing business as it has been done against taking on new costs associated a new way of handling payments, such as implementing a central “switch” for all non-cash payments. Such a move can seem risky even in good times - any project that touches the most direct source of revenue for a retailer, i.e. the retailer's ability to take payment, is by definition a high-risk project. When times are tough, it only becomes a tougher sell. But the potential benefits of such a move could include reductions in maintenance associated with supporting redundant capabilities, the ability to negotiate better discount rates with merchant acquirers, and better information to manage the flow of payments and potentially to shift consumers to lower cost transactions. Although these could be outweighed by other more impactful efficiency-generating business projects, they also shouldn’t be overlooked, especially given the sheer volume of non-cash transactions that many retailers generate.

A poor economy doesn't just impact budgets - it impacts consumer spending patterns too. Retailers have an opportunity to re-capture consumers that may have drifted away from the brand in the past. For example, some retailers noted a recent resurgence in the popularity of layaway programs during the 2008 holiday season. In our interviews, one CIO noted that they had never shut down their layaway capability, even though they had not seen much use of it in the past - but it's a strong area for their business today in ways it hasn't been for years:

> *"We never backed away from layaway, and it is a noticeable part of our business, given our traditional customer. It is their credit card... We had planned and implemented online [integration] to layaway last year, ahead of the sudden interest - we were ahead of the game on that one!"*

This is a clear case of making the right payment option available for the right consumer spending mindset - a theme we will return to later in this research as a critical opportunity.

Customer Centricity

RSR has pointed out that customer-centricity should extend all the way through tendering, but in reality such holistic thinking is more the exception than the rule. Even when retailers focus on the tail end of the shopping experience, they tend to focus on reducing wait times in line or on self-service. However, customer centricity is beginning to force retailers' hands - even around payments. The challenges arise on two fronts: the need to enable customers to pay the way they want to pay, and the need to gather intelligence about all the ways a customer shops, regardless of channels.

> *"Consumers won't take a retailer seriously that doesn't know the culture well enough to know what kind of payments to accept."*

One interview participant views payment types as a legitimacy challenge for retailers looking to expand internationally: consumers won't take a retailer seriously that doesn’t know the culture well enough to know what kind of payments to accept. In another example, a Japanese colleague pointed out that iPhones don't do well in Japan - because they don't have the NFC (near field communication) chip required for payment integration. Not only is this a country-by-country issue, it's also a generational one. Retailers serving younger customers will soon face mobile payments of some kind as "ante" - or risk losing credibility with the youth market.

The challenges are complicated by the different speed of adoption coming from consumers in different channels. From our interviews, here are some examples of the impact of consumers' cultural differences on retailers' payment offerings:

- "The payment world [in any channel] is driven to some level by what the consumer expects. They're not evolving very quickly in the store environment. But they are [evolving quickly] online." - Director of IT.
- "Our demographic expects us to keep up with them and they move very quickly. While I don't expect many in-store customers to use PayPal [mobile] in the short term, we get tons of positive feedback for being so forward thinking and customer friendly." - CEO
- "Consumers are not 100% aware of the difference between debit and credit - the way it appears on their checking statement [when they buy online]. Debit people are so much more aware than credit people [when a charge hits their account] - the confusion has created a huge 'call center learning opportunity' for us. We have to explain to them how pre-authorizations work." - Director of IT.
- "That 90% of our in-store customers opt for an email receipt shows that customers are more than ready to embrace eCommerce functionality in a retail setting." - CEO
- "I'm embarrassed to admit that we haven't really considered alternative payments, especially given the [young] demographics of our shoppers. We've been focused on keeping up with international payments as we open more stores." - Director of IT

The drive to be more customer-centric affects more than the types of payments being offered to consumers. It also can affect how those payments are processed, which in turn either enables - or inhibits - a holistic view of customer behavior, and the insights such a view can generate. For many retailers that still maintain a decentralized payments infrastructure, there is little opportunity to use payment information to understand consumer behavior across stores, let alone across channels.

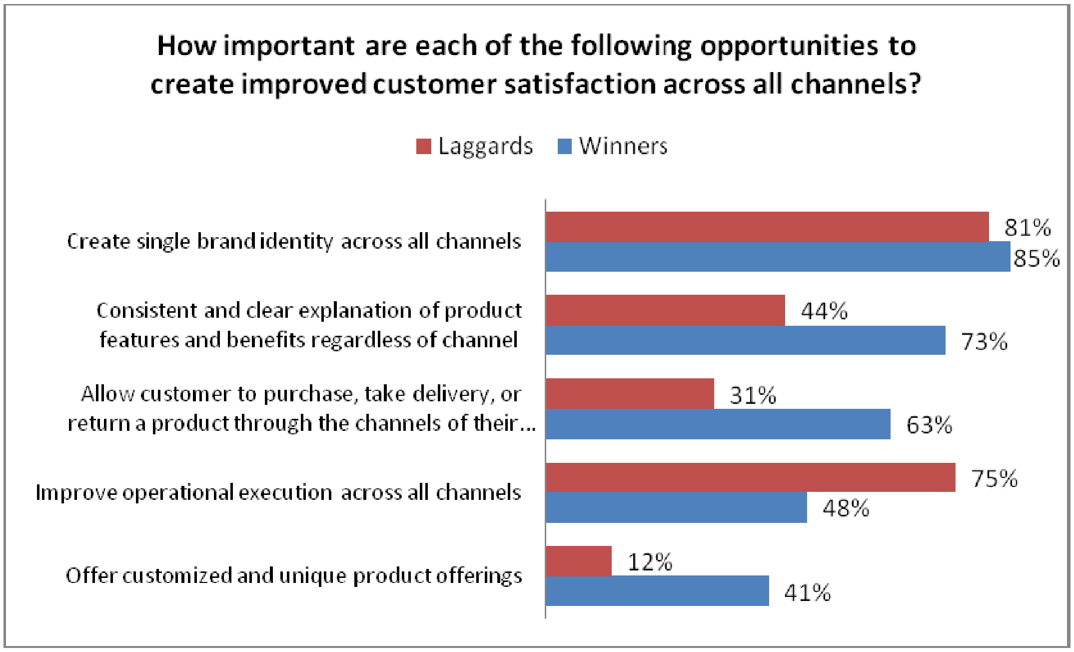
The Impact of Cross-Channel

Cross-channel retailing is a reality for the industry now. The percentage of total revenue coming from the online channel in particular is still less than 4% (U.S. market), but is holding a steady level of contribution to total sales even in the current difficult economic climate.[2] What no one knows is how much alternate channels affect store purchases. Retail winners in particular know that their multi-channel customers are more profitable than single channel shoppers. And although most retailers in a recent survey conducted by RSR agree that creating a single brand identity across all channels is important, retail winners translate that desire into allowing customers to begin and end transactions in different channels (Figure 2).[3] Furthermore, they want to do it efficiently – meaning, without system or process redundancies.

[2] ***Quarterly Retail E-Commerce Sales 2nd Quarter 2009***, The Census Bureau, U.S. Department of Commerce, August 17, 2009

[3] ***Cross Channel Retailing For The Anywhere Anytime Customer,*** February 2009, © RSR Research LLC

Figure 2: Winners Understand the Value of Cross-Channel Enablement



Source: RSR Research, February 2009

In current economic times, the cross-channel trend is not faltering. Consumers seeking to stick to a budget are researching online, make their purchase decisions at home, and then go to the best place to buy them - sometimes that's online, and sometimes that's in a store. Retailers who recognize the trend continue to invest in cross-channel capabilities, no matter the economic environment they may be experiencing personally.

But no matter how cross-channel a retailer's processes are, *if they are not taken all the way through to that all-important payment step, then it's all for naught*. With payment infrastructures for online and stores completely isolated from one another, and even isolated between stores, we are a long way from seeing true cross-channel retailers - it's not about "buy anywhere/get anywhere." It's about buy anywhere, pay one place, and manage all the rules around seeing that transaction through to its conclusion no matter which channels it winds its way through. With the current state of retailers' payment infrastructures, this is not merely difficult. It is a near impossibility.

Payment Data Security: The Tangled Webs We Weave

Finally, there is the all-important issue of payment data security, which cannot be ignored. While managing this challenge is alone one of the biggest issues that retailers face today, it has implications for the future of payment technologies as well, including the pace of innovation.[4] Some thoughts from our interview participants:

---

[4] ***Customer Data Security: PCI and Beyond***, December 2007, © RSR Research LLC

- "Security measures are the biggest concern we have. Are we doing enough? Are we keeping up?" - CIO
- "The thing that drives [our payment strategy] the most is regulation at this point, or outside band-aids, like VISA saying you have to change this field or we'll charge you more... We have to deal with all the usual last minute VISA updates to formats - we get 6 months warning, but don't know the details until four months later." - CIO
- "Data security is by default the issue at the top of the list when [retailers] decide to tackle payments infrastructure." - CEO, payment switch provider
- "Too much stuff [regarding PCI] comes from too many different places... Right now I just make sure I don't keep credit card numbers anywhere." - Director of IT

Payment data security issues are both a symptom and a cause of payment technology challenges today. On the cause side, retailers are challenged to keep up with incremental changes to their payment infrastructure, responding to minor changes made over a long period of time. But those changes accumulate, pulling retailers away from the original, clean architecture of their payment systems. As one retail CIO noted, his payments infrastructure is 20 years old, but he theorized that very little of the original code is left, thanks to the incremental changes his company has made to keep up with VISA. This piece-meal approach results in a tangled web of supporting technology that requires a huge business case to unwind - one that could be difficult to find in the current climate.

Additionally, the pace of new demands to meet ever-emerging security threats continues to increase with no end in sight, and retailers must devote resources to their payments infrastructure for maintenance, rather than looking into innovations.

Implications

Like electrons in orbit around an atom, payment systems have found the lowest possible energy level at which they can operate within retailers. While this could be viewed as efficient, it also means that the system in place is very resistant to change: any resources dedicated to supporting payment systems are dominated by the need to meet the minimal requirements for processing payments, and any disruption to this critical system had better have some kind of spectacular payoff before it's worth any kind of risk.

The problem with this view is that the system we live in today - driven by consumers' willing and swift adoption of technology, a new culture of austerity and personal responsibility, and a retail market dealing with the resultant contraction in consumer spending - could hardly be called stable or efficient. The challenge will be managing against the "weak" and "strong" forces at play in the payments industry today: the opportunities presented by a more customer-centric view of payments are a near-term weak force pulling on retailers currently - several interview participants indicate that they consider new payments only after customers ask for them. On the other hand, the looming challenge of cross-channel enablement - especially the complex payments required to truly support "buy anywhere, get anywhere" - is a strong force.

"Retail Winners see this combination of forces as an opportunity to differentiate themselves."

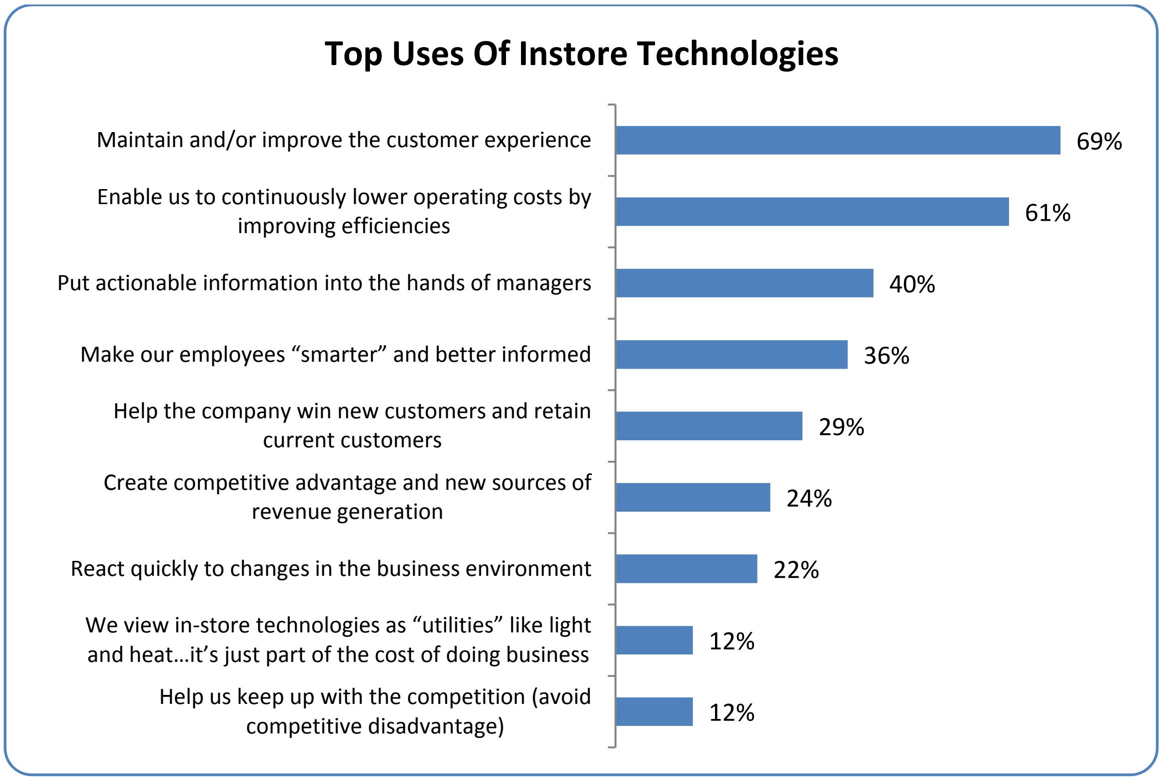
Consistent with RSR's experience with retailers' technology investment plans, Retail Winners see this combination of forces as an opportunity to differentiate themselves, while delighting customers. They've learned an important lesson in the age of the connected consumer: if customers have to ask for it, then it's already too late.

Opportunities

Convenience… And A Desire For More Choices

RSR studies have consistently shown that winners maintain a laser focus on the customer even while their underperforming peers fret over costs. A June 2009 RSR study shows that creating convenience with technology remains top of mind for retailers across all segments, even in these tough economic times.

Figure 3: Customer Experience Trumps Cost Efficiencies



Source: RSR Research, June 2009

While not in the business of technology innovation per se, Retail Winners pay close attention to emerging technology developments happening around the world and in field tests in their home markets, so that they are able to react very quickly at the moment when widespread consumer adoption begins. Retail Winners are also relentless in their pursuit of new operational efficiencies. These objectives apply to payment processing too. Although retailers have little desire to experiment at the point of sale, winners do see the opportunity to enhance their brand image with existing customers, shift the business to lower cost payments, and win the interest of a new generation of consumers.

But the data shows that having the ability to continuously lower operating costs is also a powerful motivator. Most retailers are not willing to offer any and all payment options to consumers. Personal checks, once the #1 alternative to cash, have been superseded by credit/debit cards and electronic check processing capabilities. But the spiraling costs associated with card fraud are causing retailers to move toward the "front edge" of innovation, albeit reluctantly. Says the CIO of a luxury apparel retailer:

"When you are at the higher price point like we are, your client does want to have the credit card on file. But unhappiness about the costs associated with PCI compliance is the number one reason why retailers like us are talking to other entities, such as mobile phone carriers, about research they are doing to enable new payment types. For us, finding easier ways without being penalized by credit card companies for offering that convenience is the objective".

According to the retail executive, "Retailers haven't had a choice for a long time. But now that there's a glimmer of hope in mobile payments, people are really starting to look and will actually help them (the mobile network providers) get there."

At the same time, decision makers aren't interested in trading one intermediary for another. Retailers have learned the value of direct relationships with supply chain partners, and want to apply those learnings to other areas of the business. According to the luxury apparel CIO, "I want a direct link – something similar to PayPal … why would we go from one to the other intermediary? If you get rid of the intermediary you get rid of the security risk. We're talking about eliminating them. "

According to an executive from a large mobile network provider (MNP), the desire for a direct fiduciary relationship between merchants and consumers is understandable, but naïve. "Prepaid cards, stored value cards, and cards connected directly to accounts with spending limits have gained some ground", says the executive, "but there's no infrastructure to support merchant funded networks yet". Says another executive from a large payment gateway provider, "Card associations have a done a brilliant job of getting card issuance and acceptance to happen simultaneously. Any new alternative would have to orchestrate those things to happen simultaneously. That means that the retailers would have to step up and do the issuing, credit underwriting, and consumer education – and most are probably unable or unwilling to do that."

"Retailers would have to step up and do the issuing, credit underwriting, and consumer education - and most are probably unable or unwilling to do that."

Four opportunities emerged from our interviews on payment innovations: Loyalty, Mobile, the Digital Wallet, and Digital Vouchers/Coupons.

Making Loyalty Pay

Loyalty programs have had a checkered history - one interwoven with payments. In retailers' drive to better understand customer behavior over time, unique customer identifiers were needed in order to track one market basket purchase to another made a week later. An easy way to do that was by tying that customer identifier to the payment method - as long as it was not cash, the purchase history continuity was assured with little fuss on the consumer's part (assuming they were even aware).

The problem with using even partial bank or credit account numbers as a customer identifier came to light as professional data thieves began hacking retailers' databases in the early 2000's. Even a partial number joined with some other useful bits of customer data such as a postal code can help the hacker recreate the number. To get around data security concerns, many loyalty programs created programs with the loyalty card as the unique identifier, disassociating loyalty from payment information.

In order to increase the value of loyalty programs and create a "virtuous cycle" that encourages continued participation, while at the same time providing greater flexibility to customers, many loyalty programs have evolved into points-based systems - and the points, in effect, have become a kind of currency.

Points systems offer flexibility in how points are used, so that shoppers can better shape their participation to match their needs, and in how points are accumulated and redeemed, so that retailers can tweak which purchases accumulate points, and guide redemption toward products and services that meet their needs. According to some retailers, people respond to loyalty points programs much more positively than to percent-off schemes. For example, a large UK-based supermarket reports that customers respond better to “triple points” promos compared to a straight 20% off, even though triple points only equals about a 3% discount.

An alternative to a closed-loop loyalty program is a coalition loyalty service. In the United Sates, coalition programs have had challenges breaking into standard usage, though "programs with a cause" like uPromise have had some success. In other countries, particularly the U.K. and South Africa, coalition programs are very well established. The advantage of a coalition program is the larger pool of potential customers. Coalition participants have learned that a consumer who only collects points at one retailer is worth less than someone who also collects points from several. According to one coalition loyalty service provider, retailers are happy to participate because they have come to recognize that their key customers will use more points with them than with the retailers they may have also collected points from. Additionally, some coalition loyalty service providers blend points redemption, electronic payments, and digital manufacturer incentives to drive traffic and loyalty.

GOING MOBILE

Winning retailers recently have expressed considerable interest in mobile, or contactless, payments. Mobile network providers (MNP) expect 2010-12 will be the inflection point for mobile commerce as an important channel. Service providers are starting to see significant interest from retailers to the broad notion of mobility as a way to relate and transact with their customers. Four different use cases are being discussed: payments, coupons, loyalty, and comparative shopping. The question is, which one will gain acceptance first?

Service providers are betting on payments as an early use case. Adoption of the use of mobile devices for payments is expected to follow the same dynamic that caused the credit card to be so universal – it was an accepted technology that standardizes a payment form factor. However, recent investments in PCI compliance (in the U.S.) and chip & pin readers (as in the U.K.) could inhibit retailers’ willingness to soon focus the effort or money necessary to support NFC (“near field communications”) enabled mobile devices only for payments. For this reason, service and technology providers are looking for ways to promote the use of mobile technologies for value-adding capabilities, such as Loyalty ID (replacing cards). These companies hope that the ubiquitous presence of the mobile handset will render keychain fobs, RFID stickers, and cards redundant.

> *"Service providers hope that the ubiquitous presence of the mobile handset will render keychain fobs, RFID stickers and cards redundant."*

Online service providers, of course, have something of a different view - they see opportunities to leverage their content into the mobile channel, through digital or SMS-based coupons or discounts, comparative shopping, and location-based content and marketing. As with mobile payments, the infrastructure to support these use cases can be daunting, despite the recent consumer interest in smart phones with browsers and location-aware capabilities.

The "dark horse" of these use cases is loyalty, and there are historical parallels. In the 1990's, there was considerable interest in biometrics as a payment driver. Companies like PayByTouch tried to convince

consumers that there was nothing more secure (yet private - fingerprint information from biometrics couldn't be used for criminal investigations, for example). However, by tying biometrics to payments, these companies created misconceptions and perceived risks for consumers to overcome. Had they tied their service to loyalty programs instead of payments, would the end result (bankruptcy, in the case of PayByTouch) have been avoided? It would certainly have been a lower-risk endeavor for the consumer, yet still offering the benefit of not having multiple loyalty cards stuffed on a key ring or in a wallet. Also, from the retailer's perspective, the infrastructure required was simple - not that much different than a loyalty card with bar code or mag stripe.

The Rise of the Digital Wallet

The desire to create more convenience for shoppers, while at the same time lowering risks and costs associated with checks and credit, has led retailers to widely embrace cash equivalents that act as a "digital wallet", such as gift cards, stored value cards, and reloadable debit cards. These payment types have particular relevance to retailers that service cash-constrained consumers. Not only do digital wallets help the budget-conscious consumer directly, they also help the retailer keep costs down, since this payment type avoids all the risks and associated costs typical of credit cards or checks.

"Closed loop" reloadable card systems have been in use for some time by transit systems around the world, for example the Oyster system used by the London Underground and the "Charlie Card" in use with the Massachusetts Bay Transportation Authority. Closed loop systems have some applicability to retailers, to the extent that transit authorities seek to extend the power of the card to offer ancillary convenience (for example, news agents or quick service restaurants), in effect becoming the lead player in a coalition service.

"Open loop" systems that offer cards to be used anywhere are on the rise; for example, Visa, Mastercard, and American Express all offer reloadable cards, redeemable at any location that accepts traditional credit cards. However, retailers should be aware of growing consumer backlash over the fees associated with activating and holding these cards, which can be very expensive and are solely the responsibility of the consumer.

"Getting issuance and acceptance of any payment type to happen simultaneously is critical to achieving widespread adoption"

Mobile network providers view all of these payment types as further justification for NFC-enabled mobile technologies, and since mobile phones are capable of storing considerably greater amounts of information than either a magnetic stripe or an RFID chip, keeping multiple ID's is not a technological issue. For this to become "real" however, consumers need to be educated on the technology's capabilities, and retailers must have contactless capabilities in position at the point-of-sale. As was mentioned earlier, getting issuance and acceptance of any payment type to happen simultaneously is critical to achieving widespread adoption.

The Emergence of Digital Vouchers/Coupons

Manufacturers have long funded co-op advertising of their brands and products with retailers and the paper coupon is the primary vehicle for delivering value into the hands of consumers. Unverified estimates put the total amount spent by manufacturers on this form of advertising at approaching $500 billion in the U.S. alone. However, paper coupons are notoriously inefficient and costly. Aside from production and distribution costs, manufacturers reimburse retailers for lost margin *plus* a handling fee.

Manufacturers are understandably interested in both lowering the overall costs associated with paper coupons and at the same time delivering more value directly into the hands of consumers, and that has given rise to their interest in digital coupons/vouchers delivered directly to the consumer, for example via an SMS message to a consumer's mobile phone. There is a perception that retailers may not be so excited about changing, since they could potentially lose the cash flow from the handling fees. Likewise, newspaper publishers, coupon clearing houses, and even the Postal Service have a vested interest in the continuance of paper-based product marketing. With these powerful forces possibly aligned against any change, the jury is out as to whether digital coupons/vouchers will reach widespread adoption in the near term. What is undeniable is the drop in the number of newspapers (the traditional delivery vehicle for paper based coupons) sold; in 2008 in the U.S. alone, the number of daily papers sold had decreased 23.3% from its historical high water mark in 1984. And, the number of newspapers in circulation began to decrease from its historical high beginning in 2004.[5]

> *"In 2008, the number of daily newspapers sold in the United States had decreased 23.3% from its historical high."*

Retail Winners stay focused on the customer. Their concern is to create new and compelling value for the consumer in a way that builds loyalty. In this context, digital coupons have a bright future. CPG companies are working with grocers (who make the greatest use of paper coupons), because these partners understand that higher redemption rates and increased relevancy pay off. They also drive better information and insights from analyzing redemption patterns, far outweighing interest in preserving the paper-based status quo. As far as the argument about retailers being unwilling to give up the lift from handling fees, those we interviewed for this report say "yes and no"; there's a long lag time before coupon payments come in so they're not assignable to a particular sku's margin, and the float in redemption is considered a non-issue.

Obstacles to adoption of digital couponing schemes remain, however. Test projects that included sending a bar code to a mobile phone had limited success due to retailers' scanners inability to handle glare from cell phone screens. More importantly, a dominant network based "broker" for digital coupons has not yet emerged, though some closed-loop systems based on retailer-provided handheld scanners in stores have been gaining traction. Payment gateways and coalition services providers are also putting the pieces in place to support the inevitable consumer adoption of digital couponing.

Clean Convergence or Muddled Mix?

There is a lot of overlap in the different types of opportunities presented. Loyalty points might be redeemed for gift cards that can be accessed via a mobile wallet and also store digital coupons - all on a mobile phone. A retailer-specific smart phone application might provide unique deals and coupons, and store a searchable product purchase history with recommended products to improve healthy eating, or remind the consumer when a basic necessity might need to be purchased again. There are more opportunities that come from the noise made by the crashing together of these opportunities than from any one that is stand-alone. This is particularly challenging for retailers, as it will ultimately be the clever ideas driven by customer adoption that move convergence along than any coordinated program or coalition. Keeping up with rapid consumer technology evolution has not been retail's strong point to date. However, staying abreast of the possibilities is critical. As we noted above, waiting until shoppers demand a service to decide to provide it is far too late.

[5] ***Newspaper Association of America***, http://www.naa.org/TrendsandNumbers/Total-Paid-Circulation.aspx

Organizational Inhibitors

External challenges have internal counterparts, and for payment innovations, the four business challenges of controlling costs, customer centricity, cross-channel, and PCI have three internal analogs: a culture of risk aversion, decentralized ownership of payment systems, and the economic impact of the store multiplier effect.

Mission Critical

Few ideas can elicit bigger shudders from CIO's than "let's change POS and our payment systems." The one job that a CIO cannot fail at is processing transactions at the point of sale. Because of the mission critical nature of both the payments infrastructure and the systems it integrates to, there is very little internal excitement over tinkering with them. "If it ain't broke, don't fix it" is a vast understatement.

Risk aversion when it comes to payments systems results in an infrastructure that is, in the words of one CIO, "old enough to legally drink" and with more patches, bolt-ons, and baling wire than an automotive junkyard. At some point, the system risks collapse under its own weight, but as long as it keeps delivering transactions reliably and speedily, it seems like a risk worth taking.

Who's In Charge?

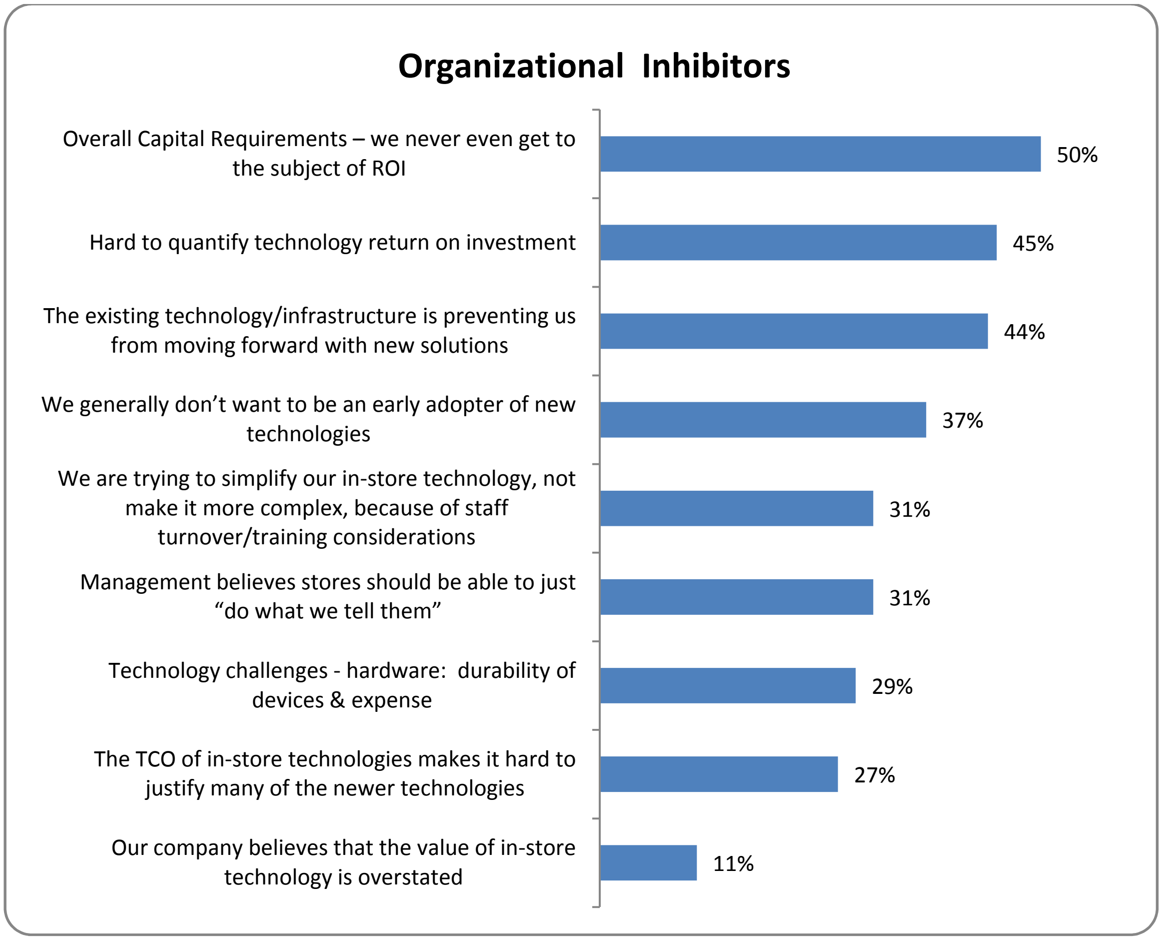
The next internal obstacle is closely related to the first. While the CIO is clearly responsible for maintaining the payments infrastructure, decisions about what kind of payments to provide and the strategic role of payments in the customer experience are not typically made at high enough of a level to overcome the CIO's understandable reticence to initiate changes. Simply put, if the payment system crashes while trying to implement a new loyalty program, it's not Marketing that will take the heat- it's IT.

For most retail companies, there is no single point of authority and responsibility for the customer experience. Theoretically, the CEO provides this voice, but that's too high in the organization to effect any kind of improvements in the shopping process. If, for example, a warranty transaction takes too long and is exceedingly painful for both store employee and customer, it takes a lot of accumulated pain and effort before there is enough political clout for Store Operations to force a change in how a warranty is processed or how payment is accepted. Marketing alone, in seeking to implement loyalty program improvements, is going to be hard pressed to make the case to justify adding a new kind of payment processor to the mix, for example, when it involves touching payments, POS, and store operations processes and systems.

The Store Multiplier Effect

One of the first things that non-retailers learn about retail is the “store multiplier effect”. This is where that vast number of stores can turn a small change into a massive, costly, and risky one. Proposing a technology implementation that costs, for example, $5,000 per store seems easy to justify, until it rapidly becomes $5 million across a thousand stores. That's when simple capital constraints - forget about ROI - become the inhibitor. RSR's research into store investments has yielded the same data year over year: ***capital constraints are the number one inhibitor***, followed closely by challenges with the existing infrastructure and risk aversion. Results from 2009's study are no different (Figure 4).

Figure 4: Store Change is Expensive



Source: RSR Research, June 2009

Overcoming Obstacles

With no clear owner, except one incented to be highly risk averse, and costs that go from little to crippling in the blink of an eye, how does any retailer encourage innovation in that shopper last moment of truth? First, by starting small. If one application or business case alone is not enough to drive an implementation (for example, Marketing's coveted loyalty program improvements that are dependent on a switch upgrade), the retailer should implement a pilot project in a small number of stores and invite other groups to invent opportunities to take advantage of that foundational investment in other ways. This is creating the ***creative collision of opportunities*** on a small scale so that the value identified can be taken to a much larger scale (by virtue of the store multiplier effect), and gets the whole company thinking about how the shopping process can be improved or enhanced.

Another way to gain momentum around payment innovations is to link them to something the company already has to do. There have been some missed opportunities driven by PCI, but with the ever-changing nature of security requirements, it may not be long before wholesale upgrades are required to the company's IT infrastructure. In the U.K., many retailers have been dismayed after going through the effort of implementing Chip and PIN, to find that they were facing a contactless payments revolution

shortly on its heels. If the two had been combined - or they had incorporated contactless potential into Chip and PIN readers - then those retailers would be in a much better place for the next wave of payment innovations. As it is, contactless is stalled in the U.K. while retailers let Chip and PIN readers age to the point where they can justify re-examining that capture point. RFID for item-level, and the POS changes that may be required to support it, may be the next opportunity wave for the hardware side of payments in the store, if the necessity for general POS hardware refresh does not roll through first.

Finally, retailers need to educate the technology industry about their hardware constraints, particularly if dealing with mobile or financial industry hardware providers that have little familiarity with retail challenges - both the store multiplier effect and the rigors of the technology *un*friendly store environment. One reason why retailers often get excited over the prospect of consumer mobile is that not only do they not have to bear the expense of the hardware, but if it breaks, it's on the consumer to replace or fix it. Any design features that enable future-proofing and/or minimizing the initial cash outlay on the part of the retailer will do far more to speed adoption than the most air-tight business case. But unless vendors understand these issues, they'll simply be left wondering why retailers won't invest.

TECHNOLOGY ENABLERS

THE STORE AS AN "ISLAND OF TECHNOLOGY": THE END IS NEAR

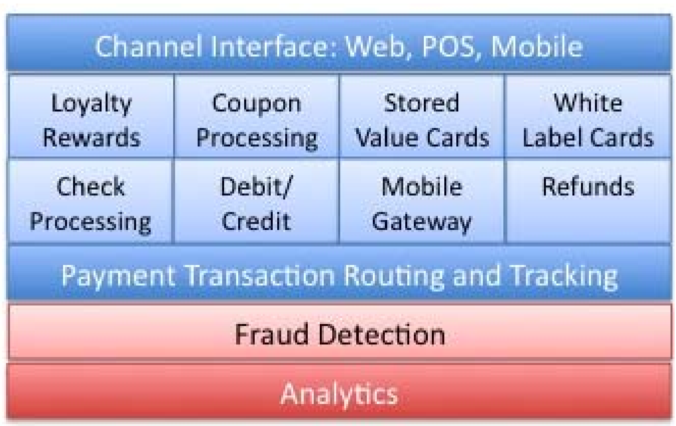
While the future path to payment innovations may be muddled by terms like "4G" or "NFC," one outcome that will have to come to pass to enable any progress within retail is the centralization of the payments infrastructure. Decentralized connections certainly enable greater speed and redundancy, but do not enable the flexibility needed to keep up with the evolution of payments. Just as product, inventory, and customer data had to become centralized enterprise-wide processes to be more effective, payments infrastructure is on the verge of being moved out of the store and re-implemented as an enterprise-wide service.

It's not just an issue of architectural simplicity. If payment taken in the store has to follow online rules for the eCommerce portion of a cross-channel purchase, then that payment transaction needs to live across both channels - and it cannot do that if it is isolated in the store. Cross-channel is far more than "buy online, pick-up in the store" - the payment side of even that transaction can be exceedingly painful for a customer if something goes awry. To truly be cross-channel, retailers need to enable "buy anywhere, get anywhere - and pay once in one channel for all of it." Asking consumers to pay in store for the items bought in the store, but subsequently having to deal with backorders or out of stocks in the online channel, for example, or paying online only to have to pay again or have a transaction reversed and charged differently in order to accommodate an issue in store is not anywhere near a "seamless cross-channel experience for customers."

On the flexibility side, payments are clearly in a quiet but disruptive evolution today. As retailers have discovered with pricing, customer data, promotions, and a host of other content and functionality, there is a lot of power in updating once centrally and knowing that it's done - with no more or less risk than from relying on the network.

Between channel convergence and payment evolution, a retailer with a modern payments infrastructure has something in place that covers all the bases (Figure 5).

Figure 5: Payments Under One Roof



Source: RSR Research, October 2009

End Point/Payment Capture Technologies

The realm of payment capture technologies is currently represented by two broad categories: retailer provided and consumer provided. It would seem to be an easy proposition to push as much off onto consumer devices as possible, saving money, maintenance, and headaches. However, doing so is not so simple.

Consumer-Provided

In almost any store these days, a wanderer might find half a dozen people talking on their mobile phones while they shop, and see dozens more with them in pockets or purses. However, for consumer devices to play a strong role in payments infrastructure, a lot of things have to happen first. Major players that have historically not played well together need to come together - particularly handset manufacturers and wireless carriers. Even beyond this challenge, retailers may have to install repeaters in their stores to enable a quality signal, and may have to enhance the mobile connection by supporting open WiFi and/or Bluetooth - all of which require hardware in the store.

All of this presumes some kind of software to enable the payment transaction itself - something controlled, secured, and managed from the consumer side. In today's state of payments, particularly on the mobile side, the mobile payment solution provides the software to control the consumer's interaction and request for authorization. But in a world of near-field communications, or even through some kind of direct interaction between a consumer device and the retail point of capture, there is going to have to be some kind of application on the consumer's device to initiate the transaction. Whether that comes from the consumer's card issuer, the card company itself, the carrier, the phone manufacturer, the retailer, or some third party still remains to be seen.

Retailer-Provided

Signature capture - once the height of innovation in retail point of capture for payments - is rapidly becoming the device of every contingency. Not only can some signature capture devices present customer satisfaction surveys or offers, they can come equipped with contactless payment hardware, chip and PIN-type security, even cameras and fingerprint scanners. Some of this is an attempt at future-proofing. However, there are non-device driven interactions available as well. Some coupon, mobile payment, and loyalty program providers offer software widgets that can be deployed on the retail POS, activated through a tie-in to a function key, with verification provided either through input of a code sent to a customer's device, sent directly to the register, or even through a scanner read, either of a card or a device screen.

With an almost endless mix of ways to capture payment, and no clear winner in terms of either consumer preference or adoption, or retailer or issuer preference, maintaining flexibility in payment capture is key - whether through future-proofing investments, or through a modular or non-intrusive approach. No matter which approach is chosen, retailers need to have explicit reasons for their choices, having weighed the costs, benefits, and risks of each, so that they are not taken by surprise down the road.

Needed: Industry Standards

Lack of standards can be a big inhibitor, even for those retailers that seek to be early adopters of any new technology. Various organizations and industry groups are working arrive at a set of standards for mobile technology in retail. Those groups include:

GSMA – an association of mobile network operators that is developing a specification for a new SIM card that can store multiple applications, has security embedded within it, and creates the ability to securely connect, send and store data within a mobile phone.

NFC Forum – a group of manufacturers working to develop a chip capable of creating a very tight link for transmitting payments to a reader.

Mobey Forum – A Scandinavian group led by the banks, that seeks to promote the adoption of mobile in the banking community for the myriad of banking transaction – deposits, balance checking, etc. Mobey Forum is working on enabling secure payments using SMS or WAP as an alternative to plastic cards.

Smart Card Alliance –the Smart Card Alliance has defined the path for contactless payments, because Smart Cards and NC-enabled devices use the same formats and technology.

GS1 – GS1 is the global standards group that has leadership in the UPC codes, RFID standards, and coupons. GS1 is expected to focus on digital coupon standards.

NACHA – the National ACH Association. Retailers are clearly looking for alternative forms of payment, and NACHA has the network.

NRF ARTS Committee – The National Retail Federation's Association for Retail Technology Standards committee is working with most of the above-mentioned organizations to arrive a set of standards for the entire retail ecosystem. Additionally, the ARTS committee is developing a recommendation for a "payments as a service" architecture.

EPC – the European Payment Council, a group that represents some 1000 banks In Europe, the EPC is becoming the guiding force for mobile banking.

FSTC – the Financial Services Technology Consortium, a U.S. based group that is pulling together several organizations including the Federal Reserve, NACHA, and others, to arrive at a recommendation for banks regarding mobile banking.

And Then There Was Fraud

In addition to enabling seamless cross-channel capabilities, a centralized payments infrastructure enables new ways of tracking and analyzing fraud, and in fact gives the retailer greater control over risks associated with fraud. On the other hand, legacy in-store POS systems create many opportunities for fraud, since data is replicated between components of those systems, and in-flight data (for example, from one subsystem to another, or from a pinpad to a register to a store controller) can be intercepted. Additionally, store systems typically have less robust system management capabilities than enterprise-wide systems. Network-centric or centralized systems present fewer break points, and make it easier for encrypted data to be sent directly to well-managed centralized servers.

The Case for Modernity

While the current situation may not be perceived as "broken", and it may not seem to cost much to maintain (certainly not when compared to the cost of it going down), one thing that emerged from our interviews for this report is a clear understanding that modernizing the retail payments infrastructure

provides benefits both for today and the future. On the cost side, the value of flexibility in an uncertain or evolving environment, while not directly quantifiable, is certainly worth a lot to a resource-constrained technology organization. More directly, the ease and cost of maintenance can be improved by a modern, central architecture, and the visibility that a centralized solution provides enables greater cost management and control over interchange fees - something where small improvements have large benefits.

There are also definite revenue benefits, all driven from delivering value to the customer experience. From the soft side of customer satisfaction to the hard side of capturing payments that might not have been transacted because of a lack of payment options, benefits on the customer side transcend ROI: if a retailer is placing the customer experience at the center of their strategy, to ignore the payment piece as part of that experience is dangerous - both from a standpoint of differentiation, and brand promise.

BOOTSTRAP RECOMMENDATIONS

Change to payments is coming, the landscape is not decided yet by any means, there is a long way to go - and the players who own responsibility for payments internally to the retailer are not incented to pay much attention. So what can retailers do to stay on top of payment innovations?

Look at payments from the customer's point of view.
Retailers may think that they understand their payment processes, but the customer may think differently. Document the process from the customer's point of view. What happens to the line when a customer pulls out a check? What happens when a customer changes their mind about a gift card purchase? When does the timer start in the consumer's mind on the transaction - when they enter the lane, or when the cashier starts ringing purchase? Analyze the *customer's* process for their pain points, and identify improvements that are needed. On the surface this is a simple process exercise for a business process engineer. But retailers shouldn't go into it with any sacred cows: everything has to be up for review, from cashier training to cash wrap design, to POS configuration, to payments processing.

Pursue the simple innovations that go a long way.
One retailer interviewed for this research was simply shocked at customer acceptance of emailed receipts. Not only were they excited to use it, the retailer benefited from an additional form of customer data collection: their email address. SMS or codes of any kind can bypass a lot of infrastructure pain, and can be an easy way to test acceptance on a limited basis. Small pilots are important when testing payment innovations - but treat those pilots more like idea labs than pilots. Invite other groups to play around, participate, innovate. Their involvement will make the business case more robust, and get everyone thinking about the end-to-end customer process.

Inaugurate a Strategic Committee on Payments.
The future is uncertain - which means it could not be a better time to start thinking about what the future of payments will mean for the company. What should the "last moment of truth" be like for customers? What does it take to get there? Bring in marketing, store operations, finance, and IT. Bring in analysis of what the payment process looks like from the customer's point of view. Bring in thought-provoking speakers who can shape alternative futures. Start thinking of payments as something that has the potential to differentiate the shopping experience, and something that can be controlled, rather than something that card associations or merchant networks dictate.

Participate.
There are all kinds of industry forums out there around payments, but retailers are conspicuously absent. For example, the NFC Forum's charter is to help guide standards for mobile phone-based contactless payments. Retailers should want to have some say in this, at a minimum to protect their interests in how it might be implemented in their stores. But there is nary a retailer in the NFC Forum member rolls.

Also, retail trade organizations need to look more closely at this issue, and retailers should push them to do so. Every retail trade organization from GMA, FMI, NRF, and RILA has taken a stand against interchange fees - but these issues (payment innovations and interchange fees) can be easily linked. As retailers have learned with debit transactions, as soon as retailers and consumers both find a lower cost transaction method, payment processors will find a way to squeeze the benefit away. With those kinds of costs hanging over their heads, it would seem that retailers have a very large vested interest in how innovations in payments evolve in the future.

APPENDIX A: STUDY PARTICIPANTS

To facilitate a candid and honest dialogue on this report's subject, RSR promised anonymity to those who shared their views with us. However, we offer this description of the interviewees and their companies:

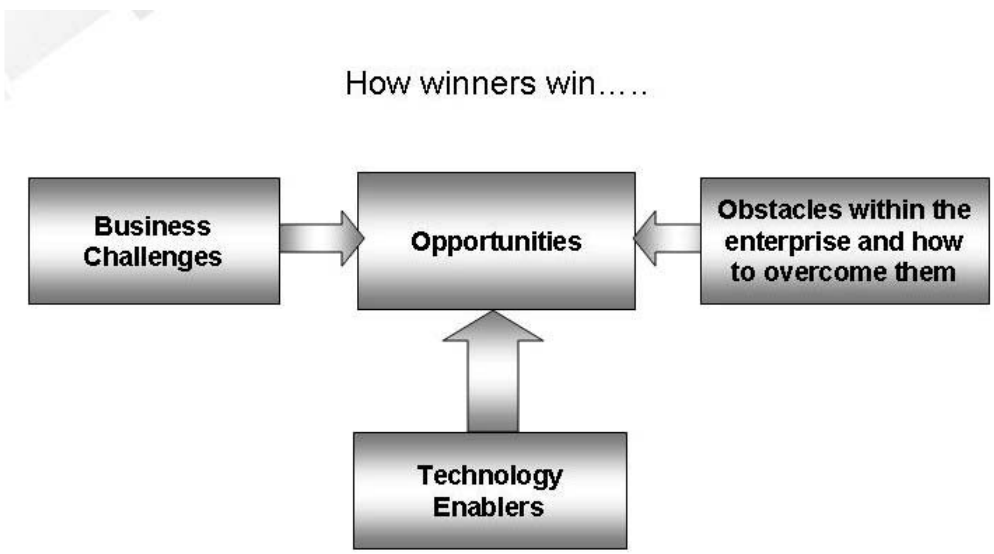
- Director of IT, international apparel retailer
- Director of IT, U.S. based regional western apparel and equipment retailer
- CIO, U.S. based large box specialty retailer
- COO, U.S. based women's apparel retailer
- CIO, U.S. based drug store chain
- CEO, U.S. based regional sports apparel and equipment retailer
- Director of Product Development, U.S. based mobile network provider
- CEO, U.S. based social network marketing company
- Director of Marketing, UK based loyalty platform provider
- President, U.S. based mobile commerce company
- Director, U.S. based retail trade association
- CEO, online payment platform provider

APPENDIX B: THE BOOT METHODOLOGY

The "BOOT" methodology is designed to reveal and prioritize the following:

- **Business Challenges** – Retailers of all shapes and sizes face significant **external** challenges. These issues provide a business context for the subject being discussed and drive decision-making across the enterprise.
- **Opportunities** – Every challenge brings with it a set of opportunities, or ways to change and overcome that challenge. **The ways retailers turn business challenges into opportunities often define the difference between winners and "also-rans"**. Within the BOOT, we can also identify opportunities missed – and describe leading edge models we believe drive success.
- **Organizational Inhibitors** – Even as enterprises find opportunities to overcome their external challenges, they may find **internal** organizational inhibitors that keep them from executing on their vision. Opportunities can be found to overcome these inhibitors as well. Winning retailers understand their organizational inhibitors and find creative, effective ways to overcome them.
- **Technology Enablers** – If a company can overcome its organizational inhibitors it can use technology as an enabler to take advantage of the opportunities it identifies. Retail winners are most adept at judiciously and effectively using these enablers, often far earlier than their peers.

A graphical depiction of the BOOT follows:



APPENDIX C: ABOUT OUR SPONSOR

every second. every day.

About ACI Worldwide

ACI Worldwide is a leading provider of software and services solutions to initiate, manage, secure and operate electronic payments for major banks, retailers and processors around the world. The company enables payment processing, online banking, fraud prevention and detection, and back-office services. ACI solutions provide agility, reliability, manageability and scale, to approximately 750 customers in 90 countries. Visit ACI Worldwide at www.aciworldwide.com/retail.

APPENDIX D: ABOUT RSR

Retail Systems Research ("RSR") is the only research company run by retailers for the retail industry. RSR provides insight into business and technology challenges facing the extended retail industry, and thought leadership and advice on navigating these challenges for specific companies and the industry at large. RSR's services include benchmark reports covering the state of retailer technology adoption for topics ranging from merchandising and supply chain, store operations and workforce management, to customer-facing and multi-channel technologies. Custom research reports provide more in-depth views into topics of industry interest, and advisory services help retailers and technology vendors make the most of the insights RSR provides. To learn more about RSR, visit www.rsrresearch.com.