Line Busting as a Mobile Transaction and Service Strategy

A Guide for Consumer Industries

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Executive Summary

Executive Summary

The potential of mobile technologies to transform the transaction experience has been discussed regularly over the past decade. The transformation first promised a decade ago always depended on significant advancements in both consumer and business transaction technologies. The consumerization of smartphones, which began in 2007, introduced what would become the key enabling technology on the consumer side. This marked the beginning of robust growth and continuous advancements in consumer mobile technologies.

However, a variety of factors delayed businesses' plans and investments in mobile transaction technology. This created a gap between consumer technology maturity and deployments of the transaction technologies required to fully support this new kind of workflow. As consumer technologies have matured and become more feature rich, customer expectations of the shopping experience have increased. Driven now by elevated customer expectations and competitive pressures, industry studies suggest businesses are making investments and taking steps to realize the promise of a transformed shopping and dining experience.

Central to transaction modernization initiatives is mobile retail, which entails diverse services such as customer loyalty programs, personalized recommendations, and proximity (i.e., geolocation). The goal of mobile transaction technology is to reach customers wherever they are – whether online, in the store, or online in the store. Line busting (completing sales transactions without the need to stand in line) has emerged as a trend among business operators seeking to improve the in-store customer experience to satisfy heightened expectations and fully leverage investments in mobile technology. To date, several innovators, including Apple, the Home Depot, and Nordstrom, have deployed line busting. Although in relative infancy, line busting has been shown to offer businesses strategic, financial, operational, and technological benefit . Line busting's key enabling technology is mobile point of sale (mPOS).

This paper aims to:

- Summarize recent developments in the current state of mobile transaction technology, with an emphasis on line busting as a part of mPOS systems
- Highlight studies that point to mobile transaction's projected significant short-term growth
- Outline the business benefits of both mobile transactions and line busting
- Provide in-depth guidance on how to evaluate mPOS systems for line-busting applications

Part I

The Current State of Mobile Transaction Technology

Business owners and consumers have long known of an imminent sea change in the point of transaction experience to be brought about by mobile technology. The conflict between expectations that implied a sudden revolutionary change, and the reality, which played out as a slow evolution, can cloud the actual progress achieved over the past decade.

The shopping transformation first promised a decade ago required significant advancements in both consumer and mobile transaction technologies. The consumerization of the smartphone, which began in 2007, provided the primary enabling technology on the consumer side of the sea change. Today, businesses are planning and piloting new (as well as updating existing) technologies to realize the early promise of a transformed experience.

While many businesses' investments and deployments have been delayed in recent years, consumers continued to purchase and upgrade to new mobile technologies, which have advanced and matured in response to demand. Today, U.S. consumers each own an average of 2.9 devices [1]. These customers are constantly connected, always on the move, and looking for ways to integrate technology in their shopping experiences.

Maturing and advancing technology infrastructure has enabled widespread and growing consumer engagement via digital media. Businesses to date have broadly implemented some technologies to facilitate consumers' digital experiences. However, mobile retail, defined as a host of business technologies and services enabled by wireless technologies, has been slower to evolve for a variety of reasons [2]. Businesses increasingly recognize the importance and potential of offering mobile services, including Wi-Fi connectivity at their locations. Motorola predicts that 56% of retailers will provide guest Wi-Fi services in store by the end of 2017 [2].

Still, the technological gap that has opened between businesses and consumers in recent years persists, and many businesses are now playing catch up by investing in the technologies that consumers need and expect in the shopping experience. The savviest businesses are focused on engaging customers wherever they are – whether online, in store, or online while in the store. Line busting has emerged as one trend among businesses seeking to improve in-store customer experience and fully leverage investments in mobile transaction. Line busting is defined as meeting customers wherever they are in the physical store in order to complete the sales transaction. Line-busting applications are widespread and include the following examples:

- Retail associates meet customers in the aisle to complete a decentralized sales transaction.
- Restaurant staff complete the sales transaction at the customer's table.
- Casino staff accept payment for drinks, game chips, tokens, and tickets at the gaming table.
- Stadium attendants take food orders at fan's seats to avoid concession stand lines and missing event viewing.

The mobile transaction technology to enable line busting such as these examples is mobile point of sale (mPOS) systems.

Part 2

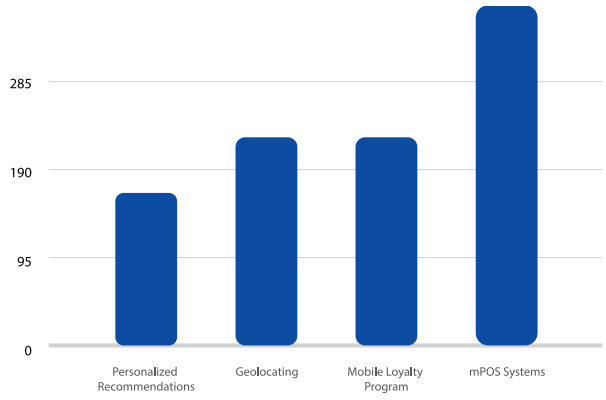
Mobile Point of Sale Systems: Enabling Line Busting

Business owners have long recognized the potential of mPOS systems in applications such as line busting. While the recession slowed the trend toward mPOS adoption, between 2011 and 2012, the number of mPOS terminals operating worldwide increased 111% percent, from 4.5 million to 9.5 million [3]. Recent studies reveal that retailers are once again planning, investing in, and piloting mPOS systems. For instance, one 2014 study reported that 79% of retailers surveyed planned to deploy mPOS systems by the end of 2015 [4]. Another study reported that 85% of respondents planned to deploy mPOS systems by end of 2016[5]. Researchers note that a multi-month lag occurs between when retailers invest in mPOS systems and when these systems are rolled out, as deployment installations take time to integrate [6].

One recent report estimated the mPOS market in retail has grown to $7.8 billion worldwide, with continued rapid growth projected into 2017 [7]. A study predicts 38 million mPOS units will be in use worldwide by 2017 [5]. To date, major retailers such as Apple, the Home Depot, and Nordstrom have deployed mPOS technologies to some extent. Urban Outfiters piloted mPOS systems in early 2011 and has not bought a cash register since September 2012 [8].

mPOS systems are attractive to businesses for several reasons. For one, mPOS systems cost significantly less than legacy POS legacy POS systems. For instance, Urban Outfitters found that iPads cost about one-fifth as much as cash registers, while providing more capabilities to associates (e.g., product details, product inventory, etc.) [8]. In addition, mPOS systems are perceived by many to be faster than legacy POS systems. One survey found that 52% of respondents agreed mPOS systems were faster than legacy POS systems [9]. mPOS systems integrate with a host of mobile services, making it only one use of businesses' broader investments in mobile transaction (refer to Figure 1).

Figure 1. Estimated Increase in Customer-Facing Mobile Services over Next Three Years



Source: Boston Retail Partners (2015)

mPOS systems generally, and their application in line busting specifically, benefit several key areas of business, including the following:

- ***Meeting Customer Expectations*** – The technological gap that opened between customer devices and transaction technologies in recent years (summarized in part 1 of this paper) also gave rise to increased customer expectations of the in-person experience. Line busting and other mobile transaction services are increasingly necessary for businesses to satisfy heightened expectations and remain competitive. Line busting represents one way for businesses to meet customers' expectations of a frictionless in-store checkout while also utilizing the advantages of investment in in-store wireless networks.
- ***Improving Financial Performance*** – One study directly linked in-store Wi-Fi and mPOS-equipped sales associates to a 3.2% increase in in-store sales [10]. It is assumed (though not yet quantified in normal studies) that mPOS systems, via line busting, increase the quantity of sales processed in a given time frame. Over time, as mPOS deployments increase and supporting operations mature, studies are likely to show that mPOS systems used for line busting and other applications improve financial performance by multiple metrics, such as sales effectiveness.
- ***Increasing Operational Efficiency*** – mPOS generally, and line busting specifically, has the potential to improve operational efficiency, assuming proper employee training and supporting processes are in place. For example, to the latter point, clothing retailers should provide mPOS-outfitted associates with portable safety tag removal devices in order to complete a decentralized transaction. mPOS systems increase the tasks an associate can perform (e.g., from cashier-only tasks to sales, customer service, transactions, etc.). mPOS also enables associates to complete certain tasks more efficiently. For instance, line busting in a restaurant venue allows staff to reduce trips between customers' tables and a centralized POS system.

When properly implemented and effectively deployed, mPOS systems used for line busting and other applications enable businesses to achieve several key outcomes, including the following:

- Increase customer engagement anywhere in the store
- Increase customer satisfaction by decreasing wait times for checkout (e.g., line busting) and providing updated information (e.g., inventory)
- Improve the bottom line by increasing in-store sales and fostering customer loyalty (e.g., return visits)
- Enhance total value in business operations via more flexibility in associate roles/tasks, improved efficiency, and the ability to increase check-out capacity during peak times

Note to Consider:

When evaluating needs for a technology base upgrade, be sure to build on a platform that will be scalable over time. Focus on technology options available today, rather than relying on historical decisions.

Technology evolves quickly, and new hardware, software, and even business models are available on a regular basis. Also account for future-proofing to ensure the technology you integrate will still be relevant and useful down the road. Partnering with vendors and value-added resellers that provide recommendations customized to your business's specific needs direction rather than one-size-fits-all solutions, can be beneficial and crucial to your long term ROI.

Part 3

How to Evaluate mPOS Systems for Use in Line-Busting Applications

In evaluating potential mPOS systems to use in line-busting applications, businesses should consider several factors, including the following:

- ***Strategic Planning*** – Identify how line busting fits as a single tool within the overall mobile transaction toolbox. What are the best applications of line busting, and under what circumstances are other methods more beneficial? Just as mPOS is not a single mobile transaction solution, line busting is not the only mPOS application, but it can be a highly effective solution in some situations. Retail, restaurant, hospitality, and consumer services will have different use cases. Develop a plan for how to adapt line busting as processes

Lessons Learned in a Recent mPOS Deployment

Techquidation is an mPOS reseller that works with end users of mobile retail technology, offering services from systems integration to circuit board repair. The company recently helped a retail end user deploy over 1,000 mobile printers. Based on the experience, the company shared lessons learned for retailers and resellers to consider in planning and deploying mPOS systems.

Connection is key – The stability and reliability of the wireless connection is critical. Connection is affected by both the quality of in-store Wi-Fi/Bluetooth coverage and the mPOS's wireless features.

Battery life matters – The duration of charge and the intensiveness of device processing affect battery life. Consider both in evaluating products.

Support means stability – Ongoing support, from initial integration and deployment to daily use, translates into stable operations. Service quality and dependable support matter.

Find a partner, not a vendor – Developing a multi-year plan and then seeking a long-term partner is the best way to derive full value from mPOS (and supporting) systems.

Consider total cost of ownership – Deployment, ease of use, compatibility, scalability, maintenance, training, and support all factor into total cost of ownership. Planning long term to minimize the need to switch out technologies also impacts total cost of ownership.

evolve and technologies are updated. Also consider how line busting should be implemented to align with the overall brand experience. Line busting should occur in a way that never interferes with or contradicts a brand's primary promise to customers.

- ***Operations*** – Process and training are key to effective mPOS deployments and line-busting applications. Technology cannot replace or correct poorly designed processes. For instance, in a line-busting application, sales associates must be able to complete the transaction wherever the customer is, including the removal of security tags, bagging of merchandise, receipt printing, etc. Airlines should be able to check and tag baggage without a centralized kiosk. If customers must wait in line to visit a centralized POS system for any reason, then it defeats the purpose of line busting. In addition, associates must be properly trained to use mPOS systems to provide a seamless line-busting experience. Here, the hardware and software selected can significantly help the process. (See hardware and software considerations below.)
- ***Existing Technology Infrastructure*** – Reliable, storewide Wi-Fi or Bluetooth is required to deploy mPOS for line busting. "Dead spots" in wireless coverage limit mPOS systems' use in line-busting applications, including the outside dining areas of restaurants. One of retailers' biggest concerns about mPOS is how to integrate it into existing technology infrastructure, without interfering with legacy systems. Using middleware, many legacy POS systems do not prohibit implementation of add-on mPOS systems. However, retailers should consider the hardware's form factor, user interface, processing speed, and memory size, as these affect the device's performance as both a standalone tool for line busting and a node in the broader enterprise infrastructure.

In addition to hardware, supported operating systems (e.g., Android, iOS, Windows, etc.) should also be considered. In addition, software should be evaluated in terms of what the mPOS system needs to do, and what types of interfaces between other software programs may be required. It may be possible to use existing or off-the-shelf software in new mPOS systems in a line-busting application. In some instances, however, software custom designed to the environment, processes, and use cases may be optimal. Software features such as user interface design and the on-screen process to complete a transaction affect other factors, such as the level of associate training required and general ease of use. Last, but not least, ensure the proper network, device, and data security measures are in place. (See more on security below.)

In addition to the broader business and technological considerations outlined above, the mPOS systems' specific features to enable line-busting application should be evaluated. Some important factors are presented in Table 1.

Table 1. Factors for Evaluating mPOS Systems

Factor	Description
Ease of Use	***Deployment*** – Initial deployment is usually the most challenging period in adopting any new technology. However, all mPOS systems are not created equal. Some arrive essentially ready to use out of the box, with only minor set up required (e.g., connecting the device to the wireless network, installing drivers, etc.). The complexity of set up, which entails factors such as out-of-the-box compatibility and ease of configuration, should be weighed as a financial, as well as operational and technological, consideration. ***Day-to-day use*** – In comparing systems, evaluate the ease of daily use. The enterprise's supporting operational processes, associate training, and software all affect ease of use. ***Ongoing support*** – From training and troubleshooting to help with systems integration, if required, the quality of product support provided by the mPOS vendor affects its overall ease of use during both initial deployment and daily use. Preferred, more established vendors usually add significant value in ongoing support.
Durability	mPOS systems should be able to withstand bumps, thumps, drops, lobs, spills, and all manner of physical abuse that can occur in daily use.
Size	Smaller, lighter devices can be helpful – given the screen is large enough to be readable and the requisite durability/ruggedness factors are satisfied.
Battery Life	A mobile system is usefully mobile only as long as its battery remains charged. Make sure the device has enough battery life to serve its intended uses and time frames.
Connectivity	A primary benefit of mPOS systems is connectivity, meaning the ability to print transaction receipts for customers wherever they are in the store.
Security	***System*** – The mPOS system itself should comply with all Payment Card Industry Data Security Standard (PCI DSS) requirements. How to fully comply with PCI DSS is beyond the scope of this paper, but readers are advised to seek professional consulting from a security expert on this matter. ***Network*** – Organizations should ensure proper network security is in place. This includes securing the in-store wireless network with proper encryption and authentication. In addition, the mPOS system must support transmitting encrypted data over the store's network between the device and other nodes (servers, systems, applications, databases, etc.). ***Data*** – Sensitive data, such as credit card numbers, should be encrypted wherever the data are, whether on the device, in transit over the in-store (or enterprise) network, or stored in servers, applications, databases, etc.

Part 4

Conclusion

Consumer expectations and advancing technologies point to the necessity of a mobile transaction services strategy. Much like cloud computing, there has been hype around mobile transaction for years, but data trends now suggest that this is an inevitable reality. Businesses who formulate mobile retail strategies and effectively implement them are most likely to remain competitive in today's consumer markets.

mPOS systems are one important aspect of broader mobile transaction. Through applications such as line busting, mPOS systems help businesses close the technological gap between themselves and their customers, enhance in-store experience to satisfy heightened customer expectations, and remain competitive.

mPOS technologies have matured to become easier to implement and use in business operations. One mPOS component to consider is Epson's Mobilink. This printer product line offers choice, fl xibility, and scalability to businesses — regardless of the size, operational structure, or stage of implementing mobile retail services. Mobilink enhances mobile transaction strategy in the following ways:

- Lightweight, durable printers provide reliable wireless connections, sufficient battery life, and the fastest receipt printing.
- Ease of use includes flexible configuration and out-of-the-box compatibility with a range of supporting technologies. The system features easy integration with and interfacing to existing technology infrastructure, including wireless networks, legacy POS systems, and supporting software and services.
- Scalability and accommodation of newer technology of the solution satisfies smaller and larger operations, as well as phased, multi-year rollouts.

To learn more about mPOS systems and the Epson Mobilink™ product line specifically, visit Epson online at http://pos.epson.com/mobilink/ .

About

Seiko Epson Corporation is a global imaging and innovation leader that is dedicated to exceeding the vision of customers worldwide through its compact, energy-saving, high-precision technologies, with a product lineup ranging from printers and 3LCD projectors for business and the home, to electronic and crystal devices. Led by the Japan-based Seiko Epson Corporation, the Epson Group comprises over 70,000 employees in 108 companies around the world, and is proud of its ongoing contributions to the global environment and the communities in which it operates.

References

1. Google (2014). Consumer Barometer. [Electronic Resource] Consumer Barometer. com. Retrieved on April 2, 2015 from https://www.consumerbarometer.com/en/insights/?countryCode=US

2. Soltes, Fiona (October 2012). Beyond Line Busting. [Electronic Resource] National Retail Federation. Retrieved on April 2, 2015 from https://nrf.com/news/mobile/beyond-line-busting

3. Solomon, Scott (December 2013). Mobile Point of Sale: Are You Buying into the Hype? [Electronic Resource] Airwatch Blog. Retrieved on April 2, 2015 from http://blogs.air-watch.com/2013/12/mobile-point-sale-buying-hype/#.VR2c0PnF-hI

4. Silverman, Adam (September 2013). Market Overview: Mobile Point of Service Solutions for Retail. [Electronic Resource] Forrester Research. Retrieved on April 2, 2015 from https://www.crossview.com/wp-content/uploads/2014/01/Forrester_Highlights_CrossView_Mobile_POS.pdf

5. Buzek, Greg (June 2013). Mobile POS: Hype to Reality. [Electronic Resource] IHL Group. <http://www.ihlservices.com/news/analyst-corner/2013/06/ihl-group-dissects-mobile-pos/>

6. Retail Information Systems (2015). "Unleash the Power of Mobile POS to Increase In-Store Sales." Webinar held on Wednesday, February 25, 2015. Retrieved on March 23, 2015 from http://risnews.edgl.com/User-Registration/ViewOnDemand.aspx?id=1054728&eventname=Unleash+the+Power+of+Mobile+POS+to+Increase+In-Store+Sales&SiteID=2&ubctid=6&link=http%3a%2f%2frisnews.edgl.com%2fweb-events&displayinpopup=1&documentID=97881&SnEA=brad%40hoffmanma com.com&SnPW=20147

7. Buzak, Greg, Jerry Sheldon, and Lee Holman (June 2014). Mobile POS: Reaching Escape Velocity -- All Systems Go. [Electronic Resource] IHL Services. Retrieved on April 2, 2015 from http://www.ihlservices.com/product/mobile-pos-reaching-escape-velocity-all-systems-go/

8. Weisenthal, Joe (September 2012). Urban Outfit ers Says It Will Never Buy Another Register Again -- All Sales Will Be Done on iPods and iPads. [Electronic Resource] Business Insider. Retrieved on April 3, 2015 from http://www.businessinsider.com/urban-outfitters-replaces-all-cash-registers-with-ipads-2012-9#ixzz27j2fDNEq

9. Rosenblum, Paula, and Steve Rowan (January 2015). Mobile Retail Finds New Purpose: Benchmark Report 2015. [Electronic Resource] Retail Systems Research. Retrieved on April 2, 2015 from http://rsrresearch.com/wp-content/uploads/2015/01/2015MobileRSR.pdf

10. Retail Information Systems (2015). "Rebooting the Store for Omnichannel Shoppers." Webinar held on Wednesday, January 28, 2015. Retrieved on March 23, 2015 from http://risnews.edgl.com/User-Registration/ViewOnDemand.

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