Starbucks Canada: The Mobile Payments Decision

Teaching Case

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Abstract

This case, written on the basis of published sources, concerns the decision facing management of Starbucks Canada about how to implement mobile payments. While Starbucks has currently been using a mobile app to accept payments through their proprietary Starbucks card, rival Tim Hortons has recently introduced a more advanced mobile payments solution and the company now has to consider its next moves. The case reviews various aspects of mobile payments technology and platforms that must be understood to make a decision about the best direction for Starbucks Canada.

Keywords: Mobile Commerce, Teaching Case, IT Business Value

Introduction

It was December 12th, 2013, and the front page of The Globe and Mail declared that Tim Hortons, Canada's largest coffee chain (Euromonitor, 2013), had just launched a mobile payments service, allowing Canadians to pay for their double-double with a smartphone using either a barcode or tap-to-pay technology. For Starbucks Canada's management team, this was not good news. It meant that Tim Hortons had now surpassed Starbucks, who had launched their digital barcode technology back in 2011.

Starbucks Canada had iPhone and Android applications (apps) that allowed users to find nearby stores, save their favourite drinks, and pay with their Starbucks Cards. Starbucks Cards were physical cards that, once registered by the user, earned rewards on every purchase. The apps allowed customers to preload

1 Contact author for inquiries and the teaching note.
2 A double-double was a popular Canadian term used to describe a coffee with two teaspoons of sugar and two creams.
3 For example, users could receive free drinks on their birthday, or discounts on pastries and drinks during promotional periods.
currency onto the reloadable card for quick and easy payments in a Starbucks store. In essence, it worked like a gift card, deducting a transaction amount from a customer’s Starbucks Card balance with each purchase. Starbucks currently did not accept mobile payments that charged a customer’s credit or debit card, which was the ultimate step in mobile payments.

Approximately 10% of Starbucks’ customers chose to use the current mobile payments solution. Starbucks management knew the company would eventually need to take the next step in mobile payments, but was less certain what form the next evolution should take, and when exactly it was needed. They recalled all too well the challenges that Starbucks U.S. had experienced during their rollout, and didn’t want the same thing to happen in Canada. And the landscape for mobile payments was complicated. It would be important to review all the options before making a decision.

**Starbucks Corporation**

In 1971, three friends from the University of San Francisco founded Starbucks café in Pike Place, Seattle with a goal of selling a high-quality coffee using a new roasting technique. Howard Schultz, a former employee, purchased Starbucks in 1987 and began its rapid national and international expansion, creating the Starbucks known today.

In 1987, Starbucks Canada was born, as the Seattle-born coffee maker opened its first international location in Vancouver’s Seabus Skytrain Station. Continued growth after a nationwide Canadian expansion led to the 2001 incorporation of Starbucks Coffee Canada, a wholly owned subsidiary of the U.S. coffee company.

As a result, Starbucks Coffee Canada gained autonomy from its U.S. parent, allowing the company to make decisions that fit best with the coffee culture in Canada. The Canadian subsidiary was responsible for decision making in a number of key areas, including Channel Development, Marketing and Store Development & Design. This included responsibility for the Canadian development of programs such as Starbucks Card, CRM, ecommerce and mobile. There were 1,350 Starbucks locations in Canada in December of 2013 (Shaw, 2013).

Starbucks had wanted to be known as a “Third Place” between work and home; a place for conversation, a sense of community, where people could relax comfortably for hours at a time. Schultz wanted Starbucks to be an experience based upon human connection, and brought this vision to life through various store elements. Starbucks encouraged the customization of drinks, and usually wrote customers’ names on their cups to identify them; making the experience feel more personalized. Starbucks believed that by offering a great consumer-centric experience, customers would spread the word and foot traffic would grow (Dollinger 2008).

Some customers, however, had reported that the “Third Place” element had been slowly fading in recent years, as Starbucks become less suitable for long visits. Some stores were renovated to include smaller tables, louder music, and select locations even covered their power outlets to restrict prolonged laptop use (Matyszczyk 2011). Some felt that these changes were moving Starbucks away from what it had originally stood for.

**The Coffee Landscape in Canada**

The Canadian coffee landscape was characterized by intense competition between a few powerhouse brands, most of which sold more than just coffee. The leading retailer was Tim Hortons, with 18.4% of the market, followed by McDonald’s with a 10.0% share. Starbucks trailed with just 2.6% of the market (Euromonitor 2013). Nonetheless, Starbucks held a very stable position with high prices translating to some of the highest margins in the industry. With coffee bean prices doubling in the past 4 months, Starbucks’ high margins would be able to protect them against significant losses.

While Tim Hortons and McDonald’s competed on price and speed of service, Starbucks took a different approach. Starbucks offered customers value through their coffee shop’s atmosphere, personable service and customizable drinks. Starbucks catered to customers who valued a high-quality product and experience above all.
Mobile Payments

The term ‘mobile payments’ refers to utilising a mobile device in order to purchase goods or services from a vendor. This should not be confused with the term “mobile banking” which relates to an online banking transaction using a mobile device. Mobile payment solutions for Consumer to Business (C2B) can be characterized by three main types of solution (solutions will be discussed in more detail later):

- **Standalone** – Retailers set up their own infrastructure, building a communication between a POS application and consumer facing mobile application. Often they will use store gift cards as a mechanism to store funds in the mobile app.

- **Banks** – Retailers accept payments by debiting funds directly from their customers’ debit or credit cards. The retailer would use a regular POS terminal supplied by a transaction processor, allowing the banking system to process the transactions as with a typical card payment. The consumer would simply set their phone up to store their credit card on the device, using their bank’s application such as the CIBC Mobile Payments solution.

- **Third-party** – New payment solutions facilitating the interaction between consumers and retailers without using banks as intermediaries were being created by companies such as Square (https://squareup.com/) and mobile service provider Rogers Communications (http://www.rogers.com/web/content/suretap?setLanguage=en). The retailer would be required to set-up their POS systems to be compatible with a third-party solution and consumers would need to have install the 3rd party application.

Creating a Mobile Payment Network

Mobile payments platforms were one of the most complex platforms to build due to the high interdependency of stakeholders involved, including banks, users, merchants, card issuers, and mobile network operators. Since the early 2000’s (and even earlier!), many mobile payment platforms had failed, while some had flourished. A key success factor of payment platforms was to reach a critical mass of users over a relatively short period of time. The challenge, however, was that payment platforms needed to get both sides of users on-board in order to succeed, a ‘chicken and egg’ type problem. In order for merchants to join, there needed to be a large user base, and in order for users to join, there needed to be a large merchant base (Caillaud & Jullien 2003). If the platform failed to reach a critical mass of users, it ultimately failed.

NTT DoCoMo, a Japanese network provider, created a payments network in the early 2000’s that was widely touted as successful and heralded the start of modern mobile payments platforms. In 2005, DoCoMo opened their platform to enable any firm, even competitors, to leverage their technology and build compatible payment systems. But over a decade after the creation of NTT DoCoMo’s payment network and the demonstration of the effectiveness of the process, mobile payments had yet to gain mass-market adoption throughout the world (Emarketer 2013), in part due to the difficulty in agreeing on standards for infrastructure and architecture to assure compatibility with each provider’s internal systems.

Academic research has cited a failure in negotiations between major players in telecommunications and financial services industries for the slow rollout of mobile payments offering (Ozcan & Santos 2014). The companies within telecommunications and financial services owned the customer relationships, which led to crippling debates around who would own the mobile payment experience. Financial services firms believed they should own the transaction process and use the carrier’s network. However, carriers have felt as if they should own the payments process and provide banks with a revenue share for using their infrastructure. But for mobile payments to succeed, financial services and telecommunications companies needed to cooperate. Consequently, the lack of progress pushed individual firms to solve the mobile payments problem on their own, without the direct involvement of telecommunications or financial services.

Another factor that seemed to influence platform success was the degree of openness in the platform. Failure to create an open infrastructure led to the downfall of Moneta, a joint-venture of SK Telecom and Visa in South Korea. Despite these companies having close to 50% market share each, there was
insufficient incentive for merchants to adopt their proprietary technology given that it was inaccessible to other carriers and other payment service providers. The flip side of this was that although open networks brought a greater total market size potential, the increased openness also brought an increased lack of control over standards, features, and product evolution. Starbucks management thus needed to think about each of the mobile payment platforms available, and which were most likely to succeed in Canada.

**Mobile Payments at Canadian Quick Serve Restaurants**

*Starbucks*

Starbucks became one of the first quick serve restaurants (QSR) to accept mobile payments when the company launched the Starbucks app for iOS in January 2011 (Souppouris 2012). Rather than relying on more modern mobile payment technologies, the app simply replicated the barcode found on the back of a regular plastic Starbucks Card. Some writers had criticisms of the method, with Darrell Etherington from TechCrunch saying the system “defies what many thought about mobile payments in the early days.” Despite this, in July 2013, over 10% of in store purchases at Starbucks were made on customers’ mobile devices using the Starbucks app (Etherington 2013).

*Tim Hortons*

Canada’s largest coffee retailer, Tim Hortons, had made recent strides to catch up to Starbucks with their mobile payment technologies. The first ever mobile credit card payment was made at Tim Hortons in partnership with CIBC and BlackBerry in November 2012 (Tim Hortons 2012). Since that time, the company had adapted its approach to accepting different forms of payment.

In December 2013, Tim Hortons launched the “Quickpay Tim Card” feature through their TimmyMe app available on iOS, Android, and BlackBerry 10 smartphones. Similar to Starbucks, this included a barcode payment program through the application using a registered Tim Card. However, unlike Starbucks, the Tim Hortons application allowed users with a BlackBerry smartphone to simply tap on the payment terminals to make a purchase by simply tapping their device to a standard payment terminal, a technology called Near Field Communication (NFC), making the experience even faster and more seamless (Exhibit 1). This in-app functionality was said to be coming soon to Android devices.

*Other QSRs*

While Starbucks and Tim Hortons created their own solutions to allow mobile payments that worked with their proprietary store cards, other retails were waiting for banks and payment processing terminal manufacturers to create the solution. Many payment terminals used in the industry supported ‘tap-to-pay’ functionality, which allowed credit and debit cards to be quickly tapped onto the terminal to facilitate payment. This technology leveraged NFC, and was compatible with many popular credit and debit cards, such as those featuring Visa payWave, MasterCard Pay Pass, and Interac Flash. Many Canadian banks had released or announced plans to release a mobile wallet application that would allow customers to pay for goods and services through their mobile devices at any NFC-enabled payment terminals. This technology essentially mimicked the tap-to-pay functionality of many physical cards, but used a mobile phone instead of a card. Currently, this technology was limited to only one or two credit cards per bank, and worked only on a select few BlackBerry 10 and Android devices, despite over 100 smartphones supporting NFC (Wikipedia 2014).

This technology effectively let any retailer allow their customers to make mobile payments without the need for new hardware. Not many consumers were aware of this technology, and only a small fraction of smartphones were compatible. Many QSRs, including McDonald’s, Subway and Wendy’s, were accepting mobile payments in this way.

**Starbucks US Rollout Of Mobile Payments**

In August 2012, Starbucks announced that it had collaborated with Square, a start-up created in part by Jack Dorsey, the co-founder of Twitter. Founded in 2009, Square’s mission was to “make commerce easy for everyone”, and they accomplished this through various mobile applications, a free credit card reader
that fit in the headphone jack of a smartphone, and their own point-of-sale system. Square Wallet, their newest product, enabled individuals to pay at their favorite local businesses and store receipts using only a smartphone.

The Square-Starbucks partnership would allow Starbucks customers to show a 2D barcode on their mobile devices to a reader in Starbucks and have their credit card immediately charged, all using the Square Wallet app (Exhibit 2). Starbucks planned to utilize Square’s GPS functionality, which would automatically notify store baristas when a returning customer enters the store. The baristas would see the customer’s name and photo, and payment could be completed without the customer even taking the phone out of their pocket. In addition to rolling out the service to its 7,000 US stores, Starbucks also invested $25 million dollars in Square. Starbucks CEO Howard Schultz cited the deal as a strong step forward for Starbucks, but also as a “catalyst for Square to get access to tens of thousands of other small business and democratize payments” (Miller 2012).

Six months later, however, the story wasn’t as positive. Early reviews of the service claimed “Starbucks employees [seem] more confused about how Square works than their own customers,” and one Starbucks employee in Greenwich Village, New York explained, “Sometimes it works; sometimes it doesn’t work. And I have no idea why” (Carr 2013).

While certain stores seemed prepared for the rollout of Square, many others felt they were left in the dark. One employee frustratingly explained, “I had to figure it out myself. They didn’t even tell us they were going to do it. I came in one day, and they had put a new button on the screen. So we all had to just figure it out.” Ryan Records, VP of Payments at Starbucks, compared the Square roll-out experience to the original experience of Starbucks US when rolling out the first mobile payments solution (using the Starbucks card):

“[This] reminds me a lot of when we first launched mobile payments and spent the first few months figuring out how to fix everything,” says Ryan Records, Starbucks VP of payments. "We were solving one [problem] after another, and we probably had more misses than hits before we reached a tipping point. But then it became seamless, and it became flawless, and it really became an elegant way to pay.” (Carr 2013).

For many, this hope wasn’t enough since Starbucks Square payments were seeing failure rates as high as 57%. Many of Starbucks’ current barcode readers were only capable of scanning one-dimensional barcodes and not the two-dimensional codes that Square Wallet used (Exhibit 3). This resulted in scanner failures, which were the most publicly cited issue of the system. As a result, baristas were required to take hold of a customer’s phone and manually type in a 16-character barcode. Many baristas were unaware of how to manually enter a barcode into their system, often requiring the assistance of a manager, making the Square payment process often take longer than a regular transaction. Adam Brotman, Chief Digital Officer of Starbucks, traced the problem to scanner calibration and reassured customers that a fix had been implemented. But despite this, issues persisted, and Brotman explained that only company owned Starbucks stores supported Square, not individually licensed locations, which made up 30% of Starbucks stores.

Starbucks management wanted any Canadian implementation to be flawless, but knew that the potential for failure in IT projects was extremely high, and didn’t want a similar catastrophe in Canada. Looking at this experience, they wondered if it was a harbinger of problems, or whether they could learn from the failure in moving forward.

A New Strategy for Mobile Payments?

Starbucks management felt that Canadians were eager to pay for their next coffee with their smartphone. The number of smartphones in Canada had grown to 19.2 million in 2013, reaching 55% of the country’s population. Furthermore, 10% of consumers used their phone to pay bills and 6% currently used their smartphone to purchase products (Spellman 2014).

The first consideration for Starbucks Canada was deciding on a strategy for the mobile payment solutions by understanding the platforms that their customers were using. Google’s Android OS held the dominant position with 43% of the Canadian market, followed by iOS with 35%, BlackBerry with 19%, and Windows Phone with 2% (Hardy 2013a). Each operating system allowed for different capabilities and technologies
for mobile payments. For example, NFC functionality was only available in BlackBerry devices and select Android devices but not in Apple’s iPhones. Exhibit 4 shows a number of bestselling phones in 2013, and their included technologies.

At the same time, they needed to determine which mobile payment system would best integrate into Starbucks Canada locations across the country. They also wondered whether Starbucks needed to innovate on the payment side of the business at all, or if the digital Starbucks Card was sufficient. Some company executives thought that Canada could be a potential testing ground for a different mobile payments system that they could compare against the Square in the US.

Starbucks executives knew that there were multiple approaches they could take, including third party solutions (such as Square Wallet and Mintchip) they could adopt and standalone solutions they could develop (for example using Bluetooth Low Energy Beacons), and bank-based solutions using credit cards and NFC terminals. Research on the options had turned up the following information.

**Square Wallet**

While the rollout of Square didn’t go smoothly in the United States, it seemed to be an efficient way to pay once the issues were solved. Starbucks was considering Square for the Canadian rollout and felt that because Starbucks Canada had fewer locations, there might be less hiccups in the rollout. While not yet announced for Canada, Starbucks anticipated that auto check-in support would be coming soon. Like the U.S. feature, this would allow customers to keep their phones in their pockets while paying if the customer enabled the feature. This would also allow baristas to see the name and photo of customers as they entered the store (Wohlson 2012).

Square charged merchants a 2.75% fee to process transaction, and software updates were required for point-of-sale terminals to accept Square payments. As of December 2013, Square only supported traditional credit card swipe payments in Canada through their card reader accessory for Android and iOS devices (Exhibit 5). Square’s fully-fledged mobile payments system, called Square Wallet, was only available in the United States with no set timeline for a Canadian launch. This presented an interesting opportunity for Square and Starbucks to potentially launch Square Wallet in Canada. The Canadian management team wondered if Starbucks could negotiate better payment terms with Square if they were to be the first to adopt the technology in Canada.

A recent U.S. study by ComScore (2013) found that only 8% of Americans had heard of Square Wallet, and only 2% had ever used it. Starbucks wondered what adoption levels of the service would be in Canada, and what this would mean for their decision.

**MintChip**

MintChip was a new digital currency\(^4\) that was in development by the Canadian Mint, described as “an attempt to move cash into the digital age” (Mintchip 2012). MintChip had two core technical components: the creation of secure integrated circuit chips to hold an electronic value, and a secure protocol that allowed the transfer of value from one chip to another. MintChips could be stored on SD cards, USB sticks, or online in the cloud.

As of December 2013, MintChip was still in development by the Mint and was beginning to get some support in its ecosystem from developers. MintChip had hosted a developer challenge to convince programmers to build applications that use MintChip. Most of the applications that came from the challenge were digital wallets to hold and send MintChip. At the same time, only one POS manufacturer had integrated MintChip into its system. While still in its infancy, the government backed mobile payment solution promised the potential be accepted across Canada by being rolled-out to retailers through traditional payment technology.

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\(^4\) Digital currency was a form of currency or medium of exchange that was electronically created and stored. The most well-known digital currency in 2014 was Bitcoin.
Custom Solution Using Bluetooth Low Energy Beacons

Bluetooth Low Energy (BLE) Beacons were small, coin-sized devices that could detect smartphones within several feet (Exhibit 6). Merchants could use BLE to send customers targeted promotional messages or rewards based on past purchase behaviour, or allow meals to be delivered to a customer's table without the need for calling their name. For security reasons, BLE required a consumer to manually opt-in to the service upon first encounter, but would automatically detect a customer's presence thereafter. BLE would allow merchants to see an image and name of a customer when they walked into the store, and allow payment to be completed without even requiring the phone to be removed from a customer's pocket (Vlugt 2013).

Apple was a major supporter of BLE, and created their own standard for the technology called iBeacon, which was supported in all iOS 7 devices, including the iPhone and iPad. Major League Baseball had recently decided to implement iBeacon into stadiums across the U.S., and many Apple stores were utilizing it too – albeit for promotional messaging, rather than payment purposes (O'Grady 2013). One way the MLB was using iBeacon was to reward frequent purchasers of MLB tickets through the Official MLB app (Exhibit 7).

While BLE created a personalized checkout experience, the technology would have to be combined by Starbucks with a third-party mobile wallet or store application to store credit card data. The biggest third party payment application that currently supported BLE was PayPal, but Square Wallet was expected to roll out similar functionality in the near future.

For BLE to be integrated into Starbucks locations, beacons would need to be purchased at a cost of $35 each, and Starbucks' existing point-of-sale terminals would need to be reconfigured for compatibility with BLE beacons and mobile wallets. Management assumed that the in-house development team would be capable of updating the company's proprietary POS software to work with new BLE beacons and then integrate the hands-free payment functionality into the Starbucks mobile app. Therefore, the additional cost would come from updating individual store's POS systems and ensuring they worked with the application. Management estimated this would take a trained technician (costing $50/hour) 3-4 hours per store. Transaction fees would be slightly higher than traditional credit card processing, as BLE was classified as a 'card-not-present' scenario by major credit card companies. This meant that there was a higher risk of credit card fraud with BLE, and the fee was therefore upwards of 3% per transaction depending on the card (MasterCard 2014).

In addition to revamping the store POS systems, training baristas would require significant time and Starbucks Canada's management didn't want to see yet another failed roll-out. Starbucks knew this technology could make the checkout process more enjoyable for the customer, but wondered if it made financial sense.

Mobile Wallet / Credit Card NFC

Near Field Communication (NFC) was another option Starbucks was considering for mobile payments in Canada. NFC could be implemented either as an additional feature of the existing Starbucks Card application, or to accept mobile wallet payments as a part of existing payment terminals.

Starbucks could prepare their cafés to accept mobile payments from a variety of mobile wallets simply by updating their POS payment transaction receivers. Any existing POS system that already accepted contactless payment from any major credit card company would be capable of accepting NFC mobile payments without any change or configuration. The functionality would be embedded in the payment machine that faces the consumer on a sales counter.

For NFC to work, customers would first need to obtain an NFC-enabled SIM card from their wireless carrier for a cost of $15 (Hardy 2013b). Once obtained, customers would approach a store’s POS terminal and the clerk would enter in the purchase on the POS terminal as a normal credit card payment. The customer would then open their preferred mobile wallet application, select their desired credit card, and tap their phone on the machine. Mobile wallet applications included both bank developed solutions as well as third-party solutions such as the Rogers Suretap Wallet (http://www.rogers.com/web/content/suretap) that allowed customers to store and pay with a variety of payment cards.
New NFC-enabled terminals would be required for this option in each store, and they cost on average $150 each. Processing fees would be the same as traditional ‘card-present’ credit card rates at 2.5%. NFC terminals were thought to require less employee education, as there was less process change for baristas. However, management wondered whether the lack of NFC support from certain phone manufacturers would post risk to NFC adoption overall.

**Starbucks Card NFC**

A final option was to add NFC capability to the existing Starbucks Card application, as Tim Hortons had just done with their TimmyMe app. Adding NFC functionality to the existing Starbucks application would create an easier means for the customer to pay with their digital Starbucks card with a simple tap. This could be done without opening the app, allowing for a seamless payment interaction. The barista would only need to enter in the purchase on the POS terminal as a Starbucks card payment and allow the customer to tap their device on the reader. NFC could even be embedded into new physical Starbucks cards if they desired.

To implement this solution, Starbucks would need to update their Android application to support NFC payments via a Starbucks Card. Development was to be completed in-house, and NFC-readers would need to be purchased to connect to existing POS systems at approximately $50 each. There would be no processing fees for this option as the Starbucks Card was essentially a gift card.

**CONCLUSION**

With Tim Hortons having moved ahead in the mobile payments world, Starbucks management believed they needed to make a move to keep up, but management was unsure which system to go with, and how to roll it out. Could these technologies be used to allow for an enhanced store experience? And which payments service would be the Canadian leading going forward? The future of Starbucks and mobile payments was exciting, but the choices almost overwhelming. With a strategic planning session coming up, management knew that it was time to develop a comprehensive plan for the company.
Exhibit 1

Near Field Communications

Near Field Communication (NFC) technology worked by establishing a short-range wireless link using radio-frequency identification (RFID) technology between two devices (Carter 2013). NFC connections could transfer small amounts of data, such as a web address, email, or credit card number. The technology, found in many mobile devices and credit cards, worked only when two compatible devices came within a few centimeters from one another. NFC technology was extremely low power, and could sometimes function even after a smartphone battery had died (Chandrasekaran 2012).

There were mixed reviews of NFC in the mobile payments market, with some analysts praising its ease of use, while others argued it did not provide benefits over traditional payment methods. In 2013, RBC and CIBC, two major Canadian banks had announced support for NFC mobile payments, and almost 80 per cent of the smartphones in Canada were expected to be NFC-enabled by 2016 (Arellano 2012). However, some industry leaders were more critical.

Michael Gokturk, CEO of payments firm Payfirma explained,

> The problem in Canada is that 80 per cent of merchants are not enabled to accept NFC-based payments. Consumers have been very slow to adopt the technology as well. Many merchants had only recently spent money on updating their systems to accept ‘chip and PIN’ payments. Another upgrade to NFC could cost upwards of $1,000 per terminal. (Arellano 2012).

Payment Terminal with NFC Compatibility

Exhibit 2

Square and Starbucks


Exhibit 3

One-Dimensional vs. Two-Dimensional Barcodes

<table>
<thead>
<tr>
<th>Model</th>
<th>NFC</th>
<th>Bluetooth LE</th>
</tr>
</thead>
<tbody>
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<td>✓</td>
</tr>
<tr>
<td>HTC One</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Apple iPhone 5</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Samsung Galaxy S3</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>HTC One X+</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Motorola Droid RAZR HD</td>
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<td>✓</td>
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<tr>
<td>LG Optimus G</td>
<td>✓</td>
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</tbody>
</table>

Source: Taylor (2013)
Exhibit 5

Square Credit Card Reader

![Square Credit Card Reader](http://www.newluxuryfeed.com/wp-content/uploads/2013/11/Square_Card_Reader_Phone_Electronic_Device.jpg)

Exhibit 6

Example of BLE Beacons

![Example of BLE Beacons](http://www.newluxuryfeed.com/wp-content/uploads/2013/11/Square_Card_Reader_Phone_Electronic_Device.jpg)
EXHIBIT 7

MLB use of iBeacon (BLE)

(http://www.zdnet.com/ibeacons-coming-soon-to-a-baseball-stadium-near-you-7000021354/)
References


