



# How Mobility Impacts Payments



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## Introduction

If there exists a word more powerful than the products and services themselves, it is mobility. Mobility is inspiring technology and is bringing transformational changes in the way we transact in our physical and virtual worlds. Who envisaged in the past that one day payments will be made with just a tap of a mobile at POS terminals? Who believed that businesses could reach out to their exact target audience while they were shopping or looking for that particular offer?

It's the ability to connect, identify, locate, and personalize that characterizes mobility. The new era belongs to services where everything is connected and businesses can reach their customers without intruding on them, yet promoting themselves with an experience to remember.

One of the most impacted areas by mobility is payments. In this context, mobility has transcended its meaning from just 'being mobile' or just providing ease and convenience to the user. Today, mobility stands for experience and a two-way engagement. Mobility is an enabler to create a new payment experience for consumers. The consumer journey for transactions has evolved greatly since the advent of smartphones, internet, e-commerce and new technological inventions. Businesses need to make the shift as users have evolved.

Many new services are thriving on this basic premise provided by mobility in payments. Good examples are cab services like Uber and Lyft, retailers like Starbucks, device makers like Apple, integrating secure mobility payments options in their mobiles and watches. A retailer today can identify the interested users in proximity, connect with them for possible needs at hand or an offer (say someone walking past a coffee shop in the morning hours can be offered a discount or a free croissant with coffee) and get the payments done seamlessly in a single tap from the user's mobile.

While technology has been the enabler for mobility, mobility in itself has proved to be a catalyst for innovation. It's this innovation and extension of technology to diverse areas that has led to an unparalleled user experience. BLE<sup>1</sup> (Bluetooth Low Energy) is enabling merchants to provide relevant information and offers, right at the purchase decision moment. Even payments can be made using BLE.

Payments have seen a paradigm shift in consumer behaviour with rapidly evolving consumer needs and expectations. It is a shift from convenience to experience, led by mobility. This white paper outlines the impact of mobility on payments. It analyses new scenarios and major technical and business challenges that retailers will have to face in the future.

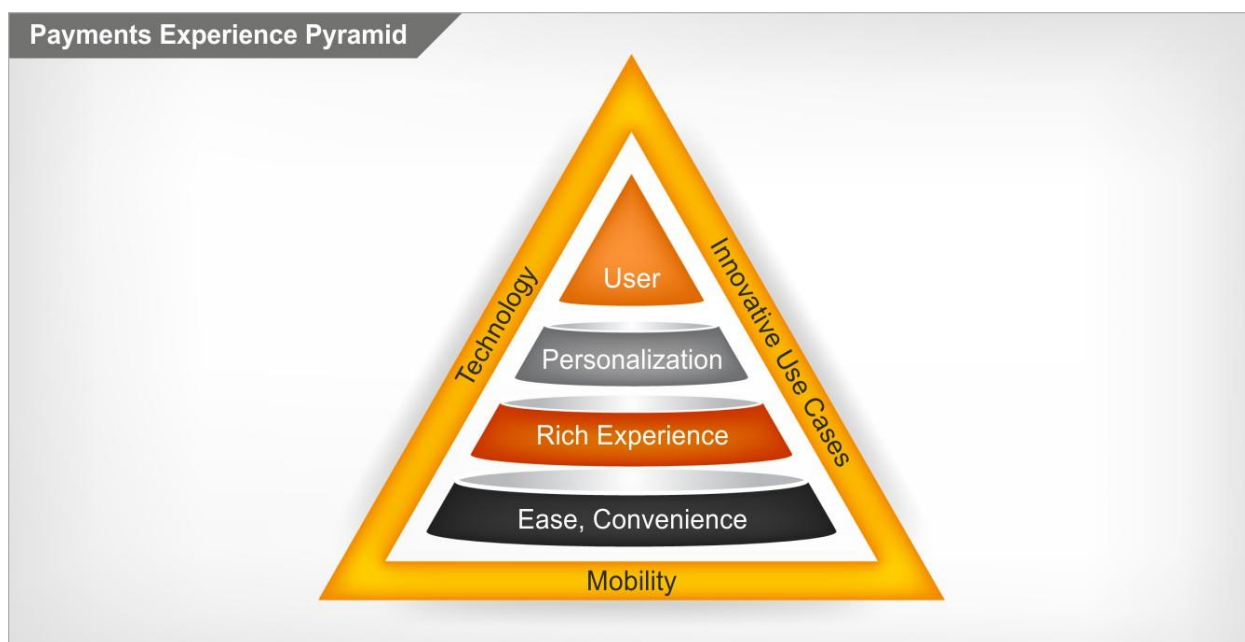
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<sup>1</sup> BLE is a low power consumption Bluetooth technology and users just need to keep their Bluetooth on to receive notifications.

## 📱 Mobility enabling payments

Mobility + Payments (Mobile payments) have the potential to transform a range of industries. Industries like retail, music, hospitality, and transport all stand to benefit from the incremental efficiencies that it unlocks. E-books would never have become popular if it was cumbersome to buy them. iTunes without the card-on-file feature might never have taken off. Similar transformational initiatives in transportation, hospitals, airports, resorts, and stadiums are already afoot.

Mobility adds another dimension to payments. As said before, it is transforming payments into an experience. The user is at the helm of the experience pyramid. Using mobile wallets in conjunction with apps is creating that experience for the user. Uber has already demonstrated the power of wallet usage from app with millions of its satisfied customers. Transportation has found a big use case with others joining the league.



Another example for new emerging services delivering rich payment experiences is Vicinity. Vicinity is designed to bridge the gap between online, physical, and mobile channels for customer checkouts. Vicinity recognizes when customers and their mobile phones are near a Vicinity-enabled online payment checkout system, such as a tablet or PC. Vicinity then presents itself as a payment option, prompting customers to insert their PIN and complete the purchase, with no log-in or guest check-out required. It can be used for retail POS and networked embedded hardware such as kiosks and parking pedestals.

The mobile payments experience has advanced from an ease and convenience stage to rich experience and personalization. Service providers should know today that to entice their customer, they need to first adopt technology and develop innovative use cases which can deliver a unique and personal experience to the user.

Payments is graduating from being a simple transactional activity at the end of a set of consumer events, to one that is a longer experience. Although it would seem that the industry is attempting to simplify the payment experience, but if left unchecked, the amount of technology surrounding payments is on a course to complicate things for both payer and payee. A payment transaction in the digital future will include automatically applied coupons, loyalty points, context-aware discounts, alternative payment methods, complicated logons, biometric, Near Field Communication (NFC), PIN authorization, real-time fraud detection, stored value, and virtual and real or loyalty point currency. Mobile strategies should be established to simplify the transaction and make it part of an overall customer experience.

Mobility has created many more chances to interact with the customer than just at the payment step. For example, loyalty points could be granted in-store, while the consumer is shopping. In a connected world, an enterprise has the potential to track location, tweets or even perhaps, how often a consumer uses their Internet-connected dishwasher. This turns any customer action into a potential reason to reward them for their loyalty. Loyalty points can be granted if someone presses +1 or Like, as in a social network, tweets, buys tickets on a mobile app or achieves a certain exercise level on an Internet-connected fitness device. Mobility has undoubtedly pushed payments into the customer's entire path-to-purchase journey.

### **Customer engagement & personalization: Looking beyond payments**

Relevance and personalization are becoming key in today's world of transactions. And this requires relationship building with automation, interaction with an individual's social graph, and real-time service transparency. Today, automated tools and socially-integrated apps & devices, report into customer behaviour. The collected statistics are used by personalization engines for retailers (or brands) to stay relevant to their customers. Among good personalization examples is how Amazon, YouTube, and Google recommend relevant information based on the customer's purchase/viewing/surfing history. Real-time transparency will be enabled through use of sensors and the Internet of Things. Many types of sensors can provide visibility to wait times, queue lengths, location, and status of goods, real-time offers — basically anything that a customer might care about. It's time that retailers should focus to invest in strategic parts of their customer processes with payments being one of them.

Personalization validation tools are being developed which can test mobile applications based on HCE, the cloud, eSE, UICC, mSD, NFC tags, smart watches, or any other form factor that an issuer would like to use to issue a payment product. With one click, the user can store, validate, retrieve, and examine all personalization data for EMV smart card applications such as chip, magnetic stripe, embossing data, asymmetric keys, and PIN.

Even ongoing customer engagements will be digitally built into certain products. The Internet of Things allows almost any physical product to be connected, extending digital services to the physical product. For example, connected home appliances create an almost perpetual chance to engage with the customer. Google is working on an Android version that would be built into cars, enabling drivers to use the Internet without the need to plug in smartphones, as is the case with its current Android Auto

software released in March 2015. It is possible that Android becomes the standard system for 'connected car' entertainment and navigation features like music and apps, if Google is successful. It would also give the company access to data that could be useful for advertisers, such as gas usage, speed, and location. Google has signed on several manufacturers for its Open Automotive Alliance and its Android Auto product, such as Nissan and Hyundai. Payments will be the next step with services coming into mainstream existence. Such kind of personalization is the keystone towards an intertwining experience with and beyond payments.

### Going hyperlocal: Location services and geofencing

Consider a scenario where a user gets an offer on a nearby McDonald's restaurant located in a mall in the vicinity, say while commuting or rushing to work. When the user is inside the mall enjoying his discounted burger and stops by a store admiring shoes in the display, he receives another offer for shoes (this time via BLE due to his selective interest in shoes). He checks out the offer, finds it interesting and makes the payment via an NFC terminal in the store.

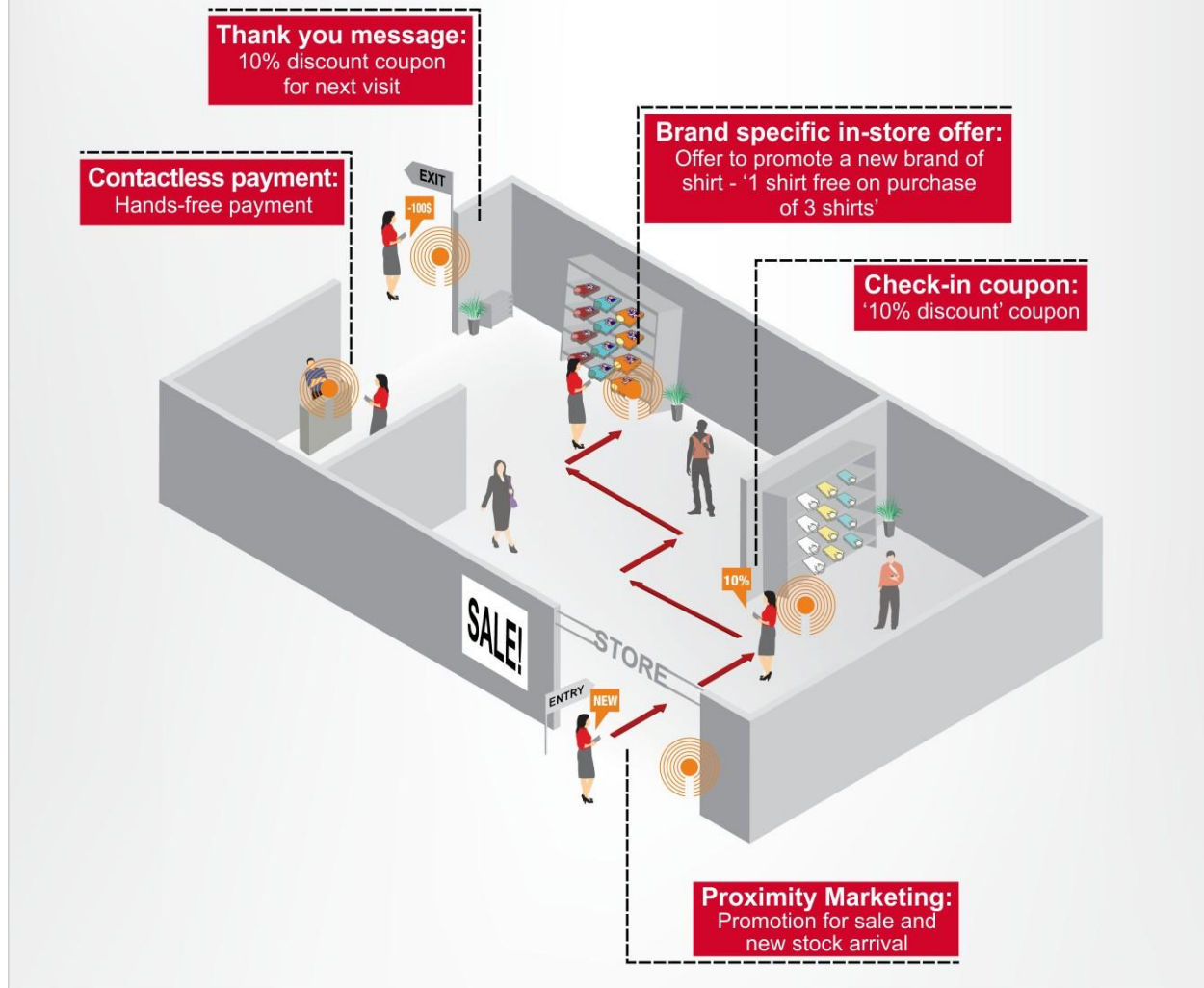
In the near future we will see geofencing (using GPS technology to put a virtual perimeter around a physical location) technology achieving a broad use, as vehicles for delivering location-based offers to smartphones, including mobile offers that draw consumers into brick-and-mortar locations or influence showroom behaviours.

### In-store experience

While consumers opt in to receive messages from the merchant on their smartphones, retailers realize that the offers must be relevant. Consumers are open to sharing their information and location as long as they get something in return of significant value. Retailers are moving away from bombarding consumers with offers to make sure they offer the ones with the right content. Technologies like beacons are proving to bring a better experience for the customers as well as the retailers.

McDonald's franchises in Columbus are integrating beacon technology to give customers a new and better dining experience. By utilizing beacon technology, which is supported by the latest iOS and Android platforms, the franchises can easily deliver coupon offers, timely alerts, employment opportunities, and customer surveys right as customers enter the establishments. Customers can also personalize the types of messages they receive, to help discover deals that are most relevant to them, while blocking out messages that are outside of their interests. Even employment inquiries and customer service issues are directed via automated text messaging to a responsible party who is able to respond before a customer leaves the restaurant.

## BLE enabled retail experience



Source: 'Whitepaper: Hyper-local Commerce via BLE' by Mahindra Comviva

### Technology and Innovation: Disruptors

There is no doubt that the future of payments is led by mobility. The rapid pace of smartphone adoption, technology awareness, pressing needs for faster payments, and faster checkouts, focus on consumer experience, converging mediums and technological advancements are paving a concrete path for payments to go mobile.

Mobile payments, for example, will not only bring convenient one-step payments at merchant checkouts, but customers who opt in may begin to see special offers pushed to their smartphones as they near a favourite store, enticing them to stop by. This will lead to better consumption of offers and increased business for a merchant.



While payments from mobile are on the rise, all major disruptors have failed as of now to bring about the ecosystem of mobile payments and make it mainstream. Google Wallet, PayPal, CurrentC (MCX), and Apple Pay have succeeded in getting some big retailers with them but brick-and-mortar stores are yet to see mass scale adoption.

In the US market, wallets based on secure elements, touch ID and Host Card Emulation (HCE) are likely to push mobile payments adoption. All these technologies, devices, and ecosystem creators seem to have a huge potential in the coming years to give payments a smooth and seamless ride upon mobility.

NFC-based payments has been around on selected Android and iOS devices for a while, and has shown significant adoption in some emerging markets, such as China and developed markets like the US. But with players like Apple getting on the NFC wagon, mass adaptation of NFC mobile payment in the near future seems quite visible. In fact, NFC mobile payments are projected to reach US\$100 billion in 2016. The technology will witness sharper uptake from 2016 onwards and will cross US\$300 billion mark in 2018<sup>2</sup>. So it's time to either get on board, or get left behind.

<sup>2</sup><http://www.businesswire.com/news/home/20150415006297/en/Research-Markets-Vertical-Horizontal-Worlds-Mobile-2015>

**“Internet” of payments**

By the end of 2015 in the US, some of the largest merchants will have NFC terminals. Higher proliferation among merchant enablement has been achieved with the launch of devices like mobile POS and state-of-art smart POS terminals with in-built cashiering systems. This is going to form the foundation of the “Internet” of payments; a network of hardware that will be on payment card devices of most retailers. This “Internet” of payments is going to be the rich and fertile ground for innovation and expansion<sup>3</sup>.

<sup>3</sup><http://letstalkpayments.com/network-effect-nfc-new-internet-payments/>



## Future technologies

Looking further into the future, one can imagine engagement of consumers with physical stores and products on a whole different level. Products in stores could interact with shoppers and reveal their lifecycle. Mobility-based future technologies like smart wearables, connected devices, smart homes and, augmented reality will disrupt payments and commerce segments in an interesting way. Telco players like Singtel, NTT, and Docomo have already started some of the projects based on augmented reality but there is a long way to go. Connected cars is another concept in this regard where different systems are connected as 'Internet of Things' and payments like toll taxes and parking payments are integrated with a central mobility system. Such systems are sure to take the user experience to another level.

Recently, it was revealed that MasterCard and the Royal Bank of Canada had engaged in a pilot program involving a wristband called Nymi. Built by a Canadian firm called Bionym, the Nymi (pictured below) uses the unique electrocardiogram (ECG) wave, or heart rhythm, of the person wearing it as a form of identification. The device currently sells for US \$79, and is designed to let outside developers come up with their own applications for the technology. The company claims that “frictionless authentication” would allow the wearer to do things more easily that normally requires a PIN or identity card, such as opening a locked door or making a mobile payment.



Source: [www.nymi.com](http://www.nymi.com)

## Strategy in the mobility environment

Retailers should use mobility to their competitive advantage

### Uber Case Study<sup>4</sup>

With technological leaps that Uber has taken on, an industry that remained fairly unchanged for the past half century, the most amazing part of the Uber experience, at least to our industry, is the transaction. Unlike the traditional cab service, Uber takes the awkward moment of payment out of the equation. The ride still runs on a meter that is displayed on your receipt, you still have to pay, but the payment method is settled prior to the ride occurring. At the moment, you drop your pin and request your pick up, and select which payment method you are going to use. The payment happens "on the app," so when you reach your destination, you simply wish the driver a good day (or night) and you are on your way. That's it, you literally unbuckle, open the door, and leave. There is no haggling over the meter running or not running, there is no awkward "my card reader isn't working" or even worse "cash only"; the transaction experience has been simplified to a point of near complete perfection.

### Starbucks Case Study<sup>5</sup>

Starbucks is using mobility to "break new ground" and offers a whole new mobile experience. Its application provides transaction visibility, knowledge of preferences, easy-to-use, and clear instructions. The coffee chain dangles perks and reduced waiting times in line to prompt customers to use its mobile app for store purchases. Starbucks is using a closed-loop payment loyalty program to prepare customers for the eventual introduction of NFC technology. Starbucks is using a program with a 2D bar-code payment method. This voluntary program invites customers to download a Starbucks mobile app to their smartphone and set up the app with their current Starbucks card number. The user funds this soft card with a credit card transaction directly on the mobile site. Upon purchase, the smartphone displays a bar code connected to the loyalty account. The barista scans this at the POS, payment is deducted, and loyalty points are added. With a certain number of visits, the customer gains access to program benefits. The key to success of this program is the user reward. Retailers must be prepared to offer something of value to their customer in exchange for their effort in setting up the program. Currently, Starbucks processes more than six million mobile pay transactions per week in the U.S., with mobile pay accounting for 16% of total transactions. Starbucks' mobile payments has seen accelerated growth with the volume leaping to \$517 Mn from \$302 Mn last year.

**Target** also does an effective job of making shopping more convenient by showing personal choices, store hours, shopping reminders, and in-store product availability.

<sup>4</sup> <http://www.aciworldwide.com/what-we-know/expert-view/2014/12/8/uber-and-lessons-for-the-mobile-wallet.aspx>

<sup>5</sup> [https://www.cisco.com/web/about/ac79/docs/retail/Retail-Mobility-PoV\\_011312FINAL.pdf](https://www.cisco.com/web/about/ac79/docs/retail/Retail-Mobility-PoV_011312FINAL.pdf)



Source: 'Infographic: How will Android pay look like?' by Sequent <http://www.sequent.com/what-will-android-pay-look-like/>

Looking at these examples and current state of mobile payments, strategy for retailers and merchants should be threefold.

1. **Developing mobile wallet payments acceptance capability:** Retailers should get ready for wallet acceptance at their POS and deploy the most promising technologies like NFC. Retailers should preferably have their own wallet mechanism in place like Starbucks. White-label solution providers like Mahindra Comviva are already working in this direction. This is suggested because a majority of smartphones today are Android-based. With this open ecosystem, it is predicted that there won't be a single wallet. Alternatively, retailers can opt to join wallet acceptance networks like CurrentC, Google, PayPal, or recently launched Apple Pay. But bigger retailers should look for developing and accepting payments through their own app for offline as well as online purchases. Having your own app increases the possibilities manifold with further integration for offers, promotions, and proximity marketing.
2. **Proximity Marketing:** Proximity marketing can bring radical transformation to the shopping environment. Implementing only beacons or NFC tags won't help. Also, guiding a shopper to the aisle will not help. Retailers need to implement product sets which can address customer pain points and play a major role in path-to-purchase and eventually payments. Proximity marketing companies like Mahindra Comviva have already built solutions that initiate customer interaction as soon as the person enters the store, send contextual campaigns, help the customer to redeem their coupons through their smartphones, and have the ability to complete the transaction. Retailers implementing such solutions ought to succeed in days to come.

Recent study by Knowledgefaber shows that the Mobile Proximity Market is close to \$3 Billion and m-commerce sales are \$42-52 Billion in the U.S. Analysts feel both m-commerce sales and mobile proximity marketing will grow exponentially by 2017.

3. **Developing an innovative use case:** As suggested earlier, retailers across different industries need to find innovative and unique use cases that address a real pain point for the user. Mobility and seamless payments can form the underlying backbone for the experience, but identifying a brilliant use case can help leverage the power of mobile payments to the maximum. Retailers can look forward to adopting futuristic technologies and a brilliant use case will be the first step.

## Conclusion

Mobility has proved to be a crucial enabler for newer ways of payments and will be the change carrier in the future. Payments enabled by mobility are set to become an experience of its own. Businesses and retailers need to relook at their strategy to accommodate mobility at the top of their agenda. While it is going to change the way we transact, mobility is going to have a deeper impact upon user experience and thus the entire consumer behaviour.

## About Mahindra Comviva

Mahindra Comviva is the global leader in providing mobility solutions. It is a subsidiary of Tech Mahindra and a part of the USD 16.7 billion Mahindra Group. With an extensive portfolio spanning mobile finance, content, infotainment, messaging and mobile data solutions, Mahindra Comviva enables service providers to enhance customer experience, rationalize costs and accelerate revenue growth. Its mobility solutions are deployed by 130 mobile service providers and financial institutions in 90 plus countries, transforming the lives of over a billion people across the world. For more information, please visit: [www.mahindracomviva.com](http://www.mahindracomviva.com)

