

# FREEDOM.PAY

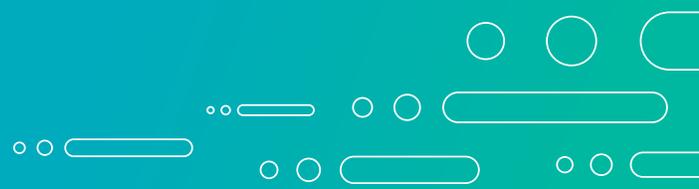
## White Paper Transforming Payments from a Transaction Business to an Information Business

A White Paper on Consumer Payments  
Innovation by Microsoft and FreedomPay

Foreword by Consult Hyperion

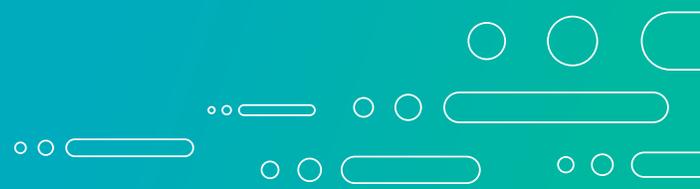
September 2013





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## Foreword

### What is happening with Consumer Payments?

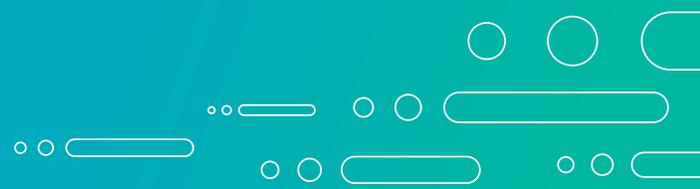
Consumer payments are core to enabling commerce whether it is conducted in a bricks and mortar environment or via an online channel such as an internet browser or mobile app. If you can't pay for something, then you can't buy it.

The majority of online payments still involve entering a credit or debit card number into web sites, which is bad for both consumers and retailers. Firstly, the user experience is poor, especially in mobile channels, leading to lower conversion rates. Secondly, card-not-present transactions (CNP) are susceptible to fraud, leading to unnecessary retailer costs and creating uncertainty for consumers. To address these issues the incumbent card schemes are developing cloud wallet services, not dissimilar from PayPal, which will aim to address both the usability and security issues with CNP transactions. In addition, there are many disruptors who are attempting to take a slice of the action including mobile operators seeking to move up the food chain and retailers wanting to undercut expensive payment transaction fees.

Payments transactions at point of sale are also undergoing a revolution. Contactless technology provides a near frictionless consumer experience for low cost transactions, which is critical in some environments (e.g. transit). Delivering payments via mobile provides new ways to engage with consumers. The innovation in this area is unparalleled. Provisioning payments cards into mobile handsets for NFC payments is only the start. Because the mobile is a connected device, there is a convergence of the card-not-present (online) and card-present (offline) models. Cloud-based wallets can be made available to the consumer via his or her mobile device at the point of sale, turning card-not-present into card-present. But it works in the other direction too – embedded technology allows online transactions to be made as cryptographically secure as card-present transactions.

Completely new paradigms for consumer payments are also emerging. Mobile P2P, for example, allows consumers to send money to other consumers using the recipient's mobile number (or some other identifier) as a proxy for the recipient's bank account. It is a small step to then allow those consumers instead to pay businesses by pushing a payment to them.

Despite all this, delivering new payments methods is not enough. The payment business is very low margin and therefore to be compelling, any business case will likely need to seek value elsewhere. Many players are looking to use payments to enable a more valuable mobile commerce services, centered on understanding and addressing the customer in more dynamic and granular ways than previously was possible. To achieve this, payments providers are



desperate for richer transactional data about what individuals buy, and where and when they buy it. The best information on consumers will be immediate allowing providers to deliver the right service at the right time through the right device and channel, all integrated with a seamless payment process.

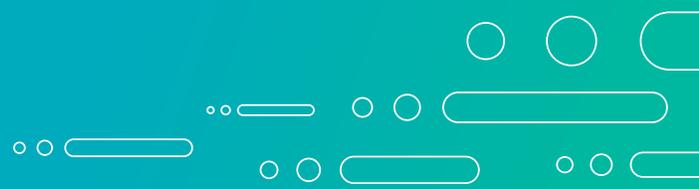
Delivering payment-related services that depend on big data presents its own challenges however. Retailers are extremely protective of the insight they have of their customers. Governments wish for greater privacy controls and transparency for consumers about how data concerning them is used. Many consumers do not understand the value of data, nor how data about them is being used.

The proliferation of connected devices brings an extra challenge. Consumers are increasingly expecting to transact from multiple devices, so there is a need for providers to have a range of security tools that can be utilized as necessary. On some devices it may be possible to achieve card-present equivalence. On others it may be possible to use “something present” on the device to allow lower risk transactions that are still better than card-not-present.

The payments landscape is very crowded. It is far from clear which payments solutions will be successful, but some of them will be. Platforms that provide the flexibility to support many integration points into many devices will position payments providers to respond, whichever way the market goes. Building those platforms to support the flow of rich data attributes will be vital. All this must be done to the benefit of both merchants and consumers. It should enable merchants to engage with their customers better whilst protecting their business. It should provide consumers with an effortless experience whilst assuring them of their privacy.

[Steve Pannifer, Principal Consultant and Head of Delivery, Consult Hyperion](#)





## Introduction

Payments are the transactional glue that connects people to merchants and retailers, other businesses and other people. Over the last few years there's been an influx of new payments innovations, providing customers with new ways to access funds and initiate transactions, complimented by further innovations in coupons and vouchers, tickets and even virtual currencies. In addition to this, a number of new business models have been established, enabling enterprises to successfully leverage payments innovations in order to stay ahead of the game.

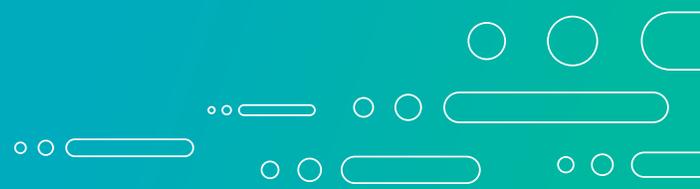
All of this change is facilitating the strong growth in online and mobile payments across the globe. E-payments (online payments for e-commerce activities) are expected to grow globally to 31.4 billion transactions from 17.9 (in 2010-13), while m-payments (payments made by mobile phones) are expected to grow globally to 17 billion transactions from 4.6 billion in the same period. This presents challenges and opportunities for banks. Payments are an essential part of consumer banking experiences: people may visit a branch several times a year, use online banking several times a week, but will likely make a payment several times a day. However, with the rise of social networking and mobile commerce, a whole new community of participants in the payments value chain has been created and banks stand the real risk of disintermediation from retailers, new startups and mobile network operators (MNOs).

To remain valuable to customers, banks need to be present in the financial lives of their customers via every digital channel. Perhaps more importantly than devices and apps, an integrated platform approach is the key to unlocking the true potential of the payments business – a platform that embeds the strategic use of big data, facilitates compelling mobile device experiences and enables enterprises to understand and influence the payment habits of customers.

With Microsoft's online properties, platform and devices – including big data, the Windows Azure cloud, Windows 8, and Windows Phone; Microsoft and its partners have a unique capability to deliver payments platform innovations to enterprises and consumers alike.

Colin Kerr, Industry Solutions Director, Worldwide Banking, Microsoft Corporation

Rodney Bowen-Wright, Chief Business Development Officer, FreedomPay



## Consumer Payment Industry Drivers

The transformation and growth of payments is creating market disruption and, with that, new opportunities. The demand for innovation in payments (to a large extent driven by the success of PayPal and expectations set by smartphone vendor device strategy) is resulting in many new forms of alternative solutions – such as mobile person to person (P2P) and contactless payments using near field communication (NFC) and quick response (QR) codes. But mobile payments innovation isn't without its challenges. For the industry to coalesce on mass adoption there needs to be a compelling value proposition to use a phone over a card (whether NFC, chip, or magnetic stripe). That comes through the contextual value of tickets, coupons, loyalty cards, etc. integrated into a wallet experience.

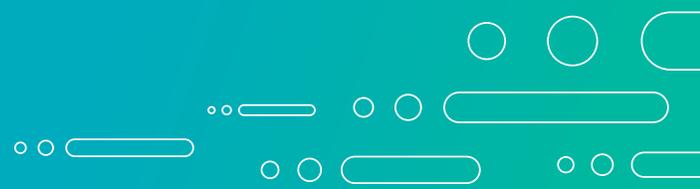
NFC is an important technology and has some strong use-cases for fast, contactless payments, but it only focusses on a single payment scenario. Although an important technology to pursue, the mobile payments experience needs to cover all manner of payment cases to be of true value to payers and receivers whether by phone, plastic, or in fact another payments device. Ideally, the mobile experience will become consistent and seamless – regardless of the payer/payee scenario.

While payments have a significant part to play in the customer experience, they remain under-leveraged by many enterprises, particularly banks. Payments have historically been a transaction business where revenues were entirely based on transaction processing fees: a slim-margin pricing model for what has now become a commoditized business. When PayPal entered the payments landscape in the early 2000s, a new payments brand and experience was brought to the consumer. It was a non-bank alternative for paying for online purchases and sending money to friends. Of course, the banks were still involved in the transaction, but they had lost the brand equity and an all-important touch point with their customers.

### Banking Industry Challenges

Banks face a customer loyalty challenge. Research from Capgemini and global financial services association Efma indicates that consumer customer loyalty risk averages 40% globally. Four out of ten customers are unsure if they will remain with their bank for more than a year. Furthermore, 53% of customers at risk cited 'quality of service' and 49% stated 'ease of use' as the primary reasons they would switch banks.<sup>1</sup> This counters the traditional wisdom which places a lack of trust in banks (following the financial crisis) and fees as the dominant issues driving customer churn.

<sup>1</sup> *World Retail Banking Report 2013* from Capgemini and Efma, April 2013



The Capgemini/Efma study correlates closely to unrelated research from Celent into the uses of big data in financial services. 75% of bank respondents identified marketing and customer experience as areas where big data projects would be deployed. <sup>2</sup> With the cost of new customer acquisition being higher than customer retention, banks clearly have the need to increase customer satisfaction and loyalty.

Loyalty challenges and the need for value aren't issues related solely to customers. Banks must also strengthen their relationships and product value in the merchant acquiring and business banking divisions of the bank, particularly in light of constant complaints about payment processing fees.

## Retail Industry Challenges

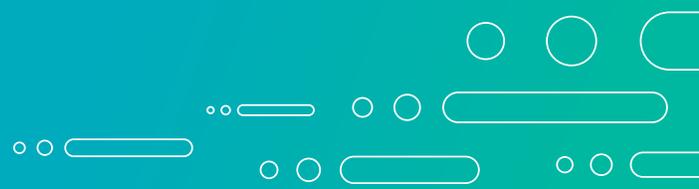
In the retail industry, there is a similar demand for a unified payments offering. Merchants have long protested the interchange fees associated with traditional card processing, and are also challenged with burdensome Payment Card Industry (PCI) compliance. In terms of payment acceptance, merchants struggle with the cost of point of sale (POS) terminal upgrades and replacements. Training sales staff – a high turnover function – on new payment acceptance methods is time consuming and can be confusing.

The ubiquity of mobile devices presents another challenge. While smartphones bring many benefits to customers, they pose a threat to retailers. Indeed, shoppers can increasingly be found comparing in-store prices with those online whilst on the shop floor. Rewards, incentives and mobile acceptance devices therefore present prime areas of investment to merchants to encourage customers to complete a sale in-store. Online retailers have a clear advantage when it comes to the information they have about consumers since they have been tracking purchase history, search behavior and other activity for years. Bricks and mortar retailers have suffered with purely transaction-based payments and now see the need to transition to payments as an information business to compete.

Finally, retailers are also challenged with the need to effectively get their message across to the customer, who is being bombarded with marketing material from competitors on a regular basis. The key for retailers is to leverage big data to more accurately target consumers with more relevant advertisements. In a 2013 research study by Vibrant Media, it was found that 70% of consumers were more likely to ignore ads which weren't relevant. <sup>3</sup> Moreover, traditional forms of advertising are losing ground while mobile ads are up to five times more effective; indicating that it is a critical time for retailers to embrace a platform approach that combines the power of big data with mobile delivery in order to provide real time, relevant offers to their customers.

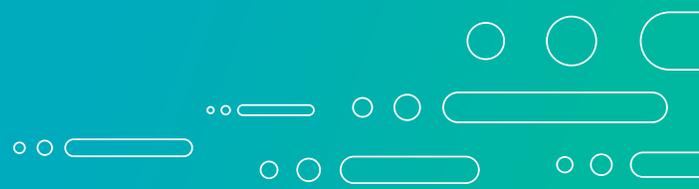
<sup>2</sup> Celent: *How Big is Big Data?*, March 2013. Bank Systems and Technology: *Big Data: Where to Begin?*, April 2013

<sup>3</sup> Vibrant Media, May 2012



## The Role of Microsoft

Increasingly, enterprise customers are coming to Microsoft for more than software and solutions. They want to partner with Microsoft to reach customers in new ways to create deeper relationships and gain a competitive advantage. In all of this, enterprises see Microsoft's products, scale and customer base as assets for partnership rather than a competitive threat. For the payments business, Microsoft provides value to consumers and enterprises not as a payments processor, but as an innovation enabler throughout the payments value chain.



## Building Loyalty and Equity through Brand Payments

### From Transaction Business to Information Business

With payments being such an important customer touch point, how do banks and retailers ensure their brand is central to the consumer, and how do they use the payments experience to deliver a transformational customer experience? The answer is in realizing that payments was a transaction business, but now it is an information business, and that the data about transactions is where the opportunity lies.

For any payments initiative to be successful, there needs to be value between the payer, receiver and the enabler of the transaction. That transaction starts before deciding how to pay. It starts when an individual decides if, where, and what to buy.

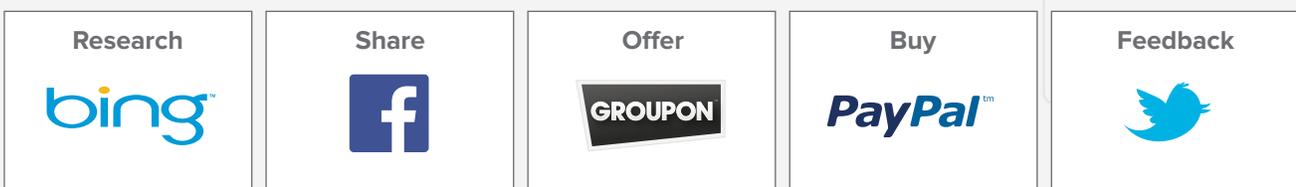
If banks remain as just the processor of the payment, they are losing brand equity and influence in their customer relationships. If, however, they work with retailers and small businesses, and develop the ability to identify and predict the behavior of their customers, they have the opportunity to add increased value in those relationships. Consider the opportunity for enhancing the shopping experience in 2013 compared to 1983.

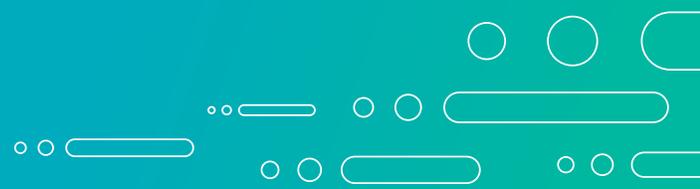
### Social and Mobile Influence in Shopping Behaviors

In 1983 when a consumer looked for a particular item they might use the phone book to call around local stores to see if the item was in stock. If it was, the shopkeeper might keep the item to one side for a couple of days until the shopper came to pay for the item with a check or in cash – and then take the item home.

Fast forward to 2013 to a world of the internet, smart phones and social media. Now a shopper might search for items on a search engine such as Bing to review different models and compare retailers (online and brick and mortar). They might not be sure which to brand to pick so they might ask the opinions of their friends. However, they wouldn't phone – it would be on Facebook. Next they might see what kind of deal they could get by searching for offers and incentives. The next step in the purchase process is to buy the item – maybe using a mobile payment, maybe not. Finally they might tell the world about their experience by Facebook, or Twitter.

If in 2013 a bank merely processes the transaction for a fee, it completely misses an opportunity to drive and derive more value from a customer's shopping experience.





## Rethinking the Wallet

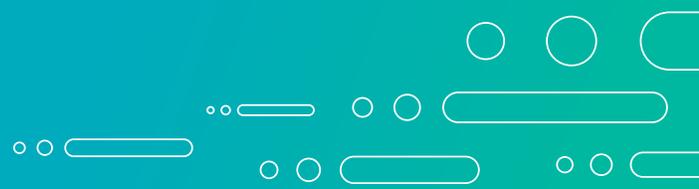
Where does this leave the future of the digital wallet?

In response to competitive pressures, many banks look to control or lock-down the wallet, but that will not be successful in the long term. Just as an individual chooses what cards to put in a leather wallet, the same has to be true for digital wallets. The question for the wallet provider is not “how do I control the wallet?” but, “how do I float my payments brand to the top of the wallet?” The key to that is in understanding and anticipating customers behaviors.

Leading banks look to leverage big data to analyze payments data and customer peer group analysis to better understand their customers’ spending and shopping habits. A bank can transform its payments offering by partnering with its merchant and business banking customers to drive personalized offers to the right consumer, at the right time, via the right channel. This provides a tangible opportunity to influence shopping behaviors, increase payments brand equity and drive additional value to partnering businesses.

The UK and US in particular have seen a surge in the interest for card-linked offers as evidenced by several programs launched by major banks such as Barclays and Bank of America. Research firm Aite Group estimates that by 2015, retail companies participating in card-linked offers will be able to access at least 467 million different consumer accounts.<sup>4</sup> But card-linked offers are just one step. By extending such a program to digital wallets and mobile devices, bank customers can now search for bank offers in the mall they are visiting by using the geo-location positioning integrated to a wallet app on the phone. Offer redemption can either be through cashback, or instant rebate/ reward – whether customers pay by card or by phone. This is an example of what it will take to approach the value of that plastic rectangle in leather wallets, and so a multi-channel/device wallet strategy is essential for long term success. This requires a platform strategy for building and integrating payment solutions rather than a mobile device end-point strategy.

<sup>4</sup> Retail Touchpoints, September 2011

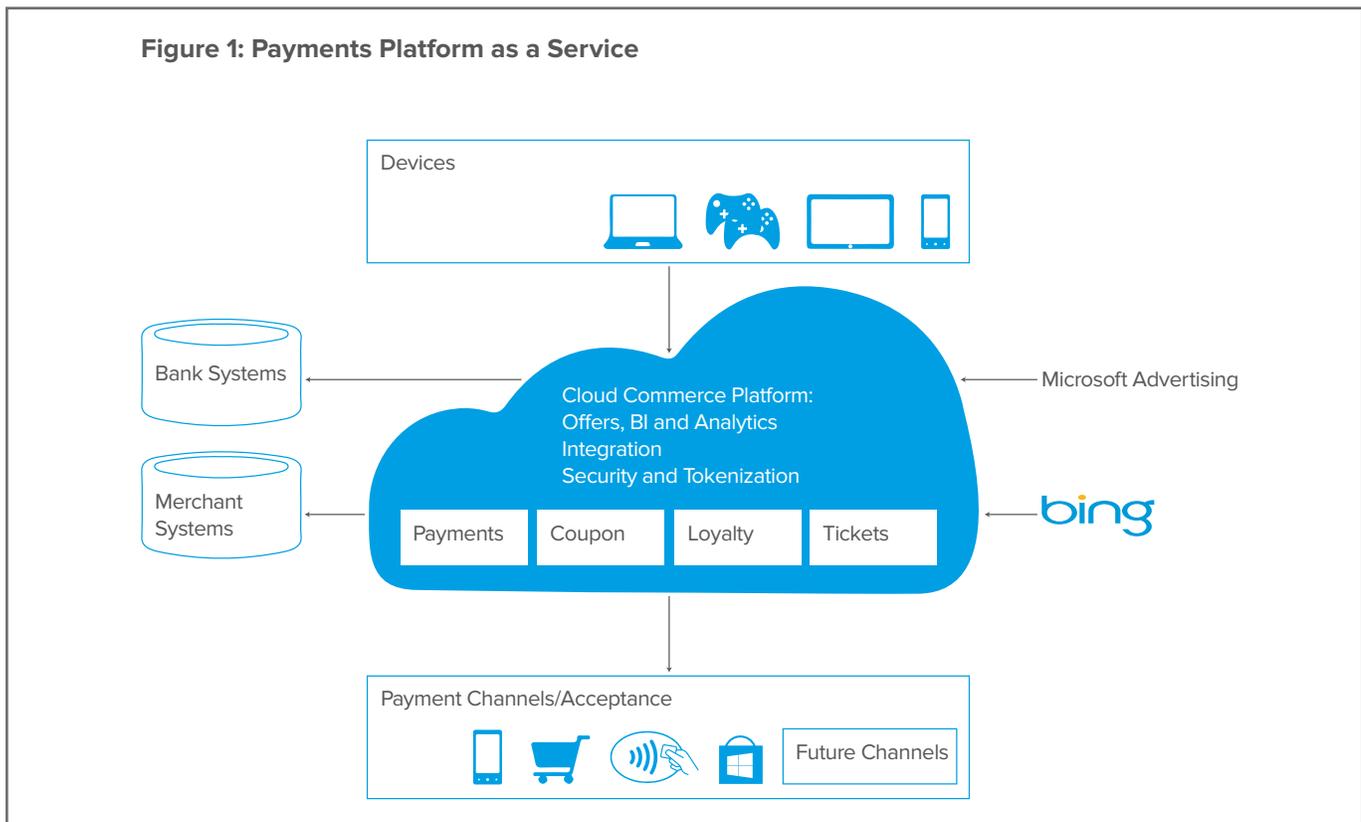


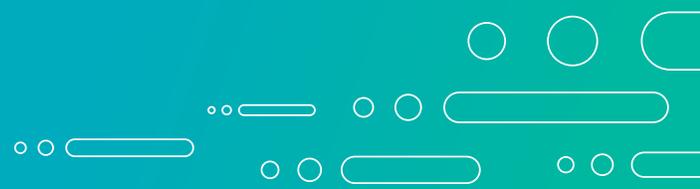
## Payments Platform Innovation

As an industry, we must also consider the future of where and how people and their devices will be able to shop and pay. Industry estimates claim there are now ten billion intelligent devices in the world. These are devices with an IP address but no computer processor. These items include handheld POS devices, tollbooths and transit gates, vending machines, smart digital signage and even refrigerators – all of which are potential devices for the commerce ecosystem.

Microsoft sees banks deploying their services through multiple new channels. Of course that means online and mobile, but their customers use other channels too. They game and watch movies on Xbox, or chat to friends on Skype. As banks and merchants consider their investments in the future of payments, it is important to recognize the use case scenarios of the future.

Because the future is difficult to predict, a key to successful investment is in developing platforms that are agile and can be changed over time to meet new use cases and scenarios, new devices types, and the changing consumer preferences for mobile phone brands. The key enabler of this platform strategy is a digital wallet – one that is accessible from multiple channels and devices, with cloud-based components and with device endpoint localization as necessary. An example of this is shown in Figure 1.

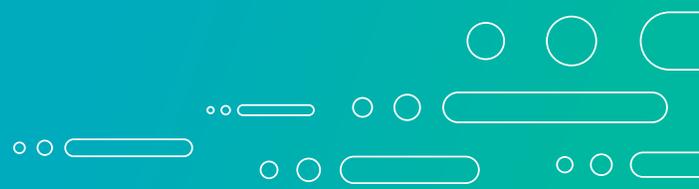




Microsoft refers to this capability as a Payments Platform as a Service (PPAAS) - a digital wallet and commerce framework. Delivered through an ecosystem of innovative payments partners, this enables white labeled incentives and commerce payment services through digital wallets accessible via online channels or internet connected devices. At a high level, the following types of services should be available from a cloud-based mobile payments platform:

Platform Service	Description
Digital Wallet Service	A white-labeled, cloud-based digital wallet with a localized experience at customer devices and end-points. The wallet allows for the addition of the following items: <ul style="list-style-type: none"> <li>• Payment instruments</li> <li>• Identity management</li> <li>• Coupons and Vouchers</li> <li>• Tickets</li> <li>• Receipts</li> </ul>
Loyalty, Offers and Incentives Service	Retailers and banks gain the ability to offer pinpoint targeted incentives based on consumers' purchasing history, location and timing that result in the highest return on investment. Consumers win by getting more for their money with exclusive, timely, relevant incentive offers.
Business Insights and Analytics Service	A business insight (BI) and big data analytics service that allows enterprise customers to identify trends in behavior to enhance customer-centric offers, revamp financial management tools, and to reduce fraud and operational risk.
CRM Service	A hosted or white labeled customer relationship management (CRM) solution particularly applicable to smaller and mid-sized businesses. A standalone module with enhanced value when integrated to the BI and analytics service.
Integration Services	Enterprise customer integration is required based on the subscribed services. A set of APIs provides integration to CRM systems, core banking systems, retail store systems, POS devices and payment networks.

Microsoft's unique, differentiating advantage is in partnering with enterprise customers to implement a digital transaction platform framework based on Microsoft cloud, device, search, advertising, big data and CRM solutions and services. This offering is not intended to compete with enterprise customers or payment networks, but to enable them with an innovative cloud and big data payments platform for reaching their customers in new innovative ways.



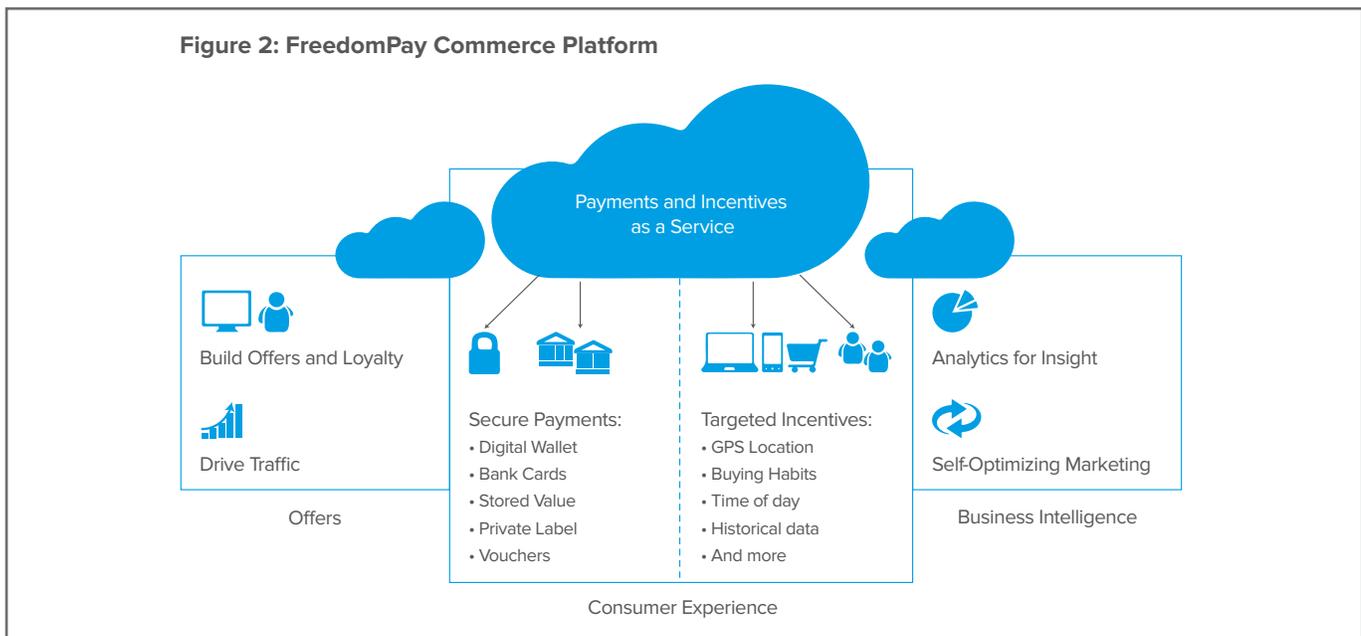
## Payments Platform as a Service with FreedomPay

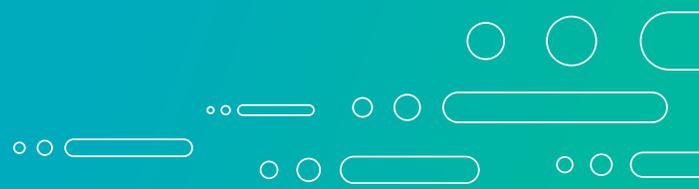
Payments platform as a service (PPAAS) is enabled by Microsoft’s ecosystem of solution partners. FreedomPay is a strategic partner that leverages the cloud, devices and analytics to bring a unique digital wallet and mobile payments experience on the Microsoft platform and is a model illustration of PPAAS capabilities.

FreedomPay is a complete white label commerce platform for banks, retailers and healthcare providers allowing them to deliver secure, high performance, cloud-driven user experiences across the commerce ecosystem; in-store, online and via mobile to connect the world of commerce. As a cloud-based commerce platform revolutionizing the payments world, the FreedomPay Commerce Platform provides an interactive, open architecture that allows Microsoft customers across all sectors to leverage legacy systems to engage consumers.

The platform includes mobile payments and incentive technologies that integrate with live POS systems, a state-of-the-art gateway that transports detailed data, rigorous security tools and the ability to leverage the platform to improve sales, customer loyalty, and incentive effectiveness.

Shown in Figure 2, the FreedomPay Commerce Platform provides digital wallet, payment channel access, and targeted offers ‘out of the box’. This platform is not dependent on any given payment interface technology such as QR codes or NFC. In fact both options are supported – as are traditional magnetic stripe and Chip and PIN cards. The platform also provides full integration to established payment networks and POS software and devices, even supporting PCI-compliant point-to-point encryption for an ‘out-of-scope’ positioning of network and POS systems.





Leveraging Windows Azure for rapid scalability and further global reach, the platform can be white labeled and branded for use by banks and retailers around the world. Some principal tenets are:

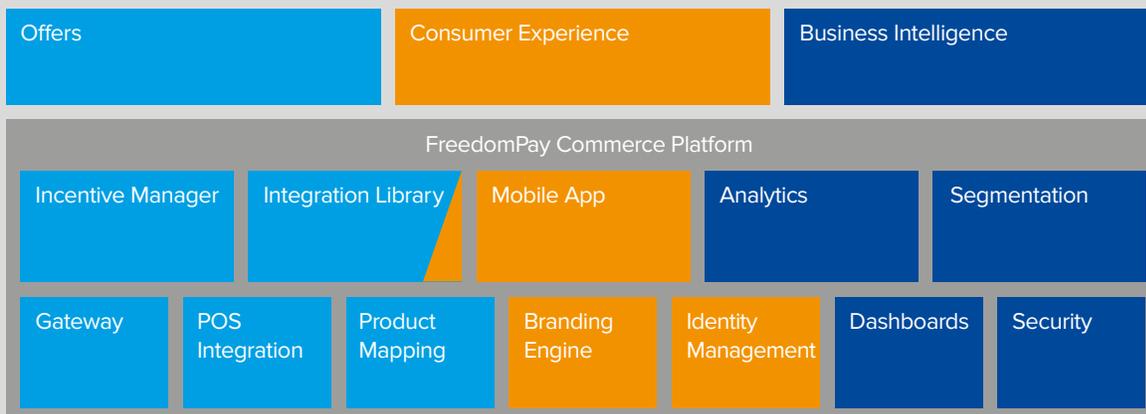
- Integrates with POS systems and payment networks
- Supports online, in-store and mobile commerce
- Includes an offers, loyalty and incentives platform, with advanced analytics for offer success tracking and customer segmentation
- Supports Windows 8 devices plus iPhone and Android phones
- Is available to banks, networks and merchants, but also scalable to other industries.

Although an increasing number of enterprise customers approach Microsoft about strategic partnerships in payments, the exact requirements of each customer varies based on differing geographies, device and channel strategies. Regionally we see similar visions, but differing approaches. The FreedomPay Commerce Platform is a highly configurable framework of components jointly delivered by Microsoft and FreedomPay from which localized solutions can be developed and expanded.

## Modular Services

To accommodate customer variances, the FreedomPay Commerce Platform is developed and delivered as a series of modular services. This not only provides a simpler architecture, malleable for any strategy changes as a result of market shifts, but also simplifies the offering to enterprise customers based on their current level of payments innovation or need for new services. A high level functional architecture is found in Figure 3.

**Figure 3: High Level Functional Architecture**





## Offers

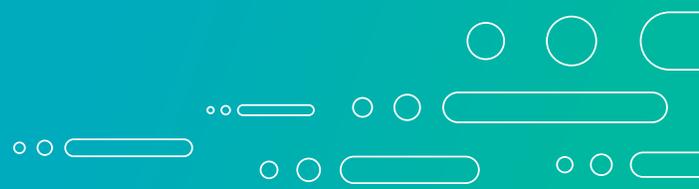
Incentive Manager is an intuitive online portal for the creation of offers, discounts and loyalty, and the associated rules for distribution and redemption. Offers may be pushed to a designated mobile app or to an integration library for onward distribution through existing mobile offerings, e-mail, print, social media and other marketing automation tools. Rule flexibility enables configuration of offers based on time of day, purchase history, GPS location, etc. Through a state-of-the-art gateway, detailed transaction information can be captured through POS integrations and a product mapping tool allowing for consistent, real-time reconciliation, for targeting offers at the most effective level.

## Consumer Experience

A FreedomPay mobile app can be installed across a wide range of mobile phones and tablets enabled for mobile payments acceptance. This app is integrated to the offers engine to maximize offer relevance. Enterprises can white label the mobile app in combination with the FreedomPay branding engine, or leverage their own apps and use the identity management services to ensure the highest levels of security and consumer adoption.

## Business Intelligence

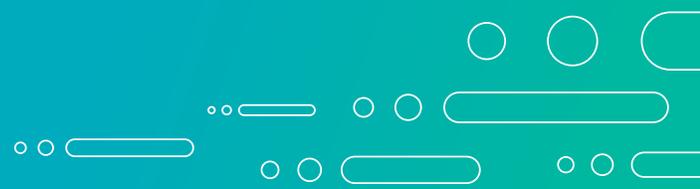
FreedomPay Business Intelligence offers dashboards for business users to manage processes associated with payments and gain a complete view of customers and business analytics by combining simple sales transactions with exceedingly detailed information gathered at the POS, from outside sources, or existing systems. A segmentation engine allows users to slice rich data into meaningful groupings by purchase history, demographics, buying behaviors or combinations thereof. These data segments can be fed into the Incentive Manager for targeted offers, the dashboard for reporting, or other analytics tools to combine with corporate big data in an enterprise data warehouse.



## Platform Benefits

A scalable platform capable of delivering innovative payments and commerce experiences provides the following benefits:

- A white-labeled offers and incentive service that drives innovative new product features to merchant and business banking customers to increase loyalty, fee income and customer satisfaction
- Digital wallet and payment capabilities integrated to mobile phone or traditional card payment methods for an enhanced consumer banking and shopping experience
- Use of big data and rich analytics to create focused marketing of customized offers and promotions by customer, business, and product/service sold.
- An incentives portal for centralized promotion management across business and merchant customers
- Back-end integration into online and mobile banking channels
- Consolidated enterprise reporting tools
- Secure, point-to-point encrypted and tokenized card payment integration with commerce partners and existing POS hardware.



## Summary

In banking, the cost of customer acquisition is far higher than it is for retaining existing customers, but the latter is no easy feat. Retailers, meanwhile, face challenges securing payment data and meeting the cost of payment processing, and are reluctant to invest in new POS hardware. The use of mobile devices for online price-shopping from their stores leads to lost business.

Payments are an increasingly valuable touch-point in the relationship between banks and merchants, and their mutual customers, but the transaction experience is typically underleveraged and ripe for innovation. As the payments industry continues to transform from a transaction business to an information business, those banks and merchants that choose to partner to bring the best possible experiences to their mutual consumer customers will provide the highest value experiences in shopping and payments experiences.

As more digital wallet offerings become available, enterprises will lose control of the wallet. Consumers will choose their own wallet preferences, but banks and merchants have an opportunity to use social media, big data and CRM systems to influence consumer behaviors and drive greater value. This will float their brands to the top of the wallet and encourage loyalty and use.

An effective payments innovation strategy needs to be centered around a platform, not just local apps on mobile phones. A PPAAS that delivers payment processing, offers and incentives, insights, and analytics provides such a foundation. The FreedomPay Commerce Platform is an agile commerce and payments platform implementation leveraging Microsoft Azure cloud and business insight technologies to reach the devices and channels used by customers today and in the future.

Payments are where Microsoft's enterprise and consumer customers connect with each other. Through its enterprise and consumer-facing products, devices, services and partnerships, Microsoft is uniquely positioned to deliver value throughout the payments value chain. We look forward to discussing further with you.

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