Mobile and e-commerce are reshaping consumer behaviour

Affordable tablets, smart-phones and portable computers are changing the way that consumers shop and pay, whether online or on the go. In 2012, global e-commerce sales topped the $1 trillion mark for the first time and these sales are expected to grow to $1.29 trillion in 2013.1 The proliferation of internet-connected devices is helping to create new technologies, consumer applications, personal finance services and payment options.

There will be considerable commercial opportunities linked to this changing consumer behaviour as merchants and payments companies seek to enhance their understanding of consumption patterns through analytics. The companies most able to collect and exploit unstructured data could be in a very strong position to understand the intricacies of consumer behaviour.

MASS EXPANSION OF DEVICES, NETWORKS AND SOFTWARE

In the race to win market share, retailers, card issuers, tech companies, banks, mobile network operators (MNO) and start-up companies are introducing new technologies and launching e-commerce and mobile services. The increasing worldwide adoption of affordable smart-phones, tablets and portable PCs is a key driver behind changes in consumer payments and transfer systems, as consumers use these devices to shop online and make transactions. Chart 1 shows that tablets and smart-phones are forecast to account for more than 85% of all smart connected devices by 2017.

Developers and service providers of all sizes are being encouraged to join the race as technological barriers to entry break down. These include the greater use of innovative developments in networks, such as cloud computing – essentially remote computer servers which connect multiple computers and devices in real time. Advances also include free access to proprietary software programs through the expanding network of open application program interfaces known as open APIs. With lower developmental costs there are more opportunities for start-up companies to gain a foothold, partner with the established players or compete head-on in some cases.

Electronic and mobile payments could grow by 20% and 53%, respectively, between 2009 and 2013.2

Chart 1. Source: IDC. 2012 figures are actual figures. Figures for 2013 and 2017 are forecasts.
NON-CASH PAYMENTS CONTINUE TO GROW AT PACE

Global data shows that non-cash payments grew by 7.1% from 2009 to 2010 to reach $283 billion, which is the latest year that full-year figures are available. North America was the largest non-cash market in 2010 with $117 billion of transactions.\(^3\) As PCs, tablets and smart-phones have become everyday technologies in many consumers’ lives, more and more people are shopping online as marketing via these channels continually increases. Global non-cash payments are expected to total $306 billion in 2011 – a 5.6% growth rate in developed nations and an 18.4% growth in emerging markets compared with 2010.

- **E-payments** are online payments for e-commerce and goods. They allow customers to settle their e-commerce transactions as card, credit transfer or direct debit transactions. E-payments are forecast to total more than 31 billion transactions in 2013, representing 20% year-on-year growth 2009 - 2013.\(^4\)
- **M-payments** are payments for goods and services using mobile devices. They are growing more rapidly than e-payments, thanks largely to the global craze in smart-phones but also basic phones. Global mobile device transactions are forecast to reach 17 billion by 2013, representing 53% of growth 2009 - 2013.\(^5\)

“In the U.S. today, 93% of 18-29 year olds are on-line compared to just 38% of those 65 and over. As this young technology-savvy generation matures, consumption patterns are forecasted to significantly change and we expect online concepts to prove more and more popular.”

Nicky Stafford, Portfolio Manager, Global Consumer Equities

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ADVANCES IN PAYMENTS ARE A GLOBAL PHENOMENON

The advances in mobile and electronic payments are just as relevant in emerging markets as they are in developed economies. But the technologies and payment methods that are being disrupted and/or replaced in developed markets are already sophisticated non-cash payment methods. It is interesting to see how newly available technology is truly revolutionising cash-based payments in developing economies that lack any real legacy networks and systems.

In East Africa, for example, where a large proportion of the population is under-banked or has no access to the banking system, basic mobile telephone-based services have helped to fill the void. **M-Pesa** (‘M’ stands for mobile and ‘pesa’ is Swahili for money) has gained considerable recognition as a mobile-phone based money transfer and micro-financing service offered by **Safaricom** and **Vodacom**, the largest mobile phone operators in Kenya and Tanzania, respectively. The product is a simple solution to consumer demand: users can deposit, withdraw and transfer money with a basic mobile phone and an ID card or passport.

Across East Africa and similar rural regions, the basic mobile phone with its no-frills SMS function has also transformed agricultural economies, for example, by letting farmers communicate commodity prices in real terms, helping to create more efficient and transparent markets. It is no surprise that the increasing levels of smart-phone sales in the developed world and in the emerging markets is the catalyst for the creation of new and increasingly sophisticated applications and services. Chart 2 shows that smart-phone sales in emerging markets are expected to be double the level in developed countries in 2015. And sales in developed markets are forecast to reach 464 million in 2017, up from 173 million in 2010.

“Safaricom enjoys a leading position with over 60% of subscriptions in Kenya and dominates phone payments with its M-Pesa mobile product. The company is attractively valued and could achieve attractive double digit EPS growth over the next few years.”

Nick Price, Portfolio Manager, Emerging Market Equities
In developed markets, firms are eschewing conventional methods too. US start-up Dwolla allows online users and mobile app subscribers in the US to send and receive money for a flat fee of 25 cents. Dwolla's back-to-basics money-transfer service competes with the established banking market in the US. The concept of simple telephone banking has not passed the banks by, however, and banks have developed their own services. For example, Barclays has launched a free-to-use mobile phone app called Pingit, which allows mobile phone users to send and receive payments.

**MOBILE TECHNOLOGY: POTENTIAL DISRUPTIVE INNOVATIONS**

Mobile technology potentially creates disruptive innovation. In developed economies it is redefining payments at the point of sale (POS) and as the POS function itself. And in developing countries, affordable mobile devices could change the scope of cash-based economies for good.

The growth in m-payments is driven by the number of smart-phone sales and the applications published by companies such as Apple for the iPhone and those available in Google's Android Market – both have high product penetration. Non-bank payments offer alternatives where the banking system has failed to adapt in many cases, especially with respect to competing with m-payments made by mobile network operators (MNO) and mobile apps.

Contactless m-payments are becoming mainstream payment options, often embedded in credit and debit cards, such as those offered by Visa and Mastercard. They are also being rolled out in mobile phones in the form of near field communication (NFC) products. NFC is a set of standards specifically designed for smart-phones to establish radio communication with other devices in close proximity to each other. This makes NFC ideal for payments, where the card details are held in the mobile device on a chip or are accessed via the cloud. Chart 3 shows there is likely to be a material adoption of NFC-enabled phones and terminal devices in the US from 2015.

E-wallets also store payment details on smart-phones together with shopping vouchers, discounts codes and loyalty cards; they are and expected to offer dynamic merchandising and sales opportunities for card companies and retailers.

**Projected adoption of NFC technology and EMV terminals in the US market**

![Chart 3. Mercator Advisory Group (presentation 2012).](chart.png)

**HOW SECURE MOBILE TECHNOLOGY COULD CHANGE THE WAY CONSUMERS MAKE PAYMENTS**

For mobile devices to be used as payments methods at the POS they need to fulfil stakeholder functionality by being easier to use and more convenient than card or cash payments. Service providers, including banks, have woken up to the fact that their product offerings need to feature customer-centricity: ease of use, incremental benefits and assured security are all key considerations.

A secure element (SE) chip is a small but vital part of the mobile payments revolution. The chip is incorporated into a mobile phone – either embedded in the device, in the SIM card or SD card, or stored in the cloud. It emulates the Europay, Mastercard and Visa (EMV) or ‘card present’ aspect of a payment. This makes it an essential element in the security focus that enshrines mobile and electronic payment verification. With an
SE chip in place the transaction is inherently less risky and therefore carries lower transaction fees, which is appealing to merchants and retailers. Demand for devices with an SE chip is set to grow rapidly: NFC-enabled phones, in which SE chips are incorporated, look set to increase from 200 million handsets in 2013 to 600 million handsets by 2015. Companies likely to benefit from this growth in sales of SE chips will be Infineon, NXP, Samsung and STMicroelectronics. Companies supplying SE chips enjoy a consolidated market with relatively high barriers to entry, even though the products they sell are becoming increasingly commoditised as demand soars.

For companies like Gemalto, its role as a trusted service manager (TSM) could be more financially rewarding than the returns handset vendors earn from selling phones with an embedded SE chip or the revenues that MNOs would generate from selling NFC-enabled SIM cards. A TSM manages and deploys secure applications without compromising user data; provides and manages the SE chip; and it manages the applications of services providers such as banks and retailers.

WHY CARRY CASH AND CARDS WHEN JUST A MOBILE PHONE WILL DO?

Mobile Network Operators (MNOs) such as Vodafone are rolling out mobile wallet/e-wallet products that include payment functionality embedded in the mobile phone. Vodafone launched this concept with a prepaid smart card powered by Visa – this stage was designed to raise customer awareness. The company then offered a mobile wallet, which allows users to load virtual payment cards on to their phone. Vodafone’s next stage, which is yet to be rolled out in launch markets Germany, the Netherlands, Spain, Turkey and the UK, will be an integrated wallet that features value-added applications and offers. Interestingly, in the Vodafone model, the MNO controls the SE chip, but the customer controls the transaction data.

Even some of the global players in the mobile phone business appear to be waiting to enter the market or reveal their product offering. Apple’s iPhone 5, for example, does not feature an NFC element, but it does offer a Passbook facility, which does not link to make payments though. It is thought that Apple’s Passbook wallet was rolled out to accustom users, helping to prepare the way for future NFC or other payment systems.

MOBILE PAYMENTS AS THE POINT OF SALE TERMINAL

Mobile devices can easily be adapted for use as a POS terminal by smaller merchants with affordable ‘dongle’ hardware add-ons and advances in contactless payments. Dongles can work like any mobile phone subscription: there is an initial outlay of $250 or so for the hardware, while merchants can also take the pay-as-you-go approach with higher fees. Demand is being driven mainly by micro and small merchants looking for affordable card-payment systems. Costs are being reduced further by the growing number of companies offering solutions. Associated business models could be more disruptive over the longer term to other areas such as marketing and couponing. The leading suppliers include Ingenico, Verifone, SZZT, PAX and CyberNet.

PRODUCT PARTNERSHIPS ARE GAINING MORE TRACTION

In telecoms, companies are potentially able to capitalise on their existing customer relationships to offer NFC-enabled and e-wallet products. A high-profile example is ISIS Mobile Wallet, which is a joint venture between three of the main mobile operators in the US: AT&T, Verizon Wireless and T-Mobile. It also features cash-type and credit services provided by partners American Express, Mastercard and Visa. The service has been rolled out in two US test markets: Austin, Texas and Salt Lake City, Utah.

Mastercard’s Paypass product features contactless technology in conventional credit cards for payment at the POS and is also available in NFC-enabled mobile devices. Mastercard in Germany is a good example of the possibilities that partnering brings: it is working with Sparebanken and non-bank Payback, a bonus programme company, and German airline Lufthansa as issuers. One of the pilot projects allows Paypass payments when using Frankfurt’s taxis. Security for contactless and NFC systems could obviously be compromised if cards or mobile devices fall into the wrong hands. Most cards and products mitigate such fraudulent use by only permitting relatively small transaction sizes, so losses would be limited if a fraud were to be committed. Some systems can also seek extra user verification such as SMS or PIN security.

“Telecom operators will be at the centre of the evolution of m-payments. Companies like Safaricom and, more recently, Millicom are leading the way in terms of providing value added m-payment services to their customers. The ubiquity of mobile devices and the depth of distribution that telecom operators possess vs. banks or other intermediaries positions mobile operators nicely to benefit from the shift to e-payments/m-payments. Operators, specifically, in the developing and relatively “un-banked” world are best positioned to monetise these services.”

Aditya Shivram, Portfolio Manager, Global Telecom Equities
BLURRING BOUNDARIES BETWEEN TRADITIONAL AND ONLINE RETAILERS

Bricks-and-mortar retailers have generally assimilated e-commerce and m-commerce channels into their business models, in recognition of the huge volumes of shopping that consumers do online. The scale of online sales is staggering. Chart 4 shows the top five countries in the world are recording steady growth in e-commerce. Many traditional retailers, like Walmart, Target and Home Depot in the US, are recording healthy growth of online sales. Other online retailers are now expected to launch diverse retail channels to showcase their products in traditional retail outlets. Amazon’s chief executive Jeff Bezos has declared his an interest in the company opening physical stores if the retail offering could be distinctive enough, given the blurring of traditional retail and e-commerce.9 Apple has successfully brought its products to retail in its flagship retail outlets, which could be the inspiration for companies including Amazon and Google to showcase their competing devices in premium retail stores.

E-commerce sales – top five countries by volume of sales ($bn) (2011-2013)

Chart 4. Source: eMarketer, January 2013. Note: includes travel, digital downloads and events tickets purchased via any digital channel (including online, mobile and tablets); excludes gambling; countries ranked by 2013 figures; US figures exclude event tickets; China figures include sales from businesses over C2C platforms; excludes Hong Kong.

SMART PERSONALISATION & MONETISING CUSTOMER DATA

The overriding consideration in the smart personalisation of consumption data is understanding how detailed data will benefit the consumer and the brand. Retailers and manufacturers are keen to capture information about what motivates their customers to buy a certain product for a certain reason at a specific price. This helps their return on marketing spend and advertising to add up more favourably. The retail companies that understand the reasons why customers want their products and exploit the insights effectively can win market share and make good investments.

A growing number of companies are working to monetise their customer data. Google Wallet allows users to store their credit and debit cards in the cloud. The way it works is Google pays the merchant directly and then charges the customer’s card, and collects payment data. The service has so far been offered on Virgin and Sprint mobile phones in the US. Google is attempting to disintermediate MNOs and banks by providing the service in partnership with Mastercard. Although merchants – online and bricks-and-mortar retailers – may be encouraged to participate because of attractive transaction fees, retailers with dominant market positions seeking to enhance their own customer data-gathering and analytics might not be inclined to accept this payment method.

Google Wallet would, if successful, be very powerful. Google would not only have a consumer’s structured data, such as transaction history and intent to purchase, but also all of the other data it holds on individuals such as lifestyle preferences, interests, likes and dislikes. Other companies that hold unstructured consumer data include Twitter and Facebook. If companies join up their structured and unstructured data, there is a risk that regulators will act against this seemingly Big Brother scenario.

Amazon’s approach makes buying easy and even suggests linked products through its proprietary algorithms before consumers make purchases online and also post-purchase but pre-checkout. This approach benefits from restricting platform operators and third-party vendors, which helps to protect the whole ecosystem from malware.

“Mobility and the fact that mobile devices will dominate communication is one of the key secular growth trends in which I am investing. Google’s move into payment products (with developments like Google Wallet) provides further optionality to the investment case.”

Aditya Khowala, portfolio manager, US equities
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