

eBULLETIN #10

News & insight from the Mobile Ecosystem

OPINION:

MOBILE MONEY SERVICES AND INTEROPERABILITY
CONSUMER DRIVERS OF MOBILE MONEY ADOPTION

FEATURES:

MOBILE MONEY MODELS IN EMERGING MARKETS
CART ABANDONMENT IN MOBILE COMMERCE

PLUS:

FULLY UPDATED GLOBAL MOBILE MONEY LANDSCAPE
PLUS GLOBAL NEWS ROUND-UP
& INDUSTRY STATS & FACTS



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MOBILE MONEY SERVICES AND INTEROPERABILITY

– ENABLING FINANCIAL SERVICES IN GROWTH MARKETS



SRINIVAS NIDUGONDI

HEAD OF MOBILE FINANCIAL SOLUTIONS AT



Mobile money is a widespread business today, available in two-thirds of low-and-middle-income countries. By the end of December 2016, 277 mobile money services were operating in 92 countries. However, a majority of these mobile money operators provide closed loop services, which restricts the scope of digital transactions between users registered on diverse networks.

Srinivas Nidugondi, Senior Vice President & Head of Mobile Financial Solutions at Mahindra Comviva discusses the importance of interoperability between mobile money services in underpinning market growth.

There is ample evidence that the broader goals of financial inclusion as well as less cash are inexorably tied to mobile money uptake, especially in growth markets.

However, it is also important to note that the potential and future growth of the entire mobile money ecosystem depends on the size of the network of people sending or receiving money through the network. This network gets even bigger if more mobile money service providers are connected with each other and to banks – or, in other words, moving from a closed loop to an open loop system based.

Both the GSMA and the World Bank are working towards interoperability. In 2014, the World Bank, discussing the expanding digital payments ecosystem said: “No one provider or sector can justify an investment in all of these elements or handle the contractual requirements of dealing with so many players. Rather, multiple players must be able to interconnect where necessary to provide individuals with a wide range of services, and must be able to do so on fair and equitable cost and access terms.”

The need for interoperability

Markets without interoperability (closed loop) rely heavily on off-net transfers. In an off-net transfer when a sender registered on one mobile money network sends money to a recipient registered on another mobile network, the recipient receives a withdrawal code via SMS. In order to cash-out money, the recipient has to visit an agent of the sender’s mobile money service and provide him with the withdrawal code.

“IT IS ALSO IMPORTANT TO NOTE THAT THE POTENTIAL AND FUTURE GROWTH OF THE ENTIRE MOBILE MONEY ECOSYSTEM DEPENDS ON THE SIZE OF THE NETWORK OF PEOPLE SENDING OR RECEIVING MONEY THROUGH THE NETWORK.”

This is an example of a poor user experience because:

- 1) The recipient has to spend his time and money in travelling to the agent and cash-out money
- 2) The recipient might have to pay the cash-out service charges
- 3) Carrying cash in person poses security risks.

Also, in an off-net transfer like this, the sending operator will have to pay agent commission, which lowers the margin for them. The recipient does not have access to money in digital format, as the money is en-cashed instantly. On a broader scale, off-net transfers increase the reliance over cash in mobile money payments, which defeats the purpose of digitizing payments.

Reasons for lack of interoperability

Markets lack interoperability due to a number of reasons, such as lack of an enabling regulatory mobile money environment, lack of operator willingness, and underdeveloped markets.

Lack of enabling regulatory mobile money environment

Interoperability requires proactive support from the regulator. The regulator has to create enabling regulations that facilitate interoperability and the growth of mobile money services.

Limitations on the role of non-banks, disproportionate KYC requirements, high taxes on mobile money transactions and excessive restrictions on the agent network are some of the factors that are fatal to the growth of mobile money services.

In 2016, the GSMA, in partnership with Harvard Business School found that heavy regulations were generally fatal to mobile money services.

Lack of operator willingness to interoperate

In some markets, operators who have put a lot of money and effort into building the consumer base, distribution network and ecosystem for mobile money, are not committed to interoperability, as they don't want to give away their competitive advantage to newer entrants.

Interoperability is not a best-case scenario for such operators because they want maximum control over data flowing in their pipes and there is a reluctance to split revenues with other operators, especially when a big chunk of the revenue is spent on operational expenses to run mobile money business.

"INTEROPERABILITY REQUIRES PROACTIVE SUPPORT FROM THE REGULATOR. THE REGULATOR HAS TO CREATE ENABLING REGULATIONS THAT FACILITATE INTEROPERABILITY AND THE GROWTH OF MOBILE MONEY SERVICES."

Infrastructural limitations

In some countries like Tanzania and Madagascar, interoperability is based on bilateral agreement between operators. This may lead to a very cumbersome settlement procedure if one of the operators is not party to the bilateral agreement. However, with many of the countries investing in national level switches, the days of bilateral agreements are numbered.

The drivers of interoperability

Mobile money providers are recognizing the need and benefits of interoperability and have started to put their full weight behind it. Today 15 countries have account-to-account interoperability, a sharp increase from just one country with interoperability in 2013.

These countries are India, Indonesia, Madagascar, Mexico, Nigeria, Pakistan, Peru, Philippines, Rwanda, Tanzania, Thailand, Bolivia, Egypt, Philippines and Jordan. The opportunity for interoperability is massive because out of the 60 countries that have two or more mobile money services, 45 countries do not have account-to-account interoperability.

Interoperability between mobile money operators is an indicator of the growing maturity of the mobile money market and evolving service offerings. In mature markets, operators develop a better understanding between themselves to drive interoperability. For example, in Tanzania and Madagascar, operators are committed to interoperability based on mutually beneficial revenue sharing agreement.

Catalysts for increasing interoperability include operator willingness to interoperate, national level switches, as well as increasing regional cooperation for realizing interoperability goals.

- Africa's first interoperability services between Airtel Tigo, Zantel and Vodacom in Tanzania allowed customers to send and receive money directly between the mobile money services of these operators.

- Madagascar is the second country in Africa to go fully interoperable. Airtel, Orange and Telma have signed a deal to adopt interoperability between their mobile money services.

- National interoperability switch in Jordan: In many countries, it is the government that is taking the initiative for rolling out interoperable services. For example, JoMoPay, a central switch that is owned by the Central Bank of Jordan, connects Umniah Mahfazti, Zain Cash and Bank of Jordan Mobile banking.

Benefits of interoperability

Interoperability drives the network effect, helping to grow the user base of mobile money. With more users in the mobile money ecosystem, it becomes easier to receive or pay in digital money.

On an individual level, interoperability improves the user experience in many ways. It saves time and money spent on travelling to the agent for cashing-out. The recipient gets instant access to digital money. It is safer as there is already a growing body of research that shows that when a society uses less cash, the rate of crime goes down and the sense of personal security.

The sending operator saves on agent commission and earns interchange fees. The receiving operator has access to an additional source of fund as the money directly comes into the recipient's wallet. It drives customer stickiness and user experience by facilitating quick and easier money transfer. It also provides operators with a treasure trove of data on financial transactions which may help them to drive further use cases in credit banking, insurance and so on.

On a broader level, by lowering the usage of cash in the society, interoperability will help the government to lower the cost of managing cash, which takes up as much two per cent of the GDP in many countries.

Interconnect between banks and mobile money providers In addition to providing account to account interoperability, mobile money providers are also connecting with banks to enable money transfer between bank account to mobile money account (B2M) and mobile money account to bank account (M2B).

INTEROPERABILITY BETWEEN MOBILE MONEY OPERATORS IS AN INDICATOR OF GROWING MATURITY OF MOBILE MONEY MARKET AND EVOLVING SERVICE OFFERINGS.

In 2016, 45 per cent of the mobile money service providers were connected to at least one bank. Interconnect between mobile money providers and banks creates a strong foundation for the mobile money ecosystem by enabling a quick and seamless payments experience for customers as well as agents. The enablers for this increase in partnership between mobile money providers and banks include factors such as:

- Increased regional corporation: South African Development Community Bankers association and the West African Economic and Monetary Union and the East African Community taking the lead.

- Peruvian Bankers association: Peru's three telecom operators and 32 Banks adopted a new digital payments platform called BIM, which laid down consistent business rules for transactions.

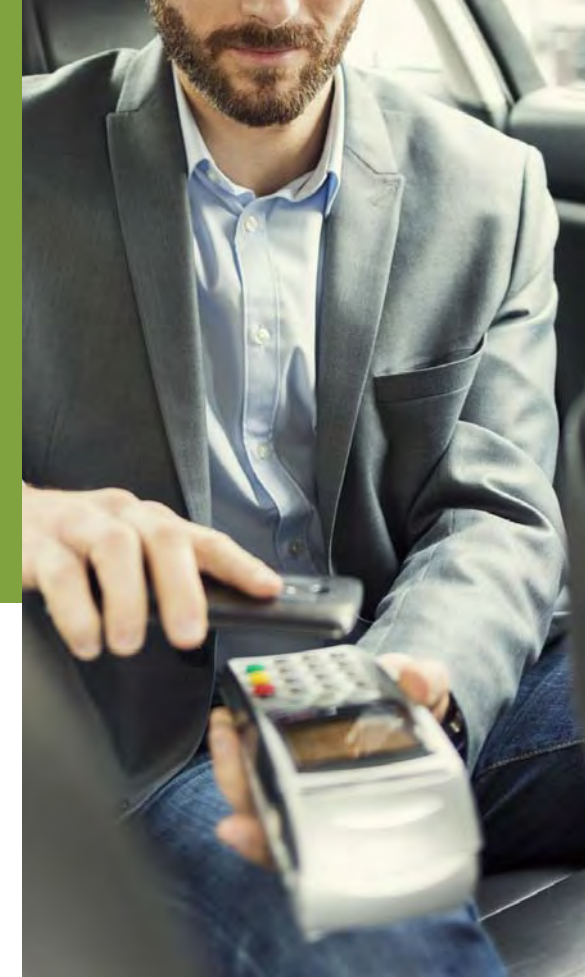
- Central bank of Mexico mandates SPEI – its interbank payments system for settling payments among mobile money providers.

The Way Ahead

In future we expect that interoperability will extend beyond P2P money transfer to other use cases such as bill payments, merchant payments, salary payments and cash-in and cash-out transactions.

With the growth of interoperability all stakeholders in the mobile money ecosystem will benefit. For example, the extension of interoperability to merchant payments will help merchants using mobile money services of one operator to receive payments from any customer irrespective of the mobile money services they use.

ON A BROADER LEVEL, BY LOWERING THE USAGE OF CASH IN THE SOCIETY, INTEROPERABILITY WILL HELP THE GOVERNMENT TO LOWER THE COST OF MANAGING CASH, WHICH TAKES UP AS MUCH TWO PER CENT OF THE GDP IN MANY COUNTRIES.





CHRISTIAN VON HAMMEL-BONTON

EVP OF GLOBAL PRODUCT STRATEGY AT
wirecard

CONSUMERS ARE ADOPTING MOBILE FOR TRANSACTIONS, WHAT'S NEXT?

MEF's annual [Mobile Money Report](#) asked 6,000 consumers in nine countries about their usage and attitudes towards mobile payments. The report makes interesting reading. What emerges is detailed picture of how mobile money (collectively m-Commerce, transactions and banking) is taking hold in both growth and established markets and glimpses areas that need to be improved.

In terms of purchasing goods and services 78 per cent of consumers have made a purchase by mobile in the previous six months and [two in five shoppers](#) have used their mobile device to pay for items in-store.

The key challenge for businesses within the m-commerce value-chain now is to tackle how to grow the volume of purchases made on mobile. Other findings in the report suggest that there are two areas that need attention. The first concerns improving the payment flow inside mobile shopping carts. The research revealed this is still a problem, with 58 per cent of people saying they have abandoned a transaction before checkout.

Second, consumers have abandonment issues. The study revealed 31 per cent of payment 'abandoners' did so because they were asked for too much sensitive information. It follows that mobile merchants must heed shoppers' privacy concerns.

And as shopping goes mobile, so does banking. According to the research, almost all aspects of mobile banking showed significant growth. 61 per cent used their mobile phone to bank. Within this, 44 per cent use apps to check their balances. The report suggests it may not be long before apps could replace branch banking. It revealed 28 per cent prefer branches against 26 per cent who prefer performing banking activity via apps.

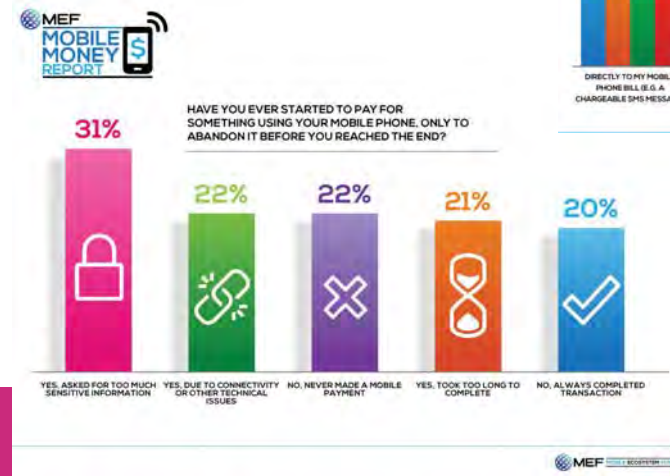
Below, Christian Von Hammel-Bonton, EVP of Global Product Strategy at Wirecard discusses these and other findings from the report in more depth.

'Mobile is eating the world' So said Andreesen Horowitz's Benedict Evans back in October 2014. His words certainly came to mind when I read this year's MEF Mobile Money Report.

We originally used phones to make calls, send messages, check emails, browse the Internet and pay for digital content. Today, we use them to manage our entire lives: to play games, chat, check our finances, purchase products and order services. The list goes on. The report indicates that 78 per cent of people surveyed had made a purchase by mobile in the previous six months.

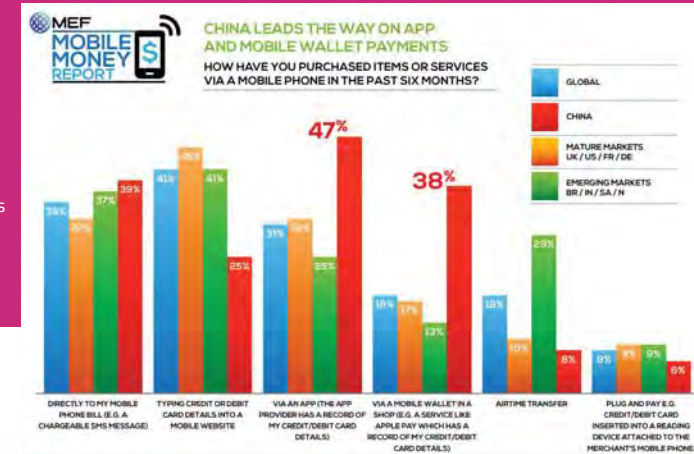
So mobile is truly eating the world. This raises the question: do we still need laptops and PCs? I am writing this article on a Mac but I could easily do it on my smartphone. The fact is, many consumers today have never owned a PC, and never will.

So my message to all businesses around the world is: if you neglect to offer services and products through the mobile channel, you will lose – not only your customers but also your business. However, be careful in how you design the mobile experience. Merely copying and pasting from Web to mobile formats will not work.



Chinese users are at the forefront of this ongoing trend. Through our cooperation with Alipay, we have seen that Chinese consumers are heavily 'engaged' with their smartphones and love to purchase products via mobile, even outside of China.

The study reveals that 88 per cent of China's consumers use their device to make regular mobile purchases and when it comes to in-store mobile transactions 38% pay with their smartphone – nearly double the global average. Clearly, the migration from desktop to mobile can only accelerate. The always-connected smartphone becomes more powerful with every new release.



This is especially the case when it comes to payments. People use smartphones in public places, so merchants should be careful how they ask users to enter sensitive information. And they should ensure a fast checkout by using mobile wallets (Apple Pay, Android Pay, MasterPass, etc). Without this, abandonment rates will be much higher than on the Web. Indeed, the report identified this as a problem, with 58 per cent of people saying they have abandoned a transaction before checkout and 31 per cent of payment 'abandoners' did so because they were asked for too much sensitive information.

Working in the payment industry for more than 20 years, I have been fortunate to witness the development of financial services worldwide. More and more users in markets including Africa, Asia and Latin America now have access to basic financial services. This development would not have been possible without mobile phones. Indeed, the key figure of this year's report shows that financial inclusion has arrived – and is steadily growing. This is a very encouraging sign in an otherwise turbulent 12 months.

So what can we expect for the future? This year's report underlines some key trends that demonstrate mobile will continue to 'eat the world' over the coming years.

THE WORLD OF MOBILE MONEY

CARRIER BILLING

MOBILE PAYMENT FOR PARKING COMES TO SPAIN



Spanish mobile ticketing app e-Park has added a 'pay from the phone bill' feature, powered by Docomo Digital. e-Park's iOS or Android app already has half a million customers across 13 Spanish cities. The company expects the addition of a new and simple payment method to boost adoption.

A FIFTH OF EUROPEAN DIGITAL CONTENT BILLING BY 2021

DIMOCO

Carrier billing specialist DIMOCO says 'charge to bill' could account for around 21 per cent of content payment in Europe within four years. It is presently 11 per cent. Its projection comes in the

fourth annual publication of its payments white paper. The 'Future of Digital Payments in Europe' white paper says revenues from carrier billing in Europe hit 11.5 billion euros by 2021.

DOUBLE END USER SPEND (EUS) BY THE END OF THIS YEAR

Direct carrier billing specialist Bango says the money flowing across its systems is ahead of expectations for 2017. In a trading update in January, it also confirmed total revenue doubled to £2.6m in 2015. Bango powers DCB for Google, Microsoft, Samsung and others. It says it is also accruing new business from the acquisition of BilltoMobile.

bango

m-COMMERCE

WIRECARD TARGETS US MARKET WITH CITI PREPAID ACQUISITION

citi
Prepaid Services

Germany's Wirecard has bought Citi Prepaid Card Services to begin a push into the North American market payment processing space. Citi manages 2,500 card programs for corporate customers in multiple verticals.

"We are excited to offer our American customers the latest products in the area of completely digitalized prepaid cards and mobile payment solutions via our global platform," said Susanne Steidl, Managing Director of Wirecard.

HSBC JOINS THE UK'S PAY BY BANK PROJECT



UK customers of HSBC bank will soon be able to use their bank app to pay inside mobile sites and apps as HSBC signs up to the UK's Pay by Bank service. This lets merchants re-route shoppers to their own bank app, enter the amount and then 'push' it to the retailer.

Pay by Bank is operated by Zapp and the UK payment infrastructure provider VocaLink. It offers an alternative to traditional card payments. In theory, it's safer and also gives users more control. Other banks in the system include Barclays, Halifax, Bank of Scotland and Lloyds.

EMERGING MARKETS

ATLAS MARA IN BIG PUSH TO TACKLE FINANCIAL INCLUSION IN

SUB-SAHARAN AFRICA



One of Africa's biggest bank groups has pledged to bring digital payment to 20 million customers and 100,000 merchants in Africa by 2020. Atlas Mara says it is working with

Mastercard to build stronger payment ecosystems, and expand access to fast and secure remittance, e-Commerce, and mobile payments.

COULD WHATSAPP DO P2P PAYMENTS IN INDIA?



Rumours are growing that Facebook could launch a P2P payment system inside WhatsApp – and that India will get it first. For all its success, WhatsApp still lacks a business model.

Payments between users is one option. And if so, India would be a good place to start.

Why? Because it has already launched a system called UPI (Unified Payments Interface) that enables easy cross-bank transactions. This gives people a safe way to pay without giving their full bank details to each other. Now, the rumours say the UPI could be integrated inside WhatsApp, which has 200m monthly active users in India.

MAHINDRA COMVIVA REVEALS MOBILYTIX MOBILE MONEY ENGAGEMENT PLATFORM

Mahindra
COMVIVA

India's Mahindra Comviva will help its partners to promote their payments services with a new marketing platform to improve retention rates. It lets

users easily send timely, relevant and contextual messages to existing users.

Amit Sanyal, Business Head, Consumer Value Solutions at Mahindra Comviva said: "The key to reducing the chasm between mobile money registration and the actual usage is personal and timely communication."

mPOS

MYPINPAD ASIA WORKS WITH MSWIPE ON NEXT-GEN POS



Indian merchants are to get a smarter kind of POS device with touchscreen technology. Merchant acquirer Mswipe and authentication expert MYPINPAD Asia are working on the new device, which removes the need for a separate PIN pad device.

It also meets the mandate of the RBI (Reserve Bank of India) to increase the deployment of secure PIN enabled acceptance devices

into the Indian market. Mswipe offers processing and financial services to SMEs in more than Indian 500 cities.

SQUARE LAUNCHES IN THE UK



Eight years after it turned the POS world upside down, Square has finally come to Europe. The firm's CEO and co-founder Jack Dorsey arrived in London to confirm that the UK would follow the US, Canada, Japan, and Australia in hosting the system.

Square offers small businesses a dongle they can connect by Bluetooth to a phone. They can use this dongle to accept card

payments for a small cut. In Europe, Square will face competition from iZettle, Payleven, Jusp and many others.



IN-STORE MOBILE PAYMENTS

NOVATTI AND PAYGROUND LAUNCH SCANDINAVIAN M-PAYMENT SERVICE

Australia's Novatti has partnered with Sweden's PayGround to develop an electronic voucher product for customers and merchants. The service is based on PayGround's Flexepin voucher technology, which gives consumers a safe way to top up accounts and pay online. Swedish users will get to try the service first, with Norway and Denmark to follow soon.



GALAXY S8 WILL USE 'PAY BY SELFIE'

Samsung says it will add facial-recognition to its payment options inside the new S8 phone. The latest Galaxy device includes Samsung Pay, and the handset maker now says it is working with banks on adding facial recognition to the authentication process. 'Pay by selfie' idea is not new. Mastercard already offers it. However, the S8 would be the first to pre-load the feature inside a handset.



LG WILL UNVEIL ITS OWN MOBILE PAYMENTS SERVICE IN JUNE

Does the world need another mobile payments platform? LG thinks so. After months of rumours, the South Korean firm confirmed it will launch one inside the G6 phone in its home country in June. LG Pay will be broadly similar to Apple, Android and Samsung Pay. It will enable NFC payments and also mag strip - like Samsung.



APPLE PAY USAGE 'PEAKED IN MARCH 2016'

New research says Apple Pay is on the decline simply because people are happy with cards. A study by the PYMNTS website found 48.6 per cent of people said they don't use it because they prefer existing payments methods — up from 37 per cent two years earlier.

It said people "know they can use it, know that it will work and 80 per cent of them feel safe doing so. They just think what they're using instead – the dowdy plastic card – is just fine. The truth is that not enough consumers see the value in it, so 19 out of every 20 people who could use it don't even bother any more."

P2P MOBILE PAYMENTS

ITALIAN P2P PAYMENTS APP JIFFY HAS 4.2 MILLION USERS



Jiffy, the Italian P2P payment service is now Europe's second largest P2P app after Sweden's Swish. The service, now with 4.2 million users, is one of a growing number of P2P apps that lets users link accounts to a mobile number alias. This means they can transfer money quick without giving away their bank

credentials. Jiffy has the support of 23 banks.



IN-STORE PAYMENTS

NFC

Atos Worldline, Mahindra COMVIVA, MeaWallet, Vodafone SmartPass, cityzi, LoopPay, Avance Pay, cashcloud, Quikwallet, MobilePay, TURKCELL CEP-T CUZDAN, SAMSUNG, wy wallet, wirecard

BLUETOOTH LOW ENERGY

shoptick, wirecard, Swipp, LevelUp, Paydiant, close, Mahindra COMVIVA, MeaWallet

LOCATION BASED

mobino, MOMOE, Mahindra COMVIVA, DWOLLA, iKaaz

QR CODES

Alipay, Starbucks, LevelUp, Quikwallet, FLASHIZ, yoyo, SEQR, zapper, wirecard, Mahindra COMVIVA, MeaWallet, ensygnio

ONLINE PAYMENTS

API PROVIDERS

paytm, stripe, V.me by Visa, BrainTree, MyOrder, Judo pay, PAYMILL, WE PAY, Mahindra COMVIVA, MasterPass

3RD PARTY PLATFORMS

amazon payments, MobilePay, TrustPay, PayPal, Buy with Google, Novatti

OTHERS

JUMIO, Malauzai SOFTWARE

QR CODES

ensygnio, Paddle, Mahindra COMVIVA, SEQR, SEKUR.me

BANKING APPS

Mahindra COMVIVA, Pay by Bank app, monitise

MESSAGING APP

LINE Pay, Viber, WeChat, WhatsApp, Snapchat

SOCIAL MEDIA

soldisie, hirtify, BARCLAYS, amazon

P2P PAYMENTS

UNBANKED

airtel money, Novatti, SMART LIVE MORE, RedCloud, Fundamo, empays, tigo, M-PESA, ooredoo, zipcash, MTN, easypaisa, Mahindra COMVIVA

BANKED

celcom aircel, mobino, twym, pay, venmo, RedCloud, PayPal, PaidEasy, Mahindra COMVIVA, Yaap, emu.me, FLASHIZ, OKPAY, Square Cash, TURKCELL CEP-T CUZDAN, SEQR, swish, monitise, MobilePay

DIRECT OPERATOR BILLING

bango, net-m, Embrace, TPAY, boku, onebip, BilltoMobile, mobile, infobip, maxis, DAO PAY, Mahindra COMVIVA, PayOne, MT2, Globway, netsize, VEOO, all things mobile, intigral, ZONG, SMART, fortumo, INTEGRAT, ooredoo, TIMWE, docomo digital, SLA, OpenMarket.

mPOS

just, wirecard, intuit, swish, sum up, POWAPOS, WorldPay Zinc, payleven, Atos Worldline, payworks, Handpoint, ensygnio, Square, PAYMENTS INTERNATIONAL, Elavon, vend, spire, SetPay, KASHINGI, Mahindra COMVIVA, amazon local register, ingenico, iZettle, payPLUS, GROUPON, IKHOKHA

MOBILE WALLETS

Novatti, Paydiant, yoyo, TURKCELL CEP-T CUZDAN, pay, Vodafone SmartPass, MeaWallet, MyOrder, close, Mahindra COMVIVA, mobiquity Wallet, SEQR, CURRENTC, monitise, Tapsley, mpass, cityzi

MOBILE ONLY BANKS

TANDEM, digibank by CIB, osper, GObank, Hello bank!, STARLING BANK, soon, SIMPLE, fidor BANK, Atom Moven, monese, N26, monzo, PEPPER.

MOBILE PAYMENTS IN EMERGING MARKETS: BEYOND M-PESA



AMRISH KACKER

LEAD ANALYST FOR
ANALYSYS MASON'S
OPERATOR STRATEGY CONSULTING

New mobile payment systems in emerging markets are challenging traditional approaches to physical commerce. Here Amrish Kacker, lead analyst for Analysys Mason's Operator Strategy Consulting examines the mobile payment business models in developing and developed markets.

Mobile network operators (MNOs) initially tried to adopt the m-pesa payment options used in developing markets, but this met with limited success. MNOs looking to include a broader payment proposition in emerging markets will need to consider creating a service that is open to all, identifying propositions beyond peer to peer (P2P), pre-paid top-up and bill payments, and developing a payment model that is compatible with an 'acquire first/earn later' business model.

Banking characteristics (e.g. debit card penetration, ATM availability) across developing, emerging and developed markets vary significantly, resulting in different mobile payment business models in these markets.

The success of m-pesa in African markets has been replicated in several other developing markets (e.g. Wing Money in Cambodia and bKash in Bangladesh).

These mobile payment propositions primarily focus on providing payment and banking solutions for unbanked customers.

In developing markets, the propositions initially provided domestic P2P money transfer facilities - they have expanded to also cover prepaid mobile and bill payments and, to a limited extent, physical merchant payments.

The technology - USSD - works with basic phones. This has been critical to the propositions' success and has also required supportive regulation and a wide network of agents.

Mobile payments in emerging markets present the most disruptive evolution of payments and create a significant competitor for the incumbent financial systems.

MNOs in emerging markets have tried to adapt developing and developed market approaches, but they need to refocus their efforts, taking into account the potential to play a role in the disruption of traditional payments.

Initially, mobile payments in emerging markets were targeted at smartphone users. The objective was to facilitate an increase in Internet commerce by encouraging customers to move away from cash-on-delivery (CoD) payments.

The mobile payment proposition is increasingly moving into physical commerce. It is also being used to support developing market propositions such as bill payments and prepaid top-ups. P2P transfers are typically free.

This mobile payment model supports multiple payment mechanisms such as bank accounts, credit/debit cards and stored value (e.g. gift cards), and there is increasing innovation around the type of payment mechanisms supported.

The space is dominated by two or three large players in each market whom have achieved their strong position by providing discounts for specific use cases, which also results in high customer acquisition costs.

In developed markets, the innovation around mobile payments has been focused on facilitating the use of existing payment instruments (e.g. credit cards) across more use cases to increase the percentage of cashless transactions. PayPal and Square are two solutions that have made it easier to use cashless transactions when paying smaller merchants on the Internet and in the physical world. Apple Pay and other contactless solutions (e.g. MasterCard PayPass) enable credit card payments for small-value transactions.

MOBILE PAYMENTS IN EMERGING MARKETS PRESENT THE MOST DISRUPTIVE EVOLUTION OF PAYMENTS AND CREATE A SIGNIFICANT COMPETITOR FOR THE INCUMBENT FINANCIAL SYSTEMS.

The unique emerging markets proposition is creating an ecosystem that could leapfrog developed market approaches

The emerging market mobile payment proposition has grown both in terms of the value of transactions as well as the development of new services/payment mechanisms.

Mobile payments in emerging markets are growing faster than traditional payment mechanisms.

China for example surpassed the USA as the largest global mobile payment market in 2015, with USD225 billion of transactions. The momentum is continuing with USD15 billion of Alipay sales on Singles' Day 2016.

In addition to providing stored value and stored account as a payment basis, Alipay has expanded its services. It offers payments through a line of credit (Huabei) as well as payment through a money market fund (Yu'E Bao):

Alipay has also created Zhima credit - a credit scoring system. The credit score is used to determine Huabei credit limits, but is also used as financial proof with third parties.

Similarly in India, Paytm reported 7 million daily transactions in 2016 (driven by the recent demonetisation of large currency notes), which was at the same level as credit and debit cards in India in August 2016.

Pull-out quote: New mobile payment systems are challenging traditional approaches to physical commerce, for instance by enabling P2P payments and thus removing the need for physical card readers.

New mobile payment systems are challenging traditional approaches to physical commerce, for instance by enabling P2P payments and thus removing the need for physical card readers. Examples include using QR codes (Wechat pay) and a mobile-number-based clearing platform (UPI in India).

MNOs' success in emerging markets has been limited, as the mobile payment business model is an 'acquire first/earn later' model

In emerging markets, MNOs initially tried to adopt the m-pesa payment options used in developing markets, but this met with limited success. Subscriber fragmentation, stringent regulatory conditions and the need for investment in an agent network have been key constraints.

"IN DEVELOPED MARKETS, THE INNOVATION AROUND MOBILE PAYMENTS HAS BEEN FOCUSED ON FACILITATING THE USE OF EXISTING PAYMENT INSTRUMENTS (E.G. CREDIT CARDS) ACROSS MORE USE CASES TO INCREASE THE PERCENTAGE OF CASHLESS TRANSACTIONS."

MNOs considering the introduction of a broader payment proposition will need to take account of the following:

- Creating a service that is open to all - creating the widest user base possible by not restricting the service to their own customers
 - this is necessary to create demand among customers as well as merchants
- Identifying propositions beyond P2P, prepaid top-up and bill payments
 - while these areas have proven use cases, they are also increasingly very competitive physical and Internet commerce are critical areas to explore
 - the major value will be derived from increasing merchant acceptance
- Consider involving financial strategic investors to help drive the business
 - the biggest challenge for MNOs is duplicating the business model of Internet companies that spend significantly in customer acquisition, leading to negative cash flow for 3-4 years, as the traditional MNO business model is not compatible with an 'acquire first/earn later' business model.

As part of our broader Digital consulting services, Analysys Mason works with MNOs and investment firms in assessing the appropriate strategic approach to mobile payment market participation.

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RIMMA PERELMUTER
CEO, MEF

CART ABANDONMENT IN M-COMMERCE IS THE ELEPHANT IN THE ROOM

When thinking about a digital issue, it helps to frame it as a real-world one. So how are we to think about the problem of 'cart abandonment'? Well, imagine if more than half of the people pushing their trolleys towards the checkout of their supermarket simply gave up and went home without paying.

That's a lot of aborted purchases. And a huge missed revenue haul for the supermarket. Of course, people do very occasionally abandon their real-world shopping - usually because the queues are too long. But it's a trifling issue: the store can simply monitor the lines and open new tills when the queues start to stretch.

In the digital world, cart abandonment is a much more serious problem. It's been with us for years and mobile has only made it worse. In the early days of mobile commerce, much of the problem was due to the fact that merchants did not modify their sites for mobile. As a result, many payment pages were displayed as if they were on a 17 inch PC monitor rather than a four inch mobile screen.

Even when these design wrinkles were fixed, other hurdles remained. The most notable is the payment process. Even on a site or app with a clean layout and simple instructions, a shopper can still give up when faced with a long payment form requesting dozens of credentials.

But it's not just the number of details that's off-putting. It's also their unnecessarily personal nature. In an era of rising privacy awareness, perhaps the biggest cause of payment abandonment today is a lack of trust.

Late last year, Mobile Ecosystem Forum published its annual Mobile Money Report. The study confirmed what most of us already know: mobile commerce is booming. Consumers are switching their shopping habits from desktop to smartphone, with 78 per cent confirming they had made a purchase by mobile in the previous six months.

But the study also laid bare the cart abandonment problem. It revealed that 58 per cent of shoppers had

started to pay for something via mobile, only to abandon the process before the end.

When asked to explain the reason for abandoned purchases, 21 per cent said the process was too long, while 22 per cent cited technical/connectivity issues. But the biggest cohort - 31 per cent - said it was because they were asked for too much sensitive information.

This should not be surprising. It's clear that the public is increasingly aware of - and concerned about - privacy in the digital domain.

Indeed, another MEF study published in 2016 revealed that 36 per cent of consumers in eight countries are put off from downloading and using more mobile apps and services due to privacy and security concerns. 52 per cent have deleted apps that worried them.

It also revealed that, in 2013, 21 per cent were always happy to share personal data with an app. By 2015, this had fallen to just six per cent.

So what can the industry do to re-gain trust and claw back all that lost revenue? The obvious answer is to avoid asking shoppers for unnecessary details. Merchants

should only include essential fields in checkout forms. And they should abandon any forced registration. It's a guaranteed turn-off.

Another option is to offload payment credentials to a third party that shoppers do trust. That could even include another retailer.

Amazon for example. The e-commerce giant makes its checkout system available to other merchants and recently announced that over

33 million customers have used Amazon Payments across 170 countries. 32 per cent of these transactions were made on mobile devices.

Apple Pay and Android Pay offer another option. They solve the problem by storing card details safely inside the device itself (so the merchant never has to ask for them). These processes are not just private, they are quick too. The shopper can check out with a PIN or fingerprint, rather than filling out forms.

The card networks have also acted to ease mobile payment. Mastercard's Masterpass, for example, lets shoppers register their payment details once with Mastercard and then check out with a PIN on any participating merchant checkout. Again, the retailer never has to ask for sensitive payment data.

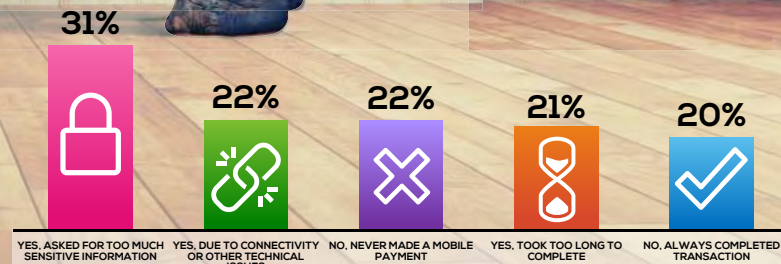
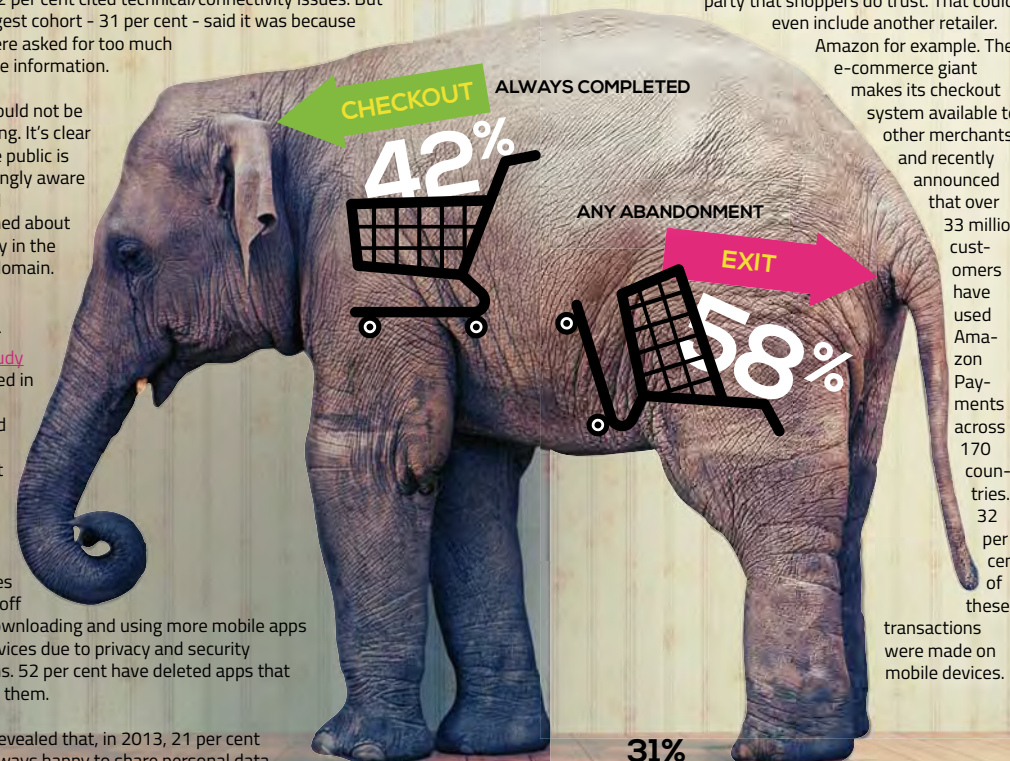
These solutions are fast and private. They are also secure. Apple Pay, Android Pay and Masterpass all use a technology called 'tokenisation' to protect the payment credentials when they are transferred over the air. Here, the details are stored as an encrypted token, which can only be 'understood' by the bank. This makes them useless to any attacker that intercepts them.

Another interesting fix for cart abandonment is to let shoppers pay directly from their banking apps. At checkout the shopper doesn't submit any card details. Instead, he or she opens the banking app and 'pushes' the payment from there. This is something UK firm Zapp is working on.

Finally, there is the 'pay later' option. Here, shoppers can order something without completing any kind of payment checkout. Instead, they supply a postal address and email, and settle later when the goods arrive.

Typically, intermediaries handle the transaction and pay the merchants immediately after a customer completes a purchase in return for small cut. The Netherlands' Klarna is active in this space, while Wirecard and Commerzbank launched a pre-financing option of this type in 2016

Clearly, the consumer trust deficit is a major concern for the digital ecosystem. But the good news is that there are simple things merchants can do to bake trust into the payment from the get go. And they will stand to make more money when they do so.



HAVE YOU EVER STARTED TO PAY FOR SOMETHING USING YOUR MOBILE PHONE, ONLY TO ABANDON IT BEFORE YOU REACHED THE END?

DIRECTOR INSIGHTS: USABILITY, GROWTH MARKETS AND CHOICE

MEF held its global and regional board elections at Mobile World Congress in Barcelona this year. After the event we caught up with Bango's founder and CEO, Ray Anderson, Boku's CEO, Jon Prideaux and Microsoft's Director of Carrier Billing Grahame Riddell and asked them for their thoughts on mobile money and specifically operator billing going forward.

Untapped potential

A recent report by analyst firm Ovum forecasted that total carrier billing revenues will increase to \$24.7 billion in 2019 (up from the \$14.5 billion in 2014). Yet it is still a proportionally small part of the overall payments pie.

It follows that its growth depends on some important variables. Not least in how it measures up to other forms of payment both from within the mobile world and outside it.



JON PRIDEAUX

Jon Prideaux, CEO of Boku knows this only too well. Boku provides carrier billing for app stores, in-app purchases and services like Spotify. For him the key to unlocking further adoption is by appealing to the familiarity and usability that consumers experience with other payment platforms.

He says: "If you are pushing mobile as a transaction

platform, you have to look at the other players in the market and match up to them in terms of technology and functionality."

For Prideaux that means two things; making carrier billing behave more like a credit card transaction in terms of the user experience and layering up services beyond the transaction. "You have to include operational functions and meet consumer concerns. Things like easy refunding and clear billing are essential. If those processes are clumsy then you've lost," he says.

Indeed Boku has invested in developing its user interface along these lines. But a good user-experience is only half the story. Operators too need to understand how, that by decreasing the amount that they take from any given transaction, there is an increase in transaction volumes.

Growth markets

In developed markets most mobile consumers already have a billing relationship with their app store. But in growth, mobile first markets, where device penetration is high, it's the norm that access to banking services is relatively low. These circumstances make carrier billing highly relevant for transactions.

For Ray Anderson, CEO at MEF member Bango carrier billing delivers inclusivity: "First generation payment methods such as credit cards have not kept pace with the rapid, global growth in smartphone adoption. Billions of people are starved of access to digital content and services. We need a universal payment method to bring global inclusion in the digital ecosystem. Direct Carrier Billing (DCB) enables any smartphone user to pay for more than just voice and texts with their existing mobile phone bill."



RAY ANDERSON



"IF YOU ARE PUSHING MOBILE AS A TRANSACTION PLATFORM, YOU HAVE TO LOOK AT THE OTHER PLAYERS IN THE MARKET AND MATCH UP TO THEM IN TERMS OF TECHNOLOGY AND FUNCTIONALITY."

Carrier billing is frictionless and easy to use. Usually a one-click payment process is all that's required which means significant barriers, like keying in lengthy credit card numbers in the transaction process, are removed. The result is dramatically improved conversion rates for merchants.

For digital content that means apps and in-app purchases and in the last few years all app stores have gradually switched it on as an option.

Bango is one such company that has integrated its carrier billing platform with app stores globally. Anderson continues, "DCB is in its best shape ever. It's now adopted by all the major app stores. Operators realise at last the advantages DCB provides in strengthening customer relationships and growing revenue."

Indeed, for Anderson old arguments about operator margins eating in to content costs are also no longer valid. "Hard data now proves that DCB does not cannibalize existing revenue from traditional services. As DCB continues to become available to more users and the range of content becomes ever more desirable, we will see DCB broadly adopted as a universal payment method." He says.

Ways to pay

Microsoft has extended that thinking. Under its Windows 10 flagship it has rallied its products and services at the platform level enabling the creation of a single Windows Store so that both Microsoft 1st party and 3rd party content, apps and services including apps and games, desktop apps, music, books, films, and TV shows can be purchased and run on all types of Windows 10 devices, from laptops, tablets, PC's, Smartphones and its Xbox One games console.

Last year it introduced Carrier Billing as a payment option in its Windows 10 Store alongside credit and debit cards, Microsoft stored value cards, local payment solutions and online payment services like PayPal and Alipay.

For Grahame Riddell Microsoft's Director of Carrier Billing, it's about ensuring every customer has an effective way to pay: "By offering Carrier Billing, Microsoft is not only offering payment choice, we are also offering a channel that is trusted and relevant in both developed and emerging markets. This straightforward, easy-to-use payment option simplifies the payment flow and engages customers around the world who may not have alternate ways to pay."



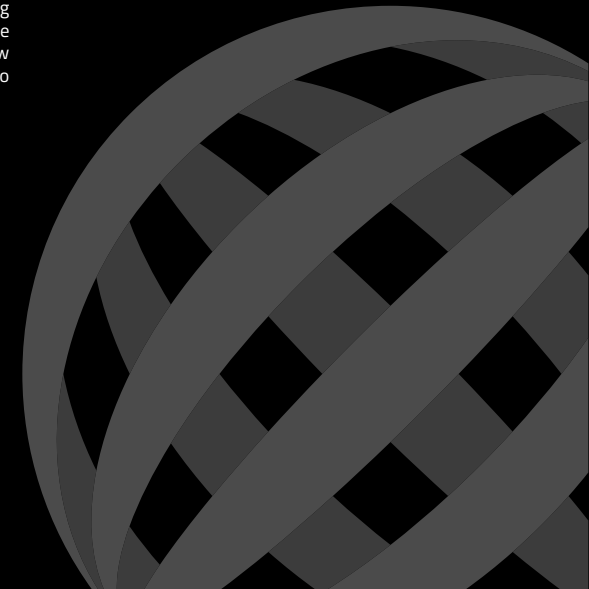
GRAHAME RIDDELL



"HARD DATA NOW PROVES THAT DCB DOES NOT CANNIBALIZE EXISTING REVENUE FROM TRADITIONAL SERVICES."

Moreover, for Microsoft (and other app store owners) there are components to payments - the app store owner, the consumer and the developer. And for developers carrier billing poses a great opportunity, not least because its conversion rate is three times higher than credit or debit card alternatives. In growth, mobile first markets where it is the locally relevant billing platform it is eight times more successful.

Consumer trust is also a primary concern for Microsoft. "We've invested heavily in developing our industry leading Risk Management Engine to implement rules based risk evaluation to establish the likelihood of fraud and assign a risk score to determine whether to pass, re-authenticate or fail a transaction, all designed to protect our customers," said Riddell, "And using mobile as a primary channel provides us with further trust benefits. Two-factor authentication as part of the registration process and re-authentication on a randomised basis provides a base-level of security that is understood by our customers."



INDUSTRY TRENDS & STATISTICS

Since the last Mobile Money eBulletin mobile proximity payments have taken a big step forward, in particular in China. Elsewhere carrier billing is becoming a common-place option for the purchase of digital goods and services and of course P2P transfer of money, particularly in growth markets.

Here's the latest industry stats and forecasts that explore these trends over the last few months.

Payments are growing

- 1 A new [UN study reveals](#) that Alipay and WeChat Pay enabled US\$2.9 trillion in Chinese digital payments in 2016, representing a 20-fold increase in the past four years.
- 2 Elsewhere, a [Strategy Analytics](#) report indicates that mobile payment has become a daily activity in China with 75 per cent stating they use mobile payments in physical stores daily.
- 3 In the last three months of 2016 the number of mobile money subscribers in Kenya was 31.9 million served by 161,583 active mobile money agents covering a transaction value of KES 1.1 trillion (\$10.6 billion). M-pesa is the dominant mobile money platform.
- 4 [Statista forecasts](#) that the value of mobile payment transactions will rise from \$25 billion in 2016 to nearly \$275 billion by 2021 – an average annual growth rate of 62 per cent.
- 5 Whereas [Juniper Research forecasts](#) that globally mobile wallet spend will rise by more than 30 per cent this year reaching \$1.35 trillion.
- 6 Mobile payments in Europe significantly increased last year, jumping 200% from 2015 (18%) to 2016 (54%). ([Mobile Payments World](#))
- 7 Charge to bill is growing. [MEF's recent Mobile Money Report](#) indicated that more than a third of people paid for items directly from the phone bill globally – double that of 2014.

Payments in store

- 8 A [First Annapolis Consulting study](#) indicates that 31 per cent of US consumers have used Apple Pay compared to 20 per cent in December 2015, with 7 per cent now using it once a week or more. 9 per cent of those with Android Pay have used the service, with 2 per cent doing so once a week or more. 13 per cent have used Samsung Pay, while 4 per cent use it once a week or more.
- 9 Overall, Apple Pay usage grew steadily in 2016 in the US. The number of monthly Apple Pay transactions grew by 50% between 12/2015 and 12/2016 according to [TXN research](#).

- 10 [Recent Juniper research](#) goes further, forecasting that Apple Pay contactless users will double in 2017 to 86 million users, dominating the OEM-Pay market.
- 11 According to [this study by Captera](#) mPOS is growing at 9.2 per cent a year, while traditional POS sales are falling at 2.5 per cent a year.
- 12 The same study indicates that 28 per cent of retail workers say that mobile POS has increased the number of products a customer buys and 62 per cent say mPOS has made their jobs easier.
- 13 [BI Intelligence forecasts](#) in-store mobile payments will grow to \$503 billion by 2020, reflecting a compound annual growth rate (CAGR) of 80% between 2015 and 2020.

Security and consumer trust

- 14 According to a [report](#) by security trade body, ISACA that surveyed 900 of its members, only 23 per cent believe that mobile payments are secure in keeping personal information safe and nearly half (47%) say mobile payments are not secure.
- 15 The greatest security vulnerability associated with mobile payments is public Wi-Fi (26%), followed closely by lost or stolen devices (21%). ([ISACA](#))
- 16 A survey conducted by [Thales e-Security](#) found 72 per cent of the 2,000 British respondents worry about the risks associated with using contactless payments or when paying for things through their smartphone.
- 17 In [Ipsos MORI](#) polling for the Communications Consumer Panel, banks were trusted with personal data by far greater proportions of UK consumers than any other type of organisation.



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 16.5 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 over 130 mobile service providers and financial institutions in over 90 countries, transforming the lives of over a billion people across the world.

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