



Vodafone Group plc

Mobile Money Webinar

(Tuesday 5th March 2013)

Michael Joseph, Managing Director M-Pesa

Thank you, good morning. My name is Michael Joseph. I'm currently the Managing Director of M-Pesa for Vodafone. And in a previous incarnation I was the CEO of Safaricom where we launched M-Pesa in 2007.

So to begin, M-Pesa was launched in Kenya as I say in 2007. In fact tomorrow will be the sixth anniversary of M-Pesa, so it's quite fantastic to think what has been achieved in just six years. And although we launched M-Pesa in Kenya because of a grant that we originally got from DFID and we trialled it in Kenya and we were successful with it, if you look at why is M-Pesa successful in some countries and why not, normally there are a few characteristics for a country to have a successful mobile money initiative.

And the most important one is if there's a significant gap between the mobile penetration and the banking penetration. So on the first slide, on what I think is your page 4, you'll see we've listed a number of countries where there's a big gap between mobile penetration and banking penetration; and those are the ideal places to launch M-Pesa. Plus, of course, a lack of banking infrastructure in the rural areas and a population that is relatively used to using a mobile phone for SMSs and things like that. And so that's the kind of place where you think mobile phones could be successful.

Turning to the next slide: how does M-Pesa work, for those of you who don't know. What actually happens is you go to one of many M-Pesa agents in your village or in a town, you hand them cash, they convert it through a series of SMSs to e-money or electronic money, which then sits on your phone. Actually it sits on your SIM card not actually on your phone, it sits on the SIM card. And then once you have electronic money on your phone you can use your phone just like a normal debit card; so you can send money to somebody else, you can pay for goods, you can pay for your electricity bill, you can pay for your water bill, you can do air-time top-up, you can pay salaries with it etc. etc.

And so what you do is you have a simple menu that you bring up on your phone, you send money to a phone number or to a business and the money is sent then electronically, and then the receiver gets a notification via SMS that they've received money from you. And then the receiver can either leave the money on the phone, on the SIM card, and use it as a debit card, as I say, or they can go to another M-Pesa agents and they can take it out as

cash. And there's a fee that's paid to an agent for depositing money or receiving money, and then there's also a transaction fee for transferring money and we like to keep that transaction fee as low as possible in order to encourage usage.

So moving to the next page the results now. Since 2007 the results, as of December, we have 17.3 million active customers. These are customers that have made a transaction within the last 90 days. We are moving over a billion dollars through the system on a monthly basis every month, so \$1.2 billion moves through the system, which is quite incredible when you think that the average transaction size is about \$30. So there's many, many millions of transactions per day.

And the secret of the success of M-Pesa, not that it's a secret anymore, but why is M-Pesa successful for us, for Vodafone, is mostly because of the number of M-Pesa agents, 96,000 M-Pesa agents to date, and this is the key reason for our success. You need these agents in order for people to have a very convenient way to either go to an agent to put money in or to take money out. And if people see the agent in their village and its well branded people will know they can trust that system and they will use that system. And that's one of the key reasons for our success.

Of course this is also one of the reasons why you don't see such success around the world with everybody else, its because to manage these agents takes a lot of management effort and money. Because these are cash in and cash out places, these are miniature banks, so you have to manage them very differently to what you manage a normal telecoms agent because they're dealing with poor people's money.

Of course there are significant benefits for M-Pesa for a customer and the original idea for us to introduce M-Pesa in Kenya was to reduce churn, or to encourage customer loyalty more than anything else. And that's what we did. But if you see what's happened now in the markets where we are successful is that not only does it discourages churn but it also has an emotional, you encourage an emotional bond of the subscribers to your network. For instance, in Kenya today were Safaricom is a premium priced operator, we're about 50% to 60% more expensive than our nearest three competitors; and we have virtually free number portability. In two years of number portability we have lost only 16,000 net outs out of 19 million subscribers. So you can see the very strategic advantage of mobile money where you can actually now not price at the bottom end, you can keep your prices at a reasonable level because you have M-Pesa.

Moving on to the next page there's a pie graph there; what do people use M-Pesa for? The pie graph is a little bit distorted because this is in number of transactions. So most people, as you can see, use it for topping up their mobile phone. It's very simple, very quick and of course very inexpensive for the operator because you're not paying anybody, an agent, to do any top up. But you see the P2P which is 22% of the transactions; this is misleading a little bit, it's not always just person to person, it is person to person but in our emerging markets where 70% of the economy's informal a lot of these are in exchange for goods, goods or services that you're paying people for clothes, for groceries etc., etc. And this figure is changing, you'll see some tiny amounts, the 1% of C2B and B2C this is very small, the number of transactions but in value they're much larger. As I said, the average transaction value is about \$30. If you look at the number of C2B and B2C they're much larger because companies use them for paying salaries, whereas a B2C or people paying their electricity bill where it's a C2B.

Moving to the next slide: this is where we currently have M-Pesa in the Vodafone footprint. India is very new, we actually launched just a few weeks ago in India, so it's still early days in India, and this I expect to be a great achievement there. And you can see the other countries where we are as well. As I said this is not an easy product to sell. Normally in a telecoms environment if you launch a telecoms product you expect to see good, positive results within six months, and if you don't have positive results you terminate the product and you do something else. With mobile money because it's a financial service it's not as easy to sell as just putting an advert in a newspaper and people will come to you, you actually have to push it very, very hard and you have to be very patient and very dedicated and have quite a lot of passion for this product in order to see success. It takes at least one year to two years before you start to see a critical mass building up and before you see some success.

In Kenya, we had to wait nine months or actually ten months. Our first millionth customer came in December of 2007 and after that it became viral. Tanzania took a similar amount of time before you start to see success. It takes a long time and you need a lot of patience in order to wait for it to happen. And that's just the mark of financial services. And if you look around the world there are nearly 200 mobile money operations around the world to date, and probably if you measure the success rate of them there are really only five successes, if you measure it by the number of active customers and the number of transactions per customer per month. If you use those success factors they are only five and three of them are with Vodafone. So it takes a lot of effort, although I do believe that we'll see more success in the next five years across the world.

So where do we see M-Pesa going? I see M-Pesa going to be a true financial service for the unbanked. It's targeted at the bottom of the pyramid but it moves up through the pyramid as you become more and more successful. So I see us starting to add new services to it. International money transfer will become very, very big I believe over the next few years. We are now selling insurance over it in Tanzania, funeral insurance, bill payments, as I've mentioned before. And just yesterday for another unique use of M-Pesa all the election agents in Kenya, the national elections in Kenya, were paid through M-Pesa and there was something like 2,000 of them, and they had to be paid, not just their wages but their travelling allowance as well.

But one of the most exciting products that we have just launched, moving to the next page, is M-Shwari, which is here on page ten, which we launched in November in Kenya and this is really a dream come true for me. This is a product which enables poor people to save tiny amounts of money and then once they've built up a savings history they can borrow against those savings instantly. No paperwork, nothing to fill in, using the existing KYC data that we have and we launched this in Kenya, as I said, in November last year. It had a fantastic take-up, about one and a half million savings accounts have been opened since then. The amounts of savings you can see, the figure there it's in shillings but it's about \$11.3 million and the amount of loans is about \$1.4 million, which is normal because in order to borrow money we have a unique algorithm which measures the amount of time, the amount of years you've been on the Safaricom network, the amount of airtime that you spend per month, and the amount of your savings. And based on that we give you a credit score and then you will then be able to borrow instantly just by going via SMS and the money is sent to you immediately. And I think this is just an indication of what can be done and what can be achieved with M-Pesa.

So we are very proud of our achievements with M-Pesa in Vodafone, it's been a strategic advantage for us and I just see it continuing to grow. So thank you very much. Christian.

Christian Wirtz, Group mCommerce Director

Thanks, Michael, that's a lot. Christian Wirtz, I'm driving the mCommerce business within Vodafone. I think I need to take you with me on a quick mental shift from emerging markets to developed markets. I think it's a shift from a clear under banked, feature phone driven market or markets, to smartphone and I would even say over banked markets. So this is why I will not only talk about mobile payments or mobile money but a bit broader on mCommerce.

But before we do that, if we look at page 12: so what is our vision for the future? It's really so when you leave your house today you're leaving it normally with three things; one is your key, the second one is your physical wallet, and the third one is the smartphone. And I believe by 2020 the Vodafone customers should only leave with one piece and have to carry one thing which is the smartphone going forward. So our aim is really to replace the physical wallet and I would even go one step further, the key ring at some point in time.

If we go to the next page and before we look at what we're doing in that space a quick forecast, and you're probably more aware of the current forecast for that upcoming ecosystem. But I think mobile payment also in developed countries will grow fast over the next years. We are right now about to solve the chicken and egg issue that we saw for a long period of time, and therefore I really believe that whatever the numbers are, will be exactly, but the order of magnitude that we see here on page 13 is what we will see in the next years, which will bring us to a trillion (US\$) in terms of transaction value, to about a trillion (US\$) in the next five years. And in terms of users definitely to the 30 or above million users.

If we go on to the next page and look on what we are doing. So we, as I said, in countries where people don't have an issue to pay, where people all have bank accounts and have multiple payment cards, we said we need to look at it a bit broader, so this is why we look at it from a customer perspective as an mCommerce cycle and an mCommerce ecosystem that we want to drive. It starts, top left, with mobile marketing. So the idea is that we can send our customers very targeted, very relevant, marketing messages for the customer, advertising messages. And they are not perceived as spam, but they are perceived as adding value and being relevant.

In order to make it easy for our customers, we want to host and manage them in our inbox in the wallet. Then when it comes to the transaction parts, so at the point of sale, it's about I can easily as a customer redeem my coupons, I can directly pay with my phone, so it can be even a one tap experience that you redeem the coupon and then you pay immediately, then if you link it to loyalty programmes, we generate customer data and transaction data on a consent basis, and if we have that we can further improve our segmentation, we can improve relevance and the circle is restarting. So it's a reinforcing mCommerce circle that we see.

If we go onto the next page, given that this is a new ecosystem, and actually there will be a penetration gain anyhow, with updates of NFC etc., we believe that we should do a step by step approach. The first step is what we will be launching over the next month it's a sticker, so NFC sticker. It's a plastic card plus mobile application, so the first step is we make the plastic smarter. Then the next step, and I will come to it later, the next step will be in the wallet, in the mobile wallet, we will also enable other banks and service providers, and then the real future, where we believe we can really substitute the physical wallet, is when we come up with an integrated mCommerce wallet, where you really replace all the cards;

plastic cards, paper cards, stamp cards, whatever you have currently in your physical wallet, with your mobile phone.

On the next page you can see the basic business model. So on the left hand side, and the picture should illustrate it, it's about seeding, and here it's mainly a transaction driven business, where we want to offer to our customers first party services, first party meaning it's our own Vodafone branded services, and I will come to the SmartPass service in a second. But also, and very importantly, we want to have an open wallet and drive third party services where we play the enabling role. So the money we will be making is for the Vodafone branded services on transaction based, it's part of interchange, etc., and on the enabling business it's mainly a managed SIM-hosting fee that we will be asking for for the services that we provide, all the management etc.

Once we've created relevance, and we have a set of profiles etc., we can then also, and that is the harvesting on the right hand side, leverage other business models like advertising based business models or future opportunities, and I will come to those as well. So these are the different revenue sources. The left hand side, the seeding, is a good business case to really fund the investments that we have to make, and I think the upside and the upside potential will really come with the right hand side services.

So now to look at what's coming next. So the first product that we will be launching as a Vodafone branded service is the Vodafone SmartPass. It's already live in Italy, and we have over 200,000 customers live in Italy already, but the markets that will be launching this year you see at the bottom. It will be the UK, Germany, Spain, Turkey and the Netherlands. And the basic idea is really to teach the customer to use his phone. So the NFC sticker will be put on the phone, and the customer will do the one tap experience, but actually it's much more than just sticker or plastic, because via the mobile app we make it super convenient for the customer to manage that card, so actually we made a dumb plastic card really smart. You can also, and that is then perhaps at some point also the linkage to the emerging markets, it's a peer-to-peer send money functionality, which is very easy and obviously could also work on an international basis.

So that is the product that we will be launching first.

But then as I said earlier on, on the next page, we believe that the ecosystem that we are creating around NFC and the wallet is much broader, and there will be additional use cases, additional business models, coming up. So I think I mentioned already event ticketing or transport, but all around identity management, identification, will be very important, retail services and one which is quite easy to understand is for example the access. If you just think you are on a business trip and you want to check in, normally sometimes you have to queue at the hotel. So you could do the check in via your phone already from wherever you want to. You get the key of your room over the air pushed to your phone, so that you can unlock your room whenever you want, without queuing anywhere, and then the next day you also do the checkout via the mobile wallet, via payment, without queuing anywhere. I think these use cases which are easy to understand, which are convenient for our customers and therefore I'm really convinced that they will take them up in the future.

That is the presentation so far, and we are both happy to take questions.

Question & Answer session

Question 1

Apart from Kenya and Tanzania, what are the three other examples of successful mobile money services that Mr Joseph had in mind?

Answer: Michael Joseph

Thank you. Two others are in the Philippines. They are two operators. They are operating mobile services. And probably the other one is in Uganda with MPN Money in Uganda which is probably the closest.

Question 2

Why is the average M-Pesa transaction so large, i.e. \$30? Is it distorted by wage payments and what is the median transaction size?

Answer: Michael Joseph

Excellent question. It is distorted by some large payments, salary payments and things like that. The median is roughly between \$5 and \$7. So the \$30 is actually something like \$27 today and I think it is distorted by the amount of wages that are paid through M-Pesa, and also the electricity bills that are paid via M-Pesa.

Question 3

Why haven't mobile payments taken up in developed markets yet?

Answer: Christian Wirtz

I think that is the chicken/egg issue that I mentioned. I think it's a very valid question. Personally I'm engaged in this space for some time now and I really understand the question. So I think the customers need to have use cases; where to use the phone. But the merchants only want to deploy NFC technology when the customer can really use it. So that is a bit the chicken/egg. Then you have the mobile phones that need to be there etc. Why I believe that we are overcoming it now is because the handsets are there and the portfolio is really broadening up, and every smartphone will support NFC in the future. We got our act together as operators to define the required standards for handsets and SIMs. Also the point of sale NFC take-up is quite important. In the UK we have close to 150,000 terminals, in Spain the same, and other markets will follow. So I believe it's now the time that we will see the launches from the different players, and that we will see the take-up.

Question 4

Christian, I wanted to ask you a little more about the staged rollout of mCommerce, particularly around NFC and in developed markets. My understanding is there have been some practical barriers in terms of agreements between operators and banks and in some cases handset OEMs and the trusted service manager, around the right model for coordinating a number of services on a single platform, whether that's delivered through the SIM card or through a secure element embedded in the handset. Could you maybe talk a

little bit about your strategy there in terms of launching maybe Vodafone's own services first on the SIM sticker on the back of the handset, migrating later to maybe a more embedded model with third party services? Is the reason you're approaching it that way based more around your desire to lead with Vodafone services? Or is it also an issue to do with some of the practical barriers, or economic barriers even, that have been around getting a fully integrated ecosystem up and running?

Answer: Christian Wirtz

So I think that there are two answers, or there's actually two dimensions here. So I think one is we clearly said we want to enable all the existing relevant players, because we believe that we will only become mass market relevant if we have really a broad variety of services that customers are used to use. So this is why we want to enable established players. At the same time, and you mention this, the whole ecosystem, I mean, it's about security it's about real money. And I think the worst thing is that there's any fraud or whatever early on. So therefore it really needs to be secure and to do so we need to connect the banking IT with the telco IT, which is a complex job to do. So that is one just obvious thing to manage. And this is what we are currently doing. So we are onboarding banks as we speak but these projects are taking some time. So therefore we said, "Okay, what are the things that we can do, which we can influence by ourselves and drive at our speed?" And therefore we believe the combination of having our own branded payment service, like SmartPass, and at the same time driving the whole ecosystem together with the banks is the strategy to take, and this is what we are currently doing.

Question 5

Firstly, when offering the mPayment service through your card, do you act as a bank? Do you need a banking licence to operate such a service? And can you comment broadly on the economics for mPayment; for example, does Vodafone get a percentage of the volumes?

Answer: Christian Wirtz

So I think on the business model you need to differentiate between our own service and the enabling service. So for the enabling, we are getting management service fee. But I think the question was more related to our own products. So do we need a banking licence to deliver it? We could do it with our own banking licence or e-money licence. We decided to launch it with a banking partner, which is Wirecard. And so the payment part of it, where you need to have the licence, the issuing licence for example, is done by Wirecard. However from a customer point of view he would experience it as a Vodafone branded product and as a Vodafone end to end service. So that is how we provide that, so this means we don't need a licence yet.

The other question was on how are we making money with it. So on that own-branded product we're getting part of the interchange fee. So the agreement we have with that bank is such that we are making the money out of interchange and other fees that come up, that the customer or the merchant pays, and that is how we have that structured. And then there is some relationship with Visa as the scheme that we are using, that generates also some revenues.

Question 6

Do the phone and the NFC sticker talk to each other in any way, or could anyone with a customer base do this?

Answer: Christian Wirtz

The main idea is obviously to bring it, really to bring NFC on the phone and to have it all integrated and seamless. And I see the NFC sticker rather as a bridging technology. However, especially as long as, for example, i-Phones are not supporting SIM based NFC clearly the sticker has a potential. The limitation of a sticker is normally you only can have one service on one sticker, and this would not allow to have a broad variety of wallet services in it. So it's limited to one product at a time. However we believe that we should also have a solution for non-NFC phones, like the i-Phone and others which are in the market. This is the sticker solution, we believe it should be a bridging technology and then we will go on SIM-based. Currently the phone and the sticker are not talking to each other, it's linked through the clouds via the app.

Question 7

There are many companies and different verticals targeting the growth in mobile payments. How do you see the competitive environment and why are operators, and Vodafone in particular, best positioned. As part of this, how do you see the debate between SIM based secure elements, hand-set based secure elements, and cloud based solutions?

Answer: Christian Wirtz

I think it's very important and I think it's well known that we as operators cooperate on a lot of things around that mCommerce ecosystem. One example is we've, in the UK but also within the GSMA etc., we are working together to define standards. So I think one big asset that we have is cross operator interoperability, which means that it's working across operators but it's also agnostic regarding devices or operating systems. So I mean a Samsung or a Google with an access device can only support this one device. Our clear objective is to support that across all operators, across devices and operating system.

So I think that is one big advantage, and the other one that we need to leverage, and you mention it, is obviously the SIM as the secure element and as a clear asset. We have a proven track record that the SIM is a very secure element over the last 20 years. And we as operators have proven that we can securely manage that asset. However, yes, there are obviously also embedded secure elements that will come up. I think we will see what will be the de-facto standard. We are as operators committed to make the SIM as the de-facto secure element going forward, and others will work on it but I think we are quite well positioned to drive that ecosystem in the way we believe is the best for our customers, but also for banks and other service providers that will sit in our wallet.

Question 8

Can you talk about the opportunity for mobile money in international remittances, i.e. enabling migrant workers to send money home to Africa or India for example?

Answer: Michael Joseph

Yes, I think this is going to be a big opportunity for us. The challenge with international money remittances is not the technology; it's more getting permission from the various regulators in either the sending country or the receiving country to operate an international

money transfer system. So what we are doing is we are teaming up with various remittance agencies in the different countries, connecting them to a hub, and then using them to send money into countries or out of the countries to another country. So this, I think, is going to be a big development coming up in the next 12 months.

For instance in Kenya we have quite a big diaspora out of the country that sends money home. It's quite big, \$150 million a year or something like that, and I think that's going to be big. And then of course India will be even bigger, and places like Qatar, that's where it's a really big opportunity. It hasn't been monetised at this point but I think during this next 12 months, as we bring operators with mobile money operations connect them to a hub which is based in Brussels or in Belgium and then tying up the remittance agencies to the hub this will become big business during the next 12 to 18 months.

Question 9

Do you take a flat fee or a margin from M-Pesa usage? And could you give us any details on margins we might expect from mCommerce in the developed market.

Answer: Michael Joseph

I'll answer the first part of the question. We take a fee, a fee which is based on the value of the transaction. In general, if you take the average, it's about 1% of the transaction value. That's the fee we get for sending money from one person to another. And at a lower level where the transaction values are very low the fee is much lower than 1% of course. And we use this fee, we share this fee, with both the sending agent, or the place where the person put money in, and the receiving agent, the place where the person took money out. So it's a very low fee, about 1% on average.

Answer: Christian Wirtz

I think on the margins within mCommerce, mCommerce as I said, they are different business models so it's difficult and it's really early to talk about the market as a whole. So I think it's difficult to completely disclose margins here. However what we clearly believe and see as that, as I mentioned, I think around payments and the transaction services, so what I had on the left side of that slide talking about the revenue sources, I think that there is enough margin in it to really pay for the infrastructure that we are building. So that is a positive, solid case with the hurdles and our expectations that we internally have. And then the upside, and that then can clearly be higher margins and on some advertising businesses that we drive we see clearly higher margins already, there might even be upside potential, but again to talk about real margins and numbers, it's just too early.

Question 10

Can you talk about over the top competitors such as Google and PayPal etc, there has been a very mixed success rate so far for similar services in the US. And if you can also talk about the key implementation challenges for NFC based services?

Answer: Christian Wirtz

Perhaps starting with the later one for the second part. I think the key challenges, I mentioned the chicken/egg, so what you need to have is you need to have an NFC phone, you need to have an NFC capable SIM, the SIM is not only NFC capable but allows you, or us, to give to a certain service provider, like a bank or a loyalty, so like a Tesco or you name it, to use a dedicated space on the SIM to provide that service. So we call it also the SIM hotel, that you see, you have your room and we are just the receptionist giving you the key

to the room. So that is one you need the SIM, you need the phone, and we need to see the take-up in penetration. And at the same time you need to be able to use it, which means you need to have contactless acceptance at the point of sale. MasterCard and Visa are driving these, together with the banks, and there are a lot of countries where all new point of sale devices are contactless, so it's really taking place and it's happening now. So that is the... but these are the barriers to it.

And the first question was the over the top players. Yes of course they are really active and we are watching them quite carefully and I am convinced that Google and also Apple will come with good services and we will compete. However, yes you also mention it, the success is limited until now. I think I mentioned the advantage of being interoperable and broader than just one device etc. And therefore I think we will be able to compete here, but this is what we see.

And then the other one you mentioned also, PayPal, is will NFC happen which means proximity payments so that at the point of sale there is an exchange of data in this certain location, which is NFC, versus cloud based solution, for example that PayPal is promoting. I believe the point is that this NFC take-up took a while, however it's happening now, and you don't change your cash system or your point of sale terminals and the road map of those every second year. So therefore the industry is going NFC right now, so it's really a train that is rolling. And I believe in order to make cloud based payments happen you also need some kind of integration in the POS systems, so that is also a hurdle that these type of technologies need to overcome.

So I'm not saying it's not happening, I'm not saying that we are not carefully watching it, but what we currently see is that the NFC train is rolling and we are part of it.

Question 11

Would you compare the relevant banking regulations that M-Pesa have to comply with in India with those in Kenya? Also to what extent could this difference slow the pace of take-up in India?

Answer: Michael Joseph

I think the challenge with banking regulators with mobile money are all the same. Basically regulators worry about anti money laundering, terrorism funding and consumer protection. Those are the main issues that they worry about.

In Kenya we were fortunate to have no regulations about mobile money and a very far sighted banking regulator who allowed us to go ahead despite the lack of regulations. Although in both Kenya and Tanzania we have a similar situation, we behave as if we are regulated so we do whatever the regulator wants us to do, and so we comply with their wishes rather than their rules.

In India it's very different. In India the regulations are quite strict, and this has, to some extent, slowed the uptake of M-Pesa in India. But I don't think the regulations are too onerous in India. They are difficult because all your cash-in and cash-out agents have to be regulated like banks, so your banking partner is responsible for the behaviour of that cash-in and cash-out agent. Also when a customer opens up an M-Pesa account, if they want to go over a certain limit, which is very low, I think 1,000 rupees, then they have to actually open up a bank account, and that takes time. So normally what happens is the registration process, rather than being instant, takes about a week.

And I believe because the regulator has the same objectives that all the G20 countries have which is financial inclusion, as they see and as they gain confidence in our ability to manage the agents and to protect the consumer they will relax those regulations and in fact they have relaxed them considerably over the last two years. But I think it's just an initial process of a slowdown in the activation of a customer rather than a slowing down in M-Pesa itself. But I think these regulations will be relaxed somewhat. Already they have relaxed it, even two months ago they relaxed it where if somebody registers for M-Pesa they can do a transaction immediately of less than a thousand rupees. The only thing they can't do is a cash-out transaction until the registration process has been checked by the bank and checked against the national database. And this is just a process that we have to learn and have to go through and comply with. And I don't think the regulations are over onerous.

Question 12

Can you explain whether you have reached agreement on standards and platforms with rival operators in Germany, Italy and Spain, similar to what has been achieved in the UK? If not, are there benefits to developing mobile payment services through a consortium, or can you still go it alone effectively in European markets?

Answer: Christian Wirtz

I'm pretty sure if we would have reached those agreements you would be aware of it. So I think the honest answer is no, we haven't, however we are working in those countries together with our MNO colleagues. So yes, we've taken a while, it was obviously for the European Commission a case example and therefore that took a while also in terms of clearance etc. We are discussing with the other operators, it's obviously carefully watched from a competition law perspective etc., therefore we have to play that either through the GSMA or with clear defined rules on what we are doing. We are active in those markets.

I would say Italy, it's a bit different, in Italy currently there is one player, which is SIA, which is a local processor I would say and the one who has the connection to most banks in Italy, and they are acting kind of as a hub and we try to drive that together with them and our MNO colleagues. So this is happening and it looks very positive. In Germany and Spain it's I would say similar discussions, can we accelerate things by our hub model, SPT SM so trusted service manager hub model, and or what can we do to work together. So that is happening.

At the same time we decided as Vodafone that obviously in order to drive that market forward, in order to overcome the chicken/egg we are working also on our Vodafone branded services, again these are the ones where we have all components in our hands. Vodafone is clearly committed and believes that if we get a cross MNO place organised and up and running it's beneficial for the whole ecosystem, however if it's not happening at the pace we want to make it happen we will also act independently to drive it, but always talking to our MNO colleagues as well as to the banks etc., to drive that jointly and together.

Question 13

Could you tell if your partner for the NFC solution will be Gemalto and what will be its role?

Answer: Christian Wirtz

Yes, so it's actually public domain that we are working for the trusted service manager which is kind of the, I would say, the secure platform that you need to connect from your MNO IT to the banking IT in easy terms, and for that yes, we are working with Gemalto, that is right. It is a global platform that we are building with them or they're building for us. It is directly linked

to our wallet, the wallet is also public domain and it comes from CorFire which is a SK C&C telecom company. So these are our main partners on the wallet side. On the SIM side obviously Gemalto is one player, but they are one player out of a few we are working with on the SIM, but again, yes we have a cooperation with Gemalto on the TSM side.

Question 14

What are the different challenges involved with rolling out mobile payments in developed markets? Given the more advanced banking systems in developed markets is there a profitable mobile payments business model in these markets?

Answer: Christian Wirtz

I think we touched upon that a bit earlier already. I think, so yes, as I said, it's pretty clear that the whole financial service market and banking space is different from what we see in emerging markets, clearly. This is why we as Vodafone cannot play the same role as we can do in emerging markets with M-Pesa, that's clearly the case, and therefore we are going a bit broader. We need to look at it, not only from a payment perspective, but from a, we enable customers to do shopping with it/and mCommerce, this is what we do. However, also as I said before, yes there is money in mobile payments but it's not the big opportunity and not the only reason why we do it. We also do it because we believe that it's the starting point. The payment space, we can make some money, it's not huge, but it's a starting point to get into other areas with more upside potential.

Question 15

Could you discuss in more detail the prospects of Vodafone in India and the size of the opportunity? Launches in India to date don't appear to have been that successful, how will Vodafone be different?

Answer: Michael Joseph

Yes, thank you. Yes, I think launches have not been successful to date. I think it's a slow process as I said before. In India it will take quite a long time to take off and to be seen to be successful. The market is quite complicated, it's quite fragmented and it's enormous. But I think that what we are doing and I think one of our competitors is doing a similar thing is, we are starting to roll out in different circles, we have to learn a little bit more about the market, how it will react, how do we make it happen within India, but I'm convinced this could be massive if we do it properly.

I mean there is a massive movement of labour from one end of India to another and that's what we're looking at. In the circles where we operate what circles have a natural labour movement say from Calcutta, for instance, to Mumbai? There's a lot of people moving to work in Mumbai and they have to send money home. And for these migrant labourers to send money home it's very, very difficult, they have a two hour window at the national bank to send money home per day, and they have to stand in line for a long, long time before they could send money home and it's quite complicated.

We believe that if we do it right and we get the distribution right, which is probably the key challenge in India, that we will be extremely successful, but we have to do it carefully because India is unique in that it has both money laundering concerns and terrorism funding concerns and we have to do it very carefully so that the regulator goes along with us. But I'm convinced that it will be successful. How big it will be, it'll be certainly much bigger than

Kenya is today I'm convinced of that, but it will take probably a good 18 months to two years before you start to see the signs of success within India.

Question 16

For M-Pesa what type of EBITDA margins are you targeting after reaching critical mass? And how are you considering interoperability of mPayment systems in the future in countries like Tanzania where there are at least two operational mPayment systems?

Answer: Michael Joseph

Okay, on EBITDA margins probably you will not see a positive EBITDA margin until the third year of operation when you get critical mass of number of transactions per customer per month, and when you start to see more than two or three revenue generating transactions per customer per month you will start to see some EBITDA margin.

The cost of operating M-Pesa is quite high, and not too much the platform costs itself, but the actual back office because you have to remember that you have to have quite a big customer care centre to answer all the various questions that people have, particularly people at the bottom end of the pyramid who get concerned that their money doesn't arrive at their cousin or their aunt or their mother within two or three seconds. So we have quite a big back office dealing with M-Pesa and that is probably our biggest cost.

But in Kenya right now the EBITDA margins are around the 30% mark at the moment and I think that's pretty good for a financial services product which has transaction fees of about 1%. And you don't see similar margins in Tanzania yet but you will see them.

And moving on to interoperability. I think the pressure is on to have interoperability between platforms. Now, first of all it's a bit of a misnomer right now because in fact with all our platforms you can send money to anybody, you don't have to be on our network to send money, the challenge is that if you're not on our network then it just costs the sender more money for you to take the money out. So we have some interoperability but the platforms are not interoperable. And that's two reasons, one is that the technology is very new and they were never designed for interoperability and so that's a challenge, and then the other thing is you want to have an edge to win, so if you want to keep your customers you want them to be on your platform and so there's not much incentive for operators to open up their platforms to other operators.

But I think the pressure is on, it's coming from regulators, they want to see one platform for one country, and I think you'll probably see this happening over the next three to five years, probably not before that because the platforms themselves are quite complex and the rules surrounding making payments and ensuring the security of those payments are quite complicated and you just don't want to connect your platform to anybody else's system without going through quite a lot of testing. So I think it's coming, it's just not here yet.

Question 17

Can you please talk about Google Wallet and how its cloud based model might affect Vodafone's strategy in developed markets?

Answer: Christian Wirtz

Yes, as I mentioned we are looking carefully on what Google is doing and what other over the top players are doing etc. Again, I think I mentioned where I believe we can have a superior or a better starting position, which is the SIM message secure element and the interoperability across different players and devices and operating systems. And this is what we are driving, and I think if we would give up that advantage it would not be wise to do, therefore we are continuing the way we started and we are currently, as I explained to you, the different steps to get to an integrated wallet.

At the same time yes, the cloud based model is something we are looking at and we need to watch carefully. However, I believe we are well positioned and right to first of all strengthen our strengths which is the SIM as a secure element and the interoperability of the upcoming ecosystem.

Concluding Comments: Michael Joseph

Okay. Thank you very much, thank you for your interest. Obviously M-Pesa for us is a very big thing and we've been extremely successful at it, we're very proud of our success, and we need to be more successful in the new countries, we know that, and we will see some new launches coming in during this year of new countries where you would not expect us to go. And I think it's just a very exciting development, so I would like to say thank you for your interest, thank you for your questions and I look forward to doing this again sometime in the future.

Christian Wirtz

Yes, the same from my side, thanks a lot for the really interesting questions, I think you really nailed the hot topics and raised those. I'm really passionate about the whole ecosystem that will come up, it's so intuitive to believe that this is happening and that we will use our phones for personal transactions, tapping it and using it really to replace the wallet. When I talk about it with friends, with my family, it's so intuitive and everybody says, "Yes why not, yes of course we will do that." So I truly believe it's different than other crazy ideas that might be out there. And on the other hand it's a complex thing, we need to manage security but we are well positioned to do so. So I'm looking forward to drive that further and thank you again for your interest and your questions.