The MasterCard Foundation Symposium on
FINANCIAL INCLUSION 2016

Day 1, Session 7 - Keynote Address – Client Centricity and the Power of Digital Services

Nick Hughes, Co-Founder, Chief Product Office, M-KOPA

Great, thanks. Good afternoon. First of all, it's a pleasure to be here. I haven't really moved in the financial inclusion conference circuit for a few years, but it's great to see some old friends here who have been on this sort of digital financial services journey with me for about 15 years now. So, my thanks for inviting me, MasterCard Foundation team. I've really enjoyed being back and talking to some old colleagues.

So, what I'm going to do for the next probably 20 minutes or so is introduce you to M-KOPA. M-KOPA is now a business which is about five years old. We sell pay-as-you-go energy, but I hope at the end of this session, you're going to walk out of the room thinking that's not an energy company at all. It's a finance company. So, as I'm talking and you see some of my slides, please don't be shy in holding back your opinions if what you think we're doing is completely mad or you've got good questions you can ask. And, I'll even take questions on M-Pesa, which I try not to do anymore because I'm not really so involved in that anymore.

So, my key messages.

Digital is right at the core of what we do at M-COPA. There are three key things I'll try to bring out with examples through this remarks section. First of all, data can shape the very proposition that you offer the customer. In fact, if you don't go in to offer a proposition that's based on real observations and data, I think you're going to get it wrong. And, I'll give you a couple of examples there.

Secondly, data-led observations about what customers like and don't like can build trust. Coming up with a scalable model is all about trust in that customer, especially low-income people. The very risk-averse, as we all know, they only have a small amount of money that's disposable to them. You've got to build that trust and data underpins that trust as well as contact, regular contact, with the customer.

And then, finally, I think data can open up new opportunities and I'm going to share one with you that's building off the M-KOPA model. I look forward to some questions around that later.

So, the quickest way for you to learn about M-KOPA is for me to play a very short video.

[Video presentation]

So, there you go. It's a really simple idea. We take some solar energy hardware. We put some mobile connectivity inside that hardware, and the pitch to the customer is very simple. Instead of spending 50 cents a day on kerosene, spend the same amount with us and acquire this clean energy asset. Now, this is a huge problem in Africa. More than 60% of the population in Sub-Sahara Africa do not have access to the grid. They spend a ridiculous amount of money on a very poor quality fuel, which is kerosene or paraffin. In Kenya alone this year, a billion dollars will be spent by people on buying small amounts of kerosene, and it's a dreadful fuel. It's very poor quality. It's carbon, of course. It's toxic and often very dangerous. So, this proposition is simple. Instead of spending the same amount of money, spend it with us. Acquire this asset and that's going to free up disposable income in your household.

I'll just take a second to explain where this is in context. This links back a little bit to some of the earlier conversations.

Twenty years ago, mobile network operators started coming into Africa. I remember Michael Joseph who ran Safaricom the best part of 25 years. His first business case was to acquire half a million customers. Safaricom today is north of 25 million customers. Nobody had any idea how big the potential for mobile connectivity was in Africa. The interesting thing that unlocked that market was a financing mechanism, something very simple: pay-as-you-go. That was the first example of allowing consumers to pay a small amount for a relevant-sized piece of air time. That exploded the market. And then, of course, mobile money came on M-Pesa, and Safaricom is still a standout example.

There are other big schemes now starting to emerge around the world. There's 25 million on bKash in Bangladesh. It's a slightly different structure. We're starting to see millions of customers now all over various countries in Africa. I think the GSMA estimate 100 million active mobile wallets now. So, this is coming. We can have a debate. It's probably not for this conference about whether that's happening quickly enough, but if you think about how long it took Visa to acquire lots of customers, that was probably a 50-year timeframe.

M-Pesa next year will be 10 years old. And, if you think about all the other systems that it spawned, and we count a hundred million, I think that's a pretty good speed record. I think our human nature is to want to go quicker. And, I think payments itself might become commoditized. I would be interested in people's views on that.

I'm really excited about the top layer and that's exactly where M-KOPA is now. If you could move a small amount of money around onto a huge customer base, then you can unlock barriers to new business models. That's exactly what we're doing with M-KOPA. These customers for power were invisible to the power company providers before. But now we can see them. They've got a phone. We know where they are. We can send them information. We can increasingly do a transaction with them on the phone. That removes lots of barriers in offering a completely redesigned service model, which is what M-KOPA is doing for clean energy.

So, here's our products. It's very simple. It comes in a box. The customer buys one and takes it home and self-installs it. It's a solar panel. Lights, a torch, a radio, and a phone-charging Optimus cable. Inside that box is the control unit. That's a battery and we've wrapped some software around that battery. It will always charge up as long as it's plugged into the power, but it won't discharge unless the customer has paid us a credit for it. There's a little screen in the middle of the box and that counts the number of credits that the customer's bought. So, it's very simple.

What they do with M-Pesa, they send us a payment. It's 50 shillings a day. They can buy as many as they like anytime. They can buy for a single day's use or 10 for 10 days' use. As soon as we received that payment off M-Pesa, of course, or MTN or Airtel or TIGO, it doesn't really matter. We need to see the payment come in. We send that unit a message saying the customer's just bought this many days' credit. Of course, to make that happen, inside that box is also a modem and a SIM. So, we see that box on the mobile network. We know where it is, when it's on, when it's off. If the customers don't pay us, it doesn't work. It doesn't allow the battery to discharge. So, in this way, the customer is able to acquire that asset, that clean energy, at any pace they like. They have to buy 365 units of credits and then they own it.

A couple of months ago, we launched TVs, because this could work well beyond lighting, of course. You think about any electrical appliance that you want to power and finance in the same way. We can take this same technology. Since we launched the TVs, we sold nearly 20,000, and we sell them as quickly as we can get them made in China and brought into the country. Those of you out there who are interested in business models, you can see what's happening here. We pay for this in dollars. We bring it in. We buy it in China. We get it first made in China. We bring it in and we collect money in local currency over time, so there's a massage balance sheet challenge to be able to manage. In the early days of M-KOPA, that was our key problem. Can we get enough working capital to make this business model work? And, of course, the banks won't lend you anything until you've got three years' worth of data. But, we do now and fortunately we're in a position where we've got a big working capital facility to keep this model moving.

So, it's simple. I already described how it works. The customer comes in. Puts a deposit down. That's around $30 - 3,000 Kenyan shillings. They take the box home and install it and pay us over time. As I said, they can move at any speed they like in that payment cycle. They can pay us 24 hours a day. Our servers will see that incoming payment and communicate with a device in real time, literally a few seconds, and that device will be updated. There isn't a minute in the day now where we don't get a payment coming in, or even the night, sorry. A full 24-hour period.

Now, I'll talk a little bit about why we went for the ownership model. You could take a model like this and say let's just lease it out and collect lower payments every day. But, we believe there's a culture of wanting to own the assets. Actually, it lets us move to the end point of this slide, which is now you've purchased that asset, you can refinance it for many other things. This links to the conversations we were having earlier today around lifetime value of the customer.

How big are we now? We made that little video, gosh it seems a long time ago, but it really was just nearly 18 months ago. But, we're now at 425,000 customers. Most days, as was on the video, we're selling around 500. On busy days, we'll sell 700 or 800 new systems. For us, it's been a very rapid growth as a business. We now employ well over 850 employees. Now, this slide is slightly out of date. This is key. We run a 24-our customer care centre. If customers have any issue with their device, they know they can call us any time of the day or night and we'll do our best to fix the problem that they're having. So, this isn't just a digital deployment. This is a real large business that's operating here.

We have around 1,700 sales agents. They go out and earn commission. They go to the markets or football matches. We've got about 100 shops that they work from, as well, in Kenya. And, they're going out and doing the hard sell. This is still very much a push sell. I think the first talk this morning was really interesting for me because even though it's logical and we're displacing a very dirty fuel, we still have to work really hard to sell this to the customers. They'll do the calculations in their head, but they just don't trust it. They're thinking, 'well, look, I've had solar before. I bought a cheap product from China and it just didn't work'. We have to work very hard at building that trust. The TVs have become slightly different because our early adopters are jumping into it. They see the benefits we brought them with the lighting system and they're hungry to get that television. But it's still hard work to make these sorts of products get to scale in the market despite the obvious to us. The obvious point about this is a displacement fuel. There's no real cost to you here. In fact, after a year of payment, you're saving money every day.

So, we're in, mainly, Kenya, Tanzania and Uganda. Tanzania is a tough market for many reasons but have about 20,000 customers there. We're growing as quickly as we can. Uganda, we've got about 70,000 customers. And then, we've just been experimenting with a pilot with a company in Ghana where we offer them the hardware and the software on a sort of licensing basis and we have about 15,000 customers in Ghana.

As I was saying earlier, this opportunity exists in many, many markets. The grid, being frank, is never going to reach all of the people in Sub-Saharan Africa. There's a McKinsey Report out literally six months ago that said if we carry-on investing at the same pace in the grid and the population growth stays the same, as was predicted for the next 50 years, by 2050, we will only have made a 50% penetration of grid electricity into the population. So, we have market failure. The grid model is not working. This model does work. I'm interested in your opinions on this quality of service against a grid power service. There's a little bit of tension between these two things. Often the grid suppliers will look at us and go, that's just a toy. That isn't real power. That reminded me of some of the banks saying to us about M-Pesa. M-Pesa is just a toy. We'll ignore it for a while. Then, after a year or so, the banks sort of changed their mind about whether M-Pesa was a threat or an opportunity.

So, here's our growth. I want to make two comments here. The first one is the low growth during the early years. This is all about getting into experimentation. Put something into the marketplace, watch what customers do with it, and then change your business model. That has happened on M-KOPA. It also…if you'll give me one story on M-Pesa. Many of you know that the first platform we built with DFID funding actually in Vodafone, which became M-Pesa, was a microfinance loan platform, and we launched it with Faulu in Kenya. We had it working across groups with treasurers and secretaries. It was a really complex microfinance disbursement and recovery platform.

Microfinance, of course, at that time was key. You know, 2004 and 2005 were the UN year of microcredits. So, we thought that we were onto a great thing in building a microfinance payment platform. We started running it with the several hundred customers that were SICAs. These are all groups, there 10 or 12 groups and, they all knew each other in the group. They'd meet every week and the treasurer would issue them money and everybody would make their weekly payments.

We watched the data. For the first few weeks, we started to see something very odd happening. People were loading more money onto their wallets than were needed to pay the treasurer. So, they were putting more money in the system than they actually had to. So, we scratched our heads and followed the data a little bit more and kept watching this. And, this grew and grew and grew. The delta between the minimum loan repayments and the amount of money on the wallets was growing and growing. So eventually, we got into the field and started asking them why they were doing this, these pilot customers. It was clear. They said well, yeah, I can pay the treasurer, but I can also pay my friend, I can pay my neighbour. And, I'm using it as a convenient way of paying my friends and my colleagues. So, of course, the light went on. We turned off all that complexity in a microfinance loan system and went to market with 'Send Money Home, person-to-person' payment. We over-complicated the first platform, stripped it all back and so the rest is history. We launched in 2007 with a very simple strapline. We didn't mention mobile banking or mobile payments; it was 'Send Money Home', which cut straight through to our value proposition for the customer. And, the rest is history.

Interestingly, M-Pesa is now used, of course, in microfinance institutions. Many banks use it as a channel. All that complexity is being added back in because people are comfortable with how to use a mobile wallet. So, it's gone sort of full circle. It's actually being used now for the very thing we thought it should be used for, but we had to simplify it and then gradually layer on the new features and functionalities. We've done the same thing with M-KOPA. There's a couple of things we want to experiment with.

First of all, I've talked about ownership. We wanted to really understand if customers who would lease at the lower price would like to own the unit. We tested deposit sizes thoroughly with different cohorts. We made lots of mistakes actually in the early days and it's important to make those mistakes and observe what customers do. We started trying to charge, for example, for hours of usage, rather than single units of credit. Of course, we switched after experimentation into buy one day of credit. Whether you use it or not, that day of credit counts down at the end of the day. It's simple, but it's based on observations of what customers do in the field.

We talk to the customers all the time, so the torch came in as a later product addition. The radio, the customers absolutely love the radio. When we ask them why are you purchasing this, save money actually sometimes becomes behind listening to Arsenal premiership football score results. They love the radio just to stay in touch with the world and they carry it around with them, bring it back, and charge it off their M-KOPA system. So, these additional products have come in over time as we've started to listen to what our customers like and don't like.

So, data-rich is something, you know, you hear big data, the Internet of things. You hear these phrases all the time. But, in M-KOPA, we really use this to grow the business. These units are connected into the mobile network so we know where they are and so we can overlay lots of interesting GIS applications there. We know when they're on. We know when they're off. We can troubleshoot. So, that bottom curve - there's too much detail in there to see, but you see that's the solar panel telling us it's charging up day and night, day and night. And, the drawdown blue curve you can see underneath is the battery. So, we can tell immediately whether a customer is using it just at night and how many hours they use it for, and if they're using it during the day. That's allowed us to optimize the products. We've issued now, we're now on our fourth version of the product since we launched.

There's some great stories here. There was a shopkeeper who phoned us up and said, "look, you told me this would give me eight hours of light every night. I'm only getting two or three. I want my money back". Can we offer them a money-back opportunity if the product hasn't been tampered with? So, he was phoning in and was getting angry. Our customer care rep said, "okay, let me have a look at what's going on in your system". Our customer care representative said, "well, look, you're charging it too much during the day. You're using it to charge during the day and the battery is not charging up properly. You need to charge it further". So, the shopkeeper said, "that's absolute rubbish. I don't use it in the day at all. I'm running my shop. I'm doing my business. I'm not using that system at all". And so, our customer care rep said, "well, what do you do during the day?" He said, "every day at 12:00 o'clock I go for lunch and I leave the shop girls in charge and I come back an hour and a half later and I just carry-on my business". We said "well, look, we can see the phone is being used to charge phones when you're out for lunch". So, this guy was trusting his shop girls to sort of mind the shop but they were obviously selling phone charging to people on the quiet. [*Laughter*] So, he immediately locked it in a drawer at lunchtime and his problem went away. But, that's only because we can see the data. We wouldn't have been able to tell that if we didn't have that level of visibility inside the units.

We can talk about data for a long time, but I do want to move this towards comments and questions. One thing for mobile network operators out there in the room. We drive huge amounts of transactions off the wallets. The last month was the first month where we crossed a million mobile payments coming in from our customer base. Most days, we're getting between 37,000 and 40,000 payments coming in and that's just growing all the time. This is sticky for the network operators, as well. It keeps you on the SIM or keeps you on the mobile payment platform. This churn, of course, is a big problem for network operators to deal with.

We can do other exciting things, which are probably a little bit technical but we can do what's called 'over the air updates'. So, if there is a problem with a device and we need to issue a new version of software or firmware to control that unit, we can do that remotely. We don't have to get the device back. We can watch those batteries and see how they're performing like they do with our phone if your phone starts charging up and discharging quickly. We can see the same behaviour happening on our estates of batteries. And, we can intervene before it becomes a Type 1 failure and stops working. As soon as it stops working, customer doesn't pay us anything and we're out of pocket. So, intervention is more made possible by looking remotely at how that system is performing.

Okay. Almost to the end. This is the exciting bit. The lifetime value for these customers.

We've got a great project. Actually, we're working with The MasterCard Foundation FRP looking at how we can seek other partnership opportunities and channels of distribution because most of our customers, 70%, in fact, have some income in their household from farming. Fifty percent of our customer base, their prime source of income is farming. So, when we think about that device they acquire from us, we understand them in great detail. We can see their payment behaviour. We know they own that asset eventually. Then, what we're charting to test if we can do this, and we've had a very successful first year, we can say okay, do you want other things from us on credit? We'll reset the credit on their solar home system and give them something else.

Now, that something else we give them does not have to be connected to the network because we will stop the lights working if they don't make payments back in. So, today in Kenya, we're already the biggest seller of clean cook stoves. These are the little jiko, fuel-efficient jikos. They use about two-thirds less charcoal or wood than the normal cook stoves. We're selling them in the thousands every week by resetting the credit on their solar home system and allowing them to take home a cook stove, which they then pay us for as if they were back in negative credit on their solar home system. It's a convenient and simple way for them to pay. They trust M-KOPA. They buy that product from us knowing that we'll support them and they've got comfortable with using mobile payments against an asset which they own, which is the home lighting system.

So, these are the sorts of things you can only discover when you've spent a lot of time getting inside the mind of the consumer and starting to position the first product with them as a gateway to offering other products and services. TVs was another example I've already mentioned. We sell Smartphones; literally hundreds of smartphones every week.

We're very excited about this opportunity to move into the ag sector to look at things like fertilizers and seeds because these are other pinch points for these household when it comes to their cash flow and their cash flow availability. And, we think in Tanzania with the FRP project, we're exploring whether we can find agricultural value chains to push this same value proposition down. And, we can do several things for that agricultural partner. We can do payment collection. And, we can provide credit to them to allow, as I said, seeds or fertilizers, or other inputs for that partner using the relationship *we* can build around the solar home lighting system.

Very quickly. We gather lots of data all the time that we use internally. We can quantify because of the nature of the data we get coming back every day, we can quantify the amount of kerosene that's being displaced then we're just testing whether we could use that as a carbon credit mechanism. Those of you who are familiar with the carbon credit world.

We poll the customers all the time on what they're spending on alternative fuels. We think every household that takes the base level products from M-KOPA will save around $700 over the lifetime of that product. That's a lot of money to a low-income household. That's a saving from not spending in on kerosene. Once they've paid us back our full amount, that system is always going to work. They don't have to buy any new kerosene or power from us for the lifetime of the product, which is four to five years.

Simple stuff, eh? But, you can see how it spirals from the first product into a longer-term opportunity, a credit opportunity for the consumer.

I hoped I've given you a couple of examples of how we, as a young company, we use data. We try and build as much trust as we can with a customer. We're very excited about this asset, and unlocking this asset model. We think that's great. We're testing bigger systems. We've got some systems out which are powering fridges. We're looking at productive assets. So, this is a sort of a cost-saving proposition for the customer. But, what about if we said, look, would you like to buy some agricultural equipment, which would generate you more income in your households. Perhaps a grain dryer or a milk chiller? These sorts of opportunities can be funded in exactly the same way. This is a different take on asset financing or microfinancing and it's all because we can use the technology.

Now, my last point in red. I feel like as if I'm giving sort of American TV advert as a health warning. Does everybody watch those? Because, whilst this is very exciting and the data is brilliant, and we think we've got quite a nice business model here, that's only 20% of the solution. The other 80% is good old-fashioned boots on the ground business. It's managing the quality of your suppliers in China. It's getting boxes onto boats and through warehouses in Mombasa. Stuff into the sales channel, incentivizing and training sales teams, recruiting people all the time into the customer care centre. This is all hard, operational work. And, if you didn't do that, you haven't got a business anyway.

The technology piece is, as I say, I think it's an 80/20 split. The technology piece is important and it's exciting and it helps us grow. But, we shouldn't lose sight of the fact, and the team from CGAP will hear me say this all the time to the teams there. Let's not get too excited by the technology. If you haven't got the basics right in your business, you don't have a business at all. So, I sort of put a negative note to end on. I didn't mean to end on a negative note, but I just wanted a dose of reality here. This is exciting. We can do lots. We're very excited about the growth opportunities, but you have to do the fundamentals.

So, I will leave it there. Opinions? Questions? I'd love to hear them. Thank you very much. [*Applause*]

Eric Noggle, Research Director, Microfinance Opportunities:

We do a lot of financial diaries work. One of the projects we just finished was in energy diaries. It was based in India working with asset finance companies that made many of the sort of similar claims about reductions in kerosene and reductions in fuel use and those sorts of things. When we did the diaries, we found out that many of their assumptions were false. Now, India is a much different context than rural Africa.

So, my question is when you talk about things like knowing how much kerosene is being displaced when you're making those estimates. What kind of data are you collecting to know that? How do you know they're not still buying kerosene but using it for other purposes like diluting diesel in generators or still using kerosene lamps in addition to solar?

Nick Hughes:

Yeah, that's true. It’s a good question. It's never black and white. What we discovered the other day...we poll our customers every month. We've trained a section of our customer care team to do nothing but survey people and we use independent researchers where we can. We send them out into the field so that they don't even know they're answering questions to somebody who's being commissioned by M-KOPA. So, we do everything we can to make sure our research is accurate and objective. It's never 100%. We shouldn't fall into the trap of...these make good numbers, of course, but underneath it, you've got a variable spend on real fuel. Actually over the last...this number should be revised all the time because the kerosene price in any given country varies according to distance from the gas station. So, already you're into smoothing of numbers.

But, we're 100% sure that customers are saving money. There are lots of ways that we test other than direct research. The fact that they're able to...we've seen 75,000 customers take follow-on products and they are our best-performing cohorts. We know that they've got more money available. When we test where additional money has come from it's a sort of a redirection of the savings that they're making from not having to buy kerosene anymore. Now, we're pretty confident that that's accurate. We're actually just commissioning some work with some diaries in Uganda, as well. So, we also take a skeptical view at this. But, it's clear. When we ask the customers why do you use M-KOPA? Ninety-seven percent in the last survey said because it saves me money. So, you have to sort of take what you can from and be as objective as you can to get data together, but, we're pretty sure that's accurate.

Michael Mithika, Consultant, Financial Services:

Thank you very much. I'm a consultant, financial services. I have two questions. One, is in the six years that you've run this, have you broken even? What has it taken to actually deliver some financial results to your investors? The second question has to do with the growth. I'm wondering, what is the one or two critical things that will help you get into other countries? It does sound like you're, I may be wrong, but you're struggling, for example, to get into certain countries and get the critical mass. It's definitely not the technology. Perhaps it's something with the operations or the regulations.

Nick Hughes:

Actually, those two points are linked. Are we making profit yet? No, we're not making profit. We're still in growth phase. We've always wanted to stay as close to break-even as we can. So, bizarrely, because of the way I talked earlier about the financing model, if we stopped selling, within a few months we'd be cash flow positive. So, being cash flow positive is really a mindset. Do we want to be profitable at this stage? No, we don't actually. As a business, we want to expand and grow.

We've scratched the surface in these three markets we're in. We're less than 2% of the adjustable customer base. We want to keep growing and that costs money because you're spending money on making kits and bringing it into the country. So, we're not cash flow positive, but we run our business model. Every unit we sell, our unit economic model tells us that we're making a contribution margin on every single...if you think about the unit economics of one box, we make money on every one box. Of course, in growth phase, you've got to do your office setup, the back office systems, lots of training, our HQ. You put all those overheads in and we're not making money. But, if you stop selling, we very quickly would.

Now, the growth strategy is interesting. Our uptake curves in Kenya are very different from what we've been able to take. We've taken that learning and gone into Uganda and Tanzania. They both have different challenges. In Tanzania, there are things that we learned the hard way around employment law, for example. You can't really use a DSR-commissioned sales model because under that law, under that employment law, that person becomes equivalent of a full-time employee. That's quite hard to build into your business case in markets like Tanzania. But, our Board, the M-KOPA Board, has asked to consider okay, look, this is a big opportunity. You guys are at the front. Our competitors are coming into this market now. What is our growth strategy? So, we are looking at a range of different ways to get into new markets.

The model we've done so far, other than in Ghana, has been put our own boots on the ground and do everything sort of soup to nuts to make it work and we have relationships with network operators that help. But in a faster growth model, we'd look at things like partnerships. So, could we find a partner in, I don't know. Everyone gets excited about Nigeria because it's a big market. Could we find a partner there? There's a massive grid power problem in Nigeria. Mobile money is a bit patchy but we don't have to use mobile money. There's different ways to move e-value around. But potentially, that could work for us if we found a partner that could do some of the things that we don't do in M-KOPA. So, distribution branding, customer care. If we didn't want to do all of that ourselves, we'd look for those features in a potential partner and use a partnership or a licensing model to grow.

I'm very serious that if we just wanted to sort of stick to our netting and stay in East Africa, we could do that and we'd be a very profitable company in a couple of years. But, that's not the opportunity here. This is a massive problem. I think it's a really interesting take on financial inclusion. We could solve this...this a sort of credit model that we're building off the back of it, I think has lots of potential, especially when you start to think about bigger systems, these productive assets in agricultural, etcetera. I think we're at the beginning of this curve. There's a big opportunity in front of us. We've learnt a lot and I'm sure others will come into the sector and compete with us, but it's actually…I think it's a growth opportunity here.

Youssouf Sy, The MasterCard Foundation:

You have a brilliant business model and I just have a quick question. You started by offering those solar panels, then you have the radios and TV, and it's really brilliant. I'm just trying to understand. With all the data you have from your clients, and you have a lot, do you think that given that your clients have different needs, one day you will partner with different organizations to give them more? For example, with your clients, you'll need some loans for the kids or some insurance. Some stuff like that.

Nick Hughes:

Good question. Do we take that up or do we give it to a partner bank, for example? Yes, that's a good question. And, again, a very real one that we debate a lot inside the company.

We do build up this position of trust with customers. We obviously apply data protection, etcetera, when they sign up with us. We cover all of that in a very simple contract. But, we do do things like we make it clear to them, we will submit your repayment records to...in Kenya, there's a quite a young CRB; a Credit Reference Bureau, and I think well over 90% of the records that we put into the CRB are positive credit scores for our customer base. So, that's one level we could do, where we're just taking our data and, in fact, we're helping many of our customers out by allowing them to get registered positively with the CRB.

Would we actually go as far as to say to a bank hey, look, we found a really good customer? We can see he or she is a great repayer. They paid this down within a few weeks. This customer's obviously got money. Should we try and lend them some other things? It's a really interesting question. We, actually…where we bottom that is we want to maintain that relationship directly with the customer because it is all about...you put the effort into giving them a good first quality service and then build on that relationship.

There's only so far we would go in terms of how much would we be willing to lend them against the car and turn the lights of if we never see the car again. Of course, we wouldn't. There's an envelope of, let's say between $50 and $200, which is in the same sort of price range that they bought the first unit for. We're comfortable in that envelope. I'm not sure we're brave enough yet to go up to offering a $1,000 credit to someone we've only seen them buy something worth $200. Yeah, it's a good question and one which we'll keep revisiting.

Yanina Seltzer, Consultative Group to Assist the Poor

Thanks for your very fantastic presentation. I just wanted to hear a little bit more about your product development process. So, for example, when you came up with your clean cooking stoves, was there a prototyping process? How did you engage with your customers? What was the feedback loops and all that? Did you send it back to China? All that.

Nick Hughes:

A really good question. In fact, this has been another organizational challenge for us as a business. My colleague is in the room, John. He's running a distinct business unit now where we've ring-fenced resources just all around the next wave of innovation. We call it M-KOPA Labs. Because what we've tried to do, as we were selling this product in the first few years and we were getting busier and busier and selling more and more, it's almost impossible to get the team who are busy in their inventory management sales and tele-care, to do the thinking around the next phase of evolution. We learnt that the hard way. We had a couple of projects that were actually grant-funded, but just couldn't get them away because nobody had the time in the business to do it.

So we have just, the start of this year, the Board commissioned us to setup a new business unit, which is the Labs, and that's actually the one that we're testing the agricultural partnership relationships with funding. But, you have to give mind space to that team to go and find the partnerships quickly, and we're doing the same thing. We didn't actually prototype the cook stoves, of course. A partner’s come to us in a wholesale/retail basis and said look, we've got a good cook store and we tested a few, watched what the customers liked most and then we concentrated on working with one main partner for cook stoves. For the bigger systems that we're testing, we'll do that rapid prototyping ourselves in-house and we'll put project teams together. You have to ring-fence that from the business otherwise it just doesn't get done.

Julias Alego, Financial Sector Deepening Africa

You eluded to something which I thought very interesting. This is to do with the interesting competition between what you're doing and what the governments are doing. I want specifically to mention Kenya because I know right now the government is really big time on the last mile, which is about expanding the electricity grid. This has some political ramifications as well, looking at the fact that next year is going to be an election year in Kenya. I just want to find out from you how you are, sort of, dealing with this very political subject and maneuvering through, particularly in Kenya.

Nick Hughes:

Another very good question. In the early days, so back again to low profile, under the cover, just work it all out, the regulators wouldn't even have wanted to hold a meeting with us. But, that's changing and it's changing on a number of fronts, actually. First of all, Kenyatta supports us actually quite a lot. He often talks about M-Pesa with one breath and he'll link it to M-KOPA. But, he's now got visibility of us, which is sort of a good thing, of course, because it's held up, M-KOPA, is held up now as another example of innovation in Kenya. The sort of downside of that is if there's no regulatory content in place around businesses like us, and there isn't at the moment. Of course, the focus is on the regulatory controls around big grid power generation, grid distribution and grid retail. We're not even in that sphere so there's nothing really that is a regulatory impact on us. We offer this as a credit sale. There's no consumer deposit-taking. It's sort of relatively ring-fenced from any of the power-relatable or electricity-related regulation. But, I don't think that will stay the same. So, we are starting to step up our engagement with the regulators.

We've been involved recently in a lot of debate around how VAT gets added to solar products which are brought into the country. A year ago, there was no VAT on solar products, which was great for us. Then out of the blue, suddenly VAT and duty started getting added to solar products and that causes us…obviously that potentially breaks the business model or it means we have to put the price up to the consumer. So, we started to do things like lobby, especially around that VAT and duty issue.

As we go forward, we're starting to see the emergence of very strong sort of trade association groups that can take on some of these common messages. GOGLA is one. It's a Global Off Grid Lighting Association. They started to put some strong arguments together around don't over-regulate this space because it's not really competing with the grid at all. This is displacing kerosene. It should be allowed to happen.

Unfortunately, a different part, like the Kenya Revenue Authority, will actually say well, there's a new opportunity. There's half a million people using solar products, let's put duty on solar products. So, we do need to see that joined- up thinking at the regulatory level and trade associations can help us. I think…we have to…don't leave a vacuum with the regulators. I think that's the worst thing. We'll start putting good information in front of regulators and trying to make sure that...we did this all this in the mobile money world, but the wrong type of legislation doesn't get put in place. So, a good question there.

Well, thank you again for your time. [*Applause*]