The MasterCard Foundation Symposium on
FINANCIAL INCLUSION 2016

Day 1, Session 3 - Deploying Data to Understand Clients Better

Nozipho Mbanjaw, Anchor, CNBC Africa:

Hello. And, welcome to the special CNBC Africa Broadcast. I'm Nozipho Mbanjwa. We're coming to you live from The MasterCard Foundation Symposium on Financial Inclusion here in Kigali, Rwanda.

Now, over the next hour, my panelists will explore how, by deploying data, we're able to surface behavioural insights that might help financial service providers to better understand and to better service low income customers.

We're also going to get the panelists to reflect and share some of their key lessons on some of the ground-breaking work that we've heard from Dr. Eldar Shafir, who has contributed extensively to behavioural sciences and, in particular, how they shape and influence how consumers in income-constrained conditions, make their financial service conditions and decisions. We're going to be having that conversation in a moment.

But, for those of you who are joining us on social media platforms, the hashtag to participate in the conversation is SoFI2016. That is SoFI2016. We also have a live audience here in Kigali, Rwanda and they will be bringing their voices and their insights to the conversation through a facilitated question and answer session after the break.

For now though, let's meet our panelists. It's with great pleasure that we are joined by Herman Smit. Herman is a Technical Director at Cenfri. We're also joined by Rose Goslinga. She is a co-founder and director at Pula Advisors. And, of course, we're joined by Paul Kweheria, who is a Senior Strategy Manager at Kenya Commercial Bank. It's such a pleasure to have you all here on the panel today.

And perhaps, Herman, let's start off the conversation with a reflection on what resonates with you from the work of Dr. Eldar Shafir, in particular, as we talk about deploying data to better understand lower income consumers.

Herman Smit, Technical Director, Cenfri:

I think what I particularly appreciated was the emphasis on understanding the context that individuals and, specifically, lower-income individuals, make a financial decision. And, that very small drivers or very small changes within the context can help them make their decisions, specifically their financial decisions, which is often very complicated.

Nozipho Mbanjwa:

So, a big emphasis on context is this is where the resonance has come from. Rose.

Rose Goslinga, Pula Advisors:

I'd say, coming from an insurance angle, I was fascinated with what he was saying about differences and small differences, like opt-in and opt-out processes. It's interesting to hear that within like a big sensitive topic as in, like, in organ donation. But, I would say in insurance, we've seen so much of that, as well. Like, if you change a small piece in your process to make it an opt-out rather than an opt-in, you can really make such a difference and you can really see your numbers surge because of something like that.

Nozipho Mbanjwa:

So then, again, now going back to those benign, almost benign, modifications that can have a fundamental impact. Paul, what do you take away from the work for Dr. Eldar Shafir?

Paul Kweheria, Senior Strategy Manager, Kenya Commercial Bank:

My two takeaways were the concept of scarcity, especially when designing products at the bottom of the pyramid. So, how do you design the product such that it meets that customer? Who is scarce? Or who is experiencing scarcity from his financial situation? So, how will you design these products? How will you deliver them?

And, of course, the other one is on the whole concept of the opt-in and opt-out, especially in design of the insurance services. So, do we design insurance services with an opt-out or an opt-in? So, that was interesting insight for me, as well.

Nozipho Mbanjwa:

I can see Rose is already gearing up for that question. But, we will interrogate the extent to which KCB, perhaps, has begun integrating payroll insights into their own operational approaches.

But, Herman, let's maybe to just come back to just the universe of data. I mean, for us to begin to even have a conversation about deploying data, there has to be data available. What does that universe look like? And perhaps as an extension of that, we've also begun talking about alternative sources of data. What exactly are we talking about and do we have examples of where these alternative sources of data have been effective in terms of allowing low income customers to be served better?

Herman Smit:

I think 'universe' is an appropriate analogy. Because, I think as the universe is expanding so are the sources of data that we have available to inform financial decisions. And, it's not only that we have new sources of data. So, as you say, 'alternative data'. But, advancements in computing and data science allows us to make sense of data which we haven't been able to make sense of in the past, as well as process this new data.

Alternative data doesn't really have a definition. But, the name does suggest that it has to be something which is not traditional. And, my team, or specifically the Insights to Impact team, scoured the earth for the 42 most innovative financial service providers and think tank companies that they could find. And, they started to let me into what innovative was defined as. But, I think the location of these entities did have a big play in what they selected. Tanzania, Nairobi, but then also activities happening on both the east and the west coast of the U.S. where we see a lot of advancements in the use of data to inform financial services decisions.

The data which came across most strongly, which people are toying with at the moment to see exactly how they can change the way that we design financial services and understand the context in which the individuals that need to use these financial services relate to social media data. I think that's really one which a lot of institutions are looking at to understand. The other is psychometric data. So, we've seen really interesting advancements in collecting psychometric data on our customers to help us understand what their motivations and intensions are to repay loans, for example.

Nozipho Mbanjwa:

I'm going to take that answer and I'm actually going to loop it through to Paul and I'll come back to Rose in a second. Because, I think what Herman is saying is that although we're talking about alternative sources of data, it assumes that these are just innovative approaches to using data. But you have a practical experience of having to use traditional data, which would be transactional data. On top of that, perhaps layering data that gives you behavioural insights. This isn't common practice within the banking space. So, how does this get integrated into the normal order of doing business? And, what kind of value does it unlock for you as a business?

Paul Kweheria:

For us, we're looking at both financial and financial data in terms of what are transactional behavioural to be able to make decisions, financial decisions, for our customers. So, we are looking at both internal data; whatever we've been able to gather from our customers over time, and also external. So, using partners; strategic partnerships, like through telcos and farmer producer organizations, we are beginning to learn to get insights, about peoples' behaviour and that helps us make the financial decisions necessary to provide them financial services.

Nozipho Mbanjwa:

And, of course, we could extend this to other parts of the business like credit scoring models and those, too, can be influenced. And, I suspect you'll get back to those. But, one of the challenges I think Paul put right at your feet in his opening comments, Rose, is to really begin to talk to us about the insurance space, in particular. This is where we have real perception barriers and risk perceptions that are rooted in internal and inherent biases. So, maybe let's get an understanding from you how, through your experience over the years, where you have worked with index insurance. You've been able to tap into data that gives you behavioural insights to better understand lower income customers.

Rose Goslinga:

Well, thanks for that. Well, when we started working on insurance, I think we started from a concept that was, to some extent, very noble. We thought that farmers wanted insurance. Probably we came from a perspective that we thought that they needed insurance. But, we learned very quickly that 'want' and 'need' was very different. I'd say, for example, in our first season, we'd setup a modest target. We wanted to reach about 500 farmers to sign up for our insurance. And, I would say we had an intense marketing campaign. We used radio, advertisements, brochures. And, we had 185 people sign up.

We trained 1,000 people, but only 185 signed up. And, when we looked carefully about what was driving this, you see things like, you know...we always do these presentations where we have lots of smiling farmers, but when you talk about insurance, I'll tell you, they're not smiling. They're looking at you with kind of 'I don't trust insurance companies'. Why would I buy insurance now? I've managed all these years. Why would I?’ you know...even if the ones that we're buying or that we're willing to buy, they think, 'let's somebody else try this out first. Next year if it works and if they keep their promise, I'll come and buy this kind of product'. So, you really have to think about how your process works.

And, I would say in terms of how data has supported what we're doing, I'd say as much as on the behavioural side, it also really helped to enable these kind of products. And, I'd like to loop in to what Herman was saying. When I started working one of my first insurance projects was actually here in Rwanda. We started using something called, 'weather index insurance', which uses weather stations to monitor for things like droughts. Now, the only weather station that was actually operational that we could use in the whole of Rwanda was the one at the airport. And, I'll tell you, airports are not the place where farmers congregate around. So, we very quickly had to find other kinds of sources of data and satellite information.

That's why I loved Herman comments. You know, you look at the universe. We literally have to look at the universe. Look at satellite data. Satellite data has been a hugely important source of insuring for drought, for example. But, it also comes with a downside. In the beginning, we were very enthusiastic. We wanted to ensure for drought, for storms, all these kinds of things. But, I'll never forget. We sat across from this farmer and he's lost his crop due to a storm. But, our satellite was telling us that his field was fine. He's gotten lots of rain, but his fields were fine. And, we were talking to this farmer. And, this farmer...and, I'm explaining the calculation, which is a bit complex already but he was getting it. And, in the end he says to me, "you bring this Mr. Satellite. You show him my farm and then we discuss". [*Laughter*] Then, you realize that you can put out all this technology. And, we're so excited about all this technology, but we have to really kind of make sure that we keep the ground realities. And so, we really had to change our products to serve that kind of stuff.

Nozipho Mbanjwa:

I think that's a fantastic analogy and story that you've shared with us. Now, Herman, I want to bring it back to whether we are in a position where we can confidently articulate and quantify the benefits that deploying data for behavioural insights has had for customers, in particular. Are there those case studies that we can point to as best practice even in an African context?

Herman Smit:

So, I think on aggregate, the answer is definitely 'no'. I think we're still experimenting and using what is coming out of behavioural science, which is also an evolving field, at the moment. And, looking from behavioural science and from this data that we have, how we can better understand these contextual factors.

Every data, as the traditional data that we have, has its pros and cons. And as we tested in different contexts and for different use cases and for different products, insurance is very different to credit, which is different to payments and savings. And, even the uses of these products. So, using insurance for healthcare versus using insurance for agricultural risk, these are very different contexts in which people make these decisions. So, as we look at this data to help us understand how we can better create these products, we will learn where the shortcomings are.

I think we've definitely seen the biggest advancements in credit scoring. I think we have a great example here of KCB M-Pesa, which Paul will talk about. But, we also see other examples where you can download applications and they extract 2,000 variables from your phone. One of these examples is Branch which operates in Kenya and Tanzania. And, from the number of people that you have in your contact list, how many contacts have a first and a last name? Which of your messages you have read or responded to? This type of behavioural data which we exhibit on our phone really helps this company specifically to generate risk scoring models to provide credit to people who were previously not in credit bureaus.

Nozipho Mbanjwa:

That's a fantastic insight. And, I'm going to send it straight through to Paul because I think the M-Pesa example is one that I think we're all familiar with in the room, perhaps one of the fastest growing financial products on the continent. But, let's bring in the layer of behavioural science data, in particular, and whether they are emerging insights that, without behavioural science data, we wouldn't have known. And, what are these insights? Are they interesting pieces of behaviour that are coming through?

Paul Kweheria:

To begin with, we'll just start talking about KCB M-Pesa. It's a service between KCB, the largest bank in Eastern Africa and Safaricom, the largest network operator. So, it provides mobile financial services, it provides credit and savings on the mobile. So, in the last 18 months since the launch, the product has been able to reach 7.1 million customers. So, out of this…so the insights that are coming from this is that: (1) over 3 million of these customers actually are active on a monthly basis. And, out of those, some of them even up to three times a month. And, a lot of the transactions that are taking place are for their everyday use: people borrow for food, for transport. And also, we are beginning to see that they could be actually trading with it. So, we are seeing the importance of using data, M-Pesa data, to be able to facilitate small micro enterprises to capitalize their businesses.

Nozipho Mbanjwa:

So, if we were to extend that a bit more, Paul. I mean, these are really interesting insights. But, how do they then change the approach going into the future? Because, at the end of the day, we need to start thinking about how do we better design and better deliver for lower-income consumers? So, with these new insights that have come through, how is KCB perhaps now thinking about refining and tweaking the model so that we see greater penetration and value for clients?

Paul Kweheria:

The way we are looking at is that we are at the beginning. We've been able to scale to large numbers, but we are also cognizant of the fact that we need to continue learning from this data and from how our customers are behaving on the service. So, building empirical models in terms of how are they repaying, how long do you stay out with a loan? Do the nudges, do the reminders for repayment have an impact on the performance of the product? So, that's what we're looking at in the future.

Nozipho Mbanjwa:

Rose, one of the things that I think we touched on earlier and in an off-side conversation and that I really hope would come through as well, is how we have seen behavioural science data actually enabling financial service providers to change the actual relationship that consumers have with those providers. Your insights there.

Rose Goslinga:

Well, I think one of the things that fascinates me about KCB M-Pesa is that it's really changed how we, it's really nano-microfinance, but it's really changing how microfinance works because in microfinance we were all working about group pressure. But, one of the attractive things that I'm seeing with KCB M-Pesa is that people no longer have to put on a suit, a very nice suit, Herman and Paul are wearing, to go into a bank. And, one of the things that we realized...Paul and I did a project together supported by Alliance for Green Revolution Africa and, one of the things that came out very strongly in our marketing messages, that came out of the discussions, was that people...we actually emphasized that it's somehow a bit private. That people no longer were going to need to have their neighbours know that they were taking out a loan. There's no…that societal pressure of 'you have to make sure you're in the good books of the branch manager because otherwise you're not going to get a loan'. And, I think that really changes how these kind of products are going to run. We're seeing how people are, like what time they're taking out loans. What volumes.

I remember one of Paul's colleagues at some point in a meeting sitting and saying…explaining how last night he took up a KCB M-Pesa loan because his credit card...there was no ATM that was working and he needed...his car had broken down. There's very every day needs that these kinds of products are addressing, particularly in these developing economies where credit is such a driver. Can be so important.

Paul Kweheria:

So, maybe I can add to what Rose is saying. It's very true. One of the things that the mobile financials have in using data, is bringing dignity to the consumer. So, that you have a need; a very special need. You don't need to borrow or ask your group to come in for you. So, by accessing your bank on phone and getting that timely credit, actually introduces dignity to a lot of people on the bottom of the pyramid.

Nozipho Mbanjwa:

That's a fantastic insight given the fundamentals around how microfinance approaches are built. Again, moving from, sort of, group accountability to self-dignity, if you will. But, I suspect we also run the risk of having a very high-level conversation, Herman, that doesn't always reflect the reality on the ground. And, I would assume that even while we're dealing with emerging insights from behavioural science data, that there are also emerging challenges that make it increasingly difficult to tap into and to harness data and alternative sources of data for behavioural insights. Have we begun to think about what those challenges are and, in particular, how do we begin to mitigate so that we can move forward?

Herman Smit:

I think a lot of people spend time both thinking and experiencing the challenges of using alternative behavioural data. And, I think in the corridors over the next two days, many financial services providers will share that experience. I think the first is just that, with any new innovation - let's put it like that - there's always an adaption or a process with adoption. And, this is challenging from an institutional perspective. But it's also because, on the other side of the investment in the human capital and the physical capital, to make sense of this data, is a lot of unknowns.

We don't know what the business case is for many of these data sources. We don't know whether or not they are earning good proxies within the periods which we've been using them to-date and whether or not they will hold up to other macro changes, which will also affect the markets in which we operate in. So, there's a lot of uncertainty. But, there's also a lot of really good examples of where financial services providers were able to provide financial services which wouldn't have been possible without it. So, credit scoring is a really good example of this. And, I think this is where alternative data, and specifically the use of call detail records, which is a type of data, has been the most successful. We're talking about tens of millions of people who now have access to credit and small amounts of credit, which they wouldn't have been able to, if we were using traditional business models to deliver that credit.

Nozipho Mbanjwa:

Allow me to be a bit difficult. I mean, if we move from the assumption that perhaps exploiting buyers has traditionally always led to enhanced profits, how do we then incentivize financial service providers to go for the debias, the behaviorally informed approach and to invest in doing business in that way.

Herman Smit:

I think first we need to debias ourselves. So, if we are going to discount future profits for profits today, as firms, if we're not going to look at the customer life-time value, if we're not going to...how can this financial services relationship between the institution and the client be profitable over the long-term, then, as institutions, we're always going to be motivated to think short-term. But, as soon as we think longer term, we're able to design products which are, in the long-term benefit of our customers. So, I think this is debiasing mostly of the institutions. And, we can use behavioural science to do that, and data.

Nozipho Mbanjwa:

And, I'll come back to regulations because the regulation environment then just becomes a very big talking point here. But, before we get to that, I want to stay on the concept of design, Rose. And, I want us to perhaps start to think about whether data can play a role in building or designing products that have a very strong reiterative feedback loop as one of the ways of creating the long-term value that Herman speaks about.

Rose Goslinga:

Definitely. Look, I think if you're, as a small businessperson, I think you can't afford...like, maybe if you're a bigger organization you can afford not to be iterative. But, if you run a small business, you have to be iterative. At the moment, we run a product in Malawi where farmers don't actually have to purchase insurance, but it's packaged into a bag of seed. And, the only thing they need to do is actually register. Now, in the beginning...like, so our main focus over the season is making sure that people register and putting out, trying out different methods to make sure that they do that. And so, they started this radio advert somewhere over the weekend. And, our response...we thought, well, maybe the response to the radio ad were just people are going to buy. The response to the radio ad was not people are going to buy. People were testing out, does this thing really work? So, they started in like mass texting, like our short code. And, we're like, wait. Our short code is saying that if they just text us that, you know, 'enter a shop code and a pin code'. They don't get what they need to do about that. So, we quickly had to change kind of the process saying, 'okay. So, if you're texting us and you're texting us straight after a radio advert, we have to send you a message saying, 'hey go to the shop. Buy a bag of seed' and it's going to come with insurance'. So, you really have to...like, I think in these types of products when you're looking at these kinds of products, you have to be very, you have to listen to your customer all the time. There is no day that you can kind of take off.

Nozipho Mbanjwa:

And, of course, having that antenna, Paul, facing in the right direction and picking up the right sounds off the ground from the consumers also means that there's going to be a certain degree of rethinking what the internal processes and the internal systems even within a bank has to look like to allow for those reiterative processes and to allow for the integration of behavioural science data. What is that journey currently like? And, if KCB is undergoing it, what's been the one thing that's given you the biggest headache to date?

Paul Kweheria:

It's interesting. There are a lot of changes that have taken place and especially in use of data to provide services. So, one of the things that is changing is actually investing in these credit scoring engines. A lot of investments needs to go in there. A lot of training of the staff, from the statisticians and the internal credit staff in terms of using the data and actually accepting it. That's a big challenge. So an investment is required in that space.

And, the other things is also in terms of just looking for those alternative sources of data and agreeing that internally, you can actually look out, use what you have internally and look out even to partners who can be able to assist you to provide this data. So, for example, KCB on the agricultural space, is working with The MasterCard Foundation on a recently launched partnership to deliver mobile financial services, that is, credit, insurance and payments, to farmers. So, how we've begun doing it is that we've started gathering data from external service providers, from farmer producer organizations to just learn about the farm and how this particular farmer delivers his produce to the farm. See how consistent that is, to what amounts, and then make the right credit decisions. And, also design the product that fits into that farmer's needs.

Nozipho Mbanjwa:

And, just before we go to break. A quick one for me, Rose. And, I think it links quite well with what Paul is sharing in terms of the environment…within the complexity of the environment that we have to take into consideration. But, on the other hand, we always talk about financial literacy of the consumers. Is there a role for behavioural science data to play here so that we can amp the effectiveness of financial literacy?

Rose Goslinga:

Sure. There's definitely a role for financial literacy. But, I think one of the things that I want to tack on to what Paul is saying because me and Paul have been running this project together. And, one of the things that I've been so impressed about is whatever technical challenges there might be alone, particularly in these markets, particularly in the rural markets, is such a big carrot. So, in the beginning, like I remember we had our first soft launch. And, we had tons of things that would give both of us proper headaches. But, when we had this meeting and it was scorchingly hot and, for the whole morning these farmers sat there. And, at the end of it, we had all these technical difficulties. They were having some tea while we were trying to sort them. And, these two ladies came up to me and Paul and said, "you know, you're not leaving here before we get a loan". And, we saw these people working through the USSD menus. And, any kind of user-centric design would tell us okay they're going to get lost. But, they're so keen on getting that loan. It's such a big carrot. So, they would find their way. They wouldn't get lost. And, I think from a financial literacy perspective, you know, we also shouldn't underestimate our customers. We should, you know, I've had pastoralists in rural Ethiopia tell me that, you know, insurance companies have lots of small print and should watch out. So, really, like, I think there's...we have to make sure that things are not too complex, but we also shouldn't underestimate our customers.

Nozipho Mbanjwa:

And, on that note. We have to make sure that things are not too complex, but balancing that with keeping them as simple as possible.

We're going to take a short break. When we come back, we continue our conversation. And, of course, we hear from our live audience here in Kigali, Rwanda. What are their questions? Their voices and their insights on this MasterCard Foundation Symposium. I'll see you in two minutes.

Welcome back to The MasterCard Foundation Symposium on Financial Inclusion coming to you live from Kigali, Rwanda.

In the first half of the show, we've had a robust conversation in how deploying data that might serve as behavioural insights can be harnessed by financial service providers to better understand and better service their lower income customers. We have a live audience here in Kigali and we have invited them to contribute to the conversation through a facilitated question and answer session. We're going to turn to that session now and get their voices and their insights into the broader dialogue.

Ladies and gentlemen, thank you so much for your participation. Let's take our first question. May I kindly ask you to stand and introduce yourself.

Ivan Murenzi:

Thank you, I'm Ivan Murenzi, I work with a company in Rwanda called Access to Finance Rwanda. We support financial institutions to extend financial services. Interesting discussion. My question is to Paul. You talked of the investment that is needed in making data accessible and useful. And, I was just wondering that role of third-party providers like fintech companies. Can you tell us more on that? Have you had any experience with that, especially speaking for small microfinance institutions that may not have that much investment? Is there an opportunity to work with third-party providers? Thank you.

Nozipho Mbanjwa:

Ivan, thank you so much for that question. Let's take our second question now from the audience and get that question through. Thank you, very much. Yes, sir, please go ahead.

John Magnay:

Yes, good morning. My name is John Magnay. I'm the head of agriculture for Opportunity International. My question is also to Paul. Paul, I think you've set yourself a very large challenge in terms of the number of farmers which you're hoping to reach. Do you believe it's possible to gather all of the data remotely digitally, or how much physical engagement do you think you need with the farmers to identify their complex needs for agriculture?

Nozipho Mbanjwa:

John, thank you very much. Fantastic question. Let's take a third question for this round. Madame, please do go ahead.

Hi, I'm Lerato Lehoko from Yellowwoods Extensions and Investments in South Africa. My question is to Herman. I'm quite excited about the potential that using data to serve lower-income customers has. My observation is that it seems to be intentional with legislation around the protection of personal information. So, I'd like to understand whether to what extent that observation is true. What's been your experience around the world and how can providers get around that tension, if it exists?

Nozipho Mbanjwa:

Loretta, thank you so much. Paul, let me give you an opportunity to perhaps take a pick at the questions given that two of them were tabled for you. Ivan's question, in particular, looks at the investment that you say is required and he puts this in the context of small and medium-sized enterprises, of course, that might not have as big investment muscle as a KCB.

Paul Kweheria:

Thank you very much for that question about investment. With regard to investment in the right technology; in the right credit-scoring engines, I think both the big and the smaller organizations have to make the decision. And, what we find is that there are examples of fintech companies out there, some of them we are working with, that are able to provide these services to financial institutions both big and small. So, for even a microfinance institution there are fintechs that are already beginning to bear their models, gathering data out there, building even the mobile engines, even the mobile interfaces to enable financial institutions to provide the service. So, you don't have to invest it yourself. Even big institutions such as KCB are also using partners in addition to our internal teams.

Nozipho Mbanjwa:

Rose, you might want to add to that?

Rose Goslinga:

Sure. In the project that we did together with Paul and KCB, one of the most, I think, most practical, like, solutions or things that we used was data from dairy cooperatives. We found that increasing amounts of dairy cooperatives in Kenya were starting to use MIS systems to record daily milk intake. Now, we basically went and I think we scoured around 30 dairies or something that would represent around 65,000 farmers and we're getting about three years of daily milk records.

Now, if you're a smaller microfinance institution and you targeted dairy cooperatives as like a good target, particularly if you're in a country like Rwanda where, you know, dairy cows are such a big thing. Like, if I was working in Rwanda, I'd go and find those different dairy co-ops. Get the data and from the data you actually…it's just like seeing somebody's salary. And, you know, but it's coming from a different source. So, I think, for these kinds of things you don't have to be big or small but you have to be creative to look and find and think about where you can get the data from that could estimate what you'd otherwise use with traditional credit scoring models.

Nozipho Mbanjwa:

So, it's a question of innovation and creativity and not always just a question about cost. I'm going to come to the second question. But Herman, let's take Loretta's question. And this is where she's seeing a bit of a conundrum or a contradiction where we're talking about data but also there's legislation that seems to suggest that we need to uphold the protection of private information. So, how do we actually hit that balance?

Herman Smit:

This is a very important question. And, I think there's a lot of tension in data analytics firms, new fintech ventures, but specifically, financial services providers who are starting to build business models around the use of certain client data without any clear understanding of how the regulation will evolve in future. So, will these models, or credit-scoring models, still be possible within the regulatory environment of the countries of which they are operate in a year or two's time from now. Should we invest in the analytic ability, should we invest in collecting that data which is huge cost if we are only able to do, or use it for one or two years?

I think regulators have a particularly difficult challenge here. Because we don't yet understand what the ultimate benefit to the client can be from using this data, we don't know what we're trading off. So, on the one hand, we have the protection of customer data which is very important to consider. But, on the other side, we have the benefit that these customers can derive from institutions understanding the context in which they make financial services decisions better.

So, this trade-off can only really happen once we fully understand, or better understand, where the use cases are evolving for that data. We're currently helping governments think through this. So, the Insights to Impact team is working with the Alliance for Financial Inclusion which has a sub-working group which is convening, I think, around 160 governments or so, around this topic of client protection and financial inclusion. We see tens of millions of people getting access to credit because of the use of this data. We know that the World Bank says that only 7% of people in Africa are recorded in any way in a credit bureau. So, this data has the potential to really change the market so we need to trade that off against the protection of investment.

Nozipho Mbanjwa:

So, in pursuit of a middle ground and that work is still ongoing. Paul, the second question that was put to you and that came from John, was, in particular, looking at the process of gathering the data and, in particular, matching that against the ambitions in terms of the number of farmers that a player like KCB wishes to reach. What are the approaches? Is it digital, is it remote? Is it physical context? And perhaps, as an extension of that, what are the trade-offs that are at play when you choose between approaches?

Paul Kweheria:

What we see is, in terms of being able to reach the numbers that we're talking about, there's a clear case for using mobile and digital to be able to scale-up and reach millions of people. So, what we're seeing today is that, for example, in the dairy sub-sector alone, there are over a million farmers in Kenya who are already in that sector. A lot of them are in the cooperatives. So, a lot of data has actually been built.

So, what we are looking at is a journey. We are saying there are still challenges. A lot of the agriculture…for example, there's a focus on agriculture. So, a lot of these organizations that are dealing with agriculture, a lot of farmers actually trading in cash and that information is not yet available in the financial ecosystem. However, we are also seeing a lot of organizations like the dairies that I just mentioned and relating to what Rose mentioned, is that a lot of these dairy cooperatives, a lot of dairy organizations, are actually gathering the data.

Some of the challenges include that the data may not be in the format that may be readily usable for the financial institutions. So, it's for us to begin helping them and hence the reason for some of these interventions, like the one between KCB and The MasterCard Foundation to help with that. We understand it's a journey but we also appreciate that there is also additional data that has been built on the mobile financial system. For example, through M-Pesa. With their close to 20 million customers and just 7.1 million customers available in KCB M-Pesa only, it shows you that you can actually scale-up. It's for us to be ambitious to be able to reach the millions of people who don't have access to financial services.

Nozipho Mbanjwa:

So scale is definitely an option. I think we'll go back to the audience and take some more questions. Can I have an indication of where the next question is coming from? Madame, please go ahead, thank you very much.

So, good morning. My name is Vicki Escarra. I'm the CEO of Opportunity International and my question is for the panel. We've recently entered into a partnership with a fintech organization called MyBucks, and, we're beginning to utilize artificial intelligence to determine if clients are the right clients for us to serve, and how to serve them better. So, my question to the three of you is, are you employing a similar approach to utilizing data in that fashion?

Nozipho Mbanjwa:

Thank you very much, Vicki. Let's take another question from the floor. Madame, please go ahead. Or, let's take the Madame at the back. There's a microphone there and then we'll come back to you in the front. Please go ahead.

I'm Gloria Adutwumwaa-Frempong, Milicom Ghana Limited, MNO operative of TIGO. My question goes to Paul and Herman. I want to understand how we can use predictive modeling as a big data tool to grow usage of insurance and then mobile financial services, and also increase penetration.

Nozipho Mbanjwa:

Thank you very much, Gloria. Fantastic question. And, I suspect that one that Rose will also take a stab at. Let's take our final question. Madame, please go ahead.

My name is Jennifer Riria from Group Company Kenya Women Holding, a Kenya microfinance bank. My question goes to everyone on the podium. I've not heard you mention the importance of collecting data from a gender perspective and analysis and use. Could you comment on that?

Nozipho Mbanjwa:

Thank you very much. That's a gender perspective. Thank you very much for that, Jen. I think we've got our hands full with a lot of these insightful questions. Maybe we will start off with the questions that have been direct. The question that has come from Gloria for both Paul and Herman—the potential to use predictive modeling to drive penetration and the uptake of, for example, insurance services. Herman?

Herman Smit:

I think we spoke earlier about all of these different data sources. And, IBM came out with a study this year which estimates that 90% of the data which is digitally recorded at the moment has been collected in the last two years. So, that just shows the amount of massive information that we have to deal with. Artificial intelligence or machine learning or other data and analytic techniques allow us to make sense of a large mass of information, which we currently, either do not have the theory to make sense of. So, in other words, behavioural science hasn't gone far enough to help us understand the causative relationship between different variables. Or, it helps us to take that theory, which we understand, to bring in all of these different data sources.

It's also very useful as a tool to clean data. So, as I said, like this large quantity of data using these algorithms to clean that data and make it available in a useful format for you to segment and understand.

Nozipho Mbanjwa:

So, just before I go to Paul, perhaps you could also then, by extension, address the point that Vicki has raised. This is around whether they are using artificial intelligence to drive their client selection strategies. Where else have we seen that and has it proven effective?

Herman Smit:

Understanding or making sense of your engagement with your customers to-date, which I'm assuming is where they would start. So, they have various data on their clients and they're engaging with their clients to date which other analytic techniques might not be able to troll through and make sense of to the same level of effectiveness.

So, I think, in that case, learning what has made a good customer, what type of engagements has assisted customers in the repayment journey? What type of factors make individuals more likely to benefit from that learning and, ultimately, be able to repay? I think these are all important things to understand, especially mission-driven organizations who are extending credit beyond just extending the number of financial services, but really want to have impact with that understanding, under which conditions and which variables are good proxies for that. This will truly benefit the customers. Outstanding work, good job.

Nozipho Mbanjwa:

Paul, let's get your response to Gloria on the potential for predictive modeling.

Paul Kweheria:

Yes, for us, the way we are looking at it is that beginning with the services that we've already started providing that are using data. For example, the KCB M-Pesa. What we are using is, we are using empirical models to begin building our knowledge and insights about these customers who have already opted into the service, and how they are using it. So, we're looking at your repayment behaviour. How you respond to not just, for example, when it comes to reminders for your repayment, how you're doing with regard to your timely payment or earlier payment, how often you're borrowing. To be able to decide whether to increase your limit and to what extent. Those are some of the ways we are using learning to be able to improve our product.

Nozipho Mbanjwa:

I think you can also, by extension, also just comment on Vicki's question, who, again has indicated that they're using AI as one of the key approaches to engaging and choosing the clients with which they work. How are we seeing AI manifest itself at an operational level in the bank?

Paul Kweheria:

We are not yet using AI expressly, Artificial Intelligence in that way. But, the way we look at it, that is in the next, within the period of the program which we are running, that we will be improving our credit scoring models to using, in terms of the future, bringing in additional data, bringing in even information from non-financial sources. Not only do, for example, our target customers participate in more than one income earning stream - you'll find a farmer, he's a dairy farmer and also a tea farmer - you'll find that he is already a trader within his local market. You'll find that we're looking at in future, statistics are showing that more and more uptake of smartphones is taking place in Africa in the region where we are operating. So, we are looking at our customers getting more into social media. We are cognizant of the fact that we'll be bringing in even analytics from social media activity to be able to advise us and help us improve our insights about our customers.

Nozipho Mbanjwa:

Before we all get to Jen's question, Rose, I think you'd most definitely have some insights and inputs around the questions raised by both Vicki and Gloria.

Rose Goslinga:

I think, in particular, with regard to what Vickie was saying, I think AI is going to have a very important role to play because the traditional sources that we're using, so far, will really help target the urban customers. But that market is going to become very competitive, very quickly. And, you know, a lot of the urban customers, yes, they have smartphones and there's a lot of data that you can scrape through like technology like the branch is using. But, I think, particularly call data records.

Earlier this year, there was a paper in Science Magazine that looked at how call data records could actually estimate wealth. And, one of the most fascinating findings from that article was that they could track mobility. And, they didn't know what they were looking for because that was the thing about AI. They're just…they've having the data, they're running it, they're seeing what's going to come out. And, one of the best predictors of income was mobility. Why? Because mobility was likely to predict if somebody owned a motorcycle. And, owning a motorcycle is one of those things that you look at in your traditional household surveys as well.

You know, we look at does somebody have a radio, does somebody have a tin roof. But through call data records we could see somebody's mobile signal kind of moving around. And that, actually, became a really good indicator. So, I think those kind of things. Like the product that we ran together at KCB with Paul's team and the support of AGRA really…you know, one of the fascinating things…I thought about it when we saw…look, we had about 20% of our customers were already taking KCB M-Pesa. And, when we looked at that customers, we were checking their credit scores against the credit scores we were getting from the alternative data. And, the alternative data actually gave people a much higher credit score because in rural areas people don't transact that much through M-Pesa yet.

So, if you can use, if you can add other sources of data, if you can let artificial intelligence…really, if you can let that power get loose on that, I think there's a lot of potential and we'll see that market really kind of taking off because of that, particularly targeting rural consumers.

Nozipho Mbanjwa:

So, Herman, I'm going to give you the first stab at, again, looking at the point that Jen has raised. And, this is specifically looking at gender insights and gender analysis from data. And, I suspect from what Jen is raising is knowing that when we look at lower income communities, we know, to a large extent that women in those lower income communities tend to be far worse off in terms of their own socio-economic standing. So, what is the potential for us to actually, then, draw down to gender-specific insights, and do we have examples where that might be done already?

Herman Smit:

Once again, one of the great insights from the previous session is that context matters, and context matters a lot in the decisions that we make. And, here things such as cultural norms, all of these factors are within your context and influence the types of decisions that you make. So, we need to be aware of that context and be aware of how that is different for women than it is for men, in many cases, and tailor the intervention or that financial service to match that context. I think that's my main contribution on it. I'm sure others will have something to say as well.

Nozipho Mbanjwa:

Rose, are there interesting insights around how women interface and engage with agricultural finance or just insurance products, generally?

Rose Goslinga:

Definitely. Particularly with regards to finance and particularly, when it comes to mobile. I think, with women, there's generally a well-known bias in terms of mobile usage for women versus men. And so, what we've seen in the products that we've done together is that, look, if you want to target women, you will need some further human interaction. They're very willing to use it but they might need somebody to initially guide them through the process. And, if you could put that there, I think, you know, you'll definitely have, actually, probably your more loyal customers will come from there.

I think the other part is, you know, actually when you're looking to target women, you really should use alternative data, in addition to, let's say, your mobile network operator data, because of that bias. And so, let's say, what we were saying about those milk records. Those milk records would give women a higher score if we'd only use their mobile records. So, I think if you want to make a concerted effort to reach out to women, then you need to think very carefully about how you're channeling or how you're marketing.

With insurance, we found that if we were doing a marketing campaign, we had to time in the day…we had to time our adverts in a different time of the day if we wanted to reach women because they were likely to be more at home or they would go to the farm at a different point in time. So, those kind of things, they're details, but they're extremely important if you want to reach a certain target market.

Nozipho Mbanjwa:

And Paul?

Paul Kweheria:

Based on our field work and the work we've done especially in ag finance on mobile, it's very interesting that this triangulated from where Herman has talked in terms of the context. We realize that in Kenya, several different communities have different placement of women when it comes to the financial service. And, it comes through the agricultural produce. So, for example, the Maasai community in Kenya, the cow is actually owned by the man but the milk is owned by the woman. So, for us providing dairy products, financial service to dairy farmers in Maasailand, we are looking at more women. It's more likely that there will be more women there.

But, looking at, for example, in areas like in the north which is where we started our pilot, we find that a lot of the registration on the family is actually to the man because of the patriarchal kind of society. We find that our view of the woman may not be as close. We may not be seeing the women who are actually delivering the milk to the dairy cooperatives. If you look at areas like in central Kenya, you might find that there's a balance between the woman and the man. So, probably the person who is registered in the dairy cooperative will be the man and the woman is allowed to sell the milk in the evening in cash to be able to meet the family's daily expenses. So, all those nuances and the context of the application of this financial service will be very important when delivering service targeted at women.

Nozipho Mbanjwa:

And so, as we begin to wrap up the conversation, I'd like to invite each of the panelists to, perhaps, share a thought that you think would allow us to move the conversation forward. How do you see the use of data that could service behavioural insights be better used in the financial services space? What would need to change? What would need to be accelerated and what would need to be stopped? And by whom? And, Herman, I start with you.

Herman Smit:

Okay. I don't know how much time we have. So, I think if I had to make one recommendation of what I would want to see for alternative data and behavioural science to make a larger impact in how low income people experience - or the type of financial services that are available to them, and how it benefits them, is partnerships.

We see some of these data sets which we don't know what to do with in isolation but as soon as they partner, these data sets come together and give us much more insight about those customers. A number of use cases that are unlocked through data-sharing agreements by different parties really holds a lot of promise.

And then, banks, retailers and agriculture value chains, these individuals aren't actually the best ones to do the data analytics. So, what we found to be very useful, and there's something that we're doing in Rwanda now in partnership with ICT Chambers, is bringing in data scientists to work with this data. Let's expose them, let's create incentives for them to play around with this data and see what use cases come out of it. They're often much more creative than we are. And, out of these come very promising applications for this data.

Nozipho Mbanjwa:

Fantastic. So, it's partnerships and sweating the assets that aid data scientists in every way possible. Rose, has we evolve, what needs to stop, what is to accelerate and by whom?

Rose Goslinga:

Well, what needs to stop is definitely asking for physical collateral because as we are looking for financial services, as I said, credit is the big pull-in for people to start using these services. And, as banks or financial institutions still…I remember when we started different projects that, you know, people would still ask for a cow as a collateral. And, you know, are you really going to repossess that cow? It's not going to work. You know, just like with insurance, we couldn't go and visit every farm, we had to use different types of data.

And, I think, you know, we really had the…there was a growing, simply the fact that this conference is here and that the first panel is on data, is such a shift. You know, so, data is really going to be there. And, I think, one of the other things that…we were in Ethiopia the other week and somebody made me a wager to say, okay well look, I don't believe that data is there. And, I was like okay, bring it on, we'll find the data because it's there. And, he bought me dinner. There's no problem, like, because the data's there. I think the other thing is really, you know, be creative. It's not going to be in one place, it's going to be in different places and you're going to have to patch things together and layer different layers of data on top of each other. But, if you do that, you can come to really fascinating solutions that can really reach a lot of impact, and can reach numbers. If it can't reach scale, we shouldn't do it.

Nozipho Mbanjwa:

Is there anything that we could do differently to make data more accessible and allow it to be collated a little bit more easy than it currently is in the African context?

Rose Goslinga:

I think, particularly, public resources have a lot of data and sometimes we come across…we have meetings and they say well, you know, you need to write a letter before you can get this. Or, you know, you can't, this data is…you know, I was once told that I was a threat to national security because I wanted to have weather data. Or, it was installing weather stations and, I kid you not, they were very serious. I think, those kinds of attitudes definitely are not going to unlock these kinds of markets because then you can't move. But, definitely, I think that is changing, there is much more positive attitudes.

The public sector has a big role to play in here because they are sitting on, you know, a richness of data that could be used. I would say, as they've collected it with public money, is there a reason why they cannot be public about this.

Nozipho Mbanjwa:

Be public about the data. Paul, what do we need to start, what do we need to stop, what do we need to accelerate?

Paul Kweheria:

The way I look at it is in terms of using data, to begin by learning how you're going to design the product. So, if you can begin learning about how customers behave, what's the easiest way to help people opt-in into your service? Is it self-service? Is it an assisted service? So, that's very critical if we can learn about that.

And for me, the next point is we need to start. There is some data available. There's partnerships that are available but let's start somewhere. Let's begin and continue learning because I think it's a journey. We cannot say that we've now learned human behaviour and now can design products. So, I think, to me, it's a journey. Most importantly, just to reiterate what Herman has said, is the concept and the importance of partnerships in terms of delivering financial services.

Nozipho Mbanjwa:

Well, there are journalists in the room who are looking for headlines for tomorrow's papers and the lead stories this evening. If you could sum up this conversation and give them a headline to run with tomorrow, Herman, what would that be?

Herman Smit:

I'm always first [*Chuckles*]. "Context Matters."

Nozipho Mbanjwa:

"Context Matters." That's the headline for tomorrow. Rose?

Rose Goslinga:

“Data Will Drive Finance in Africa.”

Nozipho Mbanjwa:

“Data Will Drive Finance in Africa.” And, Paul?

Paul Kweheria:

“Design for the Customer, but Start Now.”

Nozipho Mbanjwa:

“Design for the Customer and Start Now.”

I don’t think I could have ended this conversation on a better note. A very big thank you to my panelists, that is, Herman Smit, Rose Goslinga and Paul Kweheria. They’ve been a fantastic panel. Of course, our live audience here in Kigali, Rwanda, also, contributing through questions, comments as well as their own insights into the conversation. We are coming to you live from The MasterCard Foundation Symposium on Financial Inclusion. I’m Nozipho Mbanjwa and, for now, it’s goodbye. [*Applause*]