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KAREN FOLEY: Welcome back to our roundtable discussion on globalisation, technology, and business in society. In this session, we take a look at the impact of mobile phones for learning and communication in Africa. And so leading this session is Ian Wairua, from the University of Strathmore in Kenya. And we are also joined by Mark Fenton-O'Creevy, and Devendra Kodwani.

So I wonder if we can start this session-- we've been talking a lot about technology, and we've been talking about inequalities. We've been talking about business schools best responding to automated processes, and we just had a session before about in Africa, the value of unprocessed goods and quantity versus, I guess, quality or value of goods, and how those are attributed in an economic context. Could you start in by introducing us to some of the main issues, then, in Africa, and how technology is so central to some of your concerns?

IAN WAIRUA: Thank you. I think the first thing to remember is that, when we talk about Africa, Africa really is 53 countries with a lot of variations in different aspects, including the sizes of the economies of different countries. We have countries, for instance, which, like Zambia and Malawi and Lesotho, which the economies are based on what you could call restricted commodities, and these countries face specific challenges in participating in global trade.

And then you have other countries like Nigeria, like Libya, Angola, whose economies are based on minerals and oil, and they face fewer barriers to export, for instance. But if you put all that aside and focus on technology, the only thing that comes to mind is the mobile phone.

So all of a sudden, there is this gadget, which is available to one billion-- well, there are one billion subscriptions of mobile phones in Africa, doesn't mean one billion Africans have mobile phones. A lot of Africans have several SIM cards that they change around and so on for different functions. They are very good at checking out tariffs and using appropriately. Perhaps 50% of Africans today own a mobile phone, that would be 600 million.

And this gives the best opportunity for leapfrogging, because Africa does not have legacy communication infrastructure. And because of that, all of a sudden, information is flowing from all over the globe, and you have market access. Market access, of course, is not enough, because you still need certain types of infrastructure. It's expensive to put up cell masts for

communication.

But this mobile phone is the technology that pushes Africa into the global conversation. And apart from just trade, apart from helping SMEs, you have people in the rural areas who are able to check information that is useful for their farms, for taking care of their chicken, and so on, and incomes rise. There was a study that said that 10% increase in mobile penetration, mobile phone penetration increases production four times. So it has tremendous impact on the economy, on the lives of people.

And what also it has spawned in Africa is a period of innovation. And possibly you have heard about M-Pesa which is the mobile money transfer system that emerged from Kenya, owned by Safaricom in Kenya and it's part now of Vodafone of the UK. And this innovation, this money transfer system, has uplifted-- between 2008 and 2014 lifted one million people in Kenya out of poverty, according to one particular study.

And what they are doing is that all of a sudden, people who are unbound, people who had no way of making simple payments, a farmer just buying chicken feed or selling his eggs, has this platform in his hands. Has tremendous impact on the lives of people. Of course, the mobile phone brings in some other problems, which maybe later we will be discussing, but that gives you a picture of what has happened.

Now, one of the things that the big telecommunications companies, like Safaricom, are grappling with is how to put up their communication masts in the deep, rural areas, where the terrain is difficult. It's expensive to run in it generators and so on. But that also begins to spawn innovations and we have companies that are using smaller masts and using renewable energy, solar energy.

As the cost of cellular communication goes down, and it is going down tremendously very fast, then it will be easier to have a wider penetration. The internet is how the information will flow, but only 25% of Africans are using the internet.

Earlier on I mentioned that it's risky to talk about being too generalised, to use averages for Africa, because it will be less than 10% in the DRC, but it is 89% in Nairobi, in Kenya and a similar percentage in South Africa. So one of the things that has to be done in these conversations is to avoid a generalised conversation about Africa, because the risk in that is to prescribe a general solution that may work in one place and not work in other places.

MARK FENTON-O'CREEVY: You were making a point in an earlier session about some of the institutional and infrastructural differences between countries. I think we were talking about this within an Asian context, but actually, this is really important in Africa, too, I think. So if you just look at some very simple things, like the way in which mobile phone charging structures work differently in different countries, that immediately starts to make differences in the way in which people behave in relation to them.

So I think in that conversation you and I had, I was quite interested in whether in Kenya something goes on that goes on in Nigeria, which is this practise of side loading, and I don't think it does. And side loading is where, because mobile phone communication bandwidth is very, very expensive in Nigeria, people tend to move information around by using SD cards. And you can buy SD cards of various kinds in street markets pre-loaded with information. People swap information around amongst themselves rather than sending it over the mobile phone network.

In other countries with different kind of charging structures, different ways of behaving in relation to the technology developed. I know in India, some of the phone companies have come up with remarkably low-cost models for mobile phone use and that's influenced the penetration of them into really quite poor rural communities.

DEVENDRA KODWANI: Yeah. I think similar to the experience in Africa, even if we were to over-generalize taking on board that point, even the state has supported some of those things in India by creating applications that facilitate taking of the subsidies, for example. So many, many gadgets have been developed which use mobile technology not just for the payment processing transaction processing, but also for availing the information. A lot of identity card-related leaders are being linked to this because India has a very large public distribution system for reaching out to poor people who need subsidised rations, the food grants and so on. And those things require distribution and information processing as well.

So there has been massive use of mobile technology in India for processing but also for all kinds of things they are doing from venue booking to cinema booking. So I was actually struck by when you use the word innovation in there. I'm a big fan of how unintended consequences of economic principle says that emerge out of something. So when you say that OK, you need to set up the cell towers in remote areas. They need power. And that may inspire micro-electricity generators, you know, whether it's renewable are other sources. So it might on ground generate, as they say, necessity is the mother of invention. So it is creating necessities

of different kinds which is going to inspire people.

And the interesting thing is there's a self-fulfilling innovation cycle forming. So OK, you are sitting in a remote part. You've got access through mobile to knowledge and information from around the world you might actually use Twitter feed or whatever and say, I am looking for some technological solution in my village for this kind of thing. Somebody might actually find you on internet and send you a solution.

So it unleashes the creative power and allows crowdsourcing of knowledge for solving local problems. So that is where I think the power of technology, for me, is very useful, because we did not know 10 years ago what mobile would do. Everybody thought it will just be a mechanism of communication, but it is not.

KAREN FOLEY: We asked everyone at home, whether they thought that mobiles contributed positively to work. Let's say what everybody said. So unanimously, people are saying that this is making a positive contribution to the world of work. We also asked about social and family life, and we'll come back to the answers on that one very quickly. But Zack, you have a question.

ZACK: Yes. So we've got Philippe, who has just raised a good question with us in the chat room, who says that whilst mobile phones and apps could be of great help for distance learning, keeping in touch with teachers and asking questions, are we not running the risk of increased distraction when using mobile phones and apps in the classroom? Which is interesting.

KAREN FOLEY: This is a very interesting question, and I know a lot of people who are working on using feedback forms in the phone, form of apps and things in teaching to get instant feedback on whether students are understanding points, but I guess this is another thing about, you know, what are we doing with these mobile phones and how are we using them in the classroom? You know it's that question about the technology and I guess the software or what you're doing with it that means you can't give a categorical answer. But are there some instances where we think that this can be a positive thing to education? You're very interested in this whole idea about using technologies to enhance learning? Are you using mobile phones in the classroom or any sort of app?

IAN WAIRUA: I do. I wouldn't say that mobile phones are being used in class throughout Africa or even in Kenya as a general thing, but I do. I use mobile phones in my lectures, and I encourage teachers to do the same. Like any other technology, it's not evil. Technology is never evil, it's the way you use it. And when technology is new, especially this type of technology, which is

basically owned by the students, the tendency is that the students will find it a distraction. But it's a matter of learning, or students can learn to use it properly.

Most people abuse their mobile phones, not just students. They use them at the wrong time, and it takes an effort to switch it off, even in the home. It will take an effort to use the mobile phone correctly in class, but there are ways of using the mobile phone. There are advantages of using the mobile phone in class as a technology. Not on its own, of course, you have to mix it with other methods of teaching and learning, but it is definitely a very, very useful gadget.

For one, if I just mention one, we could discuss a lot, many of them. But one is that the students are familiar with their gadgets. If you compare with the usual institutional technology where they have maybe a desktop or a laptop and so on, this is a gadget they bring with them. And therefore, they know how to use it. They personalise it, and this helps them to get a deeper learning experience.

DEVENDRA KODWANI: From learning, teaching, design perspective, from a teacher's perspective, it is a very interesting challenge we have landed with because of the emergence of these technologies, whether it is in distance learning context or in the face-to-face institutions. If they are allowed in the classroom, and they are in most places, the challenge is that if you look at what's going on when a student is processing information and knowledge, whether it is coming through text or any other medium, there are cognitive things going on in the mind.

Now, technology may be blamed for distraction, but I had taught for several years in face-to-face classroom settings and I know when the student was switched off, when looking out a window that they were not with me. So distraction is not new for a teacher and not new for the student.

But what I find fascinating in this is that you could actually, if you design the use of technology carefully, you can make it work for the student. So some of the things, for example, it would have been very difficult for us in past to achieve is to make the whole class collaborate in a task.

Now, if you had a good app, there are many such things, and you say, OK, I'm going to give you a piece of information. Here's a graphic. I want you to process that information on your iPad or laptop or mobile, and I want you to reflect on it and give me something. And you can immediately see how collectively the room is thinking, whole group of students is thinking. And

then you can create something in that which starts a direction for them. So some of those collaborative activities actually could be done more creatively and interestingly through the technology than would have been difficult in face-to-face.

IAN WAIRUA: Absolutely, I think the most important thing in a lecture room in teaching and learning processes is control, that the person in charge, if it is the lecturer or the teacher, has to be in control of what is happening and it's not an easy thing, especially for large classes. But control also goes in this feel of the student himself. The student has to control his life. He has to know what is good for himself. When he's at home, he has all these gadgets. He has many things he could do, but he sits down and does his assignment instead.

And this control is the same control needed with the mobile phone. And with a little guidance, just as you're saying, there are absolutely ways of designing lectures in the teaching and learning process to make sure that the mobile phone comes in at the right time for the right activities. It cannot be for all activities.

MARK FENTON-O'CREEVY: I have a-- I want to be a bit controversial here, because I actually had this debate with an American academic on Twitter recently, who were saying that-- they weren't talking about mobile phones actually. They were talking about they wanted to ban laptops from the classroom. And the debate got set off when I responded by saying maybe it would be worth considering whether they might find learning through their laptops more engaging than your lectures and to open up that discussion with your students.

Because I think one of the things that we easily forget, because we've become used to this idea of the lecture in universities as a primary mode of teaching, is what a poor way of teaching it is. You know, it's like, it's sitting people down and broadcasting to them, and even when you make attempts at interactivity often because of the staff-student ratio, it's a very non-interactive way.

Now, I'm not saying that we should throw away face-to-face teaching and do it all online but actually these use of technologies, bringing them in to transform the ways in which we teach face-to-face, I think is really, really important. And what both colleagues are saying about the ways in which you can use technology to increase interactivity and engagement. At the end of the day, people learn through dialogue. They don't learn through being broadcasted at, and I think that these technologies can make an enormous difference.

IAN WAIRUA: The big difficulty is that the institutional technology is usually standardised. When a university,

for instance, issues out laptops, they will issue the one type of laptop, and students have access to the same technology throughout, and that's very convenient. When you use the mobile phone, every student comes with their own gadget, and in places like Africa, you really have to be very careful to ensure everybody has a gadget that works, can view a video, for instance, and not some with gadgets, some without, some with very high-end gadgets and so on. But at the end of it, is a management issue. The teacher must manage the process.

KAREN FOLEY: Well, let's turn to our audience who are watching, because I know there's some more questions from them as well. Zack.

ZACK: Definitely. Yeah, I mean, this session has sparked a lot of conversations about the pros and cons and the openness of apps and using mobile phones in learning environments and in other environments as well. Looking at criminal networks having access to this kind of technology, and you know, we've been touching upon modern slavery.

So we had a question, a good question from Abassi, who agreed that technology is no evil. However, technology such as mobile phones are highly addictive. And he wanted to-- he wanted to ask the panel could they comment on what can be recommended to mitigate the negative impact of mobile phone addiction, app addiction, kids not putting down their mobile phones in this modern age, which is quite, you know, something that happens. And he commented that parents cannot be teenagers all the time. So what would you say?

KAREN FOLEY: A very interesting question. I'd just like to phase in the results of our widgets, which I've been mulling over, because we asked people about whether mobile phones contributed positively to the world of work, and we saw 95% of people agreed. But when we asked them about mobile phones and technology contributing positively to social and family life, the answers were very different. You can see here, there's 72% of people saying yes, so a massive decrease, but 12% saying no and 16% not sure. That's been fluctuating a little bit over time.

But there is a very different value that our audience are placing, in terms of the usefulness of mobile phones for work, which they agree can be very positive and mobile technology, whereas for homes, slightly less so. And so this feeds into the question, then, I guess, which is slightly beyond the scope but still very interesting about how we use these and to what extent they are useful or perhaps debilitating from that sort of communication and perspective, let's say, because I think we can't touch on everything to do with family life, but if we just take a look at mobile phones in the home and the impact on communication.

MARK FENTON-O'CREEVY: For me, I like putting things into historical context, and going right back to Plato in ancient Greece. Plato was complaining about young people today. They're different. They're lazy. They don't respect their elders. They don't do the things that they should do. And that's a continuous refrain all down the ages, of older people about younger people. And I think that-- although I'm not saying there's no truth to some of this, but I also think some of it is in the context of young people's social practises are changing. Community is just as important as it ever was, but young people are engaging in community in different kinds of ways. You know, some won't-- yes, you may see someone spending more time in their bedroom on their computer or other device than you might have before when they might have gone out on the streets.

But quite often, nowadays is what you'll see that engagement is, is they're engaging with a wide group of friends and engaging in all sorts of forms of social discourse and engagement, and there is a real sense of a community that they're part of, but often those communities can be quite different to the ways in which they could before. So and I think that comes about to this point about addiction, and what is it that people are being addicted to? Is it the technology, or is it, for some people, that sense of being hooked into a community?

KAREN FOLEY: And access to both people and also information, because I think, in particular in certain African communities, that value of being able to access information about certain things, may be certain things that aren't commonly discussed. So for example, you know, if people are having issues with sexuality, and they aren't acceptable to discuss in a certain environment, you can access information on a more global scale and connect with things. So it's both of the information and the access to community.

DEVENDRA KODWANI: I think you touched up on something important there, Karen. It's how we consume information. Now, there was a lot of information people wanted to consume for various reasons in past, but accessing it or even asking for that information was a problem. So what technology has allowed is in private, you can go and search and consume that information for whatever decision you are making, and that is one of the reasons people might be spending time.

A question of addiction has connection with productivity, which is relevant for business. And if it becomes an addiction from teenage, it can be a counterproductive thing on workplace. One of the simple things one do is if you look at what technology is doing, it is a feedback loop. So most of these apps and games are instantly hit, because they have instant feedback system,

and we humans are always looking for feedback. So we had to learn actually from that how do you in learning process give that feedback that student picks up and pays attention to it.

Simple tips sometimes I use for productivity is notifications are to be switched off on all devices. I don't allow any software to give me notification unless I want it, whether it's email on my desktop or any messaging device. So you had to learn to control that thing.

Even more basic than a mobile's pushing type of notifications, you have access to remote of your TV. Now, If you want to read a book for half an hour, just put your remote six feet away from your sofa, six feet. And believe me, that works, because we humans are lazy. You won't have so a strong desire that you'll get up and go and take remote again six feet away from you. So some of these basic things-- mind is controllable, programmable if we just give it little trouble, a few days, it will work.

IAN WAIRUA: It's amazing because the problem of addiction is already being seen in Africa, in Kampala, in Nairobi, in Lagos, phone addiction. And there are already reported cases of serious accidents of young people walking around with their mobile phones and unaware of their surroundings is really dangerous. And the good thing is that this is bringing a greater awareness or consciousness to these particular dangers, and therefore, there is action. There is action at a community level. Typically, there will be talks in the social halls and in churches and so on about mobile phones, talks to parents and so on.

I think apart from the individual control, which is the most important thing, because this is your life and you have to really do the right things in your own life, but what we are seeing now is a need in the education sector for proper education on technology, on new technologies. It places a greater burden on people in education to have relevant education.

I still remember the days where, early days of email in Nairobi in the '90s. And typically, somebody would receive an email, and then run around the office and say, have you seen? I have seen your email, and have you seen your copy and so on, is unnecessary. And it was also not uncommon for email to be banned, OK? It would be prohibited in certain office settings. Nobody prohibits email anymore. Why? Because people have learned how to use this technology over time. And this is what needs to happen also with the mobile phone.

MARK FENTON-O'CREEVY: I think this is really important. With each generation, as technology in the world changes, we reinvent our social practises for new times, and it takes a while for us to find ways together of doing things really effectively. But I think one of the features that we have at the moment

around phones, around other forms of technology is that it's not just us, as a community, constructing our social practises. It's also firms are actively seeking to influence how people behave in order to make money out of them. And some of that's not so bad. You know, it's about, for example, pushing advertising at you that will be relevant to your own interests.

But you know, for example, lots of firms are putting a lot of money into looking at ways in which they can increase how likely people are to make an impulsive purchase. You know, why are online sales organisations starting to offer same day delivery? Because it's quite a hard thing to do. It's because if they can get that product to you on the same day, that instant hit you get from the purchase is much closer.

KAREN FOLEY: Well, it's classic addiction, isn't it? It's that impulse and reward system, where you're getting your needs met very quickly, and then that's, you know, reinforcing it. So from that perspective, very important.

We're going to pick up on this whole topic on artificial intelligence and big data and the use of that for consumers in our next session, but I must end this session now, fascinating as it is. We're going to take a look at things from an Asian perspective next, where we look at the difficulties of economic integration between Asian countries. And our next video is going to be a profile about Wilfred Manuela, Jr., who will be hosting our next session with me and guests. So join us in a few minutes for that next session, and keep those questions and chat coming.

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