Emerging markets - New technologies, new opportunities and new business models

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In the current uncertain economic climate the so-called 'emerging' nations - once the cinderellas of the global economy - now present some of the most exciting business opportunities. So, do we approach them using tried and tested business models, or do we take advantage of these relatively green field opportunities to break new ground - leapfrogging legacy technologies with 'reverse innovation', and putting new ideas to the test?

Sunil Joshi, Managing Director and CEO, Neotel, at NetEvents EMEA Press and Analyst Summit, Algarve, Portugal

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The Internet, cloud computing, mobile data and other new technologies open doors to exciting new business models that present a real challenge to conventional business. What are the new opportunities, and how can service providers select what is appropriate, adapt to the new realities and facilitate these changes?

Sunil Joshi is Managing Director and CEO of the South African telecom operator, Neotel and is also a member of the executive team of Tata Communications, where Sunil was previously President of Global Enterprise Solutions. South Africa, now a member of the dynamic BRICS nations, plays a key role in bridging Africa to the rest of the world economy, while Neotel is in the business of connecting its people and enterprises, as well as connecting South Africa to the

world. Add to that Sunil's experience and vision, and we have our ideal guide to the pitfalls and opportunities for innovative technology in the world's emerging markets.

How is the role of the emerging markets developing, and how might this impact the global economy? Are emerging economies merely recipients or testing grounds for new technology, or are they already feeding back innovative developments and contributing positively to future advances? What further opportunities are emerging from this process and how should we address them?

Sunil Joshi, Managing Director and CEO, Neotel, at NetEvents EMEA Press and Analyst Summit, Algarve, Portugal

Thank you. Thank you, good morning all. First I'll do my thank you upfront to NetEvents and the sponsors and thank you for inviting me to give a little bit of a -- not a talk but present some ideas, opinions. And my whole objective this morning is to provoke some thinking around innovation and since there are a lot of technology folks in the audience also see how technology is playing a very key role in this driving innovation but then link it to another dot which is the emerging market dot and try to see how the connection of the two is creating new paradigms, new business models that forces us to think about how we can leverage the technology that we position today into taking us into the world of tomorrow for us.

So it's all about innovation and innovation is always exciting. But so is the emerging markets because many of the mature economies and MNCs in the developed world are looking at emerging markets for growth and further expansion.

So when we talk of innovation -- so what does innovation come first to mind with is it's about doing something new or doing the same old in a different way. And when we start looking at some examples, and there are many examples around us where we see innovation, one of them being the age old Post It that came out by 3M where a lot of emphasis was put on the kind of glue that they would put behind the piece of paper so it sticks and it doesn't keep falling off. And we've seen those little imitations that do come up every now and then that don't really behave like a Post It does but it enabled us to see how we can remember things.

How many iPad users now in the audience? I guess it is quite a few. And that revolutionised the way we became -- we took technology with us in everything we did and continues to. Some of you would have heard about the Nano which is the world's cheapest car developed by Tata Motors. There was a view that you can't build a car in $2000 or thereabouts, exchange rate variations apply. But this car now has about 34 patents in the context of the technology changes that this car has driven. And the context was it was about enabling families on two-wheelers to come into a four-wheel vehicle for them to commute from A to B in a relatively more safer way.

Now we have other examples where technology is being used. Mobile banking, I've got an example downstream around it, but we had constructive cannibalisation of channels in banks from the branch to the ATM to the Internet but now you also have the pervasiveness of mobile devices and seeing how can conduct transactions no matter where you are, when you are, but when you want to.

You have business models like Shaadi.com which is the world's largest matrimonial website which enables potential brides and potential grooms to connect. It's not like a dating service but pretty much close to you.

Some of you -- anybody use Zipcar, anybody who is a Zipster? It's a great business model that has come out where now over more than 8,000 vehicles around the US, in the UK and even in Spain and some other cities and universities where people have access to cars and they can book

a car closest to their home and go and pick up the car through a keycard called a Zipcard and you can use the car by the hour or by the day and you get billed by it. So it starts changing business models that age old rental companies use for vehicles into a I can use a car when I want and where I am. And that enables customers to really go out and leverage an on-demand service.

You have 23andMe. Anybody heard about that? Personal genome. Did you ever want to think about how your DNA is structured and your ancestry. And earlier we would think well that's something that it's where research organisations spend millions of dollars to try to get and break through the DNA code. But now 22andMe is a California-based organisation and what they do is they do research in about 100 diseases, they also provide services to the average consumer like you and me for something like $99 start-up and $9 a month (inaudible) a lot more expensive but about ancestry health traits, characteristics etc. It's now available to the common person.

Khan Academy has something like over 2,500 video tutorials and it's accessible over YouTube which is free. So what's effectively happening is that (inaudible) technology through the Internet, business models that will enable consumers to have what they want when they want using an infrastructure that we now know.

Now park the innovation aside for a second and I'll come to another model a little later. Then comes the emerging markets. On the emerging markets let's look at the evolution that some of the MNCs have gone through. About a few decades ago you had organisations like Xerox which created products in mature markets and found that there is a market for them in this but also they would start expanding globally to deliver products that were developed in mature markets; to then organisations looking at saying well I have alternate resource pools and those resource pools not necessarily reside in where I am, therefore I start expanding my resource base beyond my domicile country; to then look at glocalisation where we bring global brands and apply them locally into the geography that we expand into.

For example McDonalds for the first time came out with a burger which necessarily wasn't a Big Mac which was a burger in India. They had to create a veggie burger and a chicken burger which was adapted to the local palate and the local requirements.

Then coming with organisations like GE which talk about innovation but in the reverse way. In 2003 Almanac of the Encyclopaedia Britannica when they looked at innovations of all kind 90% of those innovations evolved from mature markets such as the North Americas or the Western Europes. Now that whole trend is changing because of the limitation of resources available to all emerging markets forcing people to think very differently.

Think about low cost healthcare. In that GE put aside about $3b to create about 100 healthcare products that would make healthcare lower cost, more accessible and better quality. And one of those I'll talk about in one of the slides downstream. But the many examples of reverse innovation where it's now in the emerging markets due to lack of resources and lack of skills as well but creating things out of what you wouldn't be able to find in mature markets and reverse-engineering them into the mature markets.

For example GE had launched or created a $15,000 ultrasound machine. Now that $15,000 ultrasound machine is a lot cheaper than what you'd get in mature markets. Now that machine was developed for rural markets in India and in China. But what they then did was they actually started to take that same product and move it into more mature markets like the US where healthcare is still very expensive. And it is one of the biggest areas that are important to the communities locally. So this machine now is being used in the US a lot more.

The second one similar to this is the $1,000 ECG machine, the electrocardiogram, and that enabled the ability for providing healthcare into more rural places a lot easier but also making

healthcare cheaper in the mature markets.

In Africa you find in Kenya M-Pesa has become a model often talked about, it's about mobile banking. And it's also banking the unbanked. And that's a common need across all the emerging markets. So combining the mobile phone with a mobile banking application on top enables a user to not necessarily have a bank account but be able to transfer remit monies to destinations through microfinance organisations around Kenya itself.

Another example is Nokia's innovation around the Craigslist of the US but enabling their devices to have a feature where it's a voice-based enabler of classified ads using the regular feature phone.

You have other examples like Microsoft with OneApp. Now we know that in mature markets, I think it was Q1 2010 is the first time where smartphones exceeded in shipments those of feature phones and almost a year later the same occurred as a trend in North America. Now feature phones are still very prevalent in emerging markets. Now Microsoft is creating OneApp which enables feature phones to have basic Internet functionality to be able to access Facebook and Twitter which enables communities to come together a lot better, faster, quicker. And this is starting to then lead into low cost cloud computing platforms.

There have been case studies around mathematics and education in emerging markets. There's been one in South Africa where they identified about eight schools, 200 students, and they enabled tutorials to be channelled through the mobile phone. Obviously the challenge becomes you don't have kids using mobile phones during the school days but what they found was 80% of the usage of those phones was for their lessons that they were learning on an interactive way on the phone and also communicating between themselves as students will do.

But then we find that in emerging markets they are looking for more for less because of the limited resources that are available and the electrocardiogram or the ultrasound enables those kind of things to occur. But then the biggest advantage you also find with emerging markets is they can leapfrog, they do not have to go through the standard evolution of 2G to 3G to 4G or evolution in any industry but they can leapfrog, leveraging the technologies now available. Just because they didn't have it in the past doesn't mean they can't get access to it now.

And that's changing the way that people start looking at technology, LTE being one example. LTE is being seen as an enabler and this map source being FT shows about where LTE is starting to emerge. I wouldn't say it's as pervasive yet. As business models emerge devices become more pervasive and the cost of providing it becomes more economical. But you can see that there are vast parts of the world that still do not have the LTE technology but will become beneficiaries of the experience that the other markets will gain.

Now coming into the telco world and there have been changing business models from the old to the new where originally the network, I need to have the network myself and I will build, into today's world in developing markets where sharing of infrastructure becomes more important, leveraging common CapEx, reducing the OpEx as much as possible becomes really critical.

Sales and distribution, from wholly owned channels of distribution to freelance sales and distribution channels are now being seen (inaudible) to get more pervasive into the geographies otherwise inaccessible.

And then customer care. Customer care meant I had the call centre, I would run it myself. To where we will end up becoming is get somebody who understands customer care and have them run it and manage it for me.

So the business models are changing and we have good examples of Airtel moving the IT to somebody who understands IT well and network ops to somebody who understands that well and

they understand the market and the customer as just one example.

Closer to home as Neotel's major shareholder being Tata Communications and Tata Communications and Neotel are working towards bringing new innovative technologies into the market. And another example I'd love to share is around cloud and cloud computing, more so around infrastructure and service where the whole context is you don't have a lot of CapEx, there's not a lot of time taken to implement platforms and therefore what we end up rolling out is the ability to enable our users to have access to a cloud platform as and when they choose.

The two access methods, one being through the Internet, but second those people who want more security can actually leverage it over a VPN connection. And that gives a private instance in a public cloud. A lot of emphasis was laid on reporting as well as ensuring that the time to get the infrastructure available is ubiquitous and it's fast. To give a sense, it's almost akin to about 40 cents an hour per two gig and a two-core server. And that's available on a pay-as-you-use model. So cloud computing, as security concerns get addressed and people start trialling and putting their applications on it, will see a lot greater penetration of cloud platforms.

The second example that we can share is around our Banking InfraSolutions Limited business where as a telecommunications business we knew that we had access and we had coverage to most businesses and areas. Then we went to provide managed ATM services to banks in India where we would provide the network link, you'll provide the ATM, you'll provide the surveillance. We even replenished the cash for banks. And today we are India's largest managed ATM service provider for many banks in the country. Changing our own business model of are we a telco, are we a value-added services provider to the financial services sector.

But in all of that the model that we developed was to charge on a per transaction basis rather than a straight-up cost for deployment. Now that changes models for banks to really look at how they operate and look at transaction and transaction management very differently. And that's the benefit that technology provides.

Security as I mentioned earlier is one big issue and we find that managed DDoS services, skills in emerging markets are limited, security skills are certainly much more limited, and we're able to now provide a service for business customers around the world to provide them a secure perimeter for managed DDoS services so that anybody trying to hack into major sites is protected and policies are managed and controlled.

Last but not least, a few years ago the ash cloud was one thing we experienced in Europe and I think it was quite pertinent. But we do have these natural elements that impede our ability to collaborate, communicate and continue to do business. So we ended up going through a deployment of the immersive telepresence room technologies and deploying public telepresence rooms around the world. So we now have about 42 public telepresence rooms around the world connecting Johannesburg where I'm based out of to any one of the other cities that I've put out in the continents of either Asia, Europe or the US.

But more importantly we said well the public rooms enable people to get the experience, pay by the hour and have real life-like meetings that will ensure business continues. However, as businesses look at building their ecosystem they can also deploy the telepresence type infrastructure themselves as private rooms then connecting those private and public rooms together creates a greater capability.

So what we found over time was that for an enterprise creating ecosystems of a supplier who I have very close (inaudible) research development relationships with, my own enterprise, as well as my customers, my large customers. How can I connect that ecosystem such that I raise the level of engagement within those customers and ecosystems.

Telepresence as one example enables us to use technology that combines high definition immersive rooms to high definition now -- evolution to high definition video-conferencing to standard def, the laptop and the mobile device. And you'll see a lot of people talk about how do you connect those three screens a lot more rather than just connecting one.

Now all of this was because we ended up originally focusing on infrastructure, especially in South Africa. So we've deployed about 7,000 kilometres of fibre within South Africa over the last six years that we've been operating in the country and we are the second network operator by virtue of the licence that we got.

So as you can see, the [capillarity] of fibre footprint in South Africa is quite pertinent along with the five submarine cable systems that connect South Africa to the rest of the world, SAT, SAFE, EASSy, SEACOM and recently WACS.

But these five submarine cable system technology advancements from the first which came out which were SAT and SAFE, a design capacity of 320Gb to WACS which is about over 5Tb capacity now designed for us.

You can see the scale of bandwidth and bandwidth consumption that will be driven but connecting through the SANEC or the neighbouring countries was really important.

So what we ended up doing was we rolled out technology to not just be on fibre but fibre with five submarine cable systems then connecting into Tata Communications global infrastructure of 365,000 kilometres of submarine cable assets on the seabed therefore enabling us to be the only service provider that can give an around the world ring, primary and secondary, controlled on our own submarine cable system and therefore providing every customer, business or consumer, the ability to have ubiquitous Internet available all the time but also connecting anywhere they want. So 300 cities, 200 countries, six continents. We can connect our customers across that frame.

And a lot of other technologies yet to come. So when somebody says well what business is Neotel really in, we see ourselves being in the business of connecting enterprises and people to themselves in South Africa and connecting South Africa to the world to enable commerce. And a lot of that is leveraged by the investments made so far in South Africa but also the investments that Tata Communications have made globally to be able to provide voice, data and now increasingly video services to customers.

It's all about driving innovation. And in any technology business that either you're part of or we see ourselves in, it also has an underpinning context of partnerships.

And those partnerships really become important to leverage market opportunities and create new ways of doing things.

With that, it's all about not just innovation, it's about inspiring possibilities. So as you think from today and tomorrow and you'll have many other panel sessions talking about how technology is being used, start considering in your own mind how does that technology create a new realm, a new dimension in the way we do things, and how can you actually enable businesses to really grow in avenues that they haven't ever thought of before.

With that thank you very much for your patient listening and I'll get Manek back up.

Manek Dubash - NetEvents
Thanks Sunil. Thanks for that. That was a very rich presentation, a lot in there. I suppose the first question that occurs to me that may have occurred to some of you is what do I get out of it here in Europe? What's in it for the average consumer first of all? How do you think all this stuff feeds through?

Sunil Joshi

It's a great question Manek. I wish you had asked an easier one. But I think the world is becoming as we all know a lot smaller, it is becoming a village. Because you have not just technology but the Internet and the technologies that ride on it and some of the business models I gave as an example and how we take that into reality.

I'll give another example. Is there anybody who has used Airbnb as a site? Right, some people have. And it's a great model where the context is even in Europe people have houses and cars and not all of those cars are used all the time. So typically a car is used about two to four hours a day, here in South Africa you'll probably use it about eight because you're stuck in traffic jams. But for the time that it's not used it's an asset under-utilised. So Airbnb basically says if you have a couch or a bedroom at home you can actually have it used by somebody and paid for. So you're under-utilised assets become more utilised.

Now there are issues around well who will come into your house and what will they do to your sofa or your bed but those insurance issues are also being tackled by the same business model. So what it's creating is new business models and new service models that people in Europe can leverage and really take advantage of. And these technologies are just an enabler for those business models to become real. And Airbnb is just one example of many and I'm sure that there'll be many in the audience that have that too.

Manek Dubash

Okay, and what about businesses in Europe as well?

Sunil Joshi

Expansion? So you'll find that businesses are really looking at emerging markets and many European businesses look to Africa, Asia, Lat Am for that matter. And if we roll right up to the BRICS which covers most is this technology connectivity enables businesses to expand in geographies that you're not physically present yourself.

I'll give you -- one of the large banks are deploying many telepresence rooms around the world because they're trying to connect area of supply to area of demand. So for example earlier (inaudible), you're sitting in New York, in Manhattan and you're sitting at a bank's premises and you say I'd like to invest in China. Originally they will just put the brochure, give you a few graphs. Now they're saying okay, let me connect you to my investment analyst sitting in Beijing right now over telepresence. And therefore you can have a much more meaningful conversation around investing in China.

So those are the kind of benefits that businesses are starting to realise even on ecosystems. So where many businesses have moved for BPO activity to India for example, the ability to connect your back office operation and your research operation to your mainstream operations is now a lot easier than it was before. So those are some of the benefits that businesses are going to leverage as this technology, technologies become more available.

Manek Dubash

One thing you haven't really touched on is the role of regulation and governments or the way that they will mess around with markets and so on. And obviously it's very different in South Africa to what it is in a lot of shall we say more liberalised economies. How does that play out?

Sunil Joshi
We're engaged with the government and the regulator plays a very important role in opening the market for competition as well as new entrants. As Neotel our own experience was we were awarded a licence about seven years ago and we started from scratch. We had no customer and no fibre infrastructure of our own. We've had our speed bumps on the way but ensuring that you have a regulator that's supportive of competition and new entrants into the market is really key for any market's growth.

Manek Dubash
But regulators I think are a good thing because essentially they are the role -- they're the voice some way removed of the consumer whether the business or the individual.

Sunil Joshi
Correct. You're absolutely right. And one of the greatest leverage points is that emerging markets and even South Africa being no different can look to many of the mature markets for business model and deregulation that has worked and has not worked. While each geography and each market is different you can actually pick and choose which ones are relevant and how do you apply that to your local market itself and really take advantage of learnings of other worlds. And I think that's a very important element and you'll find many of -- there's a cross-pollination of learning that occurs from emerging markets to mature and vice versa that helps the regulation and the deregulation thereof to really take shape.

Manek Dubash
Okay. Questions?

Jean-Baptiste Su - L'Expansion
Jean-Baptiste Su with L'Expansion in Paris. You mentioned about LTE in emerging markets. So what do you think about WiMAX at this point? Is it -- does WiMAX have a future or do you think it's going to be essentially replaced by LTE deployment?

Sunil Joshi
We've got WiMAX deployed right now in South Africa ourselves, 16d, obviously the evolution being 16e from a mobility standpoint. And we're also trialling LTE in our own campus today. So as we look to the short to medium term WiMAX still has a role to play that it does provide near line of sight capability, 2Mb, 4Mb, 6Mb type capacities. But as you start looking for more ubiquity within the access layer and as LTE becomes more pervasive and device costs become relevant you'll find in our opinion LTE will end up becoming the chosen platform for access because of the sheer nature of lower unit costs, of access, but also as devices become more pervasive which will happen in the next couple of years it will in our view end up replacing WiMAX.

Jean-Baptiste Su
So what do you think about the current WiMAX deployment? Do you think that in the end what you're deploying right now in WiMAX will have to then eventually migrate to LTE?

Sunil Joshi
Absolutely, yes.

Manek Dubash
Any more questions? Yes, one over there.

Kendrick Struthers Watson, Inkslinger News
Hi, it's Kendrick Struthers Watson from Inkslinger News. Do you think with LTE becoming dominant is there going to be sufficient capacity through spectrum in South Africa or anywhere in fact?

Sunil Joshi
LTE is in its evolutionary path as we know and deployment in various geographies is happening in trials as well as production. But there are three or four key elements, spectrum being one and availability of spectrum is a crucial ingredient for LTE deployment, backhaul, base station and the upgradation of the base stations itself.
These three things combined are the things that are going to be necessary for LTE to become more pervasive and I think as it goes through its evolution of deployment these things will get sorted as things got sorted when we moved from 2G to 3G and a similar path we'll have to sort for 4G as well. But a very good question.

Manek Dubash
Here's a thought on LTE, perhaps counterintuitive. Is it not happening too soon? There's a spectrum issue but they also haven't solved things like battery life on handsets. There's things like voice over LTE which isn't yet settled. And there's lots of places even in mature markets where you still can't even get 2G never mind 4G.

Sunil Joshi
There are two bits to it. One is how fast the technologies are changing and a lot of the service providers and technology providers continue to innovate, to say I want to give bigger, better, faster technology. But on the other side you also have the consumer or the user, business or consumer, and they're looking well what do I need, what speeds do I really want but at least make those available.
In our view even in South Africa a big segment of the market, in my view about 90, 95%, still are okay with the 2Mb to 5Mb type capacities that they can get for broadband and their requirements. And you have the 5% of people that will be the bandwidth hoggers because they use applications which are highly intensive using video and a lot of other things, downloading movies etc. or playing games online.
Now that's a portion of the market that's really bandwidth hungry. So if you say today's technology of 3G is it still relevant. The answer is absolutely yes. But you need to continue to experiment, plan and prepare for growth drivers. One of the biggest growth drivers for the Internet is video. So amongst the 32% or 34% compounded annual growth rate of traffic over the Internet a substantial portion of that is video. And as you move video from standard def to high def it will even take more capacity or bandwidth over any technology.
So I think it's about keeping pace with the needs of the market and each market has different needs. Mature markets are looking to anywhere, anytime available Internet whereas emerging are

still saying well I'd like to have something at home, something at the office and our broadband penetration will increase as feature phones and smartphone combinations start to play an interesting shift in mixes.

Manek Dubash
Okay thanks. Any more questions? Well okay, in that case I'd like to thank you for saving my arse. Sorry there is one, beg your pardon.

Martin Courtney - Market Mettle Cloud Service Provider Report
Hi, it's Martin Courtney, Market Mettle Cloud Service Provider Report. You talked about the new services you were aiming at the enterprise sector. How important is it for you as a telco to boost the profitability of the company by exploring those new services, being a service provider as opposed to effectively just providing connectivity? Can you see any future for either yourselves or any other telco for that matter in purely being a dumb pipe and making money out of that in the future?

Sunil Joshi
So if I get the question right, it's do we see ourselves evolving from just being a pipe provider to a services provider?

Martin Courtney
Yes. And is there any money at all left in just being a pipe provider?

Sunil Joshi
Right, okay. We're actually both. Our business model enables us to provide infrastructure in the shape of wholesale capacity and we do serve many carrier customers whether in Neotel or in Tata Communications around the world by virtue of the capacity that we have built.
But in addition to that we have a retail/business model where we provide services on it and I think it's a combination of both, that you leverage your infrastructure and you provide value-added services on top. Per se we've -- just about two weeks ago in South Africa we have launched the broad -- what we call as the booster broadband. What it basically says is that if you have a 2Mb Internet service right now and for a batch mode you'd like to actually use for two hours 50Mb you can go to the Internet and you can upgrade your Internet requirements for 50Mb and just get paid or charged for those two hours that you use it for and back into the ubiquity of 2Mb.
Now what that serves is a differentiated service for the spikes that businesses have which they didn't have a solution for and therefore now for us to meet those became critical and it took us a while to get the model right but we were able to roll that out two weeks ago.
But similar to that there are services like telepresence for example. There is underlying it drags the network and it drags the other components of a telco service provider with it but it really provides a distinctive service on high definition video experience to business customers to run even things like board meetings and audit committee meetings over telepresence which I do today considering the spread of my directors around other geographies. And that enables collaboration.
So as businesses benefit from collaboration we will benefit from the service which also leverages

the core infrastructure.
I hope that Martin answers your question.

Manek Dubash
Any more? Okay, with that thanks again Joshi -- Sunil for saving my arse and thanks for a great presentation. Ladies and gentlemen, Sunil Joshi.