



Why 4G thinking won't work in a 5G world

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Everyone wants to know if 5G will be revolutionary. For telecom operators, the jury is still out. But for human advancement in communications, the answer should be an unequivocal yes. And the smartest operators will see the value in that.

There are a wealth of articles, papers and pundits offering the traditional opinions and comparisons of 4G and 5G. Pick up any industry trade publication and you are sure to find dozens of valid viewpoints. The problem is that most are based on a very '4G' way of thinking. And that means they might be missing the point about the value of 5G. Yes, 5G offers extraordinarily low latency, unprecedented data rates and network capacity. But by focusing only on these technical aspects, we may be missing the forest for the trees. So, instead of the technical or business view, **let's view it from the customers' perspective**, and think about what telecom operators really do every day: enable people to communicate.

Let's consider why humans bother communicating in the first place. The academics will tell you there are three levels to human communication. At the first level, our most base level, we communicate to share **needs and important information**. The second level adds more sophisticated language and comprehension, allowing us to share **thoughts and ideas**. The most sophisticated thing humans can do with communication is to share **feelings and emotions**, which is on the third level.

For the most part, humans use language — essentially our way of 'coding' and 'decoding' messages — for communicating those base needs and ideas on the first and second layer respectively. But our language often fails us when we try to communicate or share our feelings and emotions.

Monetizing human communication

Now, let's think about the various generations of network functionality that have been developed over the past few decades. In the 1980s and early 1990s, the world was fairly content with 2G mobile technologies. Voice and SMS allowed humans to achieve that first level of communication — sharing needs and important information. And telecom operators found ways to monetize that communication and add value to their businesses as a result.

By 2008, the internet was seeping into the far corners of the world and the information age was in full swing. By connecting us to each other via the web, 3G and 4G networks empowered the world to share ideas and views. Mobile broadband allowed people to share all sorts of thoughts and ideas — that second level of communications need that is so typical of the internet — on their devices, sometimes through speech, but increasingly through pictures, video and music. Again, telecom operators found ways to monetize that communication and add value to their businesses as a result.

With this context, one can understand that regardless of whether 5G is a technological revolution or not, what is certain is that we are on a path towards communicating in richer and richer ways through our telecom networks. And 5G will be the next step towards enabling humans to truly move into that last level of the human communication hierarchy — sharing truly immersive and emotional connections. We are certain that, once again, telecom operators will find ways to monetize that communication and add value to their businesses as a result.

You don't need to squint to see it

Indeed, the move towards monetizing shared experiences and feelings through 5G is already underway. Viewers of the most recent Winter Olympics in Pyeongchang will certainly have enjoyed the extraordinarily rich experience that came from the multitude of cameras worn by competitors and participants. Powered by a test 5G network being showcased by KT Corp, this was not just about providing yet another camera angle; **this was about allowing viewers to actually experience** — in real time and high definition — exactly what the athletes themselves experience. And what was interesting was that, all of a sudden, the verbal descriptions and event commentators that we had been so dependent on for decades didn't seem to matter as much; they could never explain in words what viewers were able to experience themselves.

For tech enthusiasts, the spectacle of the show in Pyeongchang may have been slightly overshadowed by the spectacle of the technology being demonstrated. How would this change the way people consume content in the future? What will be the next big consumer of the bandwidth that we're unlocking? And how will viewers be 'participating' in the big sporting events of the 2020's? Will telecom operators be able to bring us even closer to the action and immerse us even deeper into the experience and the content?

The ability to share collective and individual experiences through media will connect people at an emotional level that was not possible before: **they will feel as if they were part of the action.**

Let the machine do it

This is not just about helping people enjoy shared, immersive experiences together — though that is certainly part of it. It's also about enabling people to interact with the growing ecosystem of connected machines around them. The reality is that machines are starting to take over an increasingly large part of the human 'cognitive load'¹, allowing us to refocus our minds onto other (hopefully more valuable) things.

There are already an estimated 10 billion connected 'things' in use today; and the volume of these devices is expected to double by the end of 2020². As these — and other, so-far unimagined devices — become interconnected through 5G, we'll be able to put more and more of our current cognitive load into the hands of our devices.

Indeed, we are already seeing homes behaving more like organic extensions of their owners than inanimate objects; in the 5G-enabled home of the future, our homes will unlock doors, set the right lighting, manage the heating and even order the groceries. Our cities will represent even larger organisms; 5G could even allow objects — such as cars and advertising billboards — to read human emotion and respond accordingly. This will provide telecom operators with even more data to mine, analyze and monetize (particularly once the power of AI is

unleashed upon it). It's a virtuous cycle. And who knows what opportunities that will bring for telecom operators.

Time for a new way of thinking

The key here is in acknowledging that 5G will enable humans to share more deeply through telecom networks — both with each other and with machines — and telecom operators will play the role of enablers. Only from that point can the new business models be developed.

We believe that 5G will be revolutionary for some telecom operators; those that take the time to really visualize what a future 5G environment might look like and then start building their business cases upon that. Understanding the flow of people's feelings to machines and other humans through the network is a good place to start.

But if you find that the numbers don't quite balance out in the short-term, we propose that you take a pause — think about what 5G will really mean to human advancement — and ponder the potential opportunities that you don't yet know exist.

The reality is that 5G will be the catalyst to significant long-term changes in the way people communicate, and what gets communicated. But the business case fundamentals that underpinned 4G do not necessarily apply. And that means **4G thinking cannot be used to evaluate 5G ideas**; if you only thought about telegraphs at the turn of the 19th century, you would never have predicted the value of telephones.

We believe that — over the long-term — we will view 5G as having been a revolutionary step in human connectivity. Undoubtedly, big questions still remain. Will the first movers recoup their investments? When will consumers soak up the bandwidth in sufficient numbers to make it profitable? What is the advantage to moving first and, potentially, cornering the market? The answers lie in understanding what this structural shift might look like, and taking the right steps to achieve competitive advantage.

Businesses that do not actively play a role in building this future risk being absorbed or made irrelevant by a system that does not suit them. The winners will be the ones who understand the power and opportunities of 5G communication and **take steps to build the ecosystem that position them to deliver the next level of human communication needs.**



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¹ Cognitive load refers to the tasks that we use our brains to complete. Technology aims to allow us to outsource these cognitive processes to machines so that we can use that time, or brain power, in other ways

² Gartner

kpmg.com/socialmedia



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