Could CSPs Lose the 5G Battle?

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Last year, the number of 5G devices on the market hit the 100 milestone and, as of January 2020, there were 61 commercial 5G networks up and running in 34 countries worldwide, according to the Global mobile Suppliers Association (GSA). Many wonder, though, if 5G is going to be worth the billions needed in investment, and if it will save CSPs as we know them today.

The investment will be transformational for CSPs—but only if they get their fundamental Business and Operational Support Systems (B/OSS) right. If not, the commercial promise of 5G will fail to reach its full potential and CSPs will be left with a fraction of the 5G revenues and all the costs.

5G is a new standard that will form the basis of the next generation of mobile networks. Many believe it will enable a fundamental transformation of the role wireless networks play in society, creating a new world of applications and offering great potential for consumers, businesses and service providers.

More capabilities, more benefits

Consumers will benefit from these advancements in a number of ways. Most notably is the promise of a faster user experience and greater access to an array of new and improved services made possible by 5G. Enterprises will be able to transform and digitalize their businesses, improving efficiency and creating new business models. Service providers, who will collectively invest billions to roll out 5G networks, will benefit from the revenue opportunity of selling those new services to these consumers and, more importantly, enterprises using more cost-efficient 5G network technology.

5G is going to deliver a significant step-up in terms of network capabilities such as higher data rates, enhanced quality-of-experience, reduced end-to-end latency and lower energy consumption. This is all great for the consumer, but many wonder what 5G will deliver beyond the basic efficiencies and performance improvements expected in this next generation. 5G will overcome the limitations of 4G networks. While services like video streaming, autonomous driving, augmented reality and real-time gaming are all possible in 4G, they will be exponentially boosted by 5G's improved latency, concurrency and efficiency to make them reliably deliverable—and thus monetizable on a sufficient scale.

Supercharged offerings

With 5G behind them, service providers have the real potential to make a range of services much more attractive. 5G will truly supercharge—both in capability and commercial viability—the offerings that will make businesses further digitalize their operations. But to do so CSPs need a business operations platform able to monetize these transformed digital services. The platform must support the process from service creation and selling to delivery. Whether the customers are residential consumers looking for the next level of innovation in entertainment and communication, or businesses looking to digitally transform their operations, platforms to support 5G require higher levels of automation, and new and better ways to deliver services.

However, all this potential comes at a price. 5G will stress the create-sell-deliver processes within current B/OSS environments, testing the limits of capability and scalability, especially when handling the complexity inherent when serving the needs of business customers. The scale and complexity of service definition data and full-scale network virtualization will prove challenging for current B/OSS platforms, with an explosion of service definition data and a massive increase in network scale and diversity.

Being the change agent

5G networks will drive a step change in what is offered and how CSPs serve their customers, especially in the enterprise market. Indeed, CSPs will be the agents of change for the digital revolution in many ways. It will be their networks and experience in handling vast amounts of data that will provide the blueprint for how services and products are sold and delivered to enterprise, business and end customers. Their underlying technology will make greater connectivity and creativity possible, based on their experience with tools such as NFV, SDN, network slicing, cloud computing and edge computing.

CSPs will be uniquely positioned to partner with other industries and enable them to layer their products and services on top of telecommunications infrastructure. The potential in markets such as agriculture, public safety, automotive, mining, public health and smart cities is vast. For example, web shops could be created to allow farmers to buy intelligent equipment to remotely monitor crops, from the equipment itself to the licensing, regulatory permissions, GPS and overall connectivity.

Agile connection needed

The number of potential combinations, customer options and associated configurations will make back-end processes more complicated than those involved in putting a man on the moon. There will be complex products that change frequently and have a very short lifecycle. In order to deliver commercially relevant products, there must be an agile connection between the network and product or service discovery team. Product managers must be able to use network intelligence that provides a library of services that they can bring to market, quickly and efficiently.

However, all this change will cause chaos, and potential revenue will be lost unless business and operational support systems are transformed to accommodate the load that will inevitably be placed upon them. The TM Forum found evidence of this as early as July 2018. In a survey conducted with its members, it was discovered that 72 percent of respondents thought 5G revenue growth would be dependent on the transformation of operational and business support systems (BSS/OSS).

Digital business platforms, evolved

CSPs must employ a BSS/OSS platform that allows them to deliver product innovation and monetize 5G-enabled services on a scale that outstrips what they currently support. Above all, the 'big picture' goal is a digital business platform that allows service providers to effectively create, sell and deliver 5G-enabled products to their customers, to generate new revenues.

If CSPs are to survive 5G, let alone prosper from it, their B/OSS systems must be:

- Zero-touch and 100 percent automated
- Optimized for both B2C and B2B (and able to optimize offerings for different B2B segments)
- Catalog-driven, making product creation agile and shareable across systems, and bringing new levels of product lifecycle management discipline to the organization
- Able to straddle both legacy elements and new digital elements, using open standards and micro-services to combine the investment in legacy and with new digital business platforms
- Cloud-based

The network enhancements of 5G will be a key driver in reducing operating costs, driven by the assumption that 5G will enable lower cost-per-bit for transmission, supported by the deployment of low-powered smart sensors for IoT that will drive automation in a closed-loop assurance fashion (reducing the labor costs associated with treating those issues manually). Reducing OPEX is highly dependent on the type of industry and how it utilizes the benefits of 5G.

Enhanced service innovation

As the network becomes more dynamic through the application of software-defined networks and virtualization, there is a real danger that operators will lose control over the network services created within their multi-domain infrastructure. Keeping track of this ever-changing library of network services will become a nearly impossible task, if attempted manually. Service discovery allows a catalog to synchronize with the various domain controllers and be able to learn or discover what network services have been 'onboarded' in the various network domains. Not only does this help to keep track of what has been implemented in the network, but once a centralized catalog of these discovered network services is available, it becomes possible to create new, higher-level products and services. These new products and services are created by combining the discovered capabilities in many different ways and leads to enhanced service innovation and rapid service introduction.

BSS and OSS systems are critical because 5G will be best monetized in environments that are completely automated. 5G services cannot be fully monetized if systems and processes continue to rely on manual processes. Indeed, Sigma believes that success in a 5G world is all about maximizing automation in BSS/OSS.

5G will open the door to a new world of opportunities, services, applications and innovations. The onus is on CSPs to act now in order to capitalize on these opportunities. They must have the right tools in their B/OSS to deal with the complexity heading their way with zero-touch, and enable them to provide instant gratification to customers—delivering what they want, when they want it. The 5G future looks bright, for both customers and CSPs, provided these vital steps are taken now. If not, the commercial promise of 5G risks being lost.