eSIMs Change the Game for Clever Players

eSIM I Am

An eSIM is a SIM card that is embedded into a mobile device which allows the customer to connect to any carrier who offers eSIM capabilities. This is an evolution of SIM technology that was pioneered in the early 1990s.

Back in the day, a SIM was a physical card about the size of a fingernail that contained a seventeen-digit code that identified the country or region of service, the network it was connected to, and a unique customer ID. If a customer wanted to change service providers for a given device, the customer had to manually swap the physical SIM card. Today, an eSIM microchip can download carrier data remotely and enable a user to switch carriers on demand. The ability for a customer to seamlessly switch carriers at their whim will be a huge disruption to the industry.

Don't Hate the Player

There's an old aphorism– crafted by either Ice-T or Paul the Apostle, accounts vary– that goes like this: "Don't hate the player, hate the game." It means, essentially, that frustrations with a given system should be blamed on the weaknesses of that system, not those who operate within it. While the message can be perverted to provide absolution for a wrongdoer by deflecting blame, we must consider both the players and the game as it pertains to the evolution of Subscriber Identity Modules (SIM) used by telco companies to securely link users to devices and devices to services consumption.

If the game is customer retention and the players are Communication Service Providers (CSPs), eSIM technology – embedded technology that allows users to change profiles through Remote SIM provisioning (RSP) – which has been on the horizon for half a decade, represents the latest play. The years long CSP inability to adequately prepare for a future that they all

knew was coming reflects a paucity of effective planning for an industry that generally stays on the crest of technological change. eSIM technology has the potential to revolutionize the mobile phone industry but some companies have been slow to adopt eSIM technology, focusing instead on stop-gap measures such as the dual SIM framework.

The telecommunications industry is complex, but users have little regard for complexity as an excuse for suboptimal service. Customers expect that they can engage with providers in a way that respects the complexity of the work they endeavor to do, not the complexity that undergirds telco businesses. They want simplicity, ease of use, and demonstrable value. If a company cannot deliver, they will see their customers leave and, absent many of the mechanisms that have been utilized in decades past (e.g., shackling consumers to contracts as opposed to offering unique and differentiated service and associated experiences), companies must have a clear, realistic, and pragmatic strategy for experiential overhauls. The telco value proposition must change to be more customer oriented and place greater value on speed-to-impact and meaningful innovation. Presently, 86% of buyers indicate they would pay more for a superior experience.

CSPs must act now to address the challenge and the focus should be towards creating experiences that customers value rather than focusing on present concerns and the insufficiency of optimization. One thing is certain: eSIMs will accelerate existing disruptive patterns that are consumer-led and hyperscaler-favorable. Those organizations that are honest about today (and realistic about tomorrow) will likely have a greater ability to win and retain customers.

To extend the metaphor a bit further, those who aren't...will no longer be players. But there is time – Gartner positions significant, transformational adoption of eSIM technology as being 2-5 years in the future.

Signal Interruption

Now, what exactly have CSPs done in lieu of preparing for the changes predicted by prescient technologists? As users – or organizations that share a human-centered design philosophy – we might expect those companies would respond with service improvements, pricing modifications, or the creation of new service provider differentiation. This could build the argument that the best parts of mobile service were distinct to one's carrier and the associated features and functions – or the ecosystem overall – were compelling enough to argue for provider retention. One might expect that. One would be disappointed.

Consider the following:

- There is low consumer awareness and demand of eSIM (in 2021, it was 27% in the US).
- Telecom service providers in the US have a churn rate of 21% and now customers will have one less barrier to changing service providers.

- Carriers want to protect their roaming revenue, which has just recovered from COVID losses
  - The pandemic drove a 73% decrease in global roaming subscribers in 2019-2020. Analysts predict Apple's eSIM moves will be the end of roaming revenue altogether.

It's easy to see how carriers could feel threatened by the introduction of eSIM. Change, however, can bring opportunity to those carriers who focus on providing the best customer experience to their customers.

The Mobile Network Operator (MNO) hegemony is finally splintering. eSIMs are apt to become the default technology for Internet of Things (IoT) devices. Hyperscalers – which include companies like Google, Microsoft, and Amazon - are investing significant capital in the IoT ecosystem as well as in connectivity and networking. As power reorients around the enterprise, use cases will focus increasingly on the user rather than the technology.

As mentioned earlier, there are threats but there are also opportunities. Opportunities for those who choose to seize them, not for those carriers who hide their heads in the proverbial sand and pretend that an unacknowledged threat is toothless. The failure of companies to prepare for eSIM technology has also hindered the development of new and innovative mobile phone services. With eSIM technology, it would be possible for companies to offer a wide range of customizable plans and services that cater to the specific needs of individual users. It also represents a critical opportunity for capturing the enterprise segment. However, in advance of widespread adoption of eSIM technology, the development of these new services has been consciously stymied.

Leave a Message at the Tone

Whether acknowledged or not, eSIM technology is transforming the industry across all facets and stakeholder groups. Below are some of the key ways eSIM has an impact.

- **For Enterprise:** Simplified logistics as opposed to handling plastic eSIM cards. Enterprise profiles and data plans can be adjusted/optimized via eSIM remote management tools.
- **For Service Providers:** Demand for mobile, wireless connections poised to skyrocket.
- **For Consumers:** Reduced cost of connected products, enhanced customer experience, ease of

Hardly a Ringing Endorsement

Looking again at what could have been done from the customer perspective, a few things become clear. First, CSPs could have done something sooner. And second, CSPs could have done better things. Consider some of the more unseemly and draconian measures companies have taken to retain their customers (all of which are poor substitutes for a thoughtful and elegant customer experience).

- **Lock-in contracts:** some companies have utilized strict contracts requiring customer commitment for certain durations in exchange for discounted phones or other perks. This can make it expensive to change carriers due to penalty fees.

- **Hidden fees:** additional charges (often unexpected or misunderstood) are levied on customers who may want to leave.
- **Misleading or deceptive marketing:** these practices – such as making false claims about coverage or benefits – can illustrate an inaccurate picture of the extensiveness or effectiveness of a given service.
- **Poor customer service:** terrible customer service, something far more pervasive than a more open market would permit, tends to keep customers with their initially selected service due to the perception that the process of leaving may be more onerous or time-consuming than their perception of its worth. Additionally, the dearth of customer-centric, personalized, and properly contextualized support does little to improve brand affinity.

When we consider the opportunities of this shift from the standpoint of the CSPs - that customers may switch their service in a way that benefits the carrier (i.e., the carrier can entice non-customers to try their network and switch) - it changes the conversation and focus of the carrier. Given that each network is similar from a service perspective, the reduction of friction the eSIM affords can allow carriers to shine in the realm of customer experience. The decreased level of effort to change service providers has a commensurate relationship with other factors: artificial stickiness goes down, churn could go up, and companies won't be able to compete on the same premises they have in the past (minutes, price, bandwidth, content). Without clarity of differentiation, it's a race to the bottom.

CSPs believe that eSIM will increase average revenue per user (ARPU) and improve the customer experience, viewing eSIM as an integral part of their digital transformation journey. CSPs envisage a world where their customers can add or swap additional devices to their existing service plan or remove them from the plan. By doing this, CSPs also want to create an account-centric rather than smartphone-centric multi-device environment, which includes IoT subscriptions.

The idea of creating an account-centric environment is a vital piece of this transformation and an opportunity that will make winners or losers in the service model of the future. The provider, who used to own a customer's account, will not only see additional ARPU but will also have the benefit of increasing stickiness and reducing churn.

Phone CX

There are two approaches to the eSIM transformation from the consumer lens - and the companies that will come out ahead in this transformation are those who have mastered both.

- **Offensive:** You must have a superior experience, superior customer service, be incredibly easy to do business with, and entice others to try your service. This will result in trial conversions. This requires your experience to be buttoned up: the path to conversion must be seamless, the conversion process must be intuitive, and the great experience must continue after conversion. Offering personalized and

truly customized plans, running promotions for friends and family, and leveraging artificial intelligence to perform sentiment analysis on social feeds to indicate key areas of opportunity– all achievable.

- **Defensive:** Be easy to do business with outside of eSIM, illuminating the switching costs of changing services (will the competitor experience hit the mark on the entire experience?). If a customer believes your service is the right network for them, that your pricing is good, and the entire customer experience is positive, customers are less likely to shop around for other providers. In addition, an objective evaluation of marketing spend versus the cost of CX improvement must be performed.

Some of the ways that CSPs can curate a customer experience to encourage customers to stay, even when the friction to change providers is reduced. Some of these strategies include:

- **Providing high-quality service:** CSPs should ensure that they are providing reliable, high-quality service to their customers. This includes offering fast internet speeds, clear phone call quality, and responsive customer service.
- **Offering competitive pricing:** CSPs should ensure that their pricing is competitive and in line with market rates. This will help to reduce the incentive for customers to switch to a different provider. Transparency in pricing can clearly suggest that the cost determined by the CSP represents fair market value.

- **Offering value-added services:** CSPs can differentiate themselves from competitors by offering additional services or features that are valuable to their customers. These could include things like security services, data backup, or online storage.
- **Providing excellent customer service**: CSPs should ensure that they have a customer-centric approach, with a focus on providing excellent customer service. This could include offering multiple channels for customer support (e.g., phone, email, chat) and being responsive to customer needs and concerns.

Creating a seamless customer experience: CSPs should aim to create a seamless customer experience, from the initial sign-up process through to billing and account management. This can help to reduce the friction associated with switching providers and make it easier for customers to stay with the same provider. Stability and consistency of service go a long way to churn reduction.

Telco organizations must not misunderstand (or merely postulate regarding) what drives their customers. They must engage *directly* in order to ensure differentiated value that provides corresponding gains in loyalty. Moreover, they must not remain myopically focused on optimizing the present at the cost of orchestrating a new framework in which experience is foundational to competitive advantage.

That's My Other Line

Beyond the social listening efforts suggested above, CSPs have an opportunity to comprehensively leverage AI for service improvements, customer profiling, advanced personalization, and insight generation. Taking this industry sea change as the opportunity to engineer data and ensure proper hygiene (i.e., properly parsed & categorized) will better position CSPs to take advantage of emerging technology like AI. Improved data will permit an augmented use of machine learning that can result in refined segmentation and customer need awareness. Even data that has been anonymized has the potential to provide a perspective currently unavailable to businesses.

Other potential usages are:

1. **Customer onboarding**: AI can automate this process to improve efficiency using conversational interactive agents to answer questions and provide support.

2. **Fraud detection**: monitoring for fraudulent eSIM activations through analysis of related data presents opportunities for proactive algorithmic defense.

3. **Network optimization**: Using AI to optimize performance through usage trend analysis can help CSPs improve coverage and reduce network congestion.

4. **Customer support**: AI can suggest potential support improvements through automation of routine tasks and utilizing chatbots as a first line of response to customer challenges allowing humans to focus on more complex issues.

I'll Call You Back

The opportunities for CSPs to leverage remote provisioning are plentiful. Provisioning configures a Session Initiation Protocol (SIP) phone to work with an Internet Protocol (IP) Private Branch Exchange (PBX) and conveys information about the phone and the call including origin, destination, status, and so forth. Through automatic provisioning that leverages a software application (embedded into the phone's web interface), administrators need little manual interaction with the process as Media Access Control (MAC) addresses are harvested and registered automatically. The key advantage inherent in a PBX– which acts as an internal switchboard– is improved communication amongst employees. A contemporary IP PBX system utilizes Internet Protocol to employ existing broadband infrastructure for communication that is flexible enough to accommodate voice and data.

Remote provisioning with eSIMs facilitates for the end user an ability to create multiple SIM profiles with each bearing the operator and subscriber data that was previously conveyed by a traditional, physical SIM. Organizations could provide employees with Quick Response (QR) code-driven access to the Remote SIM Provisioning System where a SIM profile may be securely downloaded. After installation and activation, the device will be able to connect to the operator network.

Really, I Gotta Go

Ultimately, the ineffectiveness of CSPs plans for eSIM technology is a reminder that opportunities exist alongside peril. Avoidance has hindered development of new and innovative mobile phone services. Having said that, some network carriers have built the right foundations; as of 2020, over 200 mobile network operators in more than 90 countries have launched eSIM services. But, while many of the industry juggernauts have not made the right plays, eSIM support is an inevitability. Juniper Research predicts that there may be 3.4 billion mobile devices by 2025 which only underscores the importance of smart, strategic moves by CSPs.