#### **Executive summary**

Mobile Network Operators and Mobile Virtual Network Operators, as well as Internet Service Providers, nowadays face a lot of challenges. The value of major Telco & ISP markets is shrinking over time and their customers are expecting continuous innovation which will provide more value within their mobile and fixed tari s, higher Internet speeds, more data volumes and additional benefits as a part of the companies' product portfolios.

These aspects are influencing the average value per user (also known as ARPU). The market keeps getting even more competitive with each new company entering it, o ering aggressive pricing and motivating the end customers to change their existing products for cheaper solutions through telesales activities and strong convergence benefits for end customers.

On top of all of the above mentioned, the post covid-19 era drives an increase of unexpected costs for Telco & ISP companies, while on the other hand it is even harder to attract the end customers for a high end portfolio, due to the uncertainties in circumstances, the changes a ecting local and international mobility of subscribers, and that fact that visits to points of sale are being rapidly replaced by a shift to online shopping. These and many other challenges facing the MNOs, MVNOs and ISPs are magnified by the stakeholders of the largest Telco ISP groups expecting a YoY increase in their financial and transactional performance.

# High-level strategy and specific guidelines for product managers

Product managers typically have a lot of choices when it comes to the right product that can help their Telco ISP company grow in terms of revenue, EBITDA and ARPU increase. At the same time, MNOs and MVNOs are nowadays transforming their focus mainly from selling Telco products from individuals to households, from prepaid to postpaid services, from mobile voice calls to unlimited voice calls, from messaging allowances to mobile data o ers, and from DSL to Fiber and FWA options.

While there are a lot of challenges in growing the revenue of core products and services of mobile and fixed tari s, services beyond the core ones are the most suitable choice for helping Telco & ISP companies grow. Typically, MNOs, MVNOs and Fixed operators have had multiple possibilities of value-added services to combine with their core o erings. Security and Cloud revenues are growing significantly. Gaming is new and promising, especially as gaming shifts to mobile. Financial services are seeing renewed interest, with new services being launched. Based on annual research from GSMA from 2021 on operator revenue diversification, cybersecurity solutions seem to be among the top two areas for growth.

Product managers typically have to focus not only on having attractive product o erings with high potential for growth, but also on understanding the other aspects of product success, such as the ease of selling the product to the end customer, ease of use and its potential for becoming a new and sustainable revenue stream. While more complex core services are becoming top priorities for convergent Telco & ISP companies, the commissions for sales sta , average duration of sales speech and average success rate and need of after-sales support are the parameters that are important for new product considerations.

## Technical details and mobile or fixed network impacts for network architects

The amount of investments into new rollouts of mobile 5G and LTE Networks and 5G FWA and Fiber Fixed Networks increase over time. Therefore, it is also important to keep considering network performance, the quality of service, and to have plans in place for avoiding any unexpected events from happening in the networks. While data privacy regulations specify how data should be collected, stored, and shared with third parties, Telco & ISP companies and their network solution architects need to choose whether to prioritize a cloud-based product solution or to go for an on-premise solution.

Not all the cyber security vendors are nowadays prepared to enable Telcos & ISPs to choose from those two solutions. While with network-based cybersecurity products, there are also clearly di erent solutions and features available in the market (e.g., the possible creation and management of custom whitelists and blacklists), it is very important to look for solutions that enable even multimillion active subscribers to adjust their blacklisting and whitelisting features without risk to mobile or fixed network performance.

### Go2market strategies for innovation and customer experience managers

While there are plenty of possibilities for o ering a new product together with a dedicated smartphone application, help with installation or activation may be the pain point in the process. Bearing in mind the growth potential, Telco & ISP companies should also consider product o erings outside the standard point of sales channels, e.g. direct sales campaigns, where cybersecurity network-based products enable Telcos & ISPs to integrate them into their architecture and CRM. Driving a campaign over SMS, MMS, Viber, WhatsApp or email marketing channels can drive high service adoption and sky-high revenue growth of a new product o ering, but it doesn't require significant e ort for Telcos & ISPs, except in creating target groups from a customer base and fine-tuning the copy to improve adoption rates over time.

For innovation and customer experience managers, it is essential to be prepared to collaborate with well-established vendors ready to support L2 and L3 requests, even for multimillion active subscribers. While network-based cybersecurity products typically protect the end user against threats when the smart devices are connected to the Internet via mobile broadband, it is important to understand that in the developed world, 70-90% of the data tra c consists of Wi-Fi-only tra c. Therefore, the mobile broadband may be only a marginal use case, when most of the data is downloaded via public and home Wi-Fi. When preparing to communicate the cybersecurity solution for the end user, it is also important to have the option of protecting the user, not only on mobile data, but also online anytime they are connected to wireless networks.

DNS proxy applications may be the key di erentiator in helping bring additional value to the companies and attracting new customers from the competition. Because during the post-covid-19 era, digital and distance learning are becoming standard, children are spending a lot of time online. Therefore, it is important to look for solutions that not only deliver standard cybersecurity protection, but also allow parental content filtering, to protect children from content that is not age-appropriate.

## Financial modeling on possible KPI impacts for CxOs

In large MNO, MVNO and ISP organizations, the CMOs, CEOs and CFOs are experiencing challenging times in fulfilling the expectations for continuous revenue, EBITDAaL, convergent and mobile ARPU, FTTH and other (xDSL, Cable, FWA) customer growth acceleration, demands for 5G coverage increases, YoY retail services and other revenue growth, and solid commercial performance with targeted mobile contract and fixed broadband (FBB, FTTH) net adds. With new services beyond the core o ering, there are new possibilities for revenue diversification as well as for the creation of brand-new and sustainable revenue streams.

As recent research shows, while core services are hardly growing in the majority of Telco & ISP markets, new services beyond core are able to achieve revenue growth, having reached 24% of total revenue in 2020 for operators analyzed, with the most matured markets reaching up to 41% of total revenue. With cybersecurity and cloud services shown as the top 2 services able to deliver achievable growth. Network-based cybersecurity services are also able to reach sky-high adoption rates with double-digit percentage growth out of the total Telco & ISP customer base, with monthly payment options and low churn rate becoming an important source for a large, new and sustainable revenue stream. While mobile and fixed broadband customers are already paying monthly for their core telecommunication services, they are expected to be ready to pay up to 33% more for value-added services, relevant to their use cases. Double-digit adoption rates and up to 33% higher ARPU and ARPO together with monthly invoicing are nowadays the key for successfully delivering both financial and transactional targets for the shareholders and creating multimillion new, stable and sustainable revenue streams.

