



From an end-user perspective, the key to a successful FWA service lies in instant gratification and simplicity. In the prevailing digital environment, users today expect a plug-and-play experience that offers broadband speeds without the hassle of complicated installations. Affordability is another critical factor, as end-users seek high-speed internet services at competitive prices. These expectations drive the demand for user-friendly and cost-effective solutions that can deliver on these fronts.

Operators, on the other hand, focus on quickly and efficiently monetizing 5G technology investments. For them, 5G FWA serves as a gateway to smart home solutions, providing a platform for delivering a range of services without compromising the future potential of mobile broadband (MBB). By offering 5G FWA, operators can tap into new revenue streams and enhance customer satisfaction, all while maintaining the flexibility to expand their MBB offerings in the future.

## FWA: The Case of *rain* in South Africa

A prominent mobile operator in South Africa, *rain*, has made significant strides in the telecommunications industry, particularly with its robust 4G and 5G networks. The operator has rapidly expanded its services, focusing on providing 5G Fixed Wireless Access (FWA) solutions. These solutions are designed to facilitate a seamless deployment process, enabling operators worldwide to leverage 5G technology to its fullest potential while addressing the growing demand for high-speed internet services.

*rain* entered South Africa's mobile market for the first time on Friday by launching a 4G mobile network, pitting it against the country's three other players in voice calls. *rain*, in which African Rainbow Capital Investments holds a 20.3% interest, has until now primarily focused on the home internet market.

The operator launched what it says was South Africa's first 4G data only network in 2018 and the country's first commercial 5G network in 2019.

## Rapid Growth and Network Utilization

The journey in the telecommunications sector has been marked by rapid growth and strategic network utilization. A successful 4G service launch followed by the introduction of 5G services highlights rain's

commitment to enhancing network capacity and speeds. The deployment of standalone 5G along with three-carrier aggregation exemplifies the focus on ensuring optimal performance through advanced technology, enabling high network utilization without compromising service quality.

One notable achievement is the ability to maintain high PRB (Physical Resource Block) utilization while accommodating a large number of subscribers per site, and ensuring reliable and high-quality service for customers.

## Unique Product Offerings

The operator offers a range of innovative products tailored to meet the diverse needs of its customers, including mobile services, mobile SIM options, and dedicated home services. This variety allows users to choose the service that best fits their needs, whether it's for personal use, business, or home connectivity.

Personalization is a key feature, particularly in Customer Premises Equipment (CPE) devices. These devices allow users to customize their experience by selecting preferred speeds, data packages, and call minutes. This level of flexibility ensures that customers can optimize their internet service according to their specific requirements, enhancing overall user satisfaction.

## Importance of Quality-of-Service and Analytics

Maintaining high service quality is paramount, achieved through a combination of high spectral efficiency and robust Wi-Fi solutions. High spectral efficiency ensures that the network can support a large number of users while maintaining high-speed connectivity.

- rain has been among key players to have successfully leverage its network, service, and customer equipment.
- Customers seek instant gratification, simplicity of plug-and-play, broadband speeds, and affordability.
- Operators aim to monetize 5G quickly and efficiently, leveraging 5G as a gateway to smart homes without impacting future mobile broadband (MBB).
- High spectral efficiency and robust Wi-Fi are critical for user satisfaction.
- CPEs need to be designed for both radio propagation and user personalization and functionalities.
- Aesthetic appeal of customer equipment is an important requirement of the business.

Robust Wi-Fi capabilities are essential for delivering consistent and reliable internet service within homes and businesses.

The operator leverages data analytics and proactive support to manage network capacity and maintain service quality. By analyzing usage patterns and network performance data, potential issues can be identified before they affect users, allowing for timely interventions. Proactive support measures, such as real-time troubleshooting and personalized assistance, help ensure that customers receive the best possible service experience.

## **Innovative CPE Design**

The design of Customer Premises Equipment (CPE) devices is another critical factor in the success of FWA services. These devices are engineered with radio propagation in mind, ensuring optimal performance in various environments. The design also emphasizes user personalization, allowing customers to tailor their devices to meet their specific needs.

Key features of these CPE devices include interactive displays, built-in speed tests, direct messaging capabilities, and dynamic support options. Interactive displays provide users with real-time information about their connection status and performance. Built-in speed tests allow users to verify their connection speeds and identify any potential issues. Direct messaging and dynamic support options facilitate easy communication with customer service, ensuring prompt and efficient resolution of any problems.

## **Market Approach and Product Design**

The market approach is centered around the aesthetic appeal and functionality of its products. The look and feel of devices play a significant role in customer satisfaction. Customizable skins for CPE devices allow users to personalize their equipment to match their home decor or personal preferences.

The user-friendly interface of these devices enhances the overall customer experience. Features such as dynamic code registration, bill payment, and balance inquiries are designed to simplify the user experience and increase engagement. Dynamic code registration allows for quick and easy setup, while integrated bill payment and balance inquiry functionalities streamline account management.

## **Conclusion**

The focus in the FWA market is gradually shifting from merely providing high speeds to ensuring a superior end-to-end user experience, and CPE design has a critical role in it. Long-term success in the 5G FWA space, apart from creativity and innovation in digital services, absolutely requires network efficiency, service quality, and innovative CPE

design. By addressing the needs and expectations of both customers and operators, this operator has positioned itself as a leader in the telecommunications industry.

The commitment to providing high-quality, customizable, and user-friendly products has enabled effective monetization of 5G technology around the world, including in Africa. Through strategic network utilization, robust service offerings, and a focus on customer satisfaction, the operator continues to drive growth and innovation in the 5G FWA market.

As the FWA market continues to grow, its importance in the 5G landscape becomes increasingly evident. The advancements in technology, coupled with strategic initiatives by industry organizations are driving the rapid development of the FWA ecosystem. As the demand for high-speed internet services continues to grow, these innovative solutions and strategic vision will undoubtedly play a crucial role in shaping the future of telecommunications.

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