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Turning off the 'washing machine effect'
How telcos can use GenAI to enhance customer loyalty.

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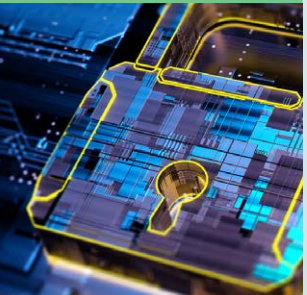**Turning off the 'washing machine effect'** | How telcos can use GenAI to enhance customer loyalty

# Driving loyalty through creating unique customer experiences

Artificial Intelligence (AI) has been a hot topic for many years. However, recent developments in the generative AI (GenAI) space, including the release of GenAI-powered chatbots such as ChatGPT or DALL-E 2 image generator, seem to have caused a frenzy among consumers and businesses alike. Across all sectors, executives look at these emerging technologies hoping to find solutions that can increase the speed of execution, reduce complexity, transform engagement, boost innovation, and fortify trust.

In our experience, telecommunications companies have been among the early adopters of new technologies, or at least recognise the importance of these technologies earlier than most other sectors. Due to the heavy reliance on digital technologies and access to large customer data sets, the telco sector is ripe for GenAI disruption. Many telco companies across the world have started to deploy GenAI-powered tools hoping to enhance their operations, increase customer loyalty, and provide tailored solutions to their customers.

Following years of rapid growth in subscriber numbers, many operators in Africa are now faced with slowing subscriber growth and declining or stagnant average revenues per user (ARPU). Due to relatively high inflation and sluggish economic recovery following the COVID-19 pandemic, consumer spending has come under severe pressure, impacting spending on telecommunication services. The dominance of prepaid subscribers and 'multi-simming' – the use of multiple SIM cards by individual users – present additional challenges for operators in Africa as they jump between operators looking for the most competitive offering for their specific needs at any time. In contrast, post-paid contracts typically lock subscribers into multi-month contracts thus increasing customer loyalty and reducing the appeal of jumping between operators to take advantage of data bundle specials, for instance.

A more extreme form of multi-simming in the informal sector is the so-called 'washing machine effect'. Instead of buying recharge vouchers, users buy new starter kits that come with a preloaded amount of data or airtime that offers a better price on acquisition. Once the data or airtime is used up, the users would discard the SIM card and buy a new starter kit. This presents a challenge for operators as they are unable to lock customers into their network long enough to collect sufficient customer data to tailor offers to them. Furthermore, operators might lose out on revenue as customers are drawn to the discounted acquisition offers. Weak enforcement of SIM card registration regulations, and incentive schemes for agents to acquire new customers, enable the 'washing machine effect'.
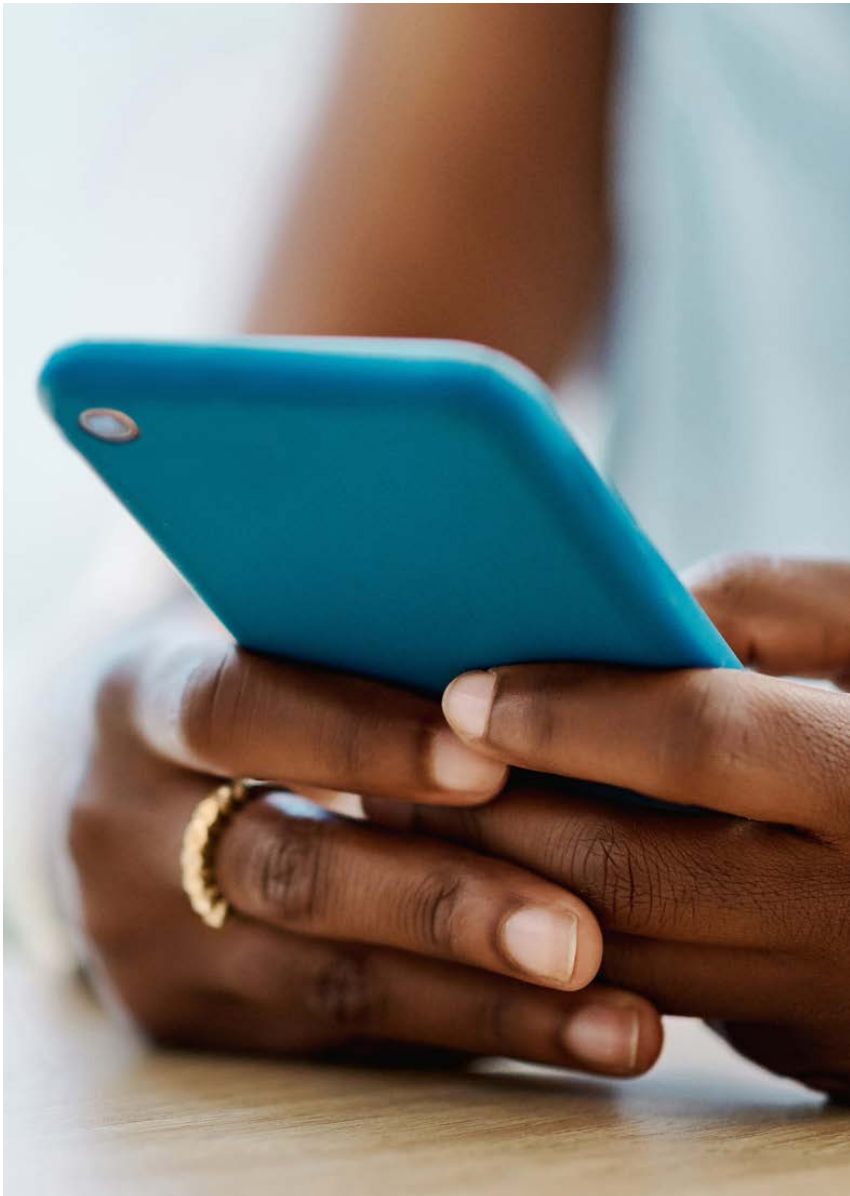
Beyond the 'what' and 'how'...

Telcos use foundational AI to analyse consumer spending patterns that show, for example, a share of spending allocated to voice or data services. While this informs them about revenue movements, it will not prevent telcos from falling behind as the real value lies in using advanced GenAI tools to extract insights that speak to consumer behaviour. This will allow telcos to not only understand what and how subscribers are consuming but more importantly what factors are driving consumer behaviour. Answering the 'what' and 'how' questions through so-called transactional analysis is relatively straightforward and should already be standard for most telcos. However, the more complex task is finding the answer to the 'why' question that will allow them to extract insights related to the consumer's behaviour and predict and pre-empt the consumer's next steps.

Given the frequency of use and the constant engagement with telco services including voice calls, messaging, app usage, online shopping, streaming, and web browsing combined with geolocation data collected by mobile devices, telco operators have access to large datasets with a wide variety of data points. However, to fully leverage and extract maximum value from the data with advanced GenAI models, operators first need to build up their infrastructure capabilities and clean and organise their datasets. Further, to unlock the maximum value that behavioural analysis can provide telcos require specialised but scarce skills.

While data scientists and engineers were most likely sufficient for foundational AI models and transactional analysis, behavioural analysis will require the creation of multi-disciplinary teams that include behavioural scientists such as sociologists and psychologists who enable the data scientists to create GenAI models that are trained on detecting, describing and predicting human behaviour. Furthermore, combining advanced GenAI models with human intelligence creates a powerful partnership that will allow companies to extract unique value from their artificial and human intelligence.

Mobile operators with a deep understanding of their subscribers' behaviour are better positioned to use these insights to tailor or customise products and services to the needs and preferences of their subscribers and ultimately offer a unique user experience. A recently announced collaboration between a leading global mobile operator and an artificial intelligence company aims at combining the mobile operator's customer relationship expertise and data with the AI company's innovative technology and research capabilities to create a tailored customer experience.

The creation of such unique user experiences could not only drive customer loyalty, but also help operators to optimise their overall processes and operations.

Enhancing customer experience and saving costs through intelligent network management

A further step change will be the embedding of GenAI into telco networks to create connected intelligence. Such intelligent networks perform real-time analysis of infrastructure traffic and combine it with historic network data to predict and pre-empt network demand peaks that could – if unaddressed – lead to poor network service.
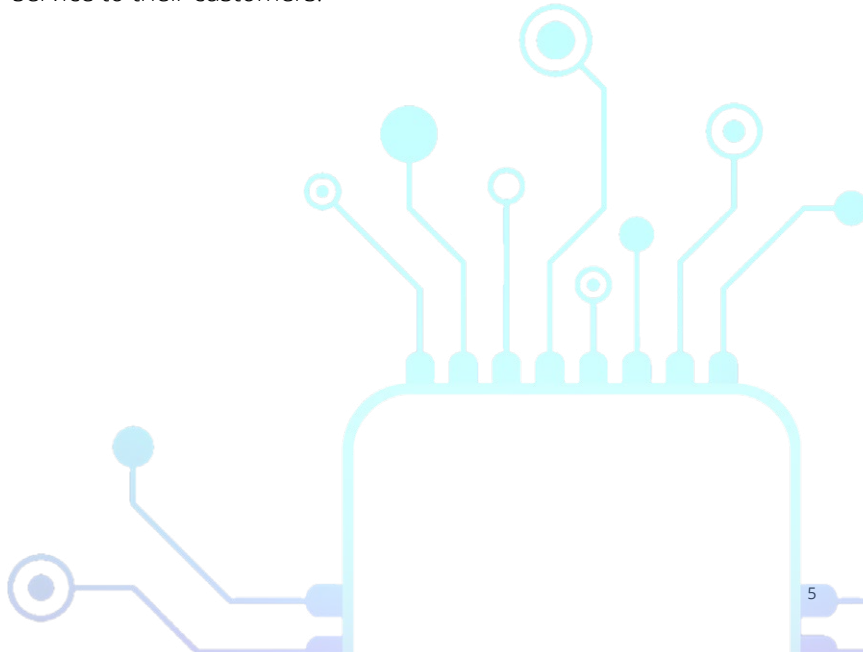
Such network demand peaks could, for example, come from spectators gathering at sporting events or fans attending concerts or large football events at shopping centres at the end of the month. It is very common that during sports events or concerts network traffic rises significantly due to the high concentration of people in a specific location using their mobile devices at the same time. If network towers serving these locations are not able to handle the increased traffic, it could lead to a poor user experience with long latency times for online service and apps, dropped calls, or mobile payment outages.

To avoid network congestion, operators have multiple options such as adding temporary boosters, installing more powerful network towers at high-traffic locations, or moving subscribers temporarily to a fixed Wi-Fi network that might be available at the venues. However, these options could be costly or unattractive for mobile operators as the traffic peaks are irregular occurrences that might in some cases not warrant the additional investment, especially in tough economic times. Therefore, deploying

advanced GenAI-powered tools to assess which option is the right solution for a specific situation can be beneficial and lead to the most cost-effective outcome. In addition, GenAI tools could be deployed to collect and analyse secondary data such as event schedules for individual venues or social media that will improve the ability to predict peak demand times.

This also applies on a larger scale when operators need to increase network capacity due to population growth or rapid urbanisation that increases pressure on network capacity. Often the go-to solution is to acquire more spectrum to cater to the increased demand. However, this option is expensive and potentially not the most efficient way to enhance network performance. Instead of investing in new infrastructure that will also drive electricity and maintenance costs, advanced GenAI-powered tools combined with real-time data and geolocation information could enable operators to better manage their towers and digitally adjust tower and network settings to peaks and troughs of demand in real-time. This will also allow telcos to invest in new infrastructure more deliberately and in a staged or granular manner that requires lower capital outlays compared to large bulk investments. A leading African operator has started to use GenAI-powered tools to optimise its network spending by analysing and predicting network traffic on individual cell towers. Based on these insights, the operator can deploy the most suitable and cost-effective network technology to specific areas.

Furthermore, deploying smart technologies will allow telcos to make use of predictive maintenance and create self-healing networks. By doing this, operators can pre-empt network issues by watching certain parameters, and networks could be repaired in real-time without network downtime. A leading telco provider in the United States uses GenAI to predict the paths of hurricanes in storm-prone regions to model the impact of storms on its network assets allowing it to better prepare for potential disruptions. Using such AI-powered models allows the operator to redirect network traffic to less impacted cell sites. This will save operators time and money but will also ensure uninterrupted service to their customers.

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Combining consumer behaviour insights and intelligent networks to connected intelligence

Given fierce competition for customers and their spending – especially in a prepaid-dominated, multi-simming environment – telcos need to focus on customer value management (CVM). This includes the development of attractive, personalised products and services that set them apart from their competition and create incentives for customers to remain loyal.

Such services could include AI-managed connectivity that provides different internet speeds to fibre-to-the-home users depending on the changing requirements of users. Instead of subscribing to a high-speed plan, users could opt for a more affordable but low-speed service with an opt-in function that automatically boosts speeds at a temporary surcharge when high speeds are required, for instance, when streaming ultra-high-definition movies or making high-resolution video calls.

Given the importance of cost competitiveness, AI-powered recommendation engines can help to suggest the right offer to the right customer based on their behaviour. Leveraging behaviour insights could also help operators to tailor customer-specific discounts to prepaid users that create incentives to stay loyal to a specific operator. Discounts could be given on current purchases or for reoccurring, future purchases.

A potentially more impactful approach could be the deployment of AI-backed real-time dynamic pricing, which provides individual customers with the right price at the right time. This will be particularly impactful in an African context that is dominated by prepaid and highly price-conscious customers.

In East Africa, a leading mobile operator uses insights from subscribers' spending patterns to recommend the most suitable phone model that falls within the predicted affordability range of specific customers. Such recommendations are seen to create additional value for subscribers and are expected to drive loyalty.

For contract customers who are locked into a multi-term contract, using real-time dynamic pricing could be a bit more complex. However, behaviour data analysis can create a personalised offer once contracts are renewed.

No matter which approach telcos choose, GenAI can significantly speed up the process from collecting customer data to launching new offers.
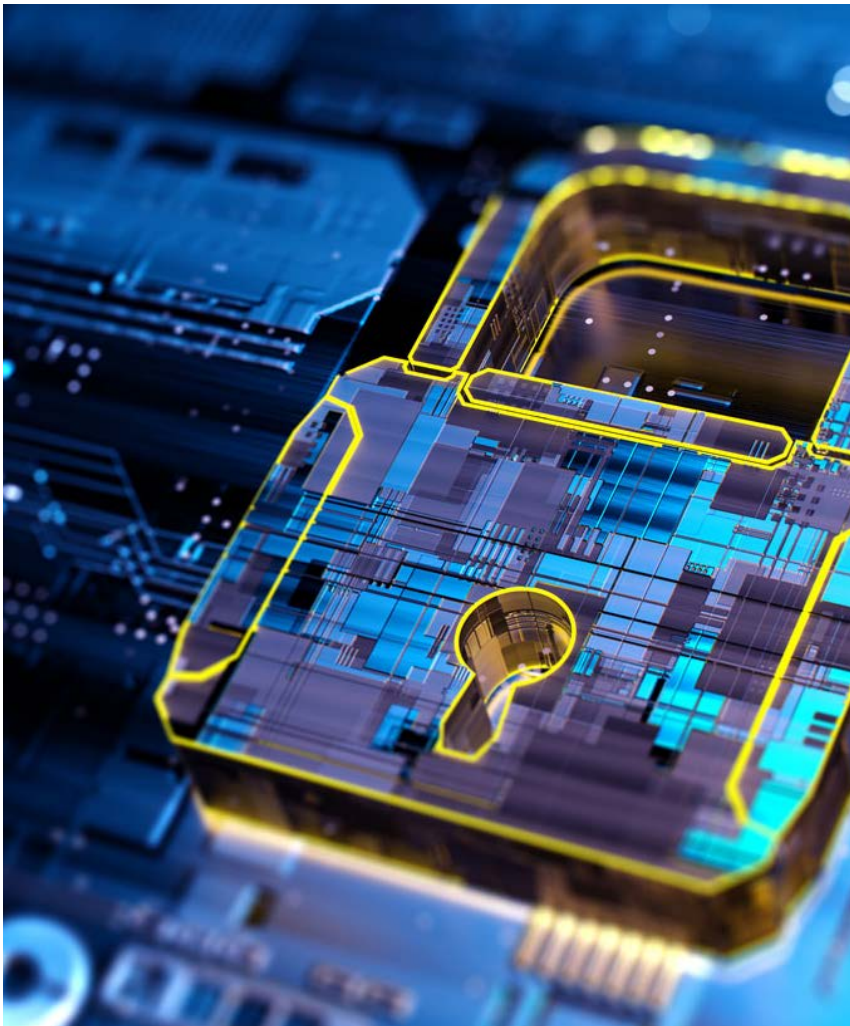
Cybersecurity – the make-or-break factor?

With GenAI becoming more widespread and the development of new use cases for GenAI increasing, embedding GenAI-powered tools into apps will soon be the norm. Device manufacturers have the choice between an on-device, an in-the-cloud, or a hybrid approach for GenAI-powered tools. Each option has its advantages and disadvantages. Many recently released devices – especially flagship or premium devices – have GenAI technology embedded into the device. While this potentially increases the cost of the device as it requires more processing power and a more capable chip, it cuts latency time, improves data security, reduces data transfer costs, and works even when network coverage is weak or unstable – not an uncommon occurrence in many African markets. Furthermore, on-device might be the preferred option in data-locked countries where data is not allowed to be sent and processed on servers that are located outside of their national boundaries.

For applications that are hosted in the cloud, however, information needs to be transmitted to the cloud and back once the processing has been performed. This means that consumption is moving away from the users increasing the demand for data and the demand on the network to handle the increased transmission of data. This leads to important questions for operators such as: do we need to create specific alliances and partnerships with companies that host and operate the GenAI tools? Or: who is carrying the data costs incurred from transmitting the information to and from the cloud?

Regardless of where the GenAI-powered tool sits – in the cloud, on the device, or a hybrid of the two – transparency and cybersecurity will be of paramount importance.

Operators and/or the providers of GenAI-powered tools must be transparent about where and how the GenAI tools are used and who is responsible for covering any related costs of using such tools. A lack of transparency can lead to a reluctance among mobile users to use GenAI-powered tools, which could negatively impact the operators' ability to provide tailored offerings to the user.

Given the vast amount of personal data and potentially highly sensitive data that is processed, such as financial information, health data, and geolocation data, GenAI will need to bring its full power to the fore and cybersecurity needs to be a top priority for anyone offering GenAI-powered tools. Any telco company that collects, manages the flow, processes, and stores customer data becomes the custodian of this data and needs to ensure that the data is secured and used in an ethical manner and only for the purpose that it was intended for. Breaches in cybersecurity can erode the trust of customers and reduce subscribers' willingness to share their data with operators. Again, limited access to vital data would compromise the operators' ability to extract the maximum value of GenAI-powered tools.

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Mobile services have become a necessity, just like utilities, such as water, gas, and electricity. Merely competing on price and engaging in a race to the bottom cannot be in the interest of any telco company. Therefore, to drive loyalty, telcos need to create additional value for their customers.

However, to achieve this, the different departments within telco companies must enhance communication among each other and their systems need to be better integrated to leverage the various datasets from each team. This will allow telcos to create a 360-degree view of their customers and their needs and ultimately extract more value from GenAI-powered tools. Leveraging these insights will allow for the creation of new or non-telco offerings such as financial services, streaming and other entertainment services, or even move into IoT devices, home security solutions, or education.

Telcos that understand their customers and their needs and can use these insights to tailor attractive product offerings will be more likely to enhance customer loyalty and ultimately remain competitive going forward.

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