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Volume 20, Issue 5

How MVNOs Can Use AI Automation for Smarter Business Operations

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Telcos are sitting on a data gold mine, and it grows larger and richer every moment of every day, driven by billions of network events. Customer data, which charts real-time behaviors and preferences, can help mobile virtual network operators (MVNOs) identify high-value customers, predict customer churn, pinpoint new market opportunities, and improve the operational running of their networks. What's less well-understood is how to tap into, and monetize, this treasure trove of data. That's where the interplay between business support systems (BSS) and AI comes into play. But what does this relationship look like?



For many years, telcos have lost valuable ground to digitally native tech giants and seen their profit margins and ROI dwindle. They face a stark dilemma to either “tinker around the edges to achieve incremental gains or make a bold choice to reinvent their value-creation formula.” ([McKinsey](#)) Advanced AI, with its ability to access, integrate, and analyze vast volumes of data in real-time, has the potential to supercharge the path to value creation and transform the business operations of MVNOs. However, legacy systems, and to a certain degree “legacy thinking,” have hampered transformation efforts to date.

That is now changing. The rate at which telcos are embracing digital evolution is accelerating, and increasing numbers are now successfully accessing, analyzing, and leveraging their BSS data to train and power artificial intelligence.

How AI is Transforming Telco Business Operations

Artificial intelligence is built on continuously updated machine learning (ML) algorithms, large language models (LLMs), natural language processing (NLP), and proactive, automated actions. All of this begins with the vast amount of BSS data and the ability to analyze in real-time and automate

personalized customer outreach. Generative AI models that harness LLMs and NLP, based on continuous training powered by BSS data, are making chatbots more sophisticated, dynamic, and capable of successfully handling complex customer service interactions. For instance, revenue and cost prediction models that are powered by real-time BSS usage data can help MVNOs deliver more compelling offers, maximize existing investments, and provide better customer experiences. This seamless automation and process re-engineering results in efficiencies with wide-ranging impacts, from fraud detection and prevention to sales and lead management. The potential impacts of AI-powered BSS data might be wide-ranging, but the technology is still under-utilized. Three of the surest paths to rapid value creation are outlined below.

1. Self-care: A win-win for customers and MVNOs

Consumer feedback consistently reveals overwhelmingly [positive attitudes to self-service](#) when done well. Three-quarters of survey respondents saw self-service as a convenient way of addressing customer service issues, while two-thirds actually preferred it to talking to a company representative.

Getting self-service right isn't just good for customers, it's also an attractive deal for MVNOs, who can expect to reduce waiting times, lower call volumes and customer service costs, increase sales, and improve customer satisfaction. With intelligent BSS-powered analytics and real-time integration with advanced, generative AI platforms, pioneering MVNOs are increasingly able to offer customers solutions that are personalized and highly contextual, as well as identify new cross- and up-selling opportunities. [Guinea Mobile](#) in Peru, for example, has used a highly flexible, cloud-based BSS solution that seamlessly integrates with AI tools that streamline its onboarding process for new customers down to just four clicks.

2. Tailored offers and optimized products

Real-time analytics that evaluate behaviors and usage patterns reveal what's really happening on the networks. Using market segmentation analysis, MVNOs can harness these insights to better bundle products and offers tailored to the needs of that specific segment. For example, MVNOs can identify dual SIM usage and customize offers against those usage patterns. One MVNO in Africa was able to improve offer uptake significantly by regionalizing it based on 30 geographic locations. Meanwhile, other MVNOs are broadening the bundling techniques they offer based on their customers' usage needs and preferences *beyond* mobile. For example, Nova Energy in New Zealand is [offering](#) mobile services bundled with utilities, meaning customers get a good deal on their energy prices as well as their mobile services via a simple, unified bill at the end of each month. Another example is Huawei's Northern Africa [carrier business](#) which powers Ethio Telecom's Telebirr and Safaricom's M-PESA with mobile service packages tailored around their customers' needs.

3. Reducing customer churn

Every MVNO knows the importance of churn management. Just a small increase in customer churn will have a disproportionate impact on profits due to high customer acquisition costs. Furthermore, customers don't churn out of the blue. Pre-churn indicators - failing to pay bills on time, price sensitivity, no longer responding to messages or deals, customer service calls and complaints, or otherwise using negative language - form vital intelligence that BSS data analytics can reveal and MVNOs can use to improve customer engagement. AI can also identify clusters of changing behavioral patterns among users, allowing them to take a more proactive approach to retention and cross-selling. Operators have traditionally waited until a customer calls to cancel their service, and then an offer is made. But now, proactive actions before churn based on each customer's data power AI tools to produce personalized solutions to proactively address their concerns, reducing churn before it

happens. Depending on the pain point, MVNOs can take appropriate action, whether that is introducing a loyalty program, offering discounts, solving a particular customer challenge, or understanding where to target operational improvements. For example, a LatAm MVNO owned by a leading retail chain was able to grow its customer base in a highly saturated, competitive market with low portability barriers through a combination of smart moves powered by AI analytics and automation, like leveraging the synergies of the parent retail group, improving availability and operations, targeting new growth segments, and enhancing and personalizing loyalty offerings.

Upgrading Infrastructure to Leverage AI

AI only exists today because we have the volume and real time velocity of data needed to drive accurate and proactive actions. But BSS data, at least in traditional systems, is heavily siloed. It's one of the biggest challenges hindering the efficiency of AI activation. To get the most out of powerful, advanced AI analytics, AI needs access across these silos. As a workaround, AI tools are often bolted onto these systems. This works - to an extent - but can lead to greater inefficiencies down the line in lifecycle costs and information transformation issues. For many MVNOs considering overhauling their outdated business infrastructure, AI is perhaps the strongest reason to modernize towards a cloud-native BSS system that can provide levels of insight that a legacy, siloed system can't compete with. If AI doesn't have a comprehensive view of telco data en masse, such as network performance or call dropout times, these changes to core infrastructure can be difficult to initiate.

Data Privacy, Security and Regulation

Pivotal to AI's success in telecoms is trust, transparency, security, and robust regulation. MVNOs already abide by existing data privacy laws (e.g., GDPR) and are currently watchful of the rapidly evolving regulatory response to recent AI advances. Data pseudonymization and anonymization both address the need to protect user privacy and are useful in identifying trends and actions applicable across many territories or globally. However, when it comes to tailoring the findings into actions for specific customer segments in specific geographies, AI-powered BSS solutions need to have local algorithms and customer mappings to enable efficient targeting, while still meeting all the local laws governing the data.

What's Next for AI in BSS?

AI-powered automation built on unprecedented data scale and speed is poised to revolutionize the business operations of MVNOs. Telcos, armed with invaluable customer data, must adapt or risk being left behind in the face of digital disruption. Advanced AI techniques, including ML, LLMs, NLP, and automation are enabling more personalized customer experiences, operational efficiencies, and value creation. Generative AI can also offer a path toward individualized offerings or even a world where customers themselves describe what they need, and AI systems create bespoke packages spanning the breadth of an MVNO's services. However, to unlock AI's capabilities fully, AI needs to integrate seamlessly with the underlying BSS data infrastructure. For many MVNOs, this interoperability can only be fully realized by modernizing the outdated, frequently siloed, legacy systems.