Interview: Khalid Athar

Digital transformation has made it very easy for customers to change service providers

Mobile operators keen on keeping 5G customers happy and avoiding churn need a 360-degree, real-time view of their subscribers' actual experiences

Anis Chemli, VP at Guavus, a pioneer in AI-driven analytics for communications service providers, speaks to Teletimes

Anis Chemli is VP of Sales and Marketing at Guavus, a Thales company and pioneer in AI-driven analytics for communications service providers. He is a global leader with more than 20 years of international experience working across different markets with some of the world's leading telecommunications, IT, and digital security companies. Anis joined Guavus from Thales's Digital Identity and Security group where he held several management positions in both the telecom and banking domains. He has successfully led the digital transformations of some of the top operators in the Middle East and Africa.

Khalid Athar: What are the big challenges you're seeing communications service providers (CSPs) in the Middle East and North Africa currently face?

Anis Chemli: Telecom subscriber behavior is changing dramatically due to the pandemic. Service usage, buying patterns, and online consumption patterns are very different. Our world has become more digital and subscribers less patient, customers can more easily jump ship to another operator if they don't like the experience they're having or if they see a better marketing offer or more attractively priced plan. They don't even need to go into a store to make the change; it's easy to activate the new service online from home, thanks to the digital on-boarding solutions that many providers have adopted following the pandemic.

In 2021, the opportunity for customer churn will be even greater. If operators can't find a way to gain customer loyalty, they will eventually keep losing subscribers and it'll be even harder to win them back.

KA: What are some ways operators can increase customer loyalty and mitigate this increased opportunity for churn?

AC: First, they need to be able to view and understand the full, real-time experiences their customers are having, so they can make sure those service levels don't degrade. An internal view of the operator's network operations alone is no longer enough, because that view often doesn't match what the customer sees. Internal network monitors might indicate that all systems are working just fine, for example, while in reality, a subscriber is having difficulty getting connected, experiencing dropped calls, seeing choppy video, or having any number of other issues.

KA: How can they get the full subscriber view?

AC: That requires analyzing data from myriad sources, both from the inside out (the network view) and from the outside in (the customer view). This will allow operators to deeply understand individual subscriber experiences and behaviors. This external subscriber experience/behavior data can then be used to train algorithms to identify the complex relationships of key quality indicators (KQIs) to other attributes such as the subscriber's location, device manufacturer, software version, and service type.

These trained algorithms can then be applied from the inside-out, providing the operator with analytics insights to understand how network operations are impacting subscriber experience on a micro-segment basis.

That said, there's really no way to build a 360-degree customer experience view without real-time analytics, real-time stream processing, edge analytics, and machine learning. Operators require a system that continually collects, correlates, and analyzes data from every relevant customer source. Otherwise, chances are pretty high that an operator will lose a customer before even realizing that he isn't satisfied.

KA: Can you provide some examples of what analytics might do to monitor and improve experiences to boost customer retention?

> "Analytics reveal exactly what customers are experiencing with the CSP's video services."

AC: Protecting an operator's streaming video market share provides a good example. Third-party content providers—also called over-the-top, or OTT companies—piggyback on incumbent CSPs' networks to deliver video streaming and content services to that CSP's subscribers. They've turned out to be fierce competitors to the traditional CSPs' own content services. Smart operators should monitor which of their own video services and which OTT services (Netflix, Hulu, Amazon Prime, and so forth) their customers are using to determine if they're losing market share to the OTTs. If they are, they need to use analytics tools to win some of that business back.

KA: And they do that – how?

AC: Analytics reveal exactly what customers are experiencing with the CSP's video services. If subscribers are having unstable or poor video experiences, they are ripe for the taking by the OTT provider. Those subscribers should become immediate candidates for network improvements; it would likely annoy them to be solicited for still more video services if they're unhappy with the services they already have! Their experiences need to be up-leveled before the CSP can woo them with additional offerings. Subscribers already showing strong experiences and high levels of satisfaction, on the other hand, might be targeted with a marketing campaign for new or additional video services or new pricing packages.

KA: Are there other ways your customers have used analytics to improve customer stickiness?

AC: Personalizing services is a great way to bond subscribers to your services. For example, we're working with a Middle Eastern CSP to thoroughly customize the subscriber experience. They're using analytics to gain a holistic view of subscribers based on 10 different indices.

They currently have multiple systems that look at different aspects of the customer, but they want to consolidate those systems, with the goal of addressing problems well before it's too late. With all the source data consolidated, they'll be able to run analytics to learn what apps the subscriber prefers to further personalize the customer experience.

If the subscriber likes to communicate using WhatsApp, for instance, why not communicate with the subscriber that way? Analytics also will enable them to anticipate when the subscriber is likely to want to upgrade a device and what kinds of services each subscriber is interested in so they can run campaigns tailored specifically to each subscriber's needs.

KA: What challenges are you seeing arising on the operational side of things for operators?

AC: Increasingly, CSP personnel are working from home, in part because of the pandemic. This introduces challenges to maintaining quality services. It adds another layer of complexity to network operations, because there are learning curves for workers to figure out how to do their jobs remotely. And personnel not being near one another and working in different time zones in some cases have always created some gaps.

But CSPs must avoid compromise on the operational side at all costs. Without a clear, automated view of your network indices, you could run into trouble operationally. Again, let's say you have a problem with a video service. If you don't ID the issue in real time, particularly the root cause, you could affect a lot of users with bad quality.

KA: How can operators address the issues you mention?

AC: With the current explosion in data and the real-time nature of so many emerging applications, operators really need to reduce the human factor—particularly in 5G networks, which are extremely complex—in order to scale. They should adopt some machine learning, which can teach itself to anticipate, correlate, and fix issues by finding their root cause in an automated fashion. That's a huge help. One small problem can cause many other problems, and if you don't react immediately to fix the root cause, there's often a snowball effect.

KA: Are 5G standards helping fuel the automation you mention as a requirement for scalability and maintaining service levels going forward?

AC: Absolutely. Because the 5G world is highly complex, it relies on analytics and automation, specified in the standard, to

function properly. The Third-Generation Partnership Project (3GPP) has specified 5G as a service-based architecture (SBA) that uses machine intelligence for real-time monitoring and management. To support that process, it has specified a network data analytics function (NWDAF) as a ground-up component built into the 5G Core standard.

As a side note, this is the tech industry's first attempt to standardize the function of analytics in the core of a mobile network, so it's a big deal.

KA: What does NWDAF do to help alleviate complexity problems and help operators find and fix issues in time to maintain high-quality services?

AC: NWDAF incorporates standard interfaces for collecting data from a number of 5G Core Network Functions (NFs), which are specified in the 5G standard. It then applies those analytics to automating specific operations.

A key problem NWDAF solves is data normalization across dissimilar interfaces and data formats in multivendor networks and traditional business intelligence (BI) systems. These have historically made data collection, aggregation, integration, and analysis from different suppliers' equipment difficult and time-consuming, which today's dynamic market can't tolerate.

KA: How might this all translate into better customer experiences?

AC: Many operators are considering deploying private 5G networks for business and government customers as a new revenue opportunity. To do so, they'll need to deploy another capability specified by 5G called network slicing, for which the NWDAF function is very important.

Network slicing creates logical segmentation between customers or applications over a common physical network infrastructure. In a private 5G environment with tens or hundreds of network slices, it may be difficult to determine which network slice can provide the best service to a given device. So one defined use case for NWDAF is identifying and predicting the load for each network slice and then helping the

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network determine to which slice it should assign a newly registered device for best performance.

KA: How does Guavus address the issues we've been discussing?

AC: We've been in the market focusing exclusively on CSPs and big data analytics for 15 years. So we know their problems. We have successful implementations with the world's largest CSPs and proven technology that has helped them reduce

their opex, increase their revenue, and significantly improve customer experience.

The core of our expertise is in CSP machine learning and AI driven analytics. We have seasoned data scientists and customer support staff who have worked for and with the top telecom operators on successful analytics deployments for many years. And our solutions are highly instrumented specifically for CSPs and their multivendor infrastructures versus

traditional general-purpose enterprise platforms or homogeneous network-equipment-oriented solutions.

Our Guavus-IQ analytics portfolio uniquely provides a correlated 'inside-out' and 'outside-in' analytics view of customer experiences and network operations. It's vendor-agnostic, working with a variety of telecom equipment.

We're bringing that open approach and our CSP analytics experience to bear on an innovative new analytics product for the 5G Core designed to enable mobile operators to overcome the challenges of operating complex, multi-vendor 5G networks at scale.

The offering will provide operators with a vendor-agnostic, 3GPP-compliant NWDAF implementation that embodies an open approach to streaming analytics, machine learning and AI for generating the real-time operational intelligence needed to drive service orchestration and network automation in the 5G Core.

KA: As CSPs look to the second half of this year, how can they continue to differentiate themselves...any parting advice?

AC: If you don't have an automated system able to manage and anticipate increases in data, ensure best practices, and deliver continuous insights, you won't be able to fulfill your responsibilities as a CSP. CSPs are facing exploding numbers of data requests and far greater expectations for service-level agreements (SLAs) in terms of the quality of their experiences.

In this environment, being able to look ahead and serve these changing user needs, rather than reacting to issues and user dissatisfaction after the fact, is what will differentiate successful service providers from others. This is an unprecedented time, in terms of the pandemic and 5G, with unprecedented opportunities for CSPs.

We're committed to helping CSPs in MENA take advantage of these opportunities – using analytics to really differentiate themselves and deliver a superior customer experience...growing their business while reducing their network costs and complexity. **T**