The Role of AI and Analytics in Enabling Successful Digital Transformation of the Cable/Telco Sector

Chris Menier, Vice President and Transformation Strategist at Internet of Things (IoT) analytics platform provider Vitria answers some key questions regarding the role of AI and analytics in enabling successful digital transformation of the Cable/Telco Sector.

How can companies be successful in really driving business performance by making more effective use of all of their data and leveraging advanced analytics capabilities?

The most successful companies will be those that build a transformation strategy that leverages the interplay of people, devices, and applications and the data that each generates.

How are people accessing the Internet? What devices and application are they using? It's the interaction between people, devices and applications that provide cable and telecommunication operators with a wealth of information to deliver a better subscriber experience, to retain their existing customers, and to attract new clients, sell new services, and to drive costs down.

These companies are adept at analyzing and gaining business insights by combining structured, unstructured, and situational data. Structured data includes error logs, counts of sales orders, and inventory markers. Unstructured data includes video feeds, audio files, and text. Companies are just starting to leverage unstructured data with the advent of big data technologies, the Cloud and artificial intelligence. These new technologies have made it feasible to collect, store, and analyze this data. And finally, there's situational data or telemetry data. IoT devices and sensors are driving high volumes of telemetry data. We now have sensors in our network to understand network health and vibration and heat sensors in our manufacturing plants to avoid failures. The list of connected IoT devices is growing exponentially... and so is the data they generate.

At Vitria, we can support companies in driving business performance with our VIA platform. Our platform is able to ingest, model and analyze structured, unstructured and situational data in real-time.

What role is the Internet of Things playing in the digital transformation initiatives of the cable and telecommunications sector?

The Network Service Providers have been preparing for IoT for years. IoT is one of the top drives for the billions of investment dollars that operators will spend on upgrading to 5G and providing Gigabit speeds to the home. 5G networks will only accelerate content creation and consumption because of their ability to increase distribution. And there's no question that technologies like 5G and DOCSIS 3.1 will only increase competition between wireless providers and cable operators. The wireless providers will want to own the in-home Internet experience and drive cord-cutting (adults who've cancelled pay TV service and continue without it), while the cable operators will push further into wireless bundles and content distribution.

IoT use cases are near limitless. From a smart refrigerator that indicates your out of milk to something as complex as a network of autonomous vehicles communicating with each other - consumers and partners alike will rely on the Network Service Providers to run their daily lives and their companies.

Let's take the example of a smart refrigerator to illustrate the opportunities of IoT. If consumers allow this type of data collection, and history is proving they will, your Internet provider will not only know when you're out of milk, but what type of milk you drink, and how much milk you drink. They'll be able to determine, based on this data and other indicators if you have a baby or toddler in the house. This would trigger marketing offers on paper diapers and offer automatic delivery to your door within hours...maybe even by drone. The combination of IoT enabled devices, a robust network and artificial intelligence can deliver on this promise quite easily. Forward thinking Network Service Providers want to be more than dump pipes in this value-chain. They understand the value is the data and analytics.

That's why at Vitria the focus is on real-time analysis of data across customer behavior, devices, applications and the network.

What role is Artificial Intelligence (AI) playing in the digital transformation initiatives of the cable and telecommunications sector?

We are early in the lifecycle of AI use cases. AI is being used to determine and automatically water each vineyard row based on need. AI is also personalizing optimal zones for your cardio workouts. But these examples only scratch the surface of what's possible.

Network Service Providers, along with the IT compute and cloud providers - are arguably the biggest enablers of AI. They bring together the data from billions of connected devices and allow us to analyze it from almost anywhere. We've worked with one large Network Service Provider that won a contract with the national power company to manage their 10s of millions of smart meters deployed throughout the country. Now instead of just transporting the bits, the provider is analyzing the data in real-time to prevent fraud and reduce maintenance costs. They are also building predictive models and prescribing actions to avoid brownouts. This is extremely high value to the power company, as well as to the end consumer.

As the demographic of the population shifts, AI becomes increasing important to both Business to Business and Business to Consumer marketing. Millennials are now the single largest demographic, surpassing baby-boomers and the millenial behavior is considerably different. Where baby-boomers are mostly absorbers of content and Gen-xers are a bit pickier about what they consume, it's the millennials that are the controllers and influencers of content.

This dramatic shift makes behaviors less predictable and makes traditional modeling techniques obsolete. An agile analytics platform that allows companies to deploy and retrain machine models on the fly is critically important. If you lose the pulse of the millennials, you risk losing the largest pool of potential customers. AI is a great tool to protect against that.

What role is big data and real-time analytics playing in the digital transformation initiatives of the cable and telecommunications sector?

Big data in general is fairly mature in the Network Service Providers market. Most leading operators have had environments in place for many years and are now moving past the store-then-analyze data lake mentality. Models have been built to analyze churn propensity and the likelihood to upgrade devices or services. Big data analysis is also used in network planning and what-if analysis.

To improve customer experience, it's imperative to understand it in real time and take appropriate action. Here are some examples - What's the customer experience with a support or customer care interaction? What happens to the customer experience after service maintenance, or device change or upgrade?

National Service Providers are just starting to deploy real-time analytic solutions in this space. At Vitria, our Digital Operations solutions focus on real-time analysis of service and customer experience across the network, application and infrastructure layers.

We recently worked with one operator transitioning to an operating model where General Managers were responsible for the service experience top-to-bottom...how the service performs, customer retention and growth, and of course the service operations. When they consolidated operations, they found they were chasing way too many false alarms or symptoms of a root problem versus the problem itself. Using machine-learning and analytics, we are able to accurately baseline key metrics, detect anomalies and then analyze those anomalies to determine corollary relationships between them and group them into actionable Incidents. We reduced the noise level and helped the fix-agents get to the root cause faster. After that, we created signatures and deployed predictive analytics to prevent similar problems from occurring in the future.

With technology changing so rapidly, the decision on what investments should be made is difficult. Particularly when you're strapped with constraints on capital investments. Do you have advice on key factors for considerations?

The key is future-proofing high-value analytics deployments. Because underlying technologies change rapidly, network operators need technology that's going to adapt to ever evolving use cases while leveraging the best in breed innovations.

That's why we developed VIA as a low-code development environment. This way the underlying technology stack and even the coding languages are obfuscated. Companies can focus on the business challenges instead of wrestling with the latest technology.

Digital operations solutions need to be agile and easily adapt to a variety of structured and unstructured data sources. Digital operations solutions need to be robust in their analytics capabilities in order to decipher the relationships between their customer behavior, network health and device health.

That's why at Vitria, we added a flexible ingest layer that generates schemas on-read. We've also embedded the latest machine learning models that can be automatically tuned and retrained. These and other embedded features allow focus on business outcomes and not selection, deployment and updating technology.

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About Vitria Technology

Vitria VIA IoT Analytics Platform empowers enterprise and industrial customers to analyze faster, act smarter, and achieve better outcomes in their IoT and business operations. The company has a history of success in streaming analytics, business process management, enterprise application integration, and operational intelligence.

Vitria is now a leading player in the rapidly growing IoT (Internet of Things) analytics market. Customers include Fortune 500 companies and enterprises across a wide range of industries, including finance, manufacturing, telecommunications, utilities, retail and more. For more information, visit www.vitria.com.