AI: Transforming Service Assurance

VIA
AIOps

For telecommunications companies, the concept of ensuring service quality has been a standard for decades. Highly effective, efficient telcos thrive in competitive markets by relying continuously evolving the processes and practices of service assurance. Several factors have elevated service assurance to be a critical area of focus:

Increasing network complexity: New technologies like digital switching, fiber optics, 5G and 6G increase the potential for service disruptions requiring telcos to take proactive measures to maintain quality.

Deregulation and competition: Deregulation increased the pressure on telcos to provide reliable, high quality services to retain customers. Managing the precarious balance between keeping existing customers and winning new customers remains a challenge.

Dedicated tools: Since the 1980s the number of dedicated tools for monitoring and managing network performance have grown exponentially. More tools creates a very 'noisy' landscape to manage.

Today *artificial intelligence (AI)* is transforming the service assurance landscape by offering significant advantages:

Proactive issue
detection and prediction
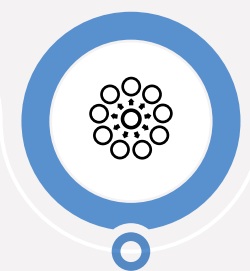
Automated resolution
and self-healing networks
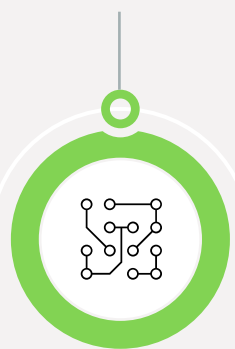
Personalized
service assurance

Enhanced root
cause analysis

Improved efficiency and
resource optimization

Automation: Impact on Service Assurance

Recently Packet Pushers, an organization providing resources and community for network professional, invited Charlotte Patrick, an independent industry analyst to be the guest speaker on Heavy Strategy the popular podcast hosted by Greg Ferro. Charlotte Patrick covers the use of artificial intelligence (AI), automation and analytics by telecom companies. They were joined by Johna Till Johnson, CEO of Nemertes Research. Nemertes is an advisory and consulting firm specializing in analyzing and quantifying the business value of emerging technologies.

The two telco industry specialists, Patrick and Johnson, agreed that telcos are quantifying the financial value of AIOps investments specifically in perfecting service assurance.

According to Patrick, ". . .assurance is one area where telcos will get the best bottom line uplift from deploying automation and intelligence."

Greg Ferro, moderator, began the podcast with a brief look-back on the history of automation. He recalled the automation of manual operations with 'artisanal handcrafted configurations' which led to the automation of elements and devices. Eventually the desire to 'automate all things' led the industry to orchestration – specifically orchestrating the multiple automations enabling service delivery. Before AIOps, automation was largely deterministic – meaning that humans decided which actions to take. Today AIOps can automate more responses. The question remains will AIOps change the future of automated service assurance?

Telcos Are Finding Measurable Value in AIOps

Charlotte Patrick believes that AIOps plays a central role in automating service assurance and provides financial value to telcos. She shared her methodology for predicting the financial benefits of investing in intelligence and automation - AIOps. Her model considers both revenue generation and cost reduction.

Revenue Generation

AI and automation, AIOps, has a positive impact on assurance. Her model demonstrates that service assurance directly impacts **revenue generation.**
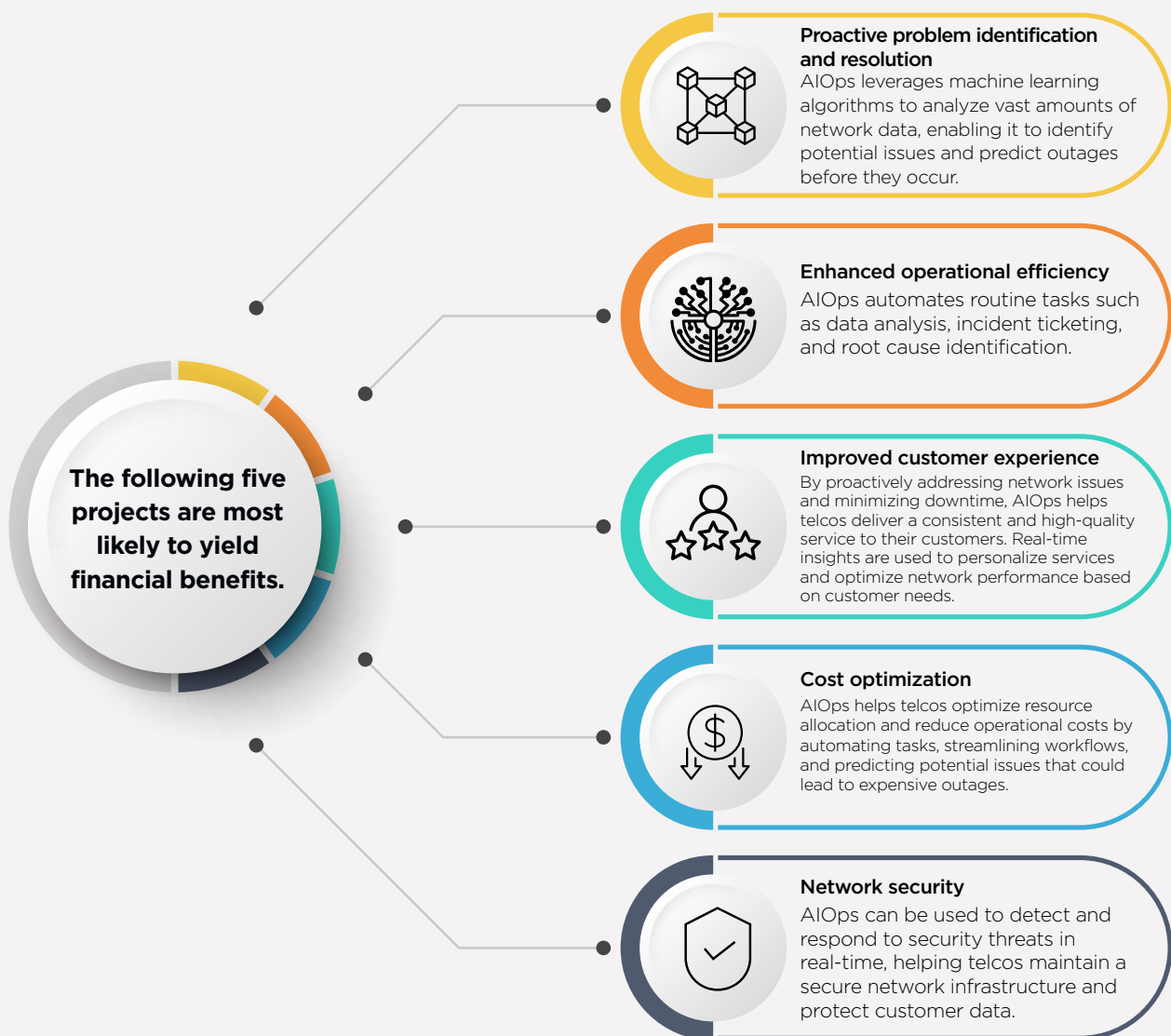
- **Assurance enhances the customer experience:** Proactive problem resolution and improved network performance lead to increased customer satisfaction and loyalty, which can translate to higher customer lifetime value and potentially, higher service plans and subscriptions.

- **Assurance enables accelerated introduction of new service offerings:** AIOps insights can enable telcos to develop and offer new, personalized services based on customer needs and network usage patterns, creating new revenue streams.

Cost Reductions

- **Reduced operational expenses:** Automating tasks like data analysis, reporting, and routine maintenance frees up personnel for more strategic work, leading to reduced labor costs. Additionally, proactive problem identification and resolution minimizes downtime and associated costs like equipment repairs and customer compensation.

- **Improved resource allocation:** AI-powered analytics can optimize resource allocation, directing resources where they're needed. This often translates to reduced infrastructure costs and improved utilization of existing resources.

It's important to note that the specific monetary value of these benefits will vary depending on the size and complexity of the telco's network, the extent of automation and intelligence adoption, and various market factors. Charlotte Patrick asserts her model shows that AIOps can reduce operational costs by 10-20%. Patrick and Johnson agreed that AIOps will impact the telco's ability to achieve *optimal service assurance.*

Patrick says, "Improving service assurance is one area where telcos are seeing a lift in bottom line value." Her research uses a model she created for illustrating financial value. Implementing AIOps can equate to an approximate 10% lift in annual revenues. Applying the model to a telco generating $16B in revenue, the telco could experience an improvement of 10% or $1.6B in revenue growth.

The following five projects are most likely to yield financial benefits.

Proactive problem identification and resolution
AIOps leverages machine learning algorithms to analyze vast amounts of network data, enabling it to identify potential issues and predict outages before they occur.

Enhanced operational efficiency
AIOps automates routine tasks such as data analysis, incident ticketing, and root cause identification.

Improved customer experience
By proactively addressing network issues and minimizing downtime, AIOps helps telcos deliver a consistent and high-quality service to their customers. Real-time insights are used to personalize services and optimize network performance based on customer needs.

Cost optimization
AIOps helps telcos optimize resource allocation and reduce operational costs by automating tasks, streamlining workflows, and predicting potential issues that could lead to expensive outages.

Network security
AIOps can be used to detect and respond to security threats in real-time, helping telcos maintain a secure network infrastructure and protect customer data.

AIOps offers telcos a comprehensive solution for improving network performance, optimizing operations, and delivering a superior customer experience. Patrick predicts that AIOps will play an increasingly crucial role in ensuring efficient and reliable network operations.

VIA AIOps by Vitria: AI Powered Service Assurance

- **Proactive issue detection and prediction**. VIA AIOps analyzes patterns and trends in the data to isolate anomalies and predict potential issues before they escalate as service interruptions.

- **Enhanced root cause analysis.** VIA AIOps uses AI algorithms to analyze complex relationships across silos to identify underlying causes of an issue even when it originates from unrelated events.

- **Automated resolution and self-healing.** VIA AIOps automates resolution for specific service issues. VIA builds trust in the automation and uses pre-defined actions like re-routing traffic, restarting services. Self-healing refers to VIA's ability to take corrective measures without human intervention.
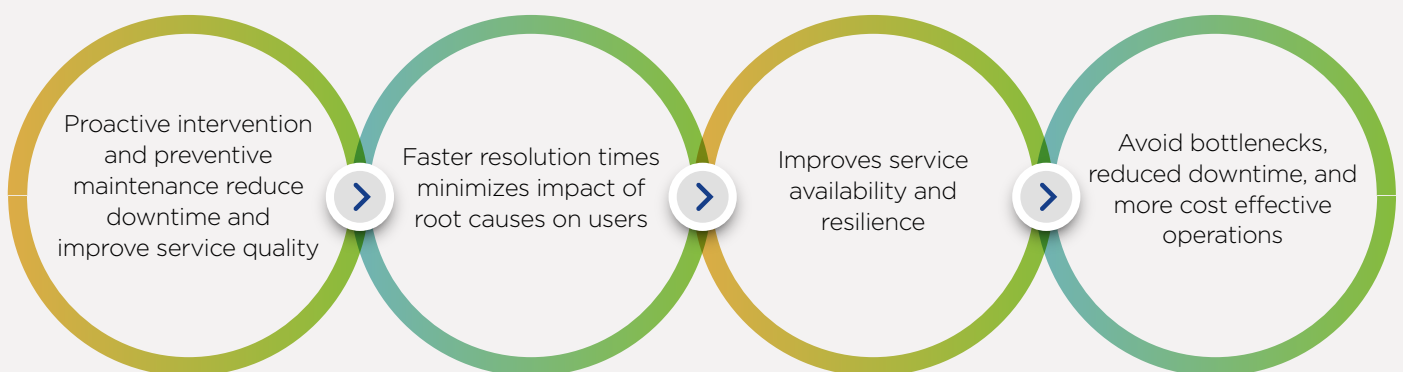
- **Improved efficiency and resource optimization.** VIA AIOps automation frees up valuable time and resources allowing them to focus on more complex and strategic initiatives.

- **Personalized service assurance.** VIA AIOps provides insights on user populations. By identifying population specific issues, proactive measures can be taken aimed at their needs. For example, the population 'new subscribers' is one high priority population with unique issues. Response and resolution can be tailored to the population.

Benefits of Implementing VIA AIOps for Service Assurance

| Proactive intervention and preventive maintenance reduce downtime and improve service quality | > | Faster resolution times minimizes impact of root causes on users | > | Improves service availability and resilience | > | Avoid bottlenecks, reduced downtime, and more cost effective operations |