Using **AI** to revolutionize **Customer Experience Management** in telecom

A recent survey concluded that 95% of all customers' interactions would be AI-powered by 2025. To meet this rapid growth in demand for AI-based solutions, the telecom industry continuously adapts emerging digital transformation practices and technology solutions to accelerate business activities, processes, and models.

The key task is to integrate real-time data collected from the network (like smartphones, connected devices, smart appliances, wearables, surveillance, etc.) **with modern technologies like cloud, big data platforms, hyper-converged networks, artificial intelligence, etc., to offer superior, hyper-personalized customer experiences**.

Telecom customers have reported **high satisfaction levels** when their service provider resolves their issues quickly, effectively handles customer queries without prolonged wait times, and offers a simple interactive system that does not require multiple levels of communication.

Mintegrating AI, machine learning, deep learning, and Natural Language Processing (NLP) in the Customer Experience Management (CEM) platform enables telecom companies to increase customer satisfaction levels, avoid customer churn, improve the quality of customer experiences, and increase brand equity in the market. Therefore, a robust Customer Experience Management (CEM) platform is the need of the hour for telecom companies.

Three CEM challenges in telecom

According to Gartner, Customer Experience Management is the process of designing and implementing a platform that reacts to customers interactions to meet or exceed the expectations of the customer to increase customer satisfaction, brand loyalty, and brand advocacy. However, CEM in telecom is not easy and particularly beset with challenges:

- In telecom, **CEM is not just a "must-have"; it is a differentiator**
- The explosion of data and the **multi-channel environment**
- **Facilitating collaboration** across networks and systems

1. CEM: From a "must-have" to a differentiator

- With fierce competition to gain and retain subscribers, telecom service providers focus on customer experience to overcome price competition and **position customer experience as a value-added service**.

- However, as network convergence keep evolving with the adoption of next-generation technologies (like SDN / NFV,) **the two pillars of customer experience—network support and customer support** teams face major challenges.

- On the one hand, the network resources are strained due to the huge demand for bandwidth. On the other hand, the existing customer support falls short of meeting customer resolution requirements—directly affecting customer experience. **We believe that AI can play a key role in taking these extra loads at telecom companies**.

2. The explosion of data and the multi-channel environment

Telecom is a multi-channel environment. The Internet of Things (IoT) brings in various channels like utilities, health services, automotive, manufacturing, and many others into the purview of telecom. This trend would bring a huge surge of devices, transactions, services, applications, and connections for all users. Telecom being the backbone, must support the exponential rise in the data.

The telecom service providers have already been deploying data analytics products and solutions to fetch important customer information. **We believe AI can effectively use this information to take automatic actions and complete the circle of automation**.

3. Facilitating collaboration across networks and systems

With **network control and management** gradually moving towards software, thanks to **software-defined networking, NFV, and cloud**, there are unique opportunities to bridge the gap between network, customer service, and marketing departments. The telecom service providers must strive to collaborate networks, IT, CRM, and marketing and sales. **It will enable them to move from network-centric KPIs to customer-centric KPIs and monitor the end-to-end services experienced by individual customers.** Effective use of AI can definitely help telecom companies move from reactive customer support to preventive or proactive customer-centric support.

Four cool AI use cases for strengthening CEM in telecom

AI is fast becoming the Holy Grail of customer experience management in telecom. Here are four cool AI use cases to retain a happy telco customer.

With its two foundational capabilities of machine learning and Natural Language Processing, **artificial intelligence has an immense potential to deliver powerful customer experiences**. Here's a look at 4 AI use cases to help address the CEM challenges cited earlier.

1. Enhance existing customer service

Integration of multiple complex systems that generate vital consumer and network insights renders customer care representatives with relevant customer data—helping them to resolve queries quickly and provide better experiences. When integrated with AI capabilities, we are already witnessing CEM platforms offer superior experiences.

Relevant use case implemented by Mindtree: For example, based on the signal strength and number of devices connected at various places in the house, a BOT proactively suggests to the customer the preferred location of the router to get better coverage.

2. Moving beyond self-service

Apart from increasing customer convenience, resolving issues quickly, tracking products, and avoiding long waiting times, self-service platforms empower the customers. AI-based self-service systems are intuitive and well designed to identify customer issues from the gathered information, derive customer preferences and behavior, and suggest solutions and products. **Relevant use case implemented by Mindtree: An ML solution integrated into a CEM platform** automatically troubleshoots and fixes the known issues reported by various customers and reduces the time taken to resolve them.

3. Personalization

Delivering personalized services relies on the effective use of analytics. Personalization improves customer experience. **Artificial intelligence can play an important role in augmenting analytics to provide an intelligent, convenient, and informed customer experience in the customer journey**.

A classic use case is the data provided by analytics engines like conversion rates, subscriber profiles, content usage patterns, and location data used by AI systems to provide precise offers to the customers.

Relevant use case implemented by Mindtree: In one of the interesting cases, we have seen an **AI and analytics solution integrated with the**

CEM platform collect hourly data on internet speed and automatically trigger a field technician call if the speed falls below a certain benchmark. In this case, the customer may not even be aware of the background activities and continue to enjoy the benefits.

4. Predictive, proactive, and insightful

As the service providers' networks move from physical to virtual, the **AI-enabled intelligence layer of SDN and NFV provides critical data** about operations, compliance, fraud detection, network traffic, and network utilization. This gives birth to capabilities such as **self-diagnostics, self-healing,** and **self-optimization**, which makes the solution intuitive, proactive, and reactive to the pertaining circumstances.

Relevant use case implemented by Mindtree: In one of the use cases, the CEM platform identifies the best and least performing femtocells deployed in the access network and proactively decides the number of consumers to be configured on the individual femtocells. The CEM platform also measures the performance of the routers and triggers the reboot of the WiFi devices during non-traffic hours, and reconfigures the best channel on the WiFi device for optimal performance.

In summary

Some of the noticeable examples where AI is effectively implemented into CEM platforms include **Nokia's "AVA platform," SK telecom's TANGO Network Operations System, and Telefonica's voice-activated assistant "Aura."**

Mindtree, with a focus on digital services in the communication industry, has helped several telecom OEMs and CSPs bring multiple AI use cases to life. In an engagement with one of the leading telecom OEM vendors in the world, **Mindtree has integrated AI capabilities into the client's Customer Experience Management platform to deliver use cases like proactive customer service, automatic troubleshooting of network issues, hyper-personalization for home device management, and auto-configuration of network devices.**

The AI wave in telecom CEM has opened new avenues for customer satisfaction, improved customer buying behaviors, and created new revenue streams for the service providers. This is a space to watch out for!

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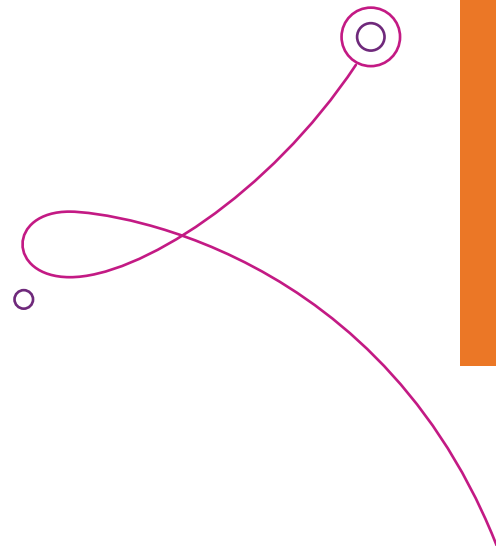
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