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AI TRENDS IN TELCO

The impact of Artificial Intelligence (AI) is expected to be widespread and touch virtually all areas of our lives. AI technologies have the potential to improve efficiency, enhance decision-making processes, create new opportunities, and transform various industries, including the telecommunications.

Firstly, it should be stated that AI in telecommunications is not a new concept, and it has been used for several years but it has not been called AI. Let's identify the AI applications which are already used on daily basis.

SECURITY BASED ON AI

AI is employed in internet security services to enhance threat detection, response capabilities, and overall cybersecurity. The integration of machine learning and deep learning allows security systems to analyze vast amounts of data, identify patterns, and adapt to evolving cyber threats. AI algorithms can establish a baseline of normal behavior and detect anomalies or deviations that may indicate a security threat. This procedure, detecting anomalies based on comparison to normal behavior, is applied at various security levels, ranging from network security including mitigation of DDoS attacks, through detecting malware and phishing, to vulgarity management. Despite being firmly present for at least a decade, the use of AI in security services is a dynamic field, with ongoing advancements aimed at improving the speed and accuracy of threat detection and response. Combining AI with human expertise creates a more robust and adaptive cybersecurity strategy.

AI AS A SALES TOOL

Although applicable to various industries, the utilization of AI as a multipurpose sales tool

is becoming inevitable in the telecommunications market, where predominantly digital services are sold. It all starts with more effective lead generation. Predictive analytics can help prioritize leads by determining their likelihood to convert. This allows sales teams to focus on high-value prospects. AI also enables the creation of personalized marketing campaigns by analyzing customer data and behavior.



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What's more, AI can be used as an extra sales channel for lead generation as AI-powered chatbots can handle routine customer inquiries, provide information, and assist in the sales process, while virtual assistants can engage with potential customers, answer questions, and guide them through product or service offerings. Other sales areas where AI has much to offer are dynamic pricing, sales process automation, sales forecasting or speech analytics. One must remember data is crucial

for AI. The more data one feeds it, the better the results.

CUSTOMER FRIENDLY AI

The main reasons for employing AI in customer services are enhanced efficiency, improved response time and lowered costs. Do customers mind their calls being handled by AI? Not anymore. Companies are increasingly transparent about the use of AI in customer service. Clear communication about AI involvement in call handling, along with providing information on how to escalate to a human agent if needed, builds trust. There is a trend indicating that customers are becoming more accustomed to their calls being handled by AI, especially in industries like telecommunications.

Apart from handling calls, as already mentioned in the sales paragraph, AI chatbots can handle routine customer queries, provide information, and assist in issue resolution. Such queries are handled instantly, without waiting for a human agent to become available. The feature comes hand in hand with subsequent call evaluation by customers through call back surveys and reviews. The insights gained help in identifying areas of improvement and gauging overall customer satisfaction.

Customer support is usually tracked by a ticketing system. AI can automate the creation and management of support tickets, categorizing,

assigning and prioritizing issues based on urgency and complexity. This helps streamline the support process and ensures timely responses. Data retrieved from older tickets can be used to suggest solutions for issues brought up in new tickets. Other usage of AI in customer support includes social media monitoring, knowledge base and self-service, or real-time language translations.



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AI IN DYNAMIC ENVIRONMENT

In telecommunications, dynamic resource allocation refers to the process of allocating network resources in real-time based on changing demand and conditions. AI can play a significant role in optimizing this process. The goal is to analyze historical data to predict network traffic patterns. By understanding when and where high demand is likely to occur, telecom providers

can dynamically allocate resources in anticipation of increased traffic.

Furthermore, load balancing should be deployed to distribute network traffic evenly across routers and resources. This ensures efficient utilization of available resources and prevents network congestion. Other uses of AI in network management include capacity planning, dynamic spectrum management in wireless technologies, optimizing energy consumption in telecommunications networks by powering off or reducing the operation of certain components during periods of lower demand, and real-time analysis of network conditions. By integrating AI into dynamic resource allocation processes, telecommunications providers can enhance network performance, improve efficiency, and deliver a better quality of service to users. The ability to adapt in real-time to changing conditions is a key advantage of AI-driven dynamic resource allocation in telecommunications.

It should be noted that AI in telco is not a standalone box. It should be looked at as another layer of existing technologies, such as various networks, IoT, cloud services, data mining, machine learning, and various software systems (CRM, troubleshooting, DRS, customer portals, etc.), which can be enhanced by AI and/or interconnected through AI to maximize their value.