AI in Marketing

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Lec 39-AI in Service

Welcome to this NPTEL online certification course on Artificial Intelligence and Marketing. And now we will talk about module 39. In this module, we will talk about how AI, the role of AI in services. So, these are the things that we will cover in this module. So, the current trends of AI used in the service sector. One, the AI tools most effectively used in service sector along with some current industry related cases.

That is the second thing that we will discuss in this module. The various benefits of using AI in customer service and the limitations of AI in customer service and some key tasks to understand the potential risks in customer experience. For every brand, helping customers make purchase decisions by delivering on their needs is a top priority. And that is not as easy as it sounds.

A surge in digital channels and hybrid online-offline journeys along with heightened customer expectations have complicated brands' desire to create and deliver a dynamic experience that equips customers with the right information and incentives when they need it the most. Deloitte surveyed 11,500 global customers to better understand what information they found most helpful while making purchase decisions across a variety of product as a service categories. Two tactics stood out – timely offers and knowledgeable customer service. In fact, across 8 sectors, respondents cited a timely offer most often with knowledgeable customer service as the second most helpful option in 6 categories. These two dimensions routinely outperform customized recommendations.

Free trials and samples, no-hazel return and cancellation policies and augmented technology such as virtual showroom. So this chart here, it shows timely offer. These are the various features of the service – timely offer, knowledgeable customer service, no-hazel return policy, technology-weighted, easier to learn more, customized recommendations, free trials. And these are the products where the and services where the survey was carried out. So you see that in automobile, timely offer is 37% important while in household equipment it is 41%.

Knowledgeable customer service is 39% important. 39% of the people said that it is important in auto and the rest of the four options had limited importance with the customers. So you see there are 20% and 30% and 23% etc. So you see that these two things – timely offer and knowledgeable customer service, these are the two most important features, options given to the customers across the product and service categories. So building on the feedback, brand marketers and customer experience leaders should be asking how can we get the best offer in front of the customers.

How can we get the best offer in front of the customers when they need it most and equip service agents with right information to offer those customers a level of service that helps them make the best purchase decisions. The answer is to optimize artificial intelligence within the customer experience achieving harmony between human tasks and machine capabilities. A dynamic experience for customer means delivering the assistance and information they need whenever, wherever and however they want it. One prong of this is the utilization of AI that has enabled brand to deliver more personalized and creative marketing material and help predict customer behavior. Designing and deploying an AI strategy that assists customers in their moment of needs may be the most effective way to ensure the right offers meets customers at any point in their customer journey.

Smarter chatbots One of the first line of AI defense in terms of reaching your customers is the increasingly popular chatbots. Unfortunately, in the early stages, chatbots have proven to be a bit frustrating for many customers equipped with too few phases and too little helpful information. While they may have saved the company's time, in some cases chatbots just left customers feeling more helpless than before. Companies are now starting to invest in smarter conversational AI that pulls history and experience into the conversation while also using emotional recognition tools to better understand the context of the customer inquiry. Because they are able to engage in deeper, more complex conversations, they are able to gather much more data about the customer and answer their problems much more quickly.

A recent report from Capgemini indicated that 54% of customers said they have daily AI-enabled interactions with businesses, including chatbots, digital assistants, facial recognition and biometric scanners and 49% of those customers found AI interactions to be trustworthy up from only 30 in 2018. Chatbots of today won't be confused by a customer changing the topic of conversation. It can jump from topic to topic and even channel to channel such as starting a conversation on the brand's website and then transitioning to WhatsApp if the customer needs to leave their desktop to meet the customer where they are and provide service that rivals that of their human counterparts. With the help of conversational AI, consumers can connect with brands right in the same

channel they use most of the time. Ancient virtual consigrees and bots instantly greet them, answer their questions and carry out transactions and if needed connect them to agents with all the contextual data it has collected over the course of the conversation.

Service Robots As the global service industry continues to manage rapidly changing customer trends and a deluge of external factors such as labour costs, trade concerns and supply chain interruptions, some are seeking new and cutting-edge technologies such as service robots as a solution. The use of robotic technology for improving productivity and enhancing efficiency in business is not a new idea. Industrial robots have been used in manufacturing and warehouses for nearly 50 years and are still used today. However the notion of using robot is specifically for assisting human workers in completing service related tasks or helping customers get the best experience possible is relatively new with the first service robot being implemented in only the last decade. Despite their novelty, service robots are quickly becoming an essential part of business for service focused companies in healthcare, hospitality, logistics and retail that are looking for innovative ways to delight customers while boasting their bottom line.

Now how the service robots are being used in retail? In retail organization service robots help enhance and personalize the customer experience as well as improve in-store operations. For example, several global retailers in Americas, Europe are using the autonomous service robot to automate in-store retail operations. Intel's Computer Vision Technology, TELI, orders around 10,000 items in 30 minutes to provide near real-time inventory information and insights to store associates, ultimately optimizing store execution and improving customer satisfaction. Many retail companies seek out service robots to simplify and enhance their customers' experiences. SM Supermalls, a chain of shopping malls in the Philippines, turn to New Era AI Robotech or New Era to streamline and improve their visitors' experience by developing a fleet of voice interactive smart service robots.

Guests can ask the AI-enabled robot engaging questions, getting simple directions to the desired store location or upcoming showtimes for the on-site movie theater. SM Supermalls also use their service robots to deliver tailored promotions and marketing to each customer while gaining deeper visitors' intelligence through data collection. Now how are service robots being used in hotels? In hotels across the globe, service robots are being used to enhance and personalize the customer experience. Interactive AI-powered QoSX greet customers when they arrive while service robots take guest luggage straight to their rooms to make the check-in process seamless and efficient. AMRs bring them room service and humanoid robots act as their personal conceit.

The food service industry is also taking advantage of service robots. In Singapore, the

Crown Coffee Bar recently onboarded its newest barista, Ella, who happens to be a fully autonomous 6-axis robot. So this is that. From taking orders via the online app to making and serving coffee to finalizing the bills and charging credit cards, the robot does it all. Ghost kitchens, also known as delivery-only kitchens, with no dine-in service are leveraging autonomous service robots to deliver food orders to customers.

Until recently, ghost kitchens were typically used by pizza restaurants or other delivery-only businesses. However, the challenges that have emerged from the COVID-19 pandemic, including the need for contactless delivery, increased cost and labor shortages have helped ghost kitchens proliferate and become more of a standard restaurant business model. Many modern ghost kitchens located in densely populated or campus-like areas are now experimenting with self-driving service robots as an innovative and cost-effective delivery option. How service robots are being used in logistics? As e-commerce sales continue to surge, logistics businesses are using service robots to help overcome current labor shortages, assist current workers to avoid workforce burnout and enable warehouse automation. Robotic arms are often assigned tasks like picking, placing and sorting objects and because AMRs can navigate warehouses independently, they are used to deliver material to human workers for accurate and efficient order fulfillment.

To tackle some of the same-day delivery businesses, FedEx created an autonomous mobile robot named FedEx Same Day Bot to work with local retailers to deliver customer orders directly to their houses. The bot navigates sidewalks, unpaved services and steps while carrying cargo which can include hot or cold food orders. So this is that machine that is used by FedEx for delivery. Both type of service robot can be empowered with vision sensors and artificial intelligence technologies to allow them to see which enables them to more accurately detect, classify, sort, pick and package objects. Some logistics companies such as FedEx are experimenting with using AMR for last-mile delivery of goods which is often the most expensive and least productive part of the entire delivery chain.

Next comes Augmented Reality. Augmented reality is the overlay of digital content on the real-world environment. Virtual objects can be in various forms. Images, videos or interactive data. In other words, it supplements the real world with digital objects.

It can be used in two main ways. Portable devices and smart glasses and AR headsets. What are these portable devices? Augmented reality is the most accessible reality technology as people can use their smartphones or tablets to run augmented reality applications. AR apps use a phone camera to capture the real world. Virtual objects are then overlaid and users can see them on their smartphone screens.

Smart glasses and AR headsets. Another way to create AR experience is to use special smart glasses or headsets. Unlike VR headsets, these AR glasses and headsets don't immerse users into fully virtual environment but just add a digital object to the real world. With Glass for example, digital data is projected right in front of the user's eye. One of the key features that set Lenscard apart from other eye wear companies is its virtual try-on feature.

This feature uses advanced augmented reality technology to allow customers to try on eyeglasses and sunglasses virtually before making a purchase. So you see that find your perfect fit with AR, explore and try 10,000 frames and find your AR frame size using our AR feature. So this is what this picture is from, from the Lenskart and it shows the person with various eyeglasses. This technology has revolutionized the way people shop for eyewear online and had made the process much more convenient and enjoyable. To use the virtual try-on feature, customers simply need to visit the Lenscard website or app and select the frame that they are interested in.

They can use their phone's camera to see how the frame looks on their face in real-time. This allows them to get a realistic and immersive experience and see how the frame will look from different angles. The virtual try-on feature also allows customers to compare different frames side by side and see which one looks best on them. This eliminates the need to go to a physical store and try on multiple frames which can be time-consuming and frustrating. Another benefit of the virtual try-on feature is that it helps customers make more informed decisions when purchasing eyewear online.

They can see how the frame looks on their face and get a sense of its size and fit before making a purchase. This can help reduce the likelihood of returns and exchanges which can be a hassle for both the customers and the company. Virtual Reality Virtual Reality is an artificial digital environment that completely replaces the real world. With VR, user experience, artificial sounds and sights and feel as if they are in a digital world. VR has a lot of applications like in healthcare, education, marketing, real estate and many more.

Businesses can reach out to their audiences by launching immersive and engaging marketing campaigns. This is particularly important in the age of online shopping as VR experiences help people get a feel for products without leaving their homes. IKEA had introduced a VR application for its customers that works as a virtual reality showroom. The VR experience works like a creative primer by inviting them to visualize different combinations. The application provides an immersive and emotional product experience that revolutionizes the way customers engage in interior decoration.

So this is how it is working. It empowers the visitor to visualize their own taste, inspire and expand their mind with new ideas. After slipping into IKEA's virtual showroom, visitors are able to explore and configure furniture items and their environmental context in real time. In the blink of an eye, they can try different fabrics, swap the wall color and even change the time of the day to see their combinations in a different light. Next comes Mixed Reality. In mixed reality, sometimes called hybrid reality, virtual content is not only overlaid on the real environment as in AR but is also anchored to and interact with that environment.

Put simply, a mixed reality can use virtual objects just like you can in augmented reality but these objects can also interact with the real world. In a sense, mixed reality is more immersive and interactive type of augmented reality. It is best suited for entertainment and sports events. From concerts with musicians interacting with digital pops to watching the action of football game appear to go down in your living room, developers are working on many mixed reality apps that could create these and similar experiences. Several years ago, PGA Tour fans were able to use an app with a 3D rendering of golf courses.

The Tour is also looking to use HoloLens for tournament setup and golf course design where players can prepare their strategy using mixed reality well before hitting their first drive on the links. The next comes holographic technology. 83% of brands are either adopting and investing now or plan to in the future on this technology which shows great potential in areas such as in-store advertising, interactive gaming and public events through an expanded three-dimensional viewing experience for an entire audience, not just a single individual. While AR-VR technology allow a single user to experience a virtual visualization through a smartphone or headset, holographic technology brings that ability into the real world, allowing multiple people to engage or experience simultaneously and allowing brands to bring singular experience to a broader collaborative audience. Holographic telepresence can enhance remote collaborations, sales presentation and product demonstrations, enabling organizations to save on-table expenses and reduce their carbon footprint.

Embedded AI and IoT immersive technologies can only be successful if the ability to capture, analyze and react to data in real time is present. The application of AI and IoT sensors is critical to the enabling of voice-based AI assistant, AR-VR and holographic technologies that are the tools that connect immersive technologies from the consumers to the brand. AI and IoT have been traditionally thought of as operational resource but today consumer facing technologies are built from the ground up with sensors and processing powers. Retailers are leveraging that technology to improve the immersive

experience, capture and analyze consumer behavior and build a more rewarding customer experience. Unilever has 3 million ice cream freezers around the world.

For retailers, maximizing seasonal sales means working to ensure that they never run out of stock. Making sure retailers don't run out of stock has seen Unilever incorporate digital tools and AI into the freezer fleet. Today 50,000 freezers are AI enabled when it comes to putting the right product in the right freezer. The camera fitted inside the cabinet takes a photo periodically sent to the cloud and it is analyzed using AI to let shopkeepers know what to restock and submit orders in a frictionless way. Some stores have seen an uplift in sales of 15 to 35%.

There is a potential for stock data to be used for market research to shape target promotions and further help retailers understand what their customers want. Now let us look at the benefits of AI in customer service. The first is improved customer support workflows. AI technology can be used to reduce friction at nearly any point of the customer journey. Chatbot allows us to quickly answer routine questions from new customers.

We can also use conversational AI to develop personalized emails and knowledge base articles for existing customers. AI helps to streamline internal workflows and in return maximize customer service interactions. The second is to better prediction of customer behavior. AI uses real-time data to make predictions. That means it can be used to determine how customers are likely to behave based on their purchase history, buying habits and personal preferences.

Predictive AI can help identify patterns and proactively make improvements to the customer experience. The next benefit of AI in customer service is sentiment analysis. Today many bots have sentiment analysis tools like natural language processing that helps them interpret customer responses. This tells the bot how to respond when a customer behaves in a certain way so it won't escalate the customer's emotion when it is trying to help them.

The third is request routing and prioritization. We can also use AI to identify keywords and analyze the nature of the request before assigning it to one of the reps. AI tools allow to analyze the customer's problem, the perceived urgency and their associated emotions. We can also program AI models to tag in the right agent to handle the case. This is another time-saving process that makes it easier for the support team to troubleshoot and resolve issues. The next benefit of AI in customer service is the voice analysis.

Voice AI has made it easier to automate call center interactions. These tools can be trained in predictive call routing and interactive voice responses to serve as the first line of defense for customer inquiries. Yet another benefit of AI in customer service is omni-channel service. AI can support omni-channel service strategy by directing customers to the right support channels. So that is the omni-channel, directing customers to the right support channel.

If all the chat reps are busy taking cases, it can tell the customers to use LiveChat for quicker responses. Or if a customer is typing a very long question on the email form, it can suggest that they can call in for a more personalized support. The next benefit of AI in customer service is data management. Not all AI features are customer facing. In fact, some of the most useful tools are the ones that are integrated with internal software.

As an example, AI can be paired with the CRM to recall customer data for service agents. Customer service teams can use this feature to proactively serve customer based on AI generated information. Now what are the limitations of AI in customer service? The first is that it can be unpredictable. While AI itself is not exactly new, the sheer level of availability of this technology to human is. While testing and tinkering is going on to see what this tech can do.

As such, AI tools can be predictable and in some situations potentially dangerous. The next limitation is that it can alienate segments of the market. By adopting a full AI approach to customer service processes, it may risk alienating different parts of the customer base. That could be those with growing security concerns about how AI uses their personal data. It may also exclude elderly individuals who don't feel comfortable using this technology.

Another limitation is limited understanding of the context. AI can automate and segment tickets based on the nature of the queries. It can even go as far as identifying customer sentiment based on the tone of voice. It can even use the data to follow up with basic account actions. But AI may struggle with more challenging issues like high cancellation intent, high frustration and other nuances.

Simply put, AI needs help understanding the wider context. Thus, its customer recommendations can lack nuances. Lack of human touch. Integrating AI into customer service processes can bring incredible advantages. But there is one thing everyone who shared their insights about AI in customer service mentioned, the human touch is irreplaceable. Customers can feel when it is missing, leading to frustration and increasing the chance of churn.

Fewer interaction with customers using AI in customer service can reduce the need for human agents to intervene with issues. Though it might save time and allow reps to focus on more complex tasks, but the team will have fewer interactions with customers, meaning fewer chances to organically gather critical feedback and make customer feel valued. Then another limitation is it needs continuous maintenance updates. AI systems rely on data algorithms and if algorithms are not adequately trained or updated, there is a risk of providing incorrect or misleading information. Because of that, regular monitoring and maintenance of AI systems are crucial to minimize the occurrence of errors.

Now there are three key tasks to better appreciate the customer experience and its potential deficit. The first is to understand the experience strategy. Identify each channel and touch point along the customer journey. Make sure they are connected. The channels and touch points should create a congruent experience for customers.

And the third is to design with human-centered factors at the forefront. Consider the entire service experience including the customer, talent and third-party service providers. So, to conclude, in this module, we have first discussed about the current trends in AI use in the service sector. Then we have studied about the various AI tools that are being most extensively used in service sector along with some current industry related cases. Then we have also gone through the various benefits of using AI in customer service.

Finally, we have discussed about the limitations of AI in customer service and some key tasks to understand the potential risk in customer experience. And these are the six sources from which the material for this module was taken. Thank you.