AI in Marketing

Prof. Zillur Rahman

Department of Management Studies

Indian Institute of Technology, Roorkee

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Lecture 52- Omnichannel Marketing and Retailing

Welcome to this NPTEL online certification course on artificial intelligence and marketing. And now we will talk about module 52. So as you can see that in this module we will be talking about omnichannel marketing and retailing. These are the things that we will cover in this module. We will start with understanding omnichannel marketing and the use of AI in the samw. Then we will study benefits of AI in omnichannel marketing followed by exploring the advantages of generative AI in omnichannel marketing.

Then we will discuss AI applications and retailing and understand omnichannel and mobile shopping behaviour. Now let us start with understanding omnichannel marketing. Omnichannel marketing is a multichannel approach to marketing that is focused on providing seamless customer experiences. Whether the customer is shopping online such as from a mobile phone or a laptop or in a brick-and-mortar store.

So we are combining these two in order to provide a seamless experience to the customer. It is not the same thing as multichannel marketing which means selling to customers on multiple channels both online and offline. Omnichannel marketing takes place on multiple channels, but it also connects all the channels so that the customers have a seamless experience across every touch points. So multichannel is using many channels while omnichannel is integrating all those channels so that it looks like one channel. An omnichannel strategy focuses on the entire customer journey and not just the customers individual experiences on different channels.

Now let us look at the case of Lenskart to better understand omnichannel marketing. Lenskart is a prominent example which provides a seamless omnichannel experience to its customers. Quality at an affordable price and the ease of omnichannel access for consumers is one of the major reasons of success in a short time for Lenskart, overtaking many legacy eyewear brands. Consumers can visit the Lenskart store and try out frames physically and order specs from a store itself or they can choose to order online from the

Lenskart app or the website. The lenses will be delivered from the central facility which ensures quality control in all the stores across the country even if they visit the store anywhere or order online.

If consumers order specs from a store, the order will be placed to the central hubs of Lenskart for the Lens by store employees. The consumers can pick up their glasses within a few days from the store itself with quality checks and adjusting for fitting issues. Consumers can also get their eye tested for free at Lenskart store and try out frames but choose to order online for direct home delivery. Alternatively consumers can order their specs online and go to nearby Lenskart stores for optimizing the fitting and also for repairs free of cost. Consumers can also try out frames through the Lenskart app or website which is AI enabled and through the AR try on feature.

Check the actual look of the frames on them from the comfort of their home's office and even get feedback from friends and family. The consumers can then continue to place the orders online or take the product ID and visit the store for checking the frame build quality etc and place the order from the store. Store employees help the consumers to easily locate the product by checking the product image ID on the consumer's app. This seamless omni-channel strategy is helping Lenscart in much greater customer retention and also giving them word of mouth benefits which help acquire new customers as well. This whole operation is made possible because of advanced technology adoption and implementation of AI based app features by Lenskart which makes their omni-channel marketing not only possible but a huge success in a category which was not known for online transformation and new technology.

The AI powered omni-channel marketing strategy of Lenskart is driving their growth and help them save cost and achieve scale and also allow to allocate the saved resources to promotions and customer acquisition. Now we will look at the role of AI in hybrid and omni-channel marketing. AI plays a role in personalizing and optimizing the entire customer experience across multiple channels. It unifies and analyzes data about customers and products to inform marketing campaigns, predict which channel customers are more likely to convert on and automate repetitive tasks. Artificial intelligence can help analyze warehouse processes and optimize the sending, receiving, storing, picking and management of individual products.

It can also analyze fleet performance and ensure the right distribution channels to get goods to retailers and other customers in good time. AI technology shapes the internal improvement of distributors and AI is helping distribution businesses to drive sales growth and also customer satisfaction. Now we will look at AI in omni-channel marketing. Omni-channel marketing automation powered by AI is what truly enables end to end personalization one at scale two. So these are the two things that it helps in achieving.

There are different types of AI technologies such as natural language generation, natural language processing and machine learning, computer vision and so on. All of these play a role in supporting and enhancing different areas of customer experience from personalizing recommendations to automated customer service and providing a smoother shopping experience. The relationship between marketer and AI may be looked upon as somewhat symbiotic because the marketers tell the AI what to pay attention to while they fine tune experiments and test ideas. Meanwhile, AI leverages that data to run experiments, learns from a marketing user's input and ultimately determine what a customer wants. Now we will understand the relationship of generative AI and omni-channel marketing.

generative AI works by using machine learning algorithms to create output based on raw data which is entered by human users. Using omni-channel AI helps to ensure consistent messaging and a unified brand experience across all channels which is key to meeting customer expectations. omni-channel marketing software platform offers marketing team the ability to manage multiple platforms and channels from a single dashboard. That makes it easier to analyze customer data and create targeted marketing campaigns that resonates with the target audience. Additionally, marketing automation tools can be used to streamline workflows allowing the team to focus on providing exceptional customer service.

With generative AI, marketers can automate their marketing campaigns to run across multiple channels. This ensures that customer receives consistent messaging and a personalized experience, regardless of the marketing channel they interact with. To ensure customer satisfaction, it is essential to have a deep understanding of the buyer's journey. Generative AI can help analyze customer data to identify patterns and trends in the customer journey. This information can be used to refine omni-channel marketing strategies and create targeted campaigns that speak directly to the customer's needs.

By leveraging this technology, marketing teams can automate content creation, streamline workflows, and create targeted campaigns across multiple channels. The result is a seamless customer experience that meets or exceeds expectations at every stage of the buyer's journey. What are the benefits of AI in omni-channel marketing? First is recommendations. AI-driven algorithms can be used to help manage the product

discovery experience created for the customer. It does this by displaying personalized product recommendations and these recommendations allow customers to discover more products resulting in more engagements, add to carts and conversions.

There are different recommendation widgets types which can be deployed such as frequently brought together that you may see on amazon.com, frequently viewed together similar products, business-driven recommendations, bestsellers, past purchases, trending products, recently viewed products. So, all of these widgets are being used by various online sellers. The second benefit of AI in omni-channel marketing is predictions. With AI-powered platforms, advanced algorithms are used to create models and find connections between data and customers' decisions.

In this way, AI has the capability to analyze customer data and make predictions about future behavior. So, instead of flying blind, marketers can leverage their vast amounts of data to identify patterns and anticipate future customer behavior, sales trends and therefore the marketing outcomes. Predictions powered by AI software can give insights into purchase prediction, open email prediction, optimal send time, churn prediction. In session predictions predict if a customer will fulfill a selected goal during a session, etc. Now, let us look at the use of AI in retailing.

What is retailing? Retailing includes all activities in selling goods and services directly to consumers for their personal or non-business use. All activities selling goods and services directly to the consumers for their personal or non-business use. Retailing is not just limited to products, but also involves the sale of services like a home-delivered meal, a haircut or car rental services. Now, let us look at the role of AI in retailing. Retailing is a key link that connects the manufacturers to the consumers.

AI in retail can help optimize customer experience, forecasting, inventory management and more. AI can also automate some tasks like checking stocks, scanning and paying for items, answering customer queries and recommending products. AI can also help customers make quick decisions in buying products by using visual perception, speech recognition and decision making. Brands are progressively using artificial intelligence to reduce cost, improve efficiency, achieve operational agility and increase the speed of decision making in the retail world. Retailers can use and benefits from AI in multiple ways.

On the customer side, understanding and anticipating shopper behavior. Product recommendations, sales, CRM management, kill store experience management, customer service and payment management and media optimization are some of the areas where AI is making a difference. On the supplier side, inventory optimization, logistics, transportation, delivery and space cleaning are some of the activities that AI is influencing. Now we will look at a framework for understanding and leveraging AI in retailing.

AI has arrived in retailing. It is blending into customers daily lives and retail transactions. With business data doubling every 1.2 years, retail data continue to explode. Retail data includes purchase data, online browsing data, social media data, mobile usage data and customer satisfaction data. For example, a retailer like Walmart collects data on about 1 million transactions per hour contributing to 2.5 terabytes of data. AI systems learns by training on large data sets. So retailing is a fertile ground for the use and growth of AI. To leverage these bargaining data, retailers are investing in multiple AI applications. So this is AI in retailing framework. Data from customers and supplier processes goes to collection, curation and analysis of data.

From here it moves to data science models, descriptive, predictive and prescriptive. Then it goes to algorithm program which leads to learning decisions. Then it goes to artificial intelligence systems and that lead to automation. So we are moving from data from customers, suppliers and processes and to automation. In this framework, manufacturers and retailers constantly collect customer data on attitudes and behaviour across channels, touchpoints, devices and platforms.

These data are integrated from multiple sources and stored or warehoused often in a cloud-based environment. Statistical, econometric and data science models are developed for enabling appropriate decisions. Computer algorithms and programs are created for these models. Machine learning models are particularly useful for learning from the data and making predictive decisions. Many decisions, especially continuous and real-time decisions are automated.

Now, AI analysis types and retailing areas. The development and advancement of AI occurs through the analysis of four broad types of data. Numeric data, text data, voice data, visual, image and video data. Most retailing decisions context involve the use of one or more of these types of data lending themselves to significant enhancements through AI. Now this is a table that shows AI analysis types, retailing areas and decisions.

So this is AI analysis type, numerical analysis, text analysis, voice analysis, image and video analysis. Now here it is some related retailing area and typical decisions that can

be influenced by AI. So here in this first where we are talking of numeric analysis, so examples include finance, accounting, sales, marketing, inventory management and store operations. Now typical decisions that can be influenced by AI are store locations, ordering, assortment, pricing, promotion and investments. In text analysis, we have customer satisfaction and product review analysis and product modifications, new product introduction, service enhancements.

When we are talking of voice analysis, some related retailing areas are customer service and order management. While some typical decisions that can be influenced by AI includes purchase prediction, service recovery and order fulfillment. Similarly, some related retailing areas for image video analysis are shopper behaviour analysis, shopper marketing and product assortment. While a typical decision that can be influenced by AI include store layout, shelf space, item placement, digital content and product recommendations. Now this figure shows AI in machine running capabilities in retail value chain.

So this map shows how AI is applicable in retail value chain. It includes customer retention, omni-general commerce and store operations, etc. So the first start with customer acquisition and retention. That is personalized ad, personalized promotions, loyalty and program management. Then comes omni-channel commerce, fraud detection, personalized product recommendations.

Then comes the store operations, checking out frictionless, shell checking, product life cycle management, design to value, trend analysis, merchandising and assortment, demand delivery, optimize assortment. Then comes fulfill, logistic fulfillment and delivery that includes optimize omni-channel fulfillment, drone delivery. Then comes real estate optimization of store footprints and therefore thereafter comes corporate functions, finance, automation and case forecasting. So this is how it moves from this place to this place and these are the various activities that happens in between understanding and anticipating omni-channel and mobile shopping behavior. Retailers can use AI to analyze shopping behavior by identifying the pain points in a customer's shopping journey.

For example, LOccitane perfume brand used AI to understand where customers were getting frustrated on its mobile site and made modifications to its mobile site and app that has allocated about a 15% increase in mobile sales. Retailers can use both natural language processing and computer vision to improve a firm's search features and deliver enhanced customer experience. Mobile apps have interesting effect on shopping behavior. They lead to greater frequency, quantity and monetary value of purchases in both online and offline channels but also result in greater product returns.

So this is the drawback of that. However, overall mobile apps leads to greater monetary value of purchase. Net of returns. By the same token, a failure in a mobile app can lead to decrease in frequency, quality and monetary value of purchases in offline channels. Much of these mobile effects can be modeled real-time using an AI system. Because most shopping explorations start with mobile and mobile data are surging, retailers can use AI to analyze this data and leverage AI for improved decision making.

The next comes personalization and recommendation systems. Prediction of next purchase and personalized recommendations are becoming increasingly important to both shoppers and retailers. Retailers can use AI to personalize recommendations to their customers. For example, Amazon users AI developed using data on its over 100 million customers to predict their next purchases, make personalized recommendation of offerings and optimize supply chains. A few companies have adopted IBM Watson's cognitive computing capabilities.

For example, 1-800-Flowers use Watson to tailor gift recommendations to customers based on the information consumer provided about gift recipients. The North Face, an apparel maker, uses the location and gender of consumers to recommend the best type of jacket to purchase. Starbucks introduced its AI-based personalized app in 2017 in the US. Within one year, the personalized app has accounted for about 20% of the sales. The restaurant chain Thanks God It Is Friday, that is TGIF, uses AI-powered marketing by blending customer data from TGIF's multiple applications, including emails to the company's app, loyalty programs and in-store recipients.

By combining this data, TGIF can determine that a specific customer has ordered chicken wings in the past and tends to order at 7 p.m. TGIF's bot, Conversible, can make a personalized offer to that customer via a text notification. TGIF claimed to have grown engagement by fivefold and sales by $150 million in 14 months. Smart speakers like Amazon Echo, Google Home and Apple HomePod are proliferating its homes.

These speakers listen to and record everything people speak at home in a cloud database. Retailers mine this data and develop AI systems to predict what customers will likely buy and make personalized product recommendations. Amazon plans to go a step further. Through new AI-based service termed anticipatory shipping and lifetime anticipatory shipping, Amazon plans to ship products to customers even before they decide to order anything. This AI system anticipates what a customer will want or require and start shipping those items to the customer even before the customer can realize that they really want them.

Amazon is betting that customers will like what it sends them. If customers don't like them, they can return them without any penalty. And Amazon is testing these services in a few locations. Now, we will talk about in-store customer experience management. A

consumer in-store experience can be improved by an AI-based humanoid robo that can directly interact with customers as a category of or sales associate.

The robo can help customers find what they are looking for them or point them in the right direction. Pepper Robo is a humanoid robo capable of interacting with customers and perceiving human emotions. Thus far, it has helped increase store interest and sales at companies such as Nestle, The Eve and Softbank Tumbile store. How long this effect will last is uncertain. Lowe's the second largest home improvement chain in the US has piloted an AI-driven robo called Love Boat in 11 stores in the San Francisco Bay area.

It not only directs the shoppers to the right aisle but also answers shoppers' store-related queries. It uses natural language processing and machine learning methods as its engine. Other in-store experience AI systems include cashier-less checkout and high-tech pickup kiosks. Amazon Go is a cashier-less store offering automated shopping experience where sensors track the objects customers put in their baskets and AI charges customers Amazon accounts when they exit the store. Amazon Go uses computer vision and machine learning algorithms to track customers at the shop and automatically charge them for the items they take.

Many order online and collect offline retail services allow for the pickup of appropriate orders at conveniently located kiosks. The next is customer service and payment management. Customer service is critical for retailers because over half of all consumers in particular millenniums defect from a retailer due to bad customer service. AI in voice platforms and chatbots can help. Retailers increase both efficiencies and satisfaction in customer service experiences.

They operate 24 by 7 and eliminate wait times providing robust customer experience. To improve customer experience, many retailers are looking to text and voice based AI that can mine customer sentiments of products and services. Payments is another area where AI has made rapid strides. AI not only facilitates payments but also detect frauds. Paypal's AI uses a deep learning model estimated on years of digital transactions to proactively detect and prevent transaction frauds.

The next is media optimization. AI is changing the way retailers optimize their digital media communications. Red balloon, an Australian online gifting retailer that sells personal experiences, use an AI-powered digital marketing platform called Albert. Albert target audiences, mixes and matches creative assets, buys media and run campaigns across both paid and earned media channels including Facebook, Google and YouTube. It also learns cross-channel effects and adjust allocations to optimize the return on marketing investments. It also looks for new audiences that red balloon had never considered before.

By trying thousands of text-image combinations on micro segments and tracking their triggered responses. Red balloon reported about 750% increase in Facebook campaign conversion rates and about 1500% return on its marketing investments. The next benefit is inventory optimization. AI is significantly affecting inventory management and stocking. To ensure that buyers can access what they want, when they want, robots are starting to perform stocking and restocking.

AI helps retailers replenish supplies by identifying demand for a particular product based on sales history, location, weather, promotional trends and so on. This way companies can prevent underperforming products from building up. Stocks with customers are likely to buy, achieve faster deliveries, reduce returns and save lots of money. H&M uses AI to analyze store returns, receipts and loyalty cards to predict future demand for apparels and accessories and manage inventory.

Thus, AI helps in eliminating over-stocks and out-of-stock scenarios. The next area is that of logistics, transportation and delivery management. AI is already changing the way logistics and transportation are done in the retailing industry. Intelligent route planning, self-driving vehicles, robot deliveries and drones are some of the exciting new developments from AI. For example, Domino's is experimenting with Robo to deliver foods and drinks while maintaining these items at the appropriate temperature. Amazon has piloted drones and is researching drone regulations around the world to make drone deliveries a regularity soon.

The next area is store cleaning and layout management. AI driven Robo can more efficiently clean physical retail spaces. These cleaning robots can eliminate the need for a person to stay after business hour to clean the space. In addition to cost savings, these opportunities could result in increased customer satisfaction, retention and overall experience. All of which are important in retailing.

AI can help better design and redesign store layouts. With AI, stores can determine the ideal layout for a mix of their shoppers and which shoppers will most likely respond to changes in the store layout and vary store layouts to fine-tune and optimize decisions. So, to conclude in this module, we have studied the use of AI in omnichannel marketing and explored the case of Lens card to understand the same. Then we have discussed recommendations and predictions benefits of AI in retailing. We have also studied the advantages of generative AI in omnichannel marketing and then we have studied a framework for AI in retailing and discussed AI capabilities in retail value chain. We have also discussed use of AI for understanding omnichannel and mobile shopping behavior.

We finally discussed application of AI in retailing areas of personalization and recommendation systems in store customer experience management, customer service

and payment management, media optimization, inventory optimization, logistics, transportation and delivery management and store cleaning and layout management. And these are the 6 sources from which the material for this module was taken. Thank you.