

AI in Marketing
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Lec 36-Personalization and hyper-personalization Using AI-IV

Welcome to this NPTEL online certification course on artificial intelligence and marketing. Now we will talk about module 36 and as you can see from this slide, we are still talking about and discussing personalization and hyper-personalization with the help of artificial intelligence. So this is part 4 of this discussion, personalization and hyper-personalization using AI. And these are the things that we will cover in this module. We will start with the need for hyper-personalization. Then we will talk about hyper-personalization customer journey map for different sectors.

Thereafter, we will understand the steps to be followed to start off with hyper-personalization and the risk involved in hyper-personalization and how can we mitigate those risks. So why does hyper-personalization matters? The first is, the first reason for that is organizations are now facing competition from non-traditional digital first brands. Traditional marketing and business models are becoming increasingly outdated as digital data first and direct-to-consumer brands penetrate the marketplace. This is making digital marketing increasingly crowded leading to increased spending in hopes of reaching consumers.

And as a consequence of the increased intensity of outreach, 3 out of 4 customers have indicated they receive too many email promotions from brands and 69 percent have unfollowed brands they once followed on social media. These trends point to a lack of consumer interest in the content or offers they are being served. Even traditional businesses like McDonald's are adopting through the acquisition of companies like Dynamic Yield to personalize their drive-thru experiences. Digital-first companies like Amazon, Facebook and Google are leading the charge into new markets through the use of their comprehensive customer databases. By understanding their customers, they are able to target very specific customer segments using the right media and content.

This technology uses external data such as weather, trending topics on social media, products, time of the day, seasons combined with customer order patterns to recommend additional products for that particular time and place. Given feausous competition, digital advertising is becoming increasingly expensive. Studies have indicated that over the last 2 years, digital ad spend had increased 12 percent with no discernible increase in the results. So, now as you can see the rate of return on the digital spend is coming down because of increased competition. To effectively compete organizations need to make a

meaningful impression on their customers taking full advantage of the limited exposure available.

So, what have what is happening is that with increased competition, the exposure time available to a company is decreasing. Exposure time per ad is decreasing. Therefore, they have to take increase the effectiveness of this. Hyper personalization is a means to cut through the noise and provide customers exactly what they are looking for. So, this is done by way of hyper-personalization.

What they are looking at it assists customers with decision-making and fosters deeper relationships that will keep them from seeking out competitors. The second is that the technology is enabling advanced marketing solutions and consumer interaction. With more connected devices and robust data models, organizations are finding unique means of collecting data and connecting with customers. Historically consumer data could only be gathered at point of sale and was mostly expressed by customers themselves. So, that was the problem with historical data.

Earlier the data was collected only at point of sale and then what happens nobody knew. However, the usage of online tracking through cookies and other means allow brands to gain a deeper understanding of customer preferences and behavior. There are various tools which enable this level of customer data to be effectively utilized including customer data platforms and loyalty programs. This data can then be combined with third-party data from social media and censuses and ethically shared among peers to establish a detailed description of customer and understand them far beyond traditional customer segments. Data collection has also been augmented through the advancements of analytics and AI technology.

The combination of data and technology is disrupting the traditional means through which organizations interacted with the customers. Data and technology are now enabling organizations to reach customers through targeted media with content that is relevant and uniquely tailored to them. So, now that data which is uniquely content that is uniquely tailored to them and also relevant to them at the same time. Well-executed hyper-personalization can deliver 8 times the return on investments of marketing spend and lift sales by 10% or more. 22% of customers are happy to share some data in return for a more personalized service or product.

Now let us look at how this is happening in financial sector. So, we are talking about the customer journey map. Personalization is a key enabler to driving customer centricity across the value chain for financial institutions. Because different customers have different needs at different point in time and also different ways to reach and buy from

the market. As traditional financial institutions face increasing competition from technology-first organizations they are looking for ways to retain current customers 1 and attract new customers 2.

Their strategy includes personalized product design, tailored advice and recommendations, pricing optimization and tactical communications and servicing strategies. All of these contribute to future-proofing the institution while integrating customer-centricity. So, these are the two things that organization is future-proof also and customer-centric also at the same time. Or you can say that taking customer centricity path to become future-proof. Gathering contextual data generates information about customers profile, consumer behavior and transactions which can help not only with profiling and segmenting customers but also drive more targeted offers.

Financial organizations have deployed tools like external data, voice analytics and natural language processing to capture their clients profiles and sentiments through phone, in person and digital interactions. This has enabled them to become increasingly more data driven to better understand their customers and predict varying customer demand. So, this is the financial sector customer journey map. So, it starts with researching financial products. AI allows companies to ensure content is tailored to the customer making it easier for them to find the information they are looking for.

So, easy for customers to find what they are looking for. Then it comes there comes meeting a financial advisor, real time analytics and customer insights will ensure advisors know exactly what customer needs. So now, this these advisors are also well educated about the various products about the company's products and also each customers need. So, they now they are well equipped to tell which product is more suitable for which customers. The next step is to develop a personalized offer.

Granular customer data allows for the tailoring of financial offerings for specific customers, reducing risk and improving their experience. The next story is that of retail sector. So, now we are talking about the customer journey map in the retail sector. The availability of customer data allows marketing professionals to understand their customers desires before they even enter the marketplace. These insights are being used to promote their brands in an relevant manner attracting customers with a higher probability of conversions.

So, now they are attracting customers with high probability of conversion. Reliable offers use multiple different levels such as pricing, advertising and bundling. Once a customer enters the marketplace or a retail location, personalization can be used to ensure their shopping experience is unique to them. Each customer have a unique experience. This

can be seen through the use of virtual shopping associates or customizable products.

Allowing for these experience changes retail from being a shopping destination to becoming an online activity for customers to experience the brand. So, it is not about shopping but it is about experience. This is only accelerated with the rise of omnichannel brands. Customers are now equipped with the tools to digitize their experience even inside a physical retail location bringing their online customer experience into the store through the use of technology. This starts with using behavioral analytics to sort products in a way that maximizes conversation.

Once a customer walks into the store, he can use his or her mobile technology to get product recommendations and be directed towards various products and departments. Again, now let us look at the customer journey map in retail sector. So, starting with relevancy through loyalty programs mapping customers and understanding their needs and predicting segment changes early allows organization to provide targeted offers. So, with this customer understanding, now companies can come up with targeted offers. The next step is tailored web content.

Companies are able to offer tailored product and recommendations and insights by changing website content in line with the customer's profile. So, depending on the customer's profile, they are changing the website content. So, it may be so that each customer is looking at a different content on the same website. And then the next step in this journey is personalized pricing. Knowing a customer's willingness to spend and external motivators allow organizations to use dynamic pricing and increase the conversion rate.

The next customer journey map is about the healthcare sector. As healthcare technology advances, so too does the depth of interaction that healthcare professionals have with their patients. Health being a very personal matter naturally lends itself to hyper-personalization to ensure each individual is getting the specific treatment he or she requires. So, as with the case of financial products, similar is the situation here in healthcare that the needs are very specific.

What fits A may not fit B. So, because of this, the scope for hyper-personalization increases tremendously. This industry can be broken down into health consumers and healthcare patients. Personalization in this sector helps customers find what they are looking for based on their unique health and behavioral needs. In a similar way to retail, an example of personalization is the use of recommendation engines to suggest healthier alternative products based on past behavior and gathered data. This can be further extended into general wellness through nutrition fitness, meditation and support tools.

The next step in personalization in the healthcare world is to create a 360-degree view of health that encompasses both consumers and patients. Equipping healthcare professionals with a person's lifestyle data and empowering individuals with their clinical data contribute to seamless service and personalized healthcare experience. So, in healthcare, this is personalization is all the more important. In this world, customers would receive recommendations based on their medical history and healthcare professionals would be able to prescribe care plans based on a patient's lifestyle preference. So, this is the customer journey map in healthcare sector and it starts the first step is data consolidation.

Bringing together scattered pieces of healthcare data from visits to the doctor, the pharmacist, wearable technology and demographics. So, all this whole lot of data is integrated. Whole lot of data from these disparate places and that leads to care recommendations. Utilizing customer health data to provide personalized diets and exercise routine to fit not only these consumers lifestyle but also their constraints. So, each patient will obviously need a different plan.

Depending upon their lifestyle and healthcare conditions and that leads to personalized care. Although correctly tightly regulated, AI shows the promise of being able to develop personalized medicine. But still this this space is tightly regulated. Now, when we are talking of hyper-personalization, where to start with? So, the first thing is to identify customer needs. The first step to improving customer experience with hyper-personalization is understanding the customer himself or herself.

This no longer means simply high level demographics such as age, gender and education level but rather calls for a deeper layer of customer data to be gathered and analyzed. So, these are some superficial data. We are looking for some deeper layer of customer data. This includes behavioral, psychographics, geographic and demographic data and allow for the targeting of each segment and person differently and for more personalized and relevant communication. The various layers of information through which we can better understand the customer's needs can be sourced from a variety of first and third-party data.

Each source provide a deeper insight into a customer's preference and thus boost personalization efforts. Each source is helping in personalization effort. First party information is that which an organization already collects and owns. This type of information includes data on previous interaction with the company, shopping behaviors, type of product customers are made favorable along with any demographics gathered as a result of doing business. So, for example, a customer is using a credit card or home delivery.

So, lot of this data is gathered about his address and other data from this credit card details. This layer of information provides more limited insight but can be used to clarify and distinguish customers who drive the most value. So, now we are not looking at huge quantity of customers. But we are looking at to distinguish customers who drive the most value. As well as internal information, organizations can also obtain and harness external data.

While internal data is limited to interactions with the organization. So, this is the limitation of this internal data. External data allows organization to fill in the gap of knowledge and identify behavioral traits that may not have been obvious from an organization's own interaction with their customers. Simple example includes social media posts, credit scores and corporate partnerships. This enriched data sets can then be used to tailor messaging, design products or develop content that is more relevant to the customer.

The combination of these two sources of data leads to the personalization even allowing brands to respond to dynamic life events. So, now the brands they are themselves becoming dynamic. Dynamic real-time data ensures customer information is up to date and offers the ability to target customers with relevant messaging at the right place and time for optimal conversion. The second is understanding the current state of data and technology. Once an organization understands the role personalization play in this strategy and how it aligns to its customers needs, implementations will require the right data and also the technical capabilities.

Whether it be tracking customers on e-commerce platforms or using facial recognition as a means of providing additional security, the art of hyper-personalization starts with how information is gathered, analyzed and used. So, this art of hyper-personalization is dependent on how we are gathering, analyzing and using the data. A personalization strategy alone is not enough and will need to be enabled by the appropriate data technology and architecture. So, strategy needs to be implemented by way of data technology and the third is architecture. Once the organization knows its data requirements, it will need to collect that data which can be done through the appropriate combination of customer tracking, purchasing of third-party data or capturing data throughout the customer journey.

This also requires organization use data platform such as customer relationship management systems and customer data platforms. When the relevant data is gathered, implementing a method of targeting customers with the correct content can be achieved through technology. Knowing where to meet customers and the channel through which it

can be done is a crucial part of this process. This can be something as simple as personalized email marketing with names and relevant products included based on previous purchases or something much more complex such as custom landing pages on the website. Some examples of these technical solutions include personalized recommendation engines, chatbots and serving specialized ads on social media to a narrower audience.

The third is creating a roadmap for success. Hyper personalization is not a single piece of technology that can be installed and immediately work for every organization. It involves a strategy that affects multiple elements in the organization's business and requires a consolidated technical solution. It is crucial for an organization to develop a roadmap to decide which personalization element should be implemented, when and how. Although there are various personalization tactics that can be deployed throughout the customer journey, it is important that organization recognize the importance of prioritization, which elements should come first. Obviously, those elements which are more important for the customer and also which the company is better at doing.

This is done by balancing the impact of each effort with the cost of implementation. Impact can be financial that is the return on investments, the impact on customer experience or how it changes the competitive landscape. Some personalization efforts carry greater benefits than others and it is important that an organization know what it wants to achieve. If a brand is looking to improve customer loyalty, it is more likely to focus on improving the customer journey by making the shopping experience easier or more connected through personalized communication. Alternatively, if a brand is looking for quicker conversion, it can use personalized offers and pricing to entice customers to make an impulse purchase without going through the decision-making process.

As the demands of the organization and customer vary, so do the types of personalization solutions that need to be used. Hyper personalization is all about timing and calls for the constant gathering of right data at real time basis to make informed decision. So, it is a constant gathering of data it is not one time because the customers they keep on evolving. This means that the cost of implementation will vary depending on an organization's maturity and willingness to invest. To make the best use of resources, organizations should target low cost and high impact solutions that will drive benefits in a manner that is least disruptive to the customers and their needs.

It is important that an organization choose the solutions that are best suited for its brand image, customer relationship and the industry itself. Now, let us look at the hyper-personalization risks. The first is reinforcing biases. If the generative AI models are

trained on biased data, then obviously hyper personalization could reinforce existing biases and stereotypes leading to discriminatory or exclusionary recommendations. The next is limited exposure to diverse viewpoints that could create a filter bubble effect where users are only exposed to content and recommendations that reinforce their existing beliefs and values, limiting their exposure to diverse viewpoints.

The next is over reliance on technology that could lead to an over reliance on technology where users become less capable of making decisions without the help of AI generated recommendations. The next are the privacy concerns. Hyper-personalization requires collecting and analyzing large amounts of personal data which could raise concern about privacy and data protection. Then comes security risk. With more data being collected, there is an increased risk of security breaches, hacks and data thefts.

The next risk is susceptibility to manipulation. Could make users more susceptible to manipulations, particularly if the generative AI models are misused for political or commercial purposes. Reduced serendipity could limit serendipity as discoveries or surprise recommendations that could broaden a user's horizon. Loss of human touch could lead to a loss of human touch where recommendations become purely algorithm-driven and lack the personal touch that comes with human interactions. The next risk is bias amplification. Hyper personalization could amplify biases that exist in the data leading to recommendations that are even more biased than the original data sets.

The next is undermining trust. If hyper-personalization is not transparent, it could undermine trust in the technology and the companies that use it, leading to a backlash against AI-generated recommendations. The next is transparency. Be transparent about the data being collected, how it will be used and who it will be shared with. Explain to the customer the reasoning behind personalized recommendations.

Content generations or decisions and also solicit active feedbacks. Consent. Obtain explicit consent from customers before collecting and using their personal data for hyper-personalization. Allow customers to opt out of personalized experience if they choose to do so. Data security. Explain strong data security measures to prevent data breaches or thefts.

Ensure that data is encrypted, access is controlled and they regularly undergo security audits. Explainability. Ensure that hyper-personalization algorithms are transparent and explainable. It should be possible to explain how the algorithm arrived at a particular decision or recommendation. The next step that a company can take to mitigate hyper-personalization risk is diversity and inclusion.

Take steps to eliminate biases in data and algorithms and ensure that personalized experiences are designed to be inclusive and diverse. Provide personalized experience for a broader range of customers and take steps to avoid stereotypes. The next thing that can be done to mitigate hyper-personalization risk is human oversight. Provide human oversight of hyper-personalization algorithms. Ensure that humans are involved in the decision-making process and that they can step in when necessary to prevent errors or biases.

Ethics and accountability. Develop ethical guidelines for hyper-personalization and ensure that they are followed. Hold individuals and organizations accountable for any breaches of trust or privacy. Model monitoring. Ensure that models are monitored and that preferences are not favoring toxic or bias views.

Ingress or aggress filters. Filter content coming into the system and going out of hyper-personalization system to ensure that bias is minimized. Reasoning models. The usage of models that can reason about truth and discern facts, opinions, beliefs and prejudice from one another can more easily eliminate biases and reduce hallucinations as they are able to discern facts from personal opinions, beliefs and prejudices. So, to conclude in this module, we have first studied the need for hyper-personalization. Then we have understood a customer journey map of hyper personalization from three different sectors.

Thereafter, we have also understood the steps to start off with hyper-personalization. And finally, we have studied about the risk involved in hyper-personalization and ways to mitigate the same. And these are the seven sources from which the material for this module was taken. Thank you.