

AI in Marketing

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Week 4

Lecture 18 Individual Dynamics and its influence on Consumer Behavior

Welcome to this NPTEL online certification course on artificial intelligence in marketing and now we will talk about module 18. So as you can see we are now in chapter 4 that is connecting with the customers and this module 18 will be dedicated to understand individual dynamics and its influence on consumer behaviour. Let us look at the things that will be covered in this module. So we will understand the individual dynamics that influences the consumer behaviour. How AI helps in identifying and leveraging varied consumer dynamics and then we will we will try to explore linking psychological processes with the AI. What influences consumer behaviour? So we will start with understanding what is consumer behaviour.

So consumer behaviour is a study of how individuals, groups and organizations select, buy, use and dispose of one is individual and group and organizations. So these are the three entities. How do they select, buy, use and dispose of goods, services, ideas, experiences to satisfy their needs and wants. This is the consumer behaviour stimulus response model.

So this is also called as SOR model. Now as you can see in the green at the left hand side are the marketing stimuli and these are the four marketing stimuli product, price, distribution and communication. And the other stimuli includes economic, technological, political, cultural, social, etcetera. Now these two stimuli they interact and affect consumer psychology. This is build up of motivation, perception, learning and memory and then the consumer characteristics which are determined by the cultural, the social, the personal things and then it affects the buying decision process.

First step of this process is in problem recognition. Second is information search. Third is evaluation of alternatives. Fourth is purchase. Fifth is post purchase and then it affects the purchase decisions.

That is the product choice, brand choice, dealer choice, purchase amount, purchase timing and the purchase payment method. So you see that here we have stimulus, here we have organism and here we have these responses. So that is why it is called as SOR model. There are two types of stimuli that affect consumer psychology and characteristics and then that will affect their responses. How does consumer behaviour stimuli response model works? So marketing and environmental stimuli enter the consumer consciousness and a set of psychological processes combined with certain consumer characteristics to result in decision processes and purchase decisions.

The marketer's task is to understand what happens in the consumer's consciousness between the arrival of the outside marketing stimuli and the ultimate purchase decision. So marketers have to understand what is happening here. What makes up part of consumer characteristics? So the consumer buying behaviour is influenced by the following consumer characteristics. The cultural factors, social factors and the personal factors. What are these cultural factors? They include culture, subculture and social class which influence consumer preferences.

For not only product and brands but also media preferences, pricing and promotion. What are the social factors? Factors such as reference groups, family and social roles and status affect our buying behaviour at various levels. Personal factors, these include age and stage of the life cycle that is one, occupation and economic circumstances that is two, personality and self-concept is three, lifestyle and values are four. So these personal factors are made up of these four, age and stage in the life cycle, occupation and economic circumstances, personality and self-concept and lifestyle and values. Because many of these have a direct impact on consumer behaviour, it is important for marketers to follow them closely.

Now let us look at how AI gets into our understanding of consumer characteristics. The extent to which a company is able to segment the consumers comes down to the amount of data that is available. More amount of data, the more easier it is for the company to segment. If all companies have our names and email addresses, then at best they may be able to segment through gender. That too may depend upon their interpretation of the names.

However, the new renowned data age provides marketers with adequate amount of data available. With the aid of AI, companies not only identify target groups, they can even re-label customers that have been incorrectly segmented into a significantly reduced time with much greater accuracy. AI can help mine data about not only demographic characteristics but also the geographic locations, culture, religion, nationality, spending power of the consumers and other environmental and personal level factors that influence the consumer behaviour. These data are, these data can further through mechanical AI and thinking AI be used to not only segment the consumers but also predict their purchasing behaviour in the easiest way possible. For example, the text mining and machine learning can be used to automatically process and analyse loan request to slice borrowers into good customers and bad customers based on their credit scores and types of customers, individual, group and businesses.

Now let us start linking psychological processes with AI. These are the four psychological processes that fundamentally influence consumer responses and they are motivation, perception, learning and memory. What is motivations? So now let us start with understanding what is motivation. We all have many needs at any given point in time. Some needs are biogenic.

They arise from physiological states of tension such as hunger, thirst and discomfort.

Other needs are psychogenics. They arise from psychological states of tension such as the need for recognition, esteem and belongingness. So, these are the two types of needs that we have. A need becomes a motive when it is aroused to a sufficient level of intensity to drive us to act.

So this is how a need becomes a motive when it is aroused to a sufficient level of intensity to drive us to act. So motivation has both direction. We select one goal over other and intensity. We pursue the goal with more or less vigour. So motivation has two dimensions.

One is the intensity and the direction. Any product or service, no matter how good it is in terms of quality, if not aligned with the customer needs and motivations, is a fiasco. So all products and services are to be aligned with customer needs and motivations. The involvement of AI helps sellers understand the need and drive motivation and preferences of the customers. The companies can capitalise on the valuable insights by AI on consumer needs and motivations and then offer personalised goods and services to the targeted region.

Now let us see how AI can help us in understanding motivation. So AI uses machine learning to learn more about the consumers and what they want. Then it is in a position to implement smarter funnels that the consumer responds more positively to. AI tools can predict consumer behaviour such as when customers are more likely to convert. So that is an important question.

As a result, it is able to send promotional emails to customers at the optimum time and not bombarding them with emails all the time. That generates a jump in the sales. Examples, consumers get a ton of spam email, but the ones that are really relevant can cut through that. If the messaging is relevant to the recipient, it will feel like we are shopping for them. Example, another example is a pilot program for HSBC bank's credit card loyalty program yielded high response rate with 70% of the recipients who redeemed their point choosing rewards that were recommended to them by the algorithm.

So this was that HSBC card. So the transaction type online dining entertainment and others. Amount spent, you see that it was from 8000 to 1600 and 800. 4000 reward points with 5x reward points, 5000 with 5x reward points, 3000 with so on. And along with them, these were the rewards that were suggested by the AI.

A motivated person, the next consumer psychology component is perception. A motivated person is ready to act. How is influenced by his or her perception of the situation. In marketing, perceptions are most important, more important than reality because perception affects actual consumer behavior. So they are more important than reality.

Perception is the process by which we select, organize and interpret information inputs to create a meaningful picture of the world. It depends not only on physical stimuli but

also on the stimuli relationship with the surrounding environment and on conditions within each of us. People emerge with different perceptions of the same object. Now people, different people may have different perception of the same object because of the three perceptual processes. One is selective attention, second is selective distortion and the third is selective retention.

So the same stimuli may give different perception because of these three perceptual processes. Now let us see how AI and perceptions they get integrated. AI tools are beneficial in devising efficacious marketing strategies by getting the type of the stimuli used and its context just right to gain the consumer attention. AI based on the data can also help marketers determine which mode of marketing received more engagement from the customers helping marketers to set the required perception right. So then it then the marketers can set the required perception right.

It can change the they can change the the perception. Pepsi is reaching out to the consumers with its message of so breaking bread, kyu suke suke hi. So that is what it is saying. So you do not have to take it suke suke take Pepsi along with it. With Google's advertising tool Director Mix, the tool created custom video ads turning customers attention into action by making ads that are highly relevant to the customers.

So ads in stadiums can be replaced by something more relevant to each geographical location or maybe even a single household. So different household may have ads relevant to them. So you see here you that is enterprise, here something else, here it is Coa Cola and here it is nothing. So there is nothing here. The next consumer psychology process is learning.

When we act, we learn. Learning induce changes in our behavior arising from experience. So first there are needs. These needs they get converted into motives and when there are motives we we perceive then comes perception and we act after we act we learn. Most human behavior is learned.

Although much learning is incidental. Learning theorists believe learning is produced through the interplay of drives, stimuli, cues, responses and reinforcements. Two popular approaches to learning are one is classical conditioning and the other is instrumental or operant conditioning. AI can make marketers build demand for the product by associating the same with strong drives using varied motivating cues and providing positive reinforcements. So this is how marketers AI can help marketers build demand for their products. Strong drives, varied motivating cues and positive reinforcements.

AI can help marketers identify the fault with the product and can also help consumers through the experience reducing the chances of poor experience due to the customer related factors. So this experience, the customer experience it will come from the company and the customer related factors. So AI can help here so that this consumer related factors do not lead to poor experience. With an unfavorable consumer experience due to a bad product or did the consumer fail to follow instructions properly. So was an

unfavorable consumer experience due to the bad product so that can be one reason or the consumers have failed to follow the instructions properly that can be the other reason.

Now let us see about AI and learning. Applying AI to the various systems of the firm and stitching together the relevant information related to consumers can help firm highlight the parts of the consumer journey relevant to the query at hand or the ones with most queries. This unified information leads to faster resolution and in turn better the customer experience. So the faster resolution is unified information that will lead to faster resolution of the consumer problems and that in turn will give a better customer experience. AI tools can also guide customers throughout the journey to make sure things go right given the product is right. AI tools can provide tailored experiences without sacrificing efficiency.

Sophia an AI powered personal yoga instructor integrated with a voice assistant gives proper instructions to consumers to improve their postures. So this is how it works. Please rotate the device to the landscape mode then it is showing how to do the this routine and this is then tells that you are 96 percent accurate and it also congratulates you on achieving that that goal. The next comes the emotions. Consumer responses are not all cognitive and rational.

Much of much may be emotional and invoke different kinds of feelings. A brand or product may make a consumer feel proud, excited or confident. An ad may create feeling of amusement or disgust or wonder. AI to not only detect emotions but can also generate emotions with greater context validity and a stronger technology such as augmented reality and virtual reality. So AI can be used to detect the emotions and with greater context validity and using augmented reality and virtual reality.

So integrating AI and emotions so sentiment analysis can be used which is a technique that can be used to decipher customers emotion that is positive, negative and neutral towards specific goods and services. Which goods and services invoke positive or negative or neutral emotions. Facial and voice expressions can be analyzed with unique algorithm using AI to produce a richer set of details on the customer's emotions. Social media is the greatest tool to analyze customer sentiments regarding goods and services. AI tools can analyze 10000 plus online reviews about your product to help you determine if customers are happy with the quality and price of your product or not.

Besides this these tools also help to determine the customer's expectations from the business. Based on these actionable insights businesses can take imperative decisions to improve their quality, affordability and customer service in the future. In an attention-strapped world where ad lengths are getting shorter leaving little time to tell a well-rounded brand narrative. Identifying consumer emotions can be a strategy that looks to differentiate the company from its competitors that are similarly pushing to improve media efficiency and data-driven operations. From message for every occasion to everyday snacking, Mars company had tried enough to persuade the consumers through various ads.

So this is how they started Mars are marvelous winning work rest and play Monday Tuesday when it is said and then comes this Mars. However, it also now faces the difficulty of ad clutter. Given the circumstances Mars leveraged AI to create effective ads. How? Mars has been experimenting with a brand new technology that incorporates conventional digital measurement methods and also focuses on viewers emotions as they watch their advertisements. Real eyes technology measures the micro movement of the face and use computer vision and machine learning to analyze them.

Focusing on expressions of happiness, surprise, confusion, disgust, engagement and behavior such as how and when people move their head. By cross-referencing realized emotion data with the known sales lift data for each ad, Mars was able to investigate the relationship between emotions and sales performance. The result found that emotions data could be used to correctly identify whether the ads had an impact of sales 75% of the time. So that was the biggest result for Mars.

The next comes memory. Memory cognitive psychologist distinguish between short term memory that is STM or temporary and limited repository of information and long term memory a more permanent essentially unlimited repository. All the information and experiences we encounter as we go through life can end up in our long term memory. So these are the two types of memories. AI is designed to process and interpret vast sums of data that is big data. It can keep records of things and remind consumers of various activities that may be forgotten due to various reasons.

Like what is my day looking for looking like so far. You have a meeting at 1030 am with Mark. Let me get those meetings details for you. AI undertakes various activities from reminding consumers to revisiting their shopping carts to a complex request such as schedule a flight for me next Sunday using my usual seating preferences and arrange transportation to and from the airport. So you see that these are this is such a complex request and then AI is being used to solve this kind of this kind of request.

Shortcomings with AI and memory. When you return to school after summer break it may feel like you forgot everything you learned the year before. But if you learned like an AI system does you actually would have as you sat down for your first day of the class your brain would take that as a cue to wipe the slate clean and start from scratch. AI systems tendency to forget the things it previously learned upon taking on new information is called catastrophic forgetting. So every year you will start in the same class because the all learning of all the earlier classes is wiped out.

It is one of the reason why human like far from reality. So to conclude this module in this module we have understood the individual dynamics that influence consumer behavior. Further we have discussed how AI helps in identifying and leveraging varied consumer dynamics and lastly we have focused on how psychological processes link with artificial intelligence. And these are the five sources from which the material for this module was taken. Thank you.