

AI in Marketing
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Week 4
Lecture-16 What is Marketing Research - I

Welcome to this NPTEL online certification course on artificial intelligence and marketing and now we are talking about module 16. So, we are talking of chapter 3 that is AI for market research. We have seen in module 15 how marketing information systems and their components and the use of AI thereof. Now in modules 16 and 17 we will talk about what is marketing research. So let us start with module 16, and this is part 1 of this point, which is what marketing research is.

Now let us start with understanding what are the things that will be covered in this module. How AI can help conducting more customized research on specific marketing programs than traditional approaches. So that is the first thing that we will try to understand. Then, we will talk about the benefits of using AI in marketing research and the role of AI in the most important component of marketing research: problem identification. So, how can AI be used for problem identification? How AI can change? How AI has changed the quantitative and qualitative approaches? So, what is marketing research?

And we will start with the story of Adobe. How Adobe generated dollar 10 million plus in revenues within AI chatbot and connect. Website content is a key way for consumers to learn about your products and solutions and find answers to their top questions. And the software giant Adobe has a lot of website content. However, with all the website content the company has, it is sometimes hard to keep consumers engaged and find them exactly what they need at any given moment. So that is the biggest problem engaging customers with what they want at any given point in time.

To solve this challenge, Adobe turned to conversational AI from Drift. So, they started using this AI Drift. This Drift chatbot uses AI to have natural language conversations with site visitors at every stage of their journey. This chatbot was able to direct visitors to what they needed when they needed it. It was also able to hand off conversations to humans when the time was right. So that was the biggest functionality of this to give it to humans at the right time. As a result, users turned into customers at a faster rate generating an additional dollar 10.8 million in revenue for Adobe.

Marketing research is the foundation of a successful product or service launch. It is the process of understanding what people want and need. One, what people want and need,

why they wanted their expectations of the company's offering and how much they are willing to pay for a product or service. So, in this way, by this process of marketing research you understand all these three things. When companies do not invest in marketing research ahead of time, they may end up with a product failure. So, marketing research is the function that links the consumers, the customers and public to the marketers through information. Information used to identify and define marketing opportunities and problems, generate, refine and evaluate marketing actions, monitor marketing performance and improve understanding of marketing as a process.

Therefore marketing research specifies the information required to address these issues, design the method of collecting information, manages and implement the data collection process, analyze the results and communicate the findings and their implications and this is the definition given by American Marketing Association. Good marketers need insights to help them interpret past performance as well as plan future activities. So, both of them are important for good marketers. To make the best possible tactical decisions in the short run and strategic decisions in the long run they need timely accurate and actionable information about consumers, competition and their brands. Discovering a consumer insight and understanding its marketing implications can often lead to successful product launch or spur the growth of a brand. So that is important customer insight and understanding its marketing implications. So that will help in the successful product launch. Marketing managers often commission formal marketing studies of specific problems and opportunities. So, these marketing managers they several times going for formal marketing studies of specific problems and opportunities that they are facing. They may request a market survey, a product preference test, a sales forecast by region or an advertising evaluation.

It is the job of the marketing researcher to produce insights into the customer's attitude and buying behavior. So, they may managers may ask for this kind of data, and it is the job of marketing researchers to produce insight into customer attitudes and buying behavior. Marketing insights provide diagnostic information about how and why we observe certain effects in the marketplace and what that means to the marketer. So, it provides diagnostic information about how and why we are observing certain effects in the marketplace and what may be the implications of that for the marketer. Companies can use a combination of marketing research resources and AI to study their industries, competitors, audiences and channel strategies.

Now how has market research evolved over a period of time? Market research has long been a cornerstone of business strategy, helping organization understand their target audience, evaluate competition and make informed decisions. Traditional market research methods involved manual data collection, paper and pen surveys, focus groups and statistical analysis. While valuable insights were derived from these methods, they are often very time consuming, resource intensive and limited in their ability to capture the

complexities of consumer behavior. So, although they may represent a lot of time and money but still, they were not able to capture the complexities of the consumer behavior. Remote survey research then set in with researchers leveraging phones to conduct surveys.

This evolved even further with the rise and rise of mobile phones and mobile based research in which GeoPoll is the global leader in. Mobile research has given rise to multiple flexible research methods which enable researchers to transverse even the remotest part of the world to collect data fast and has been one of the weakest shifts in research which was even more remarkable during the COVID-19 pandemic.

Now enter the era of artificial intelligence where technological advancements have propelled market research into a new dimension. AI algorithms and techniques have revolutionized data collection, analysis and interpretation enabling researchers to unlock hidden patterns and gain deeper insights into consumer preferences and marketing and market dynamics. So now this is the basic importance here unlock hidden patterns and gain deeper insights into consumer preferences and market dynamics, which was not possible by way of your traditional marketing research.

By harnessing the power of AI, market researchers can make faster, more accurate decisions that drive business success. Now let us look at the market research process. The first step in this process is to define the problem and research objectives. So that is the first and the most important step. The second step is to develop the research plan followed by collection of the information, analyzing the information, present the findings and making the decision. So, these are the six step in this marketing research process.

Now let us start with step 1, which defines the problem. It consists of defining the problem 1, decision alternatives 2 and research objectives 3. So, these are the three things. Marketers must be careful not to define the problem too broadly or too narrowly for the marketing researchers. So, it includes the three things- defining the problem, then the decision alternative, and the research objectives. These are the three things that are carried out in this first step. So, what is the role of AI in problem identification? AI systems can help identify consumers' needs in real time. So that is what it does in real time. For example, AI predicts the probability of sudden cardiac arrest. It can also detect need based on past usage and pattern. Furthermore, predictive analysis can identify future needs. So, past usage is used to analyze and predict future needs.

The second step is to develop the research plan. Now developing the research plan, the second stage of marketing research is where we develop the most efficient plan for gathering the needed information and what that will cost us. Here the decision involved are one, the the types of data sources that will be used, what are the research approaches that we will we will follow, what is the research instruments that will be used, what will

be the sampling plan for collecting the sample and determining the sample size and the last one is the contact method, how we will contact the respondents by way of personal interviews or telephone or internet etc.

Now let us look at the first thing that is the data source. The researchers can gather secondary data, primary data or both. Secondary data are data that were collected for another purpose, and it already exists somewhere. So, that is the main quality of this secondary data while primary data are freshly gathered for a specific purpose or for a specific research project. AI can get real-time data from marketing environment and the consumers. So, it will get you the real-time data. The next thing that you do in the marketing research process is the research approach, that is the second thing. The next thing that you do in this step 2 that is developing the research plan is to look at what kind of research approaches to use.

So, marketers collect primary data in 5 main ways. Through observation, focus groups, survey, behavioral data, and experiments. Now this can further be bifurcated as qualitative and quantitative. AI has changed quantitative and qualitative approaches. Quantitative surveys became popular because they made it possible to ask a huge number of customers what they felt. Qualitative approaches like focus group or manually reading and analyzing customer feedback were too labor intensive to scale. Now AI has changed what is possible and tactics need to catch up. AI has to flipped where and how firm are investing in their analysis of customer sentiments. AI provides the right tool to analyze qualitative data. For example, customer relationship management system, social media, customer reviews, emails, call center notes, chat bots, etc. Making it possible to hear what consumers are thinking and feeling across multiple touch points in real time. So that is the the the biggest advantage thinking and feeling across multiple touch points and that too in real time.

Qualitative research has evolved to include a wider range of methods including in-depth interviews, online communities, and social media analysis. The goal of qualitative market research is to provide a rich, nuanced understanding of consumer behavior and preferences allowing businesses to make informed decisions about product development, branding, and marketing strategies. Qualitative research has become an essential tool for businesses seeking to stay competitive in a rapidly changing marketplace.

Now, revolutionizing qualitative research with the help of AI. AI has penetrated business workflows and operations promising to make life easier and more efficient. AI has empowered marketing to become hyper-personalized targeting consumers at the right time and at the right place. Qualitative research, an integral backbone of marketing, is no exception. Researchers are able to generate insights that would have been impossible to obtain using traditional research methods. So, this is where this AI has come in.

Facial coding is one such AI-powered technology that can analyze micro-expressions and emotional responses. It can provide valuable insights into consumer behavior and preferences. Sentiment analysis on the other hand can help researchers identify the sentiments behind written or spoken responses, enabling them to understand the emotional impact of campaigns, products or services on the consumers. So, this helps in digging deeper to understand more about the customers. Confidence matrix, a by-product of sentiment analysis is another technology that is sought after by brands these days.

It measures the level of certainty or conviction expressed by respondents in their answers, allowing researchers to gain a deeper understanding into the consumer behavior. So, now what we were not able to do was to get into a deeper understanding of things of the consumers. With AI, we are able to do in deeper to understand the consumer behavior.

Voice AI, meanwhile, can help researchers analyze the tonality, inflection, and other vocal cues in spoken responses, providing additional insights into consumer attitudes and behaviors. So, when the consumer is speaking, then the various things from this can be used to gain additional insights into consumer attitudes and behaviors. By using technology like facial coding, sentiment analysis and voice AI, researchers are able to tap into their leading to better product development, branding and marketing strategies. What is AI-powered qualitative research platforms? There is a platform for almost everything from recruiting respondents to automating surveys and to generating insights. Digital transformation of qualitative research through AI has transformed the way researchers execute studies. It is time that brands take up an AI-led qualitative platforms to streamline their research efforts. The use of AI-powered technology such as facial coding, sentiment analysis, tonality analysis and voice AI can enable businesses to make data-driven decisions about product development, branding and marketing strategies and stay competitive in the rapidly changing marketplace. As AI technology continues to evolve, it is likely that we will see even more advanced tools and methods being developed, further enhancing the power and potential of qualitative research. So, adopt an AI-led qualitative platform today before it is too late.

The next thing that we will talk about in the second step is the research instruments. Marketing researchers have a choice of three main research instruments in collecting primary data. One is the questionnaires, the second is qualitative measures and the third is technological devices. So, these are the three main choices that are available. What is lacking with traditional measures? They are costly, time taken, and inefficient data is collected. Widely used measures, customer satisfaction and net promoter score fail to tell companies what consumers really think and feel and can even mask serious problems. They cannot pick up important emotional responses.

Now, now let us look at the technological research instruments. There have been much interest and recent hints in various technological devices that has replaced traditional

survey diaries. One is galvanometers. They can measure the interest or emotions aroused by exposure to a specific ad or picture. Tachistoscope flashes an ad to a subject with an exposure interval that may vary. After each exposure, the respondent describes everything he or she is able to recall. The third is the eye cameras. Study respondents' eye movement to see whether their eyes land first, how long they linger on a given item and so on.

Other devices such as skin sensors, brain wave scanners and full body scanners to get consumer responses. Example, some researchers study eye movement and brain activity of web surfers to see which ads grab their attention. Audio meter attached to television sets in participating homes now record when the set is on, and to which channel it is tuned. Electronic devices can record the number of radio programs a person is exposed to during the day. The global positioning system technology can tell us how many billboards a person may walk or drive by during a day.

Now, what are the new research instruments and AI? The emergence of AI has significantly altered the way brands and businesses interact with their audience. AI based marketing research outweighs traditional marketing research in numerous ways and extends the use of technological advances discussed earlier. Using AI driven marketing research tools, businesses can target the right audience, deliver results in near real time and automatically classify and extract key insights from texts within hours or at the most within the day. So, what used to be done in 6 months or 3 months? Now it is taking hours or a day.

With the help of AI, marketing researchers can also now analyze millions of comments and they are coming in different forms, text and voice and get nuanced understanding of their customer thoughts and requirements. What does AI have to offer here? So, effective information for decision making. The availability and use of AI in marketing research will hugely impact how companies build products. Using unlimited information at their fingertips, brands can make more informed decisions. In addition, AI can scan market data in any language and from a wide range of sources meaning that market insights are accessible to anyone, anywhere and in any market segments. Less time and more return, AI is used to scan billions of data points and generate market reports. The cost saving generated by using AI is staggering. While it would take an army of analysts months or years to scan the same amount of data, AI can do so in minutes. By using algorithms developed with data from sources like Amazon, Walmart and Target, businesses can scan vast amount of data research information in far less time than traditional methods. So here time has become more important.

Cost effective and enabling. Commerce firms are quickly becoming aware that artificial intelligence is cheaper than traditional marketing research. Market research used to be so expensive as to be out of reach for many product teams. Now with the power of AI and

big data, market research insights are more accessible than ever before enabling greater product innovation.

The next thing that we have to understand here is the sampling plan. After deciding on the research approach and instruments, the market researchers must design a sampling plan. And this calls for taking three decisions. Decision number 1 is the sampling unit. Whom should we survey? Decision number 2, sample size. How many people should we survey? And decision number 3, sampling procedure. How should we choose the respondent? So, these are the three issues that need to be sorted out at this stage.

Now let us look at what is sampling plan and AI. How do they gel up? AI can scan market data in any language and from a wide range of sources. Meaning that market insights are accessible to anyone, anywhere and in any market segment. Contact method. Now the market researchers must decide how to contact the subjects. By mail, by telephone, in person, online. Marketers can also host a real time contact measure.

Contact methods and AI tools like in-car sensors, heat maps, video surveillance have made marketers get in touch with consumer in literal senses. So now we are, we have moved past all this to in-car sensors, heat maps, video surveillance. So that gives much more accurate data.

In order to conclude in this module, we have understood how AI can help conducting more customized research on specific marketing programs than the traditional ones which used to give more general data. We have described the benefit of using AI in marketing research. Further we explained the role of AI in problem identification. Lastly we have discussed how AI has changed the quantitative and the qualitative approaches. And these are the 4 books from which the material for this module was taken. Thank you.