AI in Marketing
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Week 2
Lecture-9 Transforming Marketing Strategy using AI-III

Welcome to this NPTEL online certification course on Artificial Intelligence in Marketing. And now we will talk about module 9. So as you can see that we are in chapter 2 and this module 7, 8, 9, 10, 11 are talking about the Transforming Marketing Strategy using Artificial Intelligence. And this is part 3 of this and we are talking of module 9. Now let us see what are the things that will be covered in this module. So we will start with understanding strategy and artificial intelligence strategy.

Then we will move on to studying AI life cycle. And then we will study how to design AI strategy. Then we will understand AI adoption strategy and then explore the different kinds of marketing AI differentiated by levels of intelligence and structure. Now let us start with understanding what is strategy? So the core of strategy is to achieve a unique and valuable position, a unique and valuable position.

So these are the two things that this strategy does encompassing a selection of a unique arrangement of activities. Now this is unique arrangement of activities to deliver a unique value arrangement enabling the company to differentiate itself from its competitors. So this definition of a strategy was given by Michael Porter in 1996. Now to further understand a strategy, a strategy is the planning of action that generate a competitive advantage for the businesses and generating is one and second is execution of these actions. In other words, the strategy involves the formulation of a well-structured plan about how to create value for the business and then its implementation.

So formulation and implementation that is what strategy is. Next comes what is strategic planning? Strategic planning is dynamic and complex process of developing and maintaining a strategic fit between one, organizational goals and capabilities and second, its changing marketing opportunities. So in between these two things, developing and maintaining a strategic fit is what strategic planning is. So now let us look at this figure. So the planning may include corporate level planning, the division level planning, business level planning and the product level planning.

Next comes implementing, organizing, implementing and then comes controlling all these activities. So measuring the results, diagnosing the results and then based on this diagnosis then take corrective action. And then the feedback loops starts. Now these are

the four levels in the organization. Corporate planning, division planning, business planning and product planning.

Now let us see what happens at the corporate planning. So the corporate headquarter is responsible for designing a cooperative strategic plan to guide the whole enterprise. It makes decision on the number of resources to allocate to each division as well as on which businesses to start or eliminate. Below that is division planning. So each division establishes a plan covering the allocation of funds to each business unit within the division.

And at the third level that is the business planning level, each business unit develops a strategy plan to carry that business unit into a profitable future. And at the fourth level that is the product planning, finally each product level, so the product line, the brand, etcetera, they develop a marketing plan for achieving its objectives. So these are the four levels of the organization and what happens at each of this level. Now let us look at the levels of strategy. Corporate strategy, corporate strategy concerns two questions.

One is how should the company manage the range of business units and the second is what businesses the corporation should be in. At the lower level is the business strategy. So business strategy is about how to compete in each business. The concept of business strategy can be considered as a synonyms for competitive strategy because competitive strategy regards how to generate a competitive advantage in each of the business in which the corporation competes. So now we will look at business strategy in some more detail.

The term business strategy also used to refer to strategy in a broad way. So business strategy and strategy they are generally the same. In this regard business strategy can also be understood as an organizational strategy which could be defined as the general direction in which the organization chooses to move to achieve its objectives and goals. So now this figure is about business unit strategic planning process. So it starts with business mission

Based on the business mission then the SWOT is carried out. SWOT is opportunities and threats analysis and strategy and weakness analysis. As you can see opportunities and threats they lie in external environment while strengths and weaknesses they are in the internal environment. Now based on this SWOT analysis then comes the goal formulation. After the goal has been formulated the strategy formulation happens.

Now another component of strategy is to implement. So then comes the program formulation and then the implementation. So breaking down strategy into smaller

programs and then implementing them and the last one is feedback and control. Again the feedback loops happens. Now let us look at the AI adoption strategy.

AI strategy as a part of IT strategy. So we are now looking at AI strategy as part of the IT strategy. So we started with corporate strategy which leads to the business strategy. Now after business strategy has been formulated then comes this IT strategy. Within the business then IT strategy is formulated.

Now IT strategy has two components. One is the digital business strategy and second is the cognitive strategy which is AI strategy. Then obviously comes the strategic plan, strategy implementation and emergent strategies and all of this leads to a competitive advantage. Now what is this artificial intelligence strategy? So information technologies have taken a leading position in the business strategies. Further this comprehensive IT strategy includes one as we have seen in that figure.

The first is the digital business strategy. An organizational strategy planned and executed to take advantage of the digital resources to obtain differential value. So that is the digital strategy. Next comes cognitive or AI strategy. An organizational strategy planned and executed to take advantage of AI based tools.

So here we were taking the advantage of digital resources and here we are taking advantage of AI based tools and resources to create a competitive advantage. And then together both of them they form the information technology strategy.Next comes designing the AI strategy that is the AI life cycle. So the first step in this process is the design.That includes articulating the system's objectives and goals including any underlying assumptions and general performance requirements.

The second is the development. So first is the design then the development. Development means defining technical requirements, collecting and processing data, building the model and validating the system. After the design and developments come the deployment. Piloting, checking compatibility with other systems, ensuring regulatory compliance and evaluating user experience.

After the system was designed, developed, deployed now comes monitoring. Continuously assessing the system's output and impact both intended and unintended. Refining the model and making decisions to expand or retire the system. Most CEOs recognize that AI has the potential to completely change how organizations work. However most organizations are not able to realize the full potential of AI because they focus on applying it in discrete use cases and which deliver only incremental change and requires much more efforts to scale up.

Incorporating AI does not simply means automating existing processes or adding insights. So keep in mind that we are not just automating existing processes. So that is not AI. Organizations are most successful when they reimagine a core business process. Reimagining a core business process.

Journey or function enabled by AI end to end from the start to the end. That allows each AI effort to build off the previous ones triggering on organic cycle of change. When incorporating AI, the firm should identify a crucial business process also referred as domain. And rethink its completely which will lead to a major improvement in performance that isolated local applications simply cannot match. So here we are talking of a business process or a domain and not an isolated local application.

Now these are the steps in designing the AI strategy. The first is to set the strategy. Second is to structure the team. The third is reimagine business as usual. And the fourth one is adapt for organizational and technological change.

Both these changes. Now when we are talking of setting the strategy, let us now understand which AI to use. So marketing AI can be categorized according to the two dimensions. So the first dimension is structure and the second is intelligence. Structure can be stand-alone and integrated application and intelligence is task automation and machine learning. So these are the two dimensions to categorize marketing AI.

Now let us look at the structure and we will look at the stand-alone application first and then move on to the next. These are best understood as clearly demarcated or isolated AI programs because they are stand-alone applications. So they are separate from the primary channels through which customers learn about, buy or get support for using a company's offerings or the channels employees use to market, sell or service those offerings. Put simply, customers or employees have to make a special trip beyond those channels to use the AI. Consider the color discovery app created by Bhar, the paint company.

Using IBM Watson's natural language processing and tone analyzer capabilities which detect emotions in text, the application delivers several personalized VAR paint color recommendations that are based on the mood consumers desire for that particular space. So different spaces, different moods and different colors. Customers use the app to shortlist two or three colors for the room they intend to paint. The actual sales of paint is then executed outside the app although it does allow a connection to order from Home Depot. The next in that is integrated application.

These are embedded within existing systems and often less visible than stand-alone ones to the customers, marketers and salespeople who use them. So that stand-alone application are apparent to the customers while these integrated applications are not. An example of integrated application is the machine learning algorithm that makes split second decisions about which digital ad to offer users is built into platforms that handle the entire process of buying and placing the ad. So that is a split second decision which user will be shown which ad. Netflix's integrated machine learning has offered customers video recommendations for more than a decade.

Its selection simply appear in the menu of offerings viewers see when they go to the site. If the recommendation engine were stand-alone, they would need to go to the dedicated app and request suggestions. But the here this AI is integrated as an application in the Netflix. So makers of CRM systems increasingly build machine learning capabilities into their products. For example, at Salesforce, the sales cloud Einstein suite has several capabilities including an AI based lead scoring system that automatically ranks B2B customers leads by the likelihood of the purchase.

Vendorss like Cogito which sells AI that coaches call center sales people also integrate their applications with Salesforce CRM systems. The next characteristic of AI is the intelligence again the task automation. So these applications perform repetitive structured task that require relatively low level of intelligence. For example, a system that automatically sends a welcome email for each new customers upon onboarding or signing.

So that is a plain simple application. These AI applications are designed to follow a set of rules or execute a predetermined sequence of operations based on a given input. But they cannot handle complex problems such as nuanced customer request. Simpler chatbots such as those available through Facebook messenger and other social media providers also fall into this category. They can provide some help to customers during basic interactions taking customers down a defined decision tree.

But they cannot discern customers intent. They cannot offer customized responses or learn from interactions with the customer over the time. Again the next in this is machine learning based apps. These algorithms are trained using large quantities of data to make relatively complex predictions and decisions. So now here we have large quantities of data. Such models can recognize images, decipher text, segment customers and anticipate how customers will respond to various initiatives such as promotions.

So how they will look at these promotions? Machine learning already drives programmatic buying in online advertising. E-commerce recommendation engines and

sales propensity models in customer relationship management systems. It and its more sophisticated variants that is deep learning are the hottest technology in AI and are rapidly becoming powerful tools in marketing. That said it is important to clarify that existing machine learning applications still just perform narrow task and need to be trained using voluminous amount of data. So unless you have this data these applications cannot be trained.

Next comes the question of which AI to use. The choice of AI would depend on the strategy that the marketers decides for the business. Categorizing potential applications according to their intelligence levels and structure can help companies plan the roll out of their marketing AI. Simple standalone apps are a good place to begin because they are easier to set up but their benefits are also limited. Once companies require AI skills and amass data, they can add apps that are more advanced and are part of other platforms working their way up to integrate machine learning which has the potential to create the most value. So the four kinds of marketing AI discussed based on the structure and intelligence are summarized in the comparative figures in the next slide.

So these are the four kinds of marketing AI. Here we have structure and here we have the intelligence. Now structure has two components isolated from other platforms or integrated into broader platform. Intelligence can be less advanced or more advanced. So now if we look at this one that is isolated platforms from other platforms and less advanced.

So that is standalone task automation apps. Basic consumer services chatbots such as Facebook, Facebook messenger bots, email automation system. The next is integrated into broader platforms but they are still less advanced. That is integrated task automation apps. Inbound customer call routing, CRM linked marketing automation systems are examples in this category. The third is when the structure is integrated into broader platforms and the intelligence is more advanced.

So that is integrated machine learning apps. For example, predictive sales, lead scoring in CRM, CRM based sales coaching, e-commerce product recommendations and programmatic digital ad buying. The fourth one is when the intelligence is more advanced and the structure is isolated from other platforms which is called as standalone machine learning apps like Olay Skin Advisor, Bhar Color Discovery app and V24 Chatbot. So this is how we summarize the whole situation. Next comes AI implementation a stepped approach. So marketers can see the greatest value by pursuing integrated machine learning applications through simple rule based and task automation systems.

Can enhance highly structured processes and offer reasonable potential for commercial returns. However, nowadays task automation is increasingly combined with machine learning. Task automation is being combined with machine learning to extract key data from messages and make more complex decision and personalized communication. That is a hybrid that straddles the four quadrants. Standalone applications continue to have their place where integration is difficult or impossible.

Though there are limits to their benefits. Marketers should move over time towards integrating AI within current marketing systems rather than continue with the standalone applications and indeed many companies are heading in that overall direction. Now let us get started with AI implementation. For firms with limited AI experience, a good way to begin is by building or buying simple rule based applications. Many firms pursue a crawl, walk, run. Crawl, walk and run approach starting with a standalone non-customer facing task automation app such as the one that guides human service agents who engage with customers.

Once companies acquire basic AI skills and an abundance of customers and market data they can start moving from task automation to machine learning. New sources of data such as from internal transactions, outside suppliers and even potential acquisitions are something marketers should look for constantly. Since most AI applications particularly machine learning require vast amount of high quality data. For example, consider the machine learning based pricing model that the charter just firm XO used to increase its EBITDA by about 5%. The key was to tap external sources of data on the supply of private jets and on factors that affect demand such as major events, the macroeconomy, seasonal activity and the weather.

The data XO uses is publicly available but it is a good idea to also seek proprietary sources whenever possible because models using public data can be easily copied by the competitors. As companies become more sophisticated in their use of marketing AI many fully automate certain types of decision taking human out of the loop entirely. So here we are talking of automating the certain type of decisions and so that no human is involved. With repetitive high speed decisions such as those required for programmatic ad buying, where digital ads are served up almost instantaneously to users, this approach is essential. In other domains, AI may also present recommendations to a person faced with a choice, for example suggesting a movie to a customer or a strategy to a marketing executive.

Human decision making is typically reserved for the most consequential questions such as whether to continue a campaign or to approve an expensive TV ad. Well established AI applications in marketing. So companies can consider some common activities

marketers are using AI for when implementing AI initially such as 1. Chatbots for lead development, customer support and cross selling or up selling.

2. Inbound call analysis and routing and customer comment and email analysis, classification and response. Marketing campaign automation including emails, landing page generation and customer segmentation. Marketing mix analysis, online product merchandising, pricing, product or service recommendation and highly personalized offers. Programmatic digital ad buying, sales lead scoring, social media planning, buying and execution, social media sentiment analysis, television ad placement partially, web analytics narrative generation, website operations and optimization including testing. Now few prominent examples of AI applications in marketing are the first fim employ AI at every stage of the customer journey.

When potential customers are in the consideration phase and researching a product, AI will target ads at them and can help guide their search. We see this happening at the online furniture store, furniture retailers Wayfair which uses AI to determine which customers are most likely to be persuadable and on the basis of their browsing histories choose product to show to them. AI enabled bots from companies such as V24 can help marketers understand customer needs, increase their engagement in a search, nudge them in a desired direction say to a specific webpage and if needed connect them to a human sales agent by chat, phone, video or even co-browsing allowing an agent to help the customers navigate a shared screen. AI can streamline the sales process by using extremely detailed data on individuals including real-time geo-location data to create highly personalized products or service offers. Later in the journey, AI assists in upselling and cross-selling and can reduce the likelihood that customers will abandon their digital shopping carts.

For example, after a customer fills a cart, AI bots can provide a motivational testimony to help close the sales such as great purchase, James from Vermont brought the same mattress. Such initiatives can increase conversion rates five-fold or more. After the sale, AI enabled service agents from firms like Amalia, former IPsoft and Interactions are available 24 by 7 to triage customer's request and are able to deal with fluctuating volumes of service request which are better than human agents. Now, let us look at the challenges and risk of AI implementation.

Implementing even the simplest AI application can present difficulties. Standalone task automation AI, despite its lower technical sophistication, can still be hard to configure for specific workflows and requires companies to acquire suitable AI skills. Bringing any kind of AI into a workflow demands careful integration of human and machine tasks so that the AI augments people's skills and is not deployed in ways that create problems.

For instance, while many organizations use rule-based chatbots to automate customer service, less capable bots can irritate customers. It may be better to have such bots assist human agents or advisors rather than interact with the customers. As companies adopt more sophisticated and integrated applications, other considerations they arise.

Incorporating AI into third-party platforms in particular can be tricky. A case in point is offered by Procter & Gamble's Olay Skin Advisor which uses deep learning to analyze selfies that customers have taken, assess their age and skin type and recommend appropriate products. It is integrated into an e-commerce and loyalty platform Olay.com and has improved conversion rates, bounce rates and average basket sizes in some geographies. However, it has been harder to integrate it with retail stores and Amazon third parties that account for a high percentage of Olay sales.

The Skin Advisor is not available on Olay's extensive store site on Amazon. Hampering the brand's ability to deliver a seamless AI-assisted customer experience there. Finally, companies must keep customer interest top of the mind. The smarter and more integrated AI applications are the more worries customers may have about privacy, security and the data ownership. Customers may be skittish about apps that capture and share location data without their knowledge or about smart speakers that may be eavesdropping on them. In general, consumers have shown a willingness, even eagerness to swap some personal data and privacy in exchange for value that innovative apps can provide.

Concerns about AI applications like Alexa seems to be dropped by appreciation of their benefits. Thus the key for marketers as they expand the intelligence and reach of their AI is to ensure that its privacy and security controls are transparent and also to ensure that customers have some say over how their data is collected and used and that they get fair value from the firm in exchange. To guarantee those protections and maintain customers' trust, CMOs should establish ethics and privacy review boards with both marketing and legal experts. To vet AI projects, particularly those that involve customer data or algorithms that may be prone to biases such as credit scoring. So, to conclude, we have discussed strategy and the strategy planning process and also briefly discussed the levels of organizations, the levels of organization and levels of strategy.

Then we have discussed AI lifecycle including design, development, deployment and the monitoring stages. We also discussed the four kind of marketing, AI differentiated by levels of intelligence and strategy. Thereafter which are standalone, machine learning apps, integrated machine learning apps, standalone task automation apps and integrated task automation apps. Finally, we have discussed about implementing AI in marketing applications and the challenges and risks associated with it.

These are the six sources from which the material for this module was taken. Thank you.