AI in Marketing
Prof. Zillur Rahman
Department of Management Studies
Indian Institute of Technology, Roorkee

Week 2
Lecture-6 Customer value and Role of AI in Value Delivery Process

Welcome to this NPTEL online certification course on artificial intelligence in marketing and now we will talk about module 6. So, as you can see from this slide, now we are discussing chapter 2 that is developing marketing strategies and plans using AI and this is the first module in this chapter 2 that is module 6 which talks about customer value and role of AI in value delivery process. So let us start with module 6 and these are the things that we will talk about in this module. So, to lay the background for understanding AI implications in customer value chain. So that is already there in that essential of marketing course. To explore the emergence of AI in value delivery.

To understand the relevance of AI for value chain. To recognize the importance of AI in value chain and to explore forms of AI driven value creation. Then we will talk about understanding current state of AI adoption in value chains and to gauge the level of industry adoption of AI. Now let us look at the marketing and the customer value.

Every business is a value delivery system. The objective of any business is to provide customer value at a profit. So that is obviously an objective of every company. The value delivery process includes three phases. Phase 1 is the choosing value.

Phase 2 is providing value and phase 3 is communicating the value. Only by optimizing the value delivery process in choosing, providing and communicating superior value to increasingly well-informed buyers can a business ensure sustained success. So, keep in mind that we are talking of increasingly well-informed customers. The first phase of choosing the value is the essence of strategic marketing. While the other two phases namely providing and communicating value is the part of tactical marketing.

So this is strategic marketing and these two are tactical marketing. Choosing the value through strategic marketing achieved by the combination of segmentation, targeting and positioning. So, these three things they form the part of strategic marketing. Providing and communicating the value is achieved by the means of tactical marketing which is expressed through the mix of product, price, place and promotion together called as 4Ps or the marketing mix. So, these 4Ps are providing and communicating value and they are tactical marketing.

While STP is choosing value, and this is strategic marketing. Strategic marketing and tactical marketing when they come together, they constitute marketing strategy. So major marketing related tasks involved in each phase are displayed in figure 1 on the next slide. So, this is the value delivery process. The first is choose the value, the second is provide the value and the third is communicate the value and this is the value creation and delivery process.

So here we talk of customer segmentation, market selection and focus and value positioning. Then we talk of product development, service development, pricing, sourcing making and distributing services. And the third is the sales force, sales promotion and advertising and this is the value delivery process. Now let us look at the value delivery process and AI. There are hundreds of different ways of optimizing the value delivery process by deciding how firm will source, create, sell, communicate and deliver value to the customers.

In recent years the business world has seen the emergence of artificial intelligence as the main source of value creation and delivery. So, this is why artificial intelligence is so important for marketing that it has now become a main source of value creation and delivery. So, there is a rise of new kind of firms where value is served up by algorithms rather than traditional business processes operated by workers, managers, process engineers or customer service representatives. AI and algorithms can help the business understand, attract and retain their customers by offering them surplus value, personalized experiences and real time feedback. AI also helps the efficiency of value chain by operation optimized for a firm.

So that is another advantage that the operations are optimized. Inefficient operations slow down the movement of products through the value chain, moving the customer further away from a successful purchase. AI applications assisting with operations optimizations are designed to improve operations efficiency and effectively by minimizing cost and maximizing operational capabilities. AI applications for this purpose include AI related CNSI services, computer vision, deep learning, edge AI, intelligent applications, machine learning, robotics, process automation and virtual assistants. All these AI applications shorten the value chain by improving production speed and managing inventory flow to the customer.

Streamlining operational processes creates efficiencies across the value chain. For example, GD.com, one of the China's largest retailers, has introduced AI to drive efficiencies in their operations. The introduction of AI applications allowed the retailer to deliver 92% of the order on the same or the next day. Now you see this is the amount of efficiency that they have achieved.

Nike implemented augmented intelligence to design customized shoes for its customers and the end-to-end process only takes two weeks from the design to customer delivery. So within two weeks, that is 14 days, 14 to 15 days, the design and delivery happens. Optimizing operations can offer unexpected benefits by increasing operational efficiency, increasing agility and speed across the value chain. These improvements should be driving force behind implementing AI in operations and value chain delivery. Now let us look at the rise of Aant Financial Services Group or sharing the financial transformation.

In 2019, just 5 years after the Aant Financial Services Group was launched, the number of consumers using its services passed the 1 billion mark. Aant Financial uses artificial intelligence and data from Alipay, its core mobile payment platform, to run an extraordinary variety of businesses. Its businesses include customers' lending, money market funds, wealth management, health insurance and even an online game that encourages people to reduce carbon footprints. The company serves more than 10 times as many customers as the largest US banks with less than one-tenth the number of employees. Now you see this is the efficiency and effectiveness that has come in.

They have 10 times more customers with one-tenth of employees. Unlike traditional banks, investment institutions and insurance companies, there is no manager, approving loans, no employee providing financial advice and no representative authoring medical expenses. Rather, everything is being done by AI. Without the operating constraints that limit traditional firms, Aant Financial can compete in unprecedented ways and achieve unbridled growth and impact across a variety of industries. Next comes the value proposition and the value chain.

Value proposition is the element of strategy that looks outward to the customers. At the demand side of the business, the value chain focuses internally on operations. So that is customer facing and this is operations facing. Strategy is fundamentally integrative, bringing the demand and supply side together. So, strategy links value proposition and the value chain and that is the job of strategy.

Typically value propositions based on needs appeal to a mix of customers who might defy traditional demographic segmentation. Now let us look at what is value chain. A value chain is a tool for identifying key activities that create value and costs in specific businesses. So, we are looking at the value and the cost. The value chain comprises primary activities and support activities that create value and cost in a specific business and are performed to design, produce, market, deliver and support its products.

So this is what a value chain looks like. So, these are the primary activities inbound

logistics, operations outbound logistics, marketing and services and these are secondary activities, and these are primary activities and secondary activities includes procurement, technology development, human resource management and infrastructure and the forms of infrastructure. So, the combination of these primary and secondary activities will lead to margin. So, if the combination is good, then this margin may increase. If it is not good, then the margins may decrease.

Now let us look at the relevance of AI in value chain. A value chain is a complex interconnected web of business activities which is automated and managed by several stakeholders. So, keep in mind that it is a complex interconnected web of business activities. Some of them are automated and they are managed by several different stakeholders. So, there is no one person that is or one organization that is managing the value chain.

The process begins with sourcing raw material from suppliers and ends with the product reaches the end consumer. It is a prime example of an environment where artificial intelligence can help improve efficiency and reduce cost. Businesses can leverage AI to make better decisions about the purchase of materials. So now you see that we are now using AI to decide about the purchase of material, raw material storage capacities, production plans and much more. By understanding the use of AI in the supply chain, the United States cold storage, one of the largest cold storage companies developed an automated appointment schedulers to accurately predict the arrival time of carriers and the time taken to service them while scheduling an appointment.

So that reduces lots of wastages, wastages in terms of time, in terms of labor and in terms of money. The firm's task is to examine its cost and performance in each value-creating activities and look for ways to improve it. So, all the value-creating activities we have to look for the cost and performance and then how to improve that. The rise of AI technologies is generating novel opportunities.

So now with AI we can have novel opportunities for companies in each value creating activity to create additional customer value. To capture the full promise of AI, companies must reimagine their business models and the way work gets done. The core business processes are highly relevant in a firm's decision to incorporate AI in strategic decision-making processes. So, these core business processes define how to incorporate AI in the strategic decision-making process. Where incorporating AI, the firm should identify a crucial business process also referred as domain and rethink it completely.

Introducing changes throughout an entire core process, journey or function which will lead to a major improvement in performance that isolated application simply cannot

match. It also will enable each AI initiative to build off from the previous ones. For example, reusing data or advancing capabilities for a common set of stakeholders and trigger an organic cycle of change within the domains and ultimately build momentum for the use of AI throughout the large organization as business leaders and employee see it work. Moreover, this approach promotes a mindset of continuous improvement in the workforce. So that mindset is also important that comes in this workforce, the mindset of continuous improvement which is crucial because AI technology is advancing rapidly requiring organizations to think of AI transformations as ongoing rather than one-time efforts.

So this AI transformation is ongoing process. It is not that you implement AI one time and and then it ends. No, no, it is continuous. Now, let us look at the forms of AI driven value creation. AI is improving precision and speed in many value chains phases such as communication, customer insights, design manufacturing, deliver designing, manufacturing, delivering and retail.

By improving the precision and speed of these functions, the following key improvements are possible. One is process efficiency. Another is process enhancement. The third is product and service innovation. So, these are the forms of AI driven value efficiency, the process efficiency, process enhancement and the product or service innovation.

Now, let us look at what AI efficiency is and how AI process efficiency is and how AI is going to benefit that. So, AI automation often improves repetitive processes that are not enjoyable and challenging for humans. For example, abundant robotics have designed AI powered automated machines to harvest apples, reducing the amount of labor needed. Since manual apple picking is physically demanding and labor supply is low, farms have an incentive to improve this process. So obviously this was a time consuming and money consuming process.

So farms had an incentive to improve this process. The next comes process enhancement. AI can also enhance existing processes leading to better outcomes for the customers. So earlier we were talking about efficient creating efficiency in the processes. Now we are talking of enhancing those processes.

So that it can lead to better outcomes for the users. For example, sales force, Einstein can provide leads for a salesperson and hide those that have a very low likelihood of converting to a sale. This enhances the sales process allowing executives to divide high quality time to high value leads. So, this matchmaking makes the process, enhances the process.

The third is product or service innovation. So, AI can enable the creation of new products and services. As seen with Stitch Fix, a personal styling service, e-commerce company, AI can power new product design using data from multiple sources to predict styles that can resonate with the customers. So now AI is being used for new product designs. The company uses AI to identify popular clothing features and recommend new combination of all these features to Stitch Fix in-house design team. So, the design team can come up with entirely new product, a different kind of product.

So current state of AI adoption and value chain. The first is the functional areas of AI deployment. Companies are experimenting with and adopting AI technologies across their value chains. Most of these efforts have been invested in non-core support functions. So, we are talking of non-core support functions. In one survey of 3000 professionals, over 25% of respondents reported having adopted AI in each of the following support functions.

One is the IT. So, they are using AI. In IT, customer services, marketing, sales and finance and accounting all, at all these places the AI has been deployed. However, in contrast to how other new digital technologies have entered the enterprise, companies are also investing in AI for core functions. So, till now the company were investing in non-core functions. Now the company have also started investing in core functions. For example, Stitch Fix deploys deep learning to understand a user's clothing style.

So this is one type of AI to understand the user's clothing style based on the styles they like on Pinterest and also deploys machine learning to match stylists with users. So, on the one hand it is coming up with new styles and other on the other hand it is also matching stylists with the users. Let us look at the industry adoption level. So as to be expected the role of AI play in value chain today varies by industry. So, some are more, some are at a higher level of adoption, some are at the lower level of adoption.

So according to a McKinsey report, over 30% of high tech and telecom companies have implemented at least one AI technology. Whereas only 15% of construction companies have pursued such advancements. Moving forward, there is a risk that differing rates of adoption could widen the AI gap between technology focused industries and other industries. So obviously this technology focused industry will adopt, will use AI more as compared to the other industry. So, while technology centric industries may be investing in AI more heavily than other industries, opportunities still exist for strong return on investment for targeted application in more traditional industries.

So although AI is being used in technology centric industry but there is a huge scope of

using AI in more traditional and mature industries like your construction. Jim Cenai VP of product marketing for Salesforce. So Salesforce.com is the company. Salesforce Einstein advocated that because of a very fact that traditional industries such as manufacturing, retail and healthcare have legacy systems.

Certain types of AI can be deployed relatively quickly and add value. So, because they are, they are mature industries, so they have certain types of legacy systems. But still in those industries also, AI can be deployed to add value. So retail is in the middle range of AI adoption and investment growth.

So AI adoption and investment growth and investment. Coming back to AI and value chain, businesses can employ AI in corporate support functions, customer predictions and content effectiveness. Companies that want to invest in key digital technologies such as cloud computing and AI should focus on 5 elements of emerging technology landscape. The 5 elements are this emerging technology landscape, the 5 elements of which are intelligence, 2 data, 3 expertise, the 4th is architecture, and the 5th is strategy which comes from ideas framework. So, this ideas framework as you can now see, stand for intelligence, data, expertise, architecture and strategy.

And that we will discuss in detail in the next module. So, to conclude, we have discussed the importance of customer value in marketing and studied the customer value chain. Second, we have discussed the amalgamation of AI and customer value. The third, we have discussed the relevance of and importance of AI in value chain and value delivery. And then we have explored the 3 forms of AI driven value creation which are process efficiency, process enhancement and product and service enhancements. AI is being implemented across the value chain in the functional areas of AI, customer service, marketing, sales, finance and accounting.

And then finally, we have discussed the adoption level of AI in different industry which is obviously different at different points in time across different industries. And these are the 3 books from which the material for this module was taken. Thank you.