

FOUNDATION OF DIGITAL BUSINESS

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Week 02

Lecture 08

Lecture 08 : Digital Business Models of the Future

Good morning. In Module 3, Business Model Innovation and Leadership in Innovation, this is the third part of my session, which will cover digital business models of the future. In today's session, I will talk about new digital business models, the smartness economy, and innovations in business models. As we proceed, we will explain each of these concepts one by one. What are some of the new digital business models? We talk about subscription-based models, usage-based models, freemium, e-marketplaces, crowdsourcing, and e-auctions.

We were not talking about these models maybe five years back. Or a few years back, but now everybody is talking about these models, and many of us are actually familiar because we are using some of these models very much in our day-to-day lives, in our business environments, and in our social networking. We start with the simplest one, which is the Crowd economy. It is a dynamic ecosystem of productive people who participate through a platform with a purpose to achieve some mutually beneficial goals. The Crowd name itself is an explanatory thing, self-explanatory.

We know what is crowdsourcing, crowdfunding, leveraged assets, staff on demand, temp workmen, workmen on demand. Essentially, all the developments that leverage the billions of people already online and the billions which are coming online. Crowdfunding, of course, I am sure all of you must be aware. When somebody is in a problem, maybe your friend, relative, or office colleague, etc., we try to reach out to unknown people. Known people are, of course, always there to help—I mean, your friends and relatives, etc. But then, when the ask is a bit high and it cannot be managed within the small group, then you go out using platforms, various social media platforms, you can reach out to

You do not know them, and they also do not know you. However, many of us have this mindset of helping people, of doing good for others, so we contribute even without knowing the person. Sometimes we also do it on an anonymous basis. This is the fundamental principle of crowdfunding. Crowdsourcing is similar—I mean, you source for whatever you need, like ideas, etc. You do crowdsourcing, then you can leverage your assets. For example, Airbnb has become the largest hotel chain in the world now. It doesn't own a single property. They don't have anything—no assets. It leverages the assets of the crowd, with more than 7 million rooms. All of us have a house we stay in, and we may have a spare room or a spare house or flat, and that is what is being used by Airbnb.

They are sourcing residential accommodation from the crowd. That is why it is part of the crowd economy. They have over 100,000 cities across the globe, and it is not possible for any organization, whatever its size, to go to all these cities and find properties. You create a platform and an ecosystem that encourages people who have spare accommodation, to present themselves on that platform and make it available to the crowd. Whosoever now the crowd becomes one side of the crowd is the house owners and then the other side of the crowd is the travellers who need accommodation. Similarly there is a product called Kaggle which is for databases which is extensively used by researchers in management and social sciences.

For getting data, public data and datasets it has got a huge storehouse of datasets which is mostly free of cost and it can be used by any research worker. Similarly, we have something called GitHub which is a source for software developers to look for help with softwares and other programs which are open source, and which are free of cost and available to the development developer community. Moving on the next economy is the free data economy. What is it? It is a platform version of the bait and hook model that is initially I give you for free, but then it gets you hooked on to the product because you like it and you are using it and then I start collecting my revenues. One of the best example in India, few years back was the launch of Jio. When Jio was launched,

they gave it free, the data was for free, but they knew that when people get hooked on to it then they can charge and today it is not so cheap. Nowadays it is pretty competitive compared with a hotel or any other service providers. Google, Twitter if all of these you see (Twitter is now known as X) are free to use. But let us take Facebook, it is free to use, Google is free to use. you are I mean you can interact with your Facebook, community, friends, relatives whatever you can post your picture whatever you post or LinkedIn you

can communicate. What is in it for Facebook? Facebook is getting you hooked on to it so that you spend time.

Their asset is the time you spend on Facebook because then that can be sold to advertisers, and they can say, 'Look, so many people spend so many hours on Facebook platforms.' Why don't you advertise your products? It is very similar to TV advertisements. On TV, unless you watch it, nobody will advertise. Because we watch TV, that is why advertisers come in. The programs you watch more have the most expensive ads. For example, IPL matches or the World Cup final. For those matches, the price for a 10-second ad can be billions of dollars. Because billions of people are watching soccer World Cup final. Continuing on e-auctions and e-marketplaces, the difference between eBay and Amazon—we all have heard about Amazon, and almost all of us use it daily, literally day in and day out.

There is another one you must have heard about—a similar marketplace called eBay. Now, there are certain differences you need to understand. the business model for Amazon is a retailer with a marketplace, and eBay is only a marketplace. Marketplace means where you can trade or auction. I can buy something or sell something, and the buying or selling can be negotiable. I can look for price. Something like OLX platform similar to eBay. eBay , started in US and it is very big worldwide. The focus for eBay is auctions for both used product and new products or unique items. It is auction style and not fixed price and wide range including used and unique items. These are the difference of eBay as compared to Amazon.

Amazon we know it is primarily fixed price, very little options, but mostly it is fixed price and then the product categories are mass produced goods, commercial goods, groceries, books., consumable goods, dresses, equipment, white goods whatever you name it, is available on Amazon. But eBay is mostly you use for buying and selling. I want to sell something, so I use eBay as a platform to sell my used item or whatever. Now comes the Smartness economy, so we have this word smart phone for example or you must have heard about smart watch, then there is something called a smart city, so what is this smart indicating? Smart is indicating that your device or your equipment or whatever your city for example, is all interconnected through internet and it is also using little bit of AI here and there .

That is what is making it smart, making it intelligent. Cell phones have become smartphones, speakers become smart, automobiles etc. When I say speaker can respond

to my voice command, I am making it smart. It is Wi-Fi enabled. It is connected to the internet. I ask Alexa to play this song. Alexa will play a song, whichever song I want to listen to. So that is what smartness is all about. Our smartphone you know is a phone number one, it is a music device number two, it is a video player number three, then it is a computer and you can do many things like internet searching etc. You can do several things and it is a computer in your hand.

It is very powerful and the processor of power is much more, than say the computer which was used to send man to the moon in 1969. In Apollo 11, the computer that was used was much less powerful than today's phone which we have in our pocket. You know we talk about Amazon and salesforce.com which are the Cloud based economy which is coming in and becoming more smarter. We have now applications which are running only on cloud. You do not have to implement them in your premise or you do not have to buy it. You can only rent certain things like that I was talking about smart cities. They are basically system of systems. Why do we now go for smart cities? We are converting our cities into smart cities, the reasons are our infrastructure is ageing, Population is of course increasing, so you have more pressure on the urban utilities and facilities.

We have budget constraints, the growth of population, citizen engagement, sustainability, crime fighting, traffic congestion, etc. We are using various technology drivers to make our cities smart. Which is enabling our explosion of mobile devices and sensors. You have sensors for everything like traffic signal for example, or the detection of speed traffic speed. If your automobile is crossing the speed limit or you are jumping the signal for example. You have cameras located at various crossings and signals which are detecting your travelling behaviour. If you break any rule it is instantaneously detecting it reading your number plate. Conveying that through internet to the central server with the police headquarters and the server is identifying the name of the registered owner from the car registration number

and then from that owner gets a message that he has crossed the red line etc and fined 1000 rupees. Or for speed limit you exceeded the limit 60 kilometers per hour and you are being fined 1000 rupees or 2000 rupees or whatever. All that happens in a few seconds probably less than a minute. You get that incoming message. It is all that is because of internet of things using sensors and using internet. We are doing everything in a smart way. That is why we are calling this as a part of a smart city syndrome. Growth of social media, cloud computing, cyber security, advanced predictive analytics, all of these are playing a role in converting our traditional cities

and towns as we know into smart internet enabled, and AI enabled cities so that we can get our services, our utilities, security, health care services, public utility services in a much better, and modern way, so we can become much more efficient in whatever we are doing. The way we live. Innovation is driving new types of disruption. So this is the traditional value chain on the left. You see Delphi, Bosch—these are the equipment, cars, automobiles, etc., Traditional cars as we know, mobility devices as we know, and this is what is on the right or the centre: the emerging mobility ecosystem. What we have here, if you can see, is a driverless car, an autonomous vehicle using GPS, etc. A situation can be such that a driverless car is almost becoming commercial very soon, and probably by 2025, many cities will be running driverless cars.

There can be a situation like I own a driverless car, for example, and I go to my office; my office hours are from 9 am to 6 pm. I stay in the office the whole day. My car remains in my office parking space with no utilization. In a driverless economy or a peer-to-peer economy, I can release this car for a taxi service. Suppose I want to earn some revenue out of my idle car. It logs into Uber or some other system, and Uber knows that this car is available. Now it gets a command from Uber—somebody wants to use it, needs a taxi. The car goes because it is driverless and does not need a driver. It goes to that pickup point; the person gets in, goes to his or her point of disembarking, releases the vehicle; the vehicle then goes to the next passenger or whatever.

From after 9, when I do not need it, to 6 pm or maybe 5 pm if I set the time, at 5pm, it can go on doing various duties to the extent. If it needs recharging, it can go to a charging point, and then somebody, an attendant, can get it charged. Assuming that charging is not required it comes back at 5 p.m. to my office so that I can take it and go home. I may drive it or I may not drive it depends because it is a driverless car, but whatever it is, this is the economy which people are actually dreaming of. This is what is the future of public communication. Part of this important thing like a taxi service is practical now with the technologies which are available. All you can see communication is the key here a vehicle can communicate with another vehicle.

They can literally communicate with each other etc and all depending on your need. What you all know as satellite communication you need your GPS or GIS systems and of course Google maps. With all these technologies and with Augmented reality with all of these combination of technologies you can have an emerging mobility system which is self serviced, self operated, does not need every time a human being to drive a car etc. It could be useful in various situations, however we can always debate that it has got some

negative aspects true for any technology, it has a negative aspects in the sense , certain class of people like the drivers, the taxi drivers will be under threat, under pressure because there will be less demand for drivers if more and more taxis become autonomous vehicles.

That is the other side of it. We have always the two sides the benefit and also the negative side of any new technology. The transition to an everyone-to-everyone, economy is changing the way we innovate. What we call the everyone-to-everyone economy—you see, we are all networked. We are as if we are nodes, and everybody is connected to everybody. it is orchestrated, it is mutually beneficial, it is contextual, and it is cognitive in the sense that the systems keep learning. Today I am networked with my multiple groups and cohorts.

if I want to communicate something and make it viral—we hear the term 'make it viral'—what it means is that everybody is spreading it to everybody, so it is a cumulative effect. I send it to 100 people, then those 100 people each send it to another 100, so that is 100 multiplied by 100, and the number becomes exponential. Within a few seconds, I mean, a large number of people come to know about whatever is being said. One comparative story I often use is that if you remember—you may not be remembering—that in the late 1990s, an event happened in India where a rumour spread in the morning. Early morning, it was a working day, and the rumuor was that Lord Ganesha was drinking milk.

What happened was if you took a cup of milk to Lord Ganesha's trunk, the milk was getting sucked in. And you would not believe it, but probably the first time it was detected was in some temple in some corner of India, maybe at 5 o'clock in the morning, but by 8 or so, in the morning, the whole country was literally aware of this news, and everyone was rushing to various Ganesha temples with milk to see what was happening. Now, that was the 1990s. There were hardly any mobile phones, very few, because mobile phones were very expensive. it is about 8 rupees a minute or so— 8 rupees a minute for making a call.

very few people actually had mobile phones. But the way the news spread. It is almost comparable to the way we do it now. I just tell this story in my class so that you can imagine: with no mobile phones, etc., news can spread in a country like India—and it is such a large country with such a huge population and it covered almost every corner of the country within just one or two hours in the morning. Consumers have become—back

to the slides—my today's session, consumers have become directly involved in innovation. What it means is that now organizations are throwing open their development centres to even their consumers, because this is part of that crowdsourcing, which can get ideas from the crowd?

Another example of this is that in various B-schools, you might have heard they have competitions where many sponsors—like banks, financial institutions—they invite MBA students, school students, or even engineering students to join competitions for new ideas, new prototypes, new products, new services, etc. They give awards, like maybe 50,000 rupees or 1 lakh to the winners. Now, the students participate. Just imagine one competition where say, 10 engineering colleges are participating, and maybe 5 teams from each of the colleges—that means 50 participants or 50 teams participated in the competition. Finally, there are winners—first and second winners—and they get a prize. The company is spending maybe 2 lakh rupees for managing this competition and giving the awards. What it is getting in return is 50 ideas from young brains, budding entrepreneurs, budding engineers, budding managers.

The minds are very fresh and they are thinking and creating those ideas and the company gets 50 ideas. at almost free, I mean spending 2 lakhs is nothing for getting 50 new ideas. This is again another form of crowd sourcing and there you are playing with technology because you are inviting technical ideas from freshers, youngsters, students. Now, many companies they have the development centre formerly R&D centres and they open and give access to anybody who is interested to participate in their developmental activities. Your development scientist, your R&D engineers now can directly interact with a consumer or a customer. It was not there previously. Previously traditional industries the face to the customer was always the marketing people. The sales and marketing people met the customers, talked to the customers and if the customers had to give any idea they gave it to the sales or marketing guy who in turn gave that idea

to their research team. Three way communication in the sense that marketing was the middle agent. With this your middle agent goes and R&D now can directly talk to the actual user and get the right feedback because now there will be no transmission loss or understanding loss. The R&D person can directly interact with the user and get the real feedback. This is helping innovation to increasingly occur within the ecosystem. Now I have brought the customer to my innovation framework or my innovation platform so that he can you give you ideas etc. Another example was Starbucks, the famous coffee shop that had opened their app to their consumers for giving them ideas for new products.

Expensive R&D costs and aging patents are the barriers to monetizing new ideas. Another famous company, General Electric (GE), was very well-known for innovative ideas. They crowdsourced innovation through a platform- an app called Quirky, reducing the risk and sharing the revenues with the inventor community. They even went for a revenue-sharing model where if you give an idea, and I can capitalize on that idea, then I will share some revenue with you. That will further motivate the users or other people to come and contribute.

Xiaomi, for example, releases a new version of its UI software every week in response to user feedback. A software company and a famous Chinese company making mobile phones, interacts with the users, gets feedback, and then every week releases new updates. The user sees that their idea has been taken and accepted. You get a very good feeling—I mean, you get a feel-good factor—that you are giving some ideas and a large company like Xiaomi is listening to you, listening to the customer. This becomes a kind of their marketing technique. They otherwise do not advertise or spend money on advertisements.

This way they reach out to their customers, and when the customers talk positively about a product, that becomes word-of-mouth marketing because you will be talking to people, you will be very happy with Xiaomi, etc. Your discussion with your group, your friends, becomes the word-of-mouth publicity for Xiaomi. Generally, organizations will innovate in three ways. One is product or service innovation. This is what any engineering company will do—they make some product. Some of the legendary product innovators that come to mind historically, we think of product innovation. One of them is Ford, of Model T, the famous Ford Model T, one of the first successful automobiles, made way back in 1903.

There is a company called 3M. They make numerous household products such as Post-it Notes and Cellotape. The non-stick type Cellotape because, you know, when you open it, —the back side—is not sticky; only one side is sticky. This discovery was made by a company called 3M, and 3M is very famous for innovating such useful things that we use on a day-to-day basis, like Post-it Notes, safety pins and things like that. Sony is very famous for the Walkman—if any of you have seen it, I have doubts because it is now outdated and no longer used. it was a cassette recorder that was mobile. You could carry it with you and with headphones , listen to songs. it was invented by the Sony owner—the owner who wanted to listen to music while playing tennis.

He wanted something—you know, something you could carry, could hear music, and also play tennis. That is what started this idea, and the Walkman became very, very popular. Everybody was using a Walkman—the Sony Walkman. Nintendo is famous for games, computer games. Nintendo 64 and Wii are the famous games for Nintendo and so is Xbox from Microsoft. And then we have Skype which revolutionized your web telephony. Now Skype is being closed about a week back or two because we have now much better things like Google Meet and Zoom for video calls. Skype had started revolutionizing this free web telephony. You could have video calls and meetings, literally free of cost.

2007 saw the birth of iPhone from Apple. Steve Jobs, you have heard about him and how iPhone revolutionized mobile communication and a company like Nokia went bankrupt because of this iPhone. We will talk more about iPhone later because it will be the first time Steve Jobs proved to the world that it is a combination of not only a phone, it can also be a music player and it can give you internet connection to the world. So it was a computer, music system and of course the basic phone. In the operation side innovations we talk about Toyota for that Just-in-time manufacturing. GE for Lean sigma or 6 sigma type of manufacturing which was taking manufacturing to perfection in the sense minimizing the number of defects rejects to 6 sigma level of about 3 parts per million.

Walmart was traditionally was one of the biggest supermarket, but with the onslaught of e-commerce Walmart realized that they are losing out to the e-commerce players like Amazon. They had to innovate and they had to change. They added e-commerce to their portfolio. Walmart remains the traditional supermarket where you go to big stores, big parking place, lot of items etc. In parallel, they also run their e-commerce. It is a combination of both, e-commerce as well as multi-channel normal stores. Multi-channel for Walmart, was their innovation to survive, and they did survive and are doing quite well. The last one here is Zara. Zara is the fashion leader in Europe. Many of you must have heard about it. It is a Spanish company.

They took digital technology, to capture information or feedback from their consumers who come to their stores. They believe in only physical stores, capturing the information on a day-to-day basis. The information goes back as feedback to their central design department, which then uses technology again to bring in new designs. very fast. The specialty of Zara is that once they have a design, they do not maintain it for more than two weeks. The clothes you see in the stores will not be there after two weeks, and they will not repeat any design. After two weeks or a month, if you come back, there is no

chance of getting that same design you had seen earlier. That is their uniqueness, and they do it based on using IT technology and communication between the consumer.

The shopper who is coming into the stores, the design department wherever they are sitting in their head office, and of course their manufacturing network because everything has to be networked. All that design has to come in because the idea has to be converted into a design and then manufactured all within a very short duration of time. Every two weeks, you are launching new designs. The finished product's time cycle has been reduced to less than two weeks, all with the help of information technology (IT) or modern technologies, and the internet, etc., is playing a big role. MIS (Management Information System) is at the core of successful process innovations. In today's world, what happened with Toyota and GE was in pre-internet days. Now, what's happening with Walmart and Zara is they are moving into the internet era, where Management Information System is computer-based and internet-based, helping to

manage their systems, at a scale, and at a speed. Lastly, we talk about the third topic, which is Business model innovation. We have the famous Amazon, which started as an online bookseller. Then, they created a Cloud to support their online business. They built such a large cloud that they realized they had a huge amount of extra capacity in the cloud which they could rent out. Cloud renting became a new business altogether, and Amazon probably makes more money from their cloud business than their regular retail business. AWS is the world's biggest cloud service provider, followed by Microsoft.

Everybody has learned. Microsoft, Google—everybody has created a cloud. Now, it is available for rent and can be used by any new business or entrepreneur. Apple, of course, created the iTunes platform, which established a nexus of interconnected Apple devices. Sharing music became easier, and then you have this platform where you can develop anything you want—any app you can create. Apple provides a platform for developers to create products suitable for the iOS operating system. Google is doing the same thing with the Android platform. They are all competing against each other, but Apple had started the initial thing. We are calling it as the initial innovator.

Netflix has completely changed the way you see movies. Nowadays CDs and all those rentals have all gone out of business. Movie channels have all gone out of business. You have movie on demand. Whatever movie you want to see anytime anywhere it is available to you through Netflix and of course now many other such streaming companies have come in with streaming music, videos and what not, podcasts everything

you know it is all on a streaming mode. Mode has become the new thing so even for audio books for example you do not now read

You can listen to books, somebody reads it out for you and you are say maybe going on your morning walk or you are going to office, travelling, commuting, whatever, going on a vacation. You do not have to carry a book. You have to just stream the book. Somebody is reading and you hear and so you use your ears not your eyes for consuming a book. That is the innovation. IKEA revolutionized the home furnishing industry by introducing this flat pack self-assembled model. You know now everything comes in a flat pack be a sofa or almirah, or your work table and then somebody comes and opens it up. All these pieces they screw it up and you have your almirah or nice sofa. Now decentralized autonomous organization is another growing area using blockchain technologies and smart contracts. This we have already discussed.

This is becoming a reality and I was talking about this autonomous taxis or many financial transactions etc., can be carried out through such decentralized autonomous systems. There is no central organization controlling all this, no human being, etc. controlling all this. It is all technology-managed, technology-enabled, and technology-controlled. Business operations, or say, like taxis—for example, mobility solutions—can be successfully carried out automatically and on a 24/7 basis without needing any human intervention. Metaverse we have already discussed in the previous class. This is another business model innovation, not yet very successful.

This is futuristic because of reasons like cost, equipment cost, bandwidth requirements, storage, computational power—all of these issues are there. It is restraining, but it is again, as I told you, the model of the future. In another couple of years down the line, you will find the metaverse widely used in the travel industry and business where you want to reduce travel for meetings, etc., and people can have successful negotiation meetings in a virtual mode. A real-life feeling, as you are marrying, the real world with the virtual world with an immersive experience, in a way that you become part of that virtual world. You do not feel as if you are doing it from outside. These technologies are making possible the evolution of new digital business models.

You must have discussion points, which in the regular class we normally have. We have some classroom discussions where students can take part, and we can have an exchange of ideas. I have given you my perspective, but you can always think, read, and then develop your own perspective. The possibilities of these new technologies—many of

them may not succeed, some might fail. All these innovative models—not all of them will succeed. However, some of them will definitely succeed, and some new models, which we are yet to see, will evolve. Thank you very much.