

# **FOUNDATION OF DIGITAL BUSINESS**

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**Week 04**

**Lecture17**

## **Lecture 17 : Platform as a Business Model**

Good morning. The second session on this module, platform strategies, will talk about the platform as a business model. Here, we will discuss network effects, multi-sided platforms, platform native versus platform transition, and the risks of the platform business. Now, to understand the network effect, you need to take a look at this picture. On one side, we have the buyers, and on the other side, we have the sellers. This is the simplest model: a buyer and a seller, and in between, of course, is the platform—let us say, probably a platform like eBay or Amazon or whatever.

Now, you can see the cross-side network effect. It is an indirect effect; I will discuss that later. The sellers benefit more from more buyers. So, this is called the cross-side network effect—that if I have more buyers, then the sellers will benefit, which means if more and more consumers log in to this platform, the sellers have a better chance of selling more of their products. This is a cross-side network.

Now, what is the same-side network effect? If more buyers join—that is, if you are just seeing from the perspective of the buyers, forgetting the sellers—if more buyers make the platform better, it will attract more people. See, if I know that this platform is very good, etc., and I join it, and I see that many people have joined—there are many users—or I come to know that many people are using that platform, then I get more confidence in it. So, I know that it is a good platform, the way of doing business is good, I mean, you will not be cheated, or if you want to return something, the return policy is excellent, or they have very good after-sales customer service.

If I have a problem, I can easily communicate—maybe send a mail or a post, or they have a chatbot. There are features where I can get in touch with them, and they will service my

problem, request, or whatever it is. So, I also joined. More buyers will tend to attract more buyers. That is why it is called the same-side network effect.

Similarly, if you go to the seller side, more sellers make the platform better, attracting more people. Why? If there are more sellers, there will be more competition, and there will be a better range of products. So, either way, who is benefiting? The buyer—the consumer—because I have a bigger choice, and because it is competitive, they can offer discounts.

So, I get a better price. So, more sellers will also make the platform better from whichever perspective. This is called the same-side network effect: more buyers bring in more buyers, more sellers bring in more sellers, and the cross-side is, of course, the one which we can understand easily. If you have more buyers, more sellers will come in. This platform is like Facebook, for example. Why do I give an advertisement on Facebook or why do I give an advertisement in an IPL T20 match or a World Cup soccer final, knowing that it is very costly—very expensive—that slot? Why do I do it? Because I know there are more viewers.

I want to expose my advertisement to maximum possible viewers. That is why I choose to do that to select that platform. This is in short the network effect. You have something like cross side and same side I am showing you the matrix format. Vendors want to affiliate with networks with large scale customer base very obvious these are plus sides.

As I was telling you vendors I know viewership is very high I will go there. Developers want to build for platforms that have the most users. Now, whether we choose iOS platform or Android platform you have to choose one, I have to find out who has the most users, because they are the potential buyers of my app which I am trying to develop. The same side thing developers want more companies using the software they are skilled in. I am a Java developer or I am a dotnet developer or I am a python developer or whatever.

So, I will prefer those platforms or using software which I am skilled in. I will go any platform which is using extensively using python tool which I am expert in. I will prefer that platform. And gamers want more of their friends on the same platform, so they can play together. If you are a computer gamer then you will want more friends to join that same platform, so that you can play together.

On the negative side, cross-site means more ads will decrease the value to the viewers. If you have too many ads when you are watching something, sometimes or most of the time, you get irritated. Maybe you are very seriously trying to read a news site—NDTV, Times of India, whatever—but then too many ads keep popping up. So, you get distracted. So, more ads will decrease value to viewers; that is a cross-site.

On the same side, vendors want to be the only provider. Shoppers prefer less competition—that is obvious. If I am selling something, I want less. If I am selling, say, a refrigerator, I would like the minimum number of white goods companies to also sell refrigerators on that platform. So that I have less competition. Now, moving on to multi-sided platforms—for example, Airbnb, Uber—these are the simple ones which all of us know and will be familiar with and easy to understand.

These two-sided or multi-sided platforms provide significant value by reducing the transaction costs for both parties. For a house owner to promote his house on an Airbnb platform, he has to pay very little commission—3 percent, 4 percent, 5 percent—whatever when he gets a customer. Similarly, for a person to go and search for a place to stay in some other city, you can just do it online sitting at your home. So, at no cost to you for that. They usually become trendsetters and leaders in their own and associated industries.

How do you define a multi-sided platform? They allow direct interaction between two or more sides. The platform does not have to intervene, nor do you have to go through any other party or the original platform owner. Each side is affiliated with the platform. Of course, the basic necessity is registering with the house owner. You also log in with a user ID and password, create a user ID and password, and then you can directly search out and interact with whichever house you want to select. Direct interactions, with two or more participating sides as the case may be, maintain control of the interactions.

So, again, the platform is not playing any role. The owner of the platform, for example, the Airbnb platform, has two primary sides: the rent seekers and the asset owners. The owners retain control of the assets, unlike one-sided intermediaries such as timeshare vacation companies, which control the assets. So, it is compared with other types of holiday service providers, like timeshare companies, which take many properties, including hotels, on rent and then offer them on a timeshare basis.

They resell the service. They are actually controlling the intermediary part—the company, the timeshare business owner. But, for example, Airbnb is very

straightforward: house owner and rent seeker. The house owner controls the assets; maintaining the house is completely the responsibility of the owner, nobody else. Airbnb will not—they can audit, but they will not take any responsibility.

Your house, whatever shape you want to keep, how to maintain it, the paints, the upholstery, decision completely. Affiliation: participating users pay platform specific fees and or make investments required to interact trade with each other. It is obvious so as a user when I am paying the fees for the Airbnb house owner, a certain percentage goes to Airbnb. That is Airbnb's revenue model—that is their income source, or source of income. For example, on the LinkedIn platform, recruiters and individual members pay premium membership fees. LinkedIn has two versions: the free version and the premium version.

For the premium version, you have to pay for network expansion to meet specific objectives. Both sides invest time and effort to develop their branding for increased visibility. So, why do you buy LinkedIn premium? Because you want your profile to be more visible to whomever you want. Suppose you are a job seeker; then you will create a very nice profile, circulate it, and push it to many companies seeking employees, and you have a better chance of being hired or recruited. So, that is why you pay premium fees to LinkedIn, and it is called LinkedIn Premium.

The MSPs achieve great success when the primary target is consumers, where they are the individual decision-makers. What does it mean? These MSPs work very well when I, as an individual, am the decision-maker as a consumer. A consumer can be an organization. So, when a consumer is an organization, like in a B2B situation, the business part, when they have to make a decision, it takes time. There are many people involved, and then they can make a decision. But in a B2C situation or scenario, I, as a consumer,

I can make a decision on my own for whatever I want. I do not have to ask anybody, though I may check with my family members, my spouse, or others. But with minimal intervention, I can make decisions very quickly. Government or health ecosystem providers, patients, and insurers also form this multi-sided platform at times. You can link the health ecosystem—the hospital on one side and the patients on the other—or the insurance companies on one side and the patients on the other. So that they can interact directly with each other.

The main idea of creating this multi-sided platform is to provide a platform. It offers a facility where the two parties can interact directly and do so in the shortest possible time. Now, platform-native versus transition platform. Companies that are not platform-native can transition into platform companies. By 'native,' it means you are born as a platform—like Airbnb, Uber, or even Amazon, which started as platforms. Now, Amazon was platform-native, unlike Walmart, which was once the world's largest retail chain.

But companies like Walmart are also expanding into platform-based services, retaining the benefits of an MSP. What happened was disruption. Walmart was the biggest retail chain in the world, and then came Amazon, initially selling books, then gradually expanding into groceries. They adopted a platform model, and suddenly, in the e-commerce world, the platform disrupted the entire retail business. Then Walmart realized they were losing market share as people began ordering from Amazon—the same products Walmart sold—from home. They are a supermarket retail store and were the biggest chain in the world.

So, they also decided to adopt the platform business. So, they also transitioned to a platform business. Thus, they have both. And, it is called multi-channel, opening the door to third parties. Companies with a large customer base can give third parties access to their customers, especially for complementary products.

An example in India: most automobile manufacturers are tied up with insurance companies, financial institutions, and oil suppliers to access their database. This is how you transition a traditional company, say an automobile company like Maruti, which has a huge customer database of lakhs of people owning Maruti cars. So, that database access can be given through a platform. They create a platform for their customers and then give access to motor insurance companies, for example, or financial institutions that provide loans for buying cars, and oil suppliers, as cars need various types of fuel. So, they can be given access to the Maruti platform, allowing them to reach Maruti's customer database to sell their products.

So, you are opening the door to third parties and, in turn, earning some commission, as you would not do it for free—that is your business model. For example, automobile companies are moving into service delivery, like rented car services, and can connect their customers to such services using a platform. Now, Maruti makes cars, but what stops Maruti from becoming a taxi service provider, since it has many cars and makes

cars? It can have a platform where customers can book a car from Maruti to be used as a taxi, like you do with Uber. Maruti Taxi Service could become a competitor to Uber.

Similarly, like IRCTC, I was talking in the previous class. IRCTC is a platform for buying train tickets, but they have now expanded. After you reach a destination, you need a taxi to go further to your office, home, or hotel. So, through IRCTC, you can now book taxis. So, IRCTC is now opening up to third parties. Now, connecting products to connecting their customers. For example, brick-and-mortar credit bureaus could become

clones themselves as MSPs, where consumers could obtain their credit scores, and banks or insurance companies can also offer their products. A typical bank can also go online for their banking business or banking-related services. They can sell mutual products, insurance products, and they can do it both offline—by going to a bank—or online. So, banks can also enter a platform mode to deliver their services or explore new lines of business. Finance companies can sell mutual funds and insurance products through their platform.

For example, a bank opens up the platform, invites mutual fund companies to come and sell their mutual funds through its platform, which they do. So, you can directly buy a mutual fund from the mutual fund house or from your bank. Every bank has a wealth division or something similar. Of course, when you buy from the bank, the bank earns a commission. So, if you buy directly from the mutual fund house, it will be cheaper by whatever percentage points the bank charges.

But you might have the bank might be giving some other convenience. Its money transaction is smoother, simpler, and you have it in one view portfolio, etcetera. So, whatever they have, those are some USPs, and people do buy mutual funds through the banks instead of going directly to the mutual fund house. Supplying to a multi-sided platform, for example, Shopify is a leading provider of e-commerce tools today and is the fastest-growing online store builder. Shopify is a platform. You are a grocery store in your town, you want to go online, and you want to open an online store. Whom do you approach?

You can go to Shopify and go to the platform, and they will help you. They have all the tools, e-commerce tools, to set up an online store for you. Like that, it powers over 1 million businesses worldwide. And if it were to convince its customers to agree on a single sign-on, leading to Shopify becoming an MSP, like another Amazon, which means if all these online stores who are now operating from the Shopify platform can agree that

once customers log in to Shopify, they can get access to any of the stores. So, store A, store B, store C, all on a platform of Shopify. I am a customer of store A. So, I log in to store A and do my transaction, get whatever I want to buy. Now, Shopify is trying that if all the customers, their online customers, shopkeepers,

the owners like shop A, shop B, shop C, agree that a customer logs in once into Shopify. Then they can log in directly to any of their choice. So, one is you are giving much more flexibility, benefits, and choice to the customer. At the same time, there is more competition for the shopkeepers or shop owners, but they might realize that in the process, if Shopify takes this model and succeeds, then Shopify will attract more customers. The cross-side effect, because customers now realize if I log in to Shopify, I can get a range of products from various shop owners, very similar to Amazon. If you sign on to Amazon, then you get access to a range of products in different categories, from refrigerator to air conditioner to clothes to food to whatever books—name it, it is there on Amazon.

Same thing Shopify is trying to do it similar way like Amazon not for individual products, but for business houses shop owners. A few 100,000 shop owners selling their catalog of products different products. And once you get in login as a consumer you can get the view of shop A, shop B, shop C, shop D, shop like that go on etcetera. And then get into each other shop and see what they are selling. So, platform as a business model.

It is a business that creates value by facilitating direct interactions between two or more distinct type of customers. This is the definition. Why two or more distinct type of customers? For example, for the platform for example, for Amazon both the buyer is a customer and the seller is also a customer. For Airbnb the house owner is a customer and the traveler is a customer.

Because Airbnb actually is getting money from both. Maybe the traveler is paying once to whomsoever or either Airbnb or the house owner, but Airbnb gets a commission from both of them some percent some percentage. It is like GST we have a CST component and a state component. You are paying as GST of 5 percent when you go to a restaurant for food, but of that 5 percent 2.5 percent goes to the central kitty and 2.5 percent goes to the state kitty. Similarly, for Airbnb it is the other way around, once you pay to somebody some percentage of it comes from the owners share and some percentage comes from the traveller share.

For Airbnb, because unless they have the customer, they do not have the house owner or vice versa. They treat both as customers and they call two or more distinct types of customers. Here, the platforms and the distinct customers are given. Platforms are retail, media—there is a long list: advertising (Google, Baidu, Craigslist), finance (PayPal, Alipay, Visa), gaming (Xbox, PlayStation), mobile computing, iOS, Android, business software (SAP), hospitality (Airbnb, Tripadvisor), transportation (Uber, Didi—Didi is in China), education (Coursera, Udemy, NPTEL, Swayam), job search (LinkedIn), philanthropy (Keto for donations, crowdfunding, Kiva, and DonorsChoose),

so, retail, of course—eBay and others, etcetera. The distinct customers are different parties that each play different roles and receive different types of value. We have buyers, sellers, integrators, advertisers, viewers, creators, web page creators, app developers, sensor manufacturers, hosts, renters, travelers. Various types of parties—different types of distinct customers—can participate in the platform business, or the platform ecosystem.

So, they are part of the platform ecosystem. In Airbnb or eBay, the two parties interact directly—they are free to negotiate, create their own profiles, and decide how to present their services or products. The independence of interaction is what does not allow an online supermarket to be considered a platform. If you take Walmart's online supermarket, that is not a platform. Why? Because it does not allow the freedom for individual products to display the way they want.

Similarly, even Amazon does not allow permit the sellers to present it, they will get the features description etcetera, but how they are displayed on the Amazon website is depends on Amazon. So, the two parties are not independently interacting. So, that is why it will not qualify to be considered as a platform. But here we are listing Amazon, Flipkart, but not listing Walmart. Facilitating although the platform does not dictate the interactions, but it can take place only on the platform.

So, this is facilitating. Doing thing interaction like here with me, but I am the interaction is permissible only you can do it only on the platform. I am giving you all the facility to where to do your transactions. I am owning that entire facility which makes you enables you to do the transaction. How the digital will impact platforms, the digital features of the platforms there are four key elements.

One is frictionless acquisition. The combination of web APIs and software development kits have made the life of developers very easy. Example to place an ad on Google based

on keyword search one has to go to Google AdWords and begin using a self service tool to test and launch an ad campaign. You can do it on your own because Google has utilized all this web APIs and SDKs to form this tool called Google AdWords. Scalable growth.

With advent of cloud computing businesses can scale up any limits in the shortest possible time. Uber, Airbnb, Zoom meetings, thousands of simultaneous video calls with hundreds of attendees in each call is happening today and it came up only few years back during the COVID times. So, it can scale up, it did scale up very fast. Virtualization is a process of creating virtual versions of computing resources such as servers, storage and networks allowing multiple virtual machines to run on a single physical server. this enables efficient resource utilization this is you heard about things like virtual machines VMs.

Cloud is nothing, but again a server farm data center physical servers, but you can utilize the physical capacity in a virtual mode, so that you can have different small virtual computers within a single server box. So, physical one box of server I can split up virtually into different independent individual machines computers and they will not interact with each other. So, if you are using some portion of that server as your computer or as your data center, you are independent of the others who are also residing in the same physical environment or same physical server.

That is why they are known as virtual machines and this has helped to make the capacity very flexible. If I want extra capacity they will immediately give me a virtual machine somewhere in any other box. Not necessarily it has to be on the same physical server. I can go on increasing my capacity as I want and the cloud service provider will give me virtual machines and wherever in different physical boxes, but logically or virtually they will all be connected as one. So, I will be seeing as one data center, virtual data center and I will not see independent small data centers assimilation of these data centers. That is what gives me a

Scalable growth, and I can grow on a demand basis because I am not buying any products. I can get it very fast, within a day's time or today. If I want capacity, I will get it today or tomorrow. The third one is on-demand access and speed. Mobile computing lets every platform get accessible to all its customers from anywhere, anytime. We know that, and thanks to the internet, models like Uber would never have happened without the use of mobile phones in the hands of every driver as well as the customer. You get on-

demand access. I can get a taxi from anywhere, anytime. The taxi driver can get the request also, wherever he is—it does not matter—and wherever the customer is—it does not matter. He does not have to pick up that person from such and such point and then go.

AI development cloud platforms with hundreds of GPUs are providing low-cost options to AI developers and language providers. So, all of this rapid development is possible because of these cloud AI platforms. You get on-demand access as a developer. You can access your cloud anytime from anywhere, and you can use those platforms for developing your product or app, whatever you are trying to do. The fourth digital element is the impact of trust. Verification and trust are essential parts of the digital platform business.

For Airbnb, it becomes essential for them to verify the hosts; otherwise, the unaware traveler can get into a problem. When you are traveling to a new place for the first time and you do not know—like hotels are branded, big hotels, big structures, lots of people. So, you have a sense of security. But if you are going to a single house you have taken on rent as an Airbnb facility or a flat or small, you are not aware of that city's condition, you are not aware of the locality—whether it is safe, etc.—or if the house owner is also staying, whether he is reliable, etc. So, all that background check has to be done by Airbnb. They have to do an audit, due diligence, and then only will they host that site.

If they are satisfied with the security features of that house, the house owner, the locality, etcetera, because they have to ensure They give you that confidence. So, you have trust in Airbnb's brand value. We know that Airbnb has done due diligence, has done an audit, and because it is satisfied, it has selected that as a host, and I can trust. That is the value which Airbnb brings you.

Competitive benefits of platforms, Light in assets. So, Uber, the world's largest taxi company, owns no taxis; Airbnb, the world's largest accommodation provider, owns no hotels; Facebook, the world's most popular media owner, creates no content; and Alibaba, the world's largest retailer, has no inventory. Something interesting is happening if you just think: Facebook does not create any content. It is created by all of us, and we are putting it on Facebook so that advertisers come in and make money, and Facebook makes money.

The effort is from us. We travel, we go places, we take pictures, take videos, and keep posting. Uber does not own a single taxi; Airbnb does not own a single hotel or a building or asset anywhere. Scaling fast, low operating costs, scalable cloud computing

architecture, and no capex because you are not buying anything—capex expenditure—and often most of the work is done by the customers. Hence, being very lean on employees allows a platform business to grow rapidly. So, I do not need to employ more people.

So, Airbnb operates across 190 countries, probably with a \$60 billion turnover, and likely has very few 100,000 employees. The same is true for Uber. So, all they have to maintain is the platform, the software, and then, of course, some customer service, customer complaints, and government regulations, etc., including talking to governments, etc. So, you need some legal team, etc., and accounting, of course—accounts. With that lean team, they do business at a global scale.

That is what is interesting—what is happening. You can scale up to any size, anything; you can work in any number of countries. Airbnb reaches \$4 billion in revenue with just 600 employees. Since the beginning of the internet, 8 out of the 10 most valuable companies today are platform companies. The reason is this: Light assets, fewer employees, and you can scale fast because of this cloud facility, which has matured so much. So, this is where the whole digital thing comes in—the benefit of the cloud.

So, there are some competitive benefits of platforms. Some are a bit old statistics—2015—but they give an indication of how these companies are growing. Google, a company from 1998, is now valued at \$425 billion, but this is again 2015 stats. Things have changed, but I just give you this picture to provide a comparative value of what is happening. In 2004, Facebook was \$248 billion. In 1994, Amazon.com was \$235 billion. So, these are all \$200 to \$300-plus billion-dollar groups that have emerged in the last 5, 6, 7, or 10 years. So, an extremely fast growth rate.

The last section is risks, it is unstable regulatory framework because you are handling customer data. Because you are very large giant you are becoming monopolistic, hence government is keeping eyes on you. You must be seeing reports where because of data privacy reason Amazon has been fined, Facebook has been fined, Google has been fined. And in China it becomes so powerful Alibaba that this owner Jack Ma was literally hounded by the Chinese government and he had to run away. He now stays in Japan; he cannot stay in China because otherwise he will be arrested.

So, these companies are becoming too big, too powerful, too monopolistic. And that is why government and all these regulations are keeping eyes because you are playing with the customers data and you can do lot of damage if you want. The Cambridge Analytica

and Facebook scam you must be knowing during which impacted the US presidential election between Trump and Hillary Clinton and that created lot of noise in the system. Also porting from moving if you are moving from one cloud service provided to another is not easy and it is expensive. So, that is why the cloud owners has lot of control once you have joined them be part of the cloud then they have lot of control and power over you.

So, it is not very easy to move. So, cloud once it is cheap, but then when it becomes monopolistic then they can also keep rising prices and it can become not so cheap anymore. And data privacy regulation of course, that is one of the most important thing today data privacy GDPR global data privacy regulation European Union and other regions they are focusing on how platforms they collect process and use and store data. So, privacy concern is one of the biggest challenge for the platform business. It is become a preferred launchpad for entrepreneurial ventures of all sizes from large innovative companies to the smallest, but most ambitious startups.

However, you have to keep the risks in mind, and you have to be very careful when handling customer data. You have to be very careful. Otherwise, you can be liable for fines or other forms of punishment from the government. With that, I will end this session. Thank you very much.