Chapter 1 : “Business Models”

Is a representation of business.

Lets you understand –

🡪 who your primary customers are

🡪 what their needs are

🡪 what their business value proposition is

🡪 how they interact with customers

🡪 how business organises its operations

🡪 what their specific resources required for their operations

🡪 costs and revenue structure

Hence its represents decisions :

🡪 customer segment – define , discover, develop network effects

🡪value offerings – define value architecture

🡪partnership agreements – which side to monetise or subsidise

🡪resource requirements

🡪value flow – growth and sustainability of the platform (penguin problem)

🡪 cash flow

Business platform – represents information , infrastructure and rules

Pipelines – Traditional business, value flows from one direction to another . Ex manufacture and consumption of bread

Platforms are of 2 types –

Simple or Single sided : caters to one set of users (ex newspaper)

Multi sided : caters to multiple sets of users (ex airport)

Network Effects –

Value one set of users attach to another set of users in the platform.

2 types :

1. Cross side or indirect network
   1. One set of users attracts another set – ex: newspapers and advertisers
2. One side
   1. Value of platform is directly proportional to number of quality users on the same side. Ex Facebook

Both cross side and one side can have positive and negative effects. Ex newspaper and B2B

Platforms and Market Efficiency depend on removing –

* Information asymmetry – Ex used car market where seller has more information than buyer and can retain information
* Adverse Selection – Information asymmetry is used to gain
* Mortal Hazard – Contract breach , behaviour change of one party that affects the other.

Platform Roles –

3 main roles : Sponsors , Providers and Users

Ex: Ebay ( both provider and sponsor) , mp3 ( supplier and provider)

Platforms as Networks –

* Complementarity , Compatibility, Standards – Ex hardware and software (consumers consume products or systems together)
* Consumption Externalities – Ex Telephone ( Depends on critical mass , as more and more users adopt value of the product / service increases)
* Switching costs and lock in - Ex QWERTY keyboard (as users network and penetration increases , it becomes difficult to switch)
* Significant economies of Sale – As a result of above factors , it answers the cost to expand or scale.

Platforms as Ecosystems -

Four ecosystem characteristics—modularity, absorptive capacity, co-evolution, and public goods—provide opportunities for platforms to architect ecosystems.

Chapter 2 : “Value Creation in Platforms”

Value Architecture –

🡪 How an org creates , delivers and captures value

🡪 Focuses on product / service design

🡪 Value delivery on org routines and infrastructure

🡪 Focuses on outcome

4 Fundamental Utilities –

* Discovery : Provide information as service , Ex Just Dial

Requires 3 capabilities : access to supply side user data , understanding demand and user choices and leveraging data on search behaviour to provide recommendations.

* Matching : choice making on both side of users which are aligned based on preference , two way search and filtering Ex shaadi.com
* Transaction : Price Discovery and Utility

Requires 3 capabilities : ensure adequate and accurate information collected, responsibility for pricing and other monetary transaction , resolve disputes.

* Evaluation : Ratings, reviews, recommendation and Feedback – bridges info asymmetry and builds credibility, internalise risk of adverse selection, keep information reliable. Ex Airbnb

Chapter 3“Network Mobilisation”

2 decision critical for network mobilisation –

1. Firm leveraging existing users
2. Acquiring first set of users

Strategic dimension

1. User Dimension
   1. Port existing users in pipeline /business , ex kindle
   2. Attract new users – ex youtube
   3. Target Marquee users – ex Twitter (US elections Obama used it)
2. Resource Dimension
   1. Leverage existing system , ex Uber leverages matching algo
   2. Develop new resources , ex Airbnb matching demand and supply of hotel rooms
   3. Leverage resources from ecosystem , ex Zynga leveraged facebook

Penguin Problem : waiting for others to onboard a new platform or getting critical number of users on each side.

Solving the Penguin Problem –

* Leverage existing resources to port users : Should focus on quality , maintain consistency in portability of users Ex. Amazon Prime ecosystem
* Leverage ecosystem resources to port users : value co-creation and sharing important aspect of ecosystem. Ex Alipay , Apple Pay
* Develop new resources to port users : Solving core problems, either technological or process related , ex MPESA of Vodafone
* Leverage existing resources to attract users via marquees : crowd pullers who can attract new users onto the platform through sustained marketing efforts . Ex rockstars
* Leverage ecosystem resources to attract users via marquees : A marquee user ascertains exact intended audience , number of returning users, and degree of engagement that the users would get into. Ex Twitter for US presidential elections
* Develop new resources to attract users via marquees : Ex Airbnb , founders rented their apartment , built a new platform which inspired home owners to list and travellers to book easily. Hired professional photographers.
* Leverage existing resources to attract new users : Ex Uber used taxi drivers to launch the platform , Uber Eats leveraged the same drivers to food delivery business.
* Leverage ecosystem resources to attract new users : Ex Apple increased demand by expanding their core products and services through partnerships and open interfaces.
* Develop new resources to attract new users : Ex Youtube solve the penguin problem , leveraged users, content developers and advertisers by sustained marketing, providing technological easy access.

Chapter 4 “Network Effects”

* Externalities – costs and benefits accrued by users due to action of other users.
* Network Externalities – value generated by owning a good Ex Telephone (unless there are more users of the telephone onboarded, owning the telephone alone has no value)
* Network Effects – Benefits internalised by a platform owner which are no longer externalities, represents utility Ex Uber
  + Cross side network effect – Uber (more riders attract more drivers)
  + Same side network effect – Facebook (users attract more users like them)
  + Total Utility from n/w U = X + Y(n) where X is utility derived from standalone platform and Y(n) is utility derived from platform having n users
  + Positive / Direct Network Effect – user begets users
  + Negative / Indirect network Effect – users leave, platform shrinks
  + Zero / Salient network effect – Has no effect
* Properties of Network Effect
  + Strength of network effects – Depends on preferences and diverse expectations Ex Matrimony site. Strength is determined by :
    - novelty (ex news channel) :high frequency transactions
    - choice (ex food delivery) :infrequent transactions
    - convenience (ex makemytrip) :high friction transactions
  + Direction of network effects – Negative network effect can hinder growth of the platform. Ex B2B marketplace
  + Nonlinearity – Once platform crosses a +ve threshold , its effect might become negative. Ex Telecom network which starts getting congested once hitting capacity.
* Leveraging networks for Growth
  + Coring – leverage the core of technological or market ecosystem that resolves problems for many users, enable complementary innovation. Ex MakemyTrip expanded into domestic travel, hotel booking, packages etc
  + Tipping – Sustaining market leadership between competing platforms by building momentum by setting standards, pricing, tipping across markets and forming coalition, . Ex – iTunes (reverse razor blade strategy which high hardware price, low music price)

|  |  |
| --- | --- |
| Product /Services | Platform |
| Focal firm Owns product / service standard | Focal firm depends on ecosystem partners |
| Can outsource / insource and can still control all activities of value chain | Orchestrates interactions between different users without controlling activities |
| Ex mp3 | Ex Uber |

Chapter 5 “Pricing and Subsidiaries”

A critical decision for platforms is to balance the demand across the two sides by the right kind of pricing. Pricing plays an important role in WTP (Willing to Pay) , WTJ (Willing to Join) and WTS (Willing to Stay) . Ex. Newspapers and pricing of advertisements in it.

WTP (Willingness to pay) depends on –

* Strength of cross side network effects
* Strength of same side network effects
* Value creation (by reducing txn costs, information asymmetry , adverse selection)

WTJ and WTS depends on –

* Switching and multi homing cost
* Cost of exiting
* Cost of investment

Pricing decisions require 3 choices –

* Which side to subsidise and which to monetise
* What pricing model to use and how much to charge
* How pricing can be used as a competitive tool against competitors

There are 2 sides in context to platforms – Subsidy Side and Money Side

Subsidy Side – A group of users, who when affiliated with a platform in large numbers are highly valued by the users on the other side of the platform.

Money Side – A group of users who demonstrate high willingness to affiliate, willingness to pay, and/or willingness to remain loyal to a platform due to the continued affiliation and usage/engagement of users on the other side.

Six criteria for making this decision:

1.Relative strength of cross-side network effects – Ex FM Radio Broadcasting , MakeMyTrip . Subsidise the side that is more valuable on the other side, increase value of intermediation and Platform should bring in value for interaction between other two sides.  
2.Relative price sensitivity – Ex Adobe Acrobat Reader. Subsidise price sensitive users and monetise price insensitive, switching and multi homing costs provide guidance to subsidy but do not determine.  
3.Relative value attached to quality of products and services – Ex Game developers who are monetised bring in high quality games to garner more players to recover their investment. This also increases sale of console bought by players. Monetise the side that produces quality and subsidise the side that seeks quality. Pricing as a strategy to reduce quality evaluation.

4. Marginal costs of user addition – Ex Matrimony site .Adding a new user < prices charged , subsidy side users should have very low marginal cost. Variable costs should be recovered from users for every transaction.  
4.Relative differentiation among users – Ex Shopping mall. Monetise the side that has differentiated users and subsidise the side that has undifferentiated users and equally valued by users on other side.  
5.Relative bargaining power of complementors – Ex EA vs Xbox. Monetise the side that has marquee users and treat marquee users as complementor.

Pricing Models :

(a)  Subscription pricing models : When marginal cost of transaction Is ~ 0 and multihoming costs high , increases loyalty , this model is preferred. Ex Netflix and Prime

(b)  On-demand pricing models : Has Fewer critical transactions. Ex Uber/Ola riders willing to pay premium prices in the form of surge/peak pricing , lock in for drivers by in high switching cost and supply side investments.

(c)  Razor-blade and reverse razor-blade pricing models : Razor blade Ex Kindle (hardware subsidised but profit made through selling books) Reverse razor-blade Ex Apple’s music and iPod (premium price of the iPod and subsidising music)

(d)  Freemium pricing models : Multiple segment of users present , has both free and premium users. Ex Linkedin

(e)  Auction pricing models : Used for discovering users preference to pay and the right price. Helps addressing information asymmetry. Ex. eBay, olx

(f)  Free pricing models : Ex Search engine (subsidises users and monetises advertisers and website owners)

Chapter 6 Platform Architecture

Ecosystem Value creation has 3 layers – Core (mandatory for all), Configuration (customer segment) and Customization (done for every customer).

Ex . In case of Desktop computer – Core is microprocessor , Configurations are monitors, keyboards etc and Customisation include email setup, stickers ,wallpapers etc.

Open Platform- More third party / complementor associations, expand user base , scale faster , set standards. Ex Linux

Closed Platforms – Charge premium prices from its users. Ex Apple.

Shared Platform – When there are compatibilities across competitor platforms. Multi homing costs are low and loyalty based on differentiation. Needs continued engagement techniques like marquees. Ex Youtube

Proprietary Platform – When complements are exclusive to one platform and users affiliate to that platform only get access to those complements and core. Cost of switching is high and fear of lock in by users. Platforms have high control to who can participate, price access and transaction control. Ex Enterprise software, Apple.

Joint Venture Platform – Initial investments very high and no single firm wants to commit to set standards. Platform Provider might need scope and economies of scale for value creation , at the same time strong intellectual protection to sponsors. Ex. EV vehicles.

Licensing Platform – Initial investments very high, associate with complementors , value generated from core and complementors , complementors are strong brands that have unique value proposition that users like but cannot be provided by sponsor. Ex UPI

Chapter 7 – Winner Takes All Dynamics

Markets that have dominant one or few platforms are called WTA. It is characterised by :

* Strong and positive Network effects - High WTJ and WTS , Ex Facebook
* High Multihoming Costs – Ex Ola and Uber , drivers incur costs so they need to stick to one platform.
* User preferences for special features – Ex preferences in social media – Facebook vs LinkedIn

Impact of WTA markets on Complementors –

* Co-ordination Problems – Arise when supply side need assurance from demand side for network effects and users cannot signal their intent of joining the platform without the platform’s investment.
* Tipping / Standardisation – early adoption by complementors of a platform can put them to risk of being charged highly and so they postpone their adoption until platform matures. On the other hand early adoption can alternately give them advantage of shaping market and technical stds. If poor stds creep in , users and complementors get stuck with the platform and hinder innovation.
* Multiple Equilibria – Some markets take time to standardise or tip. Complementors would incur multihoming cost and choose to adopt one of the standards of the market so that they remain relevant when one of the standards become prevalent.
* Lock in Costs – Once standard wars are won, platforms recoup costs from users in the form of higher prices, switching costs and lack of investment.

Evolution of WTA Markets –

6 issues to consider in the evolution of WTA markets :

* Pioneer’s Dilemma and Penguin Problem – Pioneers dilemma is timing to launch a superior product by a start-up. Ex Gmail which caused disruption by introducing complementary services by tightening integrating with their core.
* Subsidization and Monetisation – Helps in network growth, platform viability, economics of complementors. Ex Amazon
* Pivot Dilemma – Timing of diversification and extent of product breadth for a start-up
* Remora Strategy – Is used to mobilise networks that platform start-ups do by attaching to an established platform. It has 5 trade-offs : holdup risk, ceding monetisation control, access to user data, risk of brand commoditisation , exit costs.
* Integration Dilemma – Ex Apple’s iPhone. Decision by platforms to integrate features outside their core offering. Need to consider complementors bargaining power when features valued by customers and risk of loosing complementors if features rolled into core.
* Relationship Dilemma – Ex Practo , bargaining power by the platform over complementors. Platform own discovery/transaction/matching/evaluation algorithms. So the platform can use algos to expand market or share with complementors to monetise.

Predatory Pricing –

Based on Areeda Turner Test – The recoupment premise states that the firm indulging in predatory pricing should be able to predict and be confident of its ability to recoup the losses through higher profits as competition exits the market.

AVC Premise - The firm’s prices should be below its average variable costs (AVC), or marginal costs in the short run.

Incumbents can respond to threats in following ways :

Increase multihoming costs on both sides

Reduce prices on demand side and tweak supplier side incentive

Increasing penetration – Explore new niche segments by expanding across.

Perpetual matching – become pure discovery and matching platform and charge

**Chapter 8 – Platform Envelopment**

How platform compete against each other outside a WTA market. It is based on 4 strategies:

* Platform Scope – Core + Complementors and their activities + multihoming costs + scaling capabilities + value architectures, digital platforms have high modularity.
* Breadth and Stickiness of Complementor Network – Critical mass kicks in with high density and diversity of complementors. Users move to platform that has choice , has more search option that reduces multihoming and transaction costs. Platform can mature based on complementors scale , variety and contribution. Ex bookmyshow. Platform automates core operations of the complementors, have access to high-quality real-time data.
* Switching and Multihoming costs for Users – Tight integration with platform, adopting platform specific nomenclature, by adopting specific standards, Diversifying and rewarding users for association.
* Intermediation Efficiency – How efficient is the platform in creating, delivering and capturing value.

Platform Envelopment –

When technology standards have evolved and the interactions in the market stabilized, platforms from adjacent markets sense the opportunity and envelop these markets. Smart phones have historically enveloped a variety of functionalities, including photography, music, internet, and even payments.

Follower Advantage : Fast followers enjoy advantages of what the pioneers have already established and created network effects. Ex Gmail

Staircase Strategy : Stepwise diversification to envelop market. Ex Amazon

Competing against envelopment : Focus on specific niche , leverage its platform core and enable complementors growth.

Mitigating Envelopment : can be done by

* Racing ( For customers) – should be adopted when network effects are positive, users are ready to pay. Ability to lock in customers , attract complementors. Have no late mover advantage. When market is conducive for racing , acquiring marquee complementors to build platform credibility, subsidising to acquire users, building referral programs and adopting pricing models for frequent and exclusive transactions are adopted.
* IP Protection – Trademarks, copyrights, patents and trade secrets.
* Caging of Customers – Exit from contracts is very high.

Multiplatform bundles can solve penguin problem by porting users from related platforms to new platform. Multiplatform run risk of higher costs when integration or diversification or moving away from their core. (Social app integration with payment app)

Reputation risk also exists in case one platform gets into trouble (Payment gateway hack leads to customer attrition on messaging platform due to dissatisfaction)

Chapter 9 – Complementary Business Models

Dominant Business Models :

* Multi sided Business Model – create value through network effects by sharing of content, products , services, information , reducing transaction, multihoming, transaction and search costs and collating reviews and feedback.
* SaaS and Servitization – Firms have adopted availability of internet , service models for business usage. Ex Cloud services and OTA
* Clusters - Clusters operate in same industry and are typically referred to as a geographical agglomeration of businesses, interconnected with each other as customers-suppliers-technology providers or other such transactions.
* Communities and Networks- Share assets and resources that are critical to business but not core. NASCOM and global school GNAM
* Ecosystems - Technology ecosystems need to balance three paradoxes—standards and variety (variance in outputs); control and autonomy (complementary innovation); and individual and collective identity (investments in core and complements). Ecosystem has 4 level of affiliation – Interdependencies , competition among complementors , ecosystem architecture and ecosystem competition.

Combined Business Models :

* MSP’s and SaaS – solves the penguin problem , data collection for maturity of model and standalone problem of supply side. Ex Redbus
* MSP’s and Communities – Ex Big Biking community. Helps building platform in 3 ways : attract diverse partners, extend value proposition to innovate and aggregate users based on passion and interests.
* MSP’s and Clusters – Ex Medical Valley as a platform leverages Nuremberg region.
* MSP’s and Ecosystems – Ekstep Foundation facilitated by SunBird community.

Chapter 10 – Contemporary Issues in Platform

Social impacts of platforms -

* Content – Either UGC or TPC, content moderation and monetisation happens on all platforms. Concerns around reliability, transparency , mobilising opinion, fake news, misinformation, political movements , targeted movements have been growing. No liability taken by platforms and govts have not been able to push through.
* Data – managing user privacy is significant issue for platforms , right to customise, personalise, monetise and sharing.
* Competition – operates in WTA markets , regulatory laws of different counties impact cost of the platforms (localisation, security laws , blashphemy), data rights, patents and copyrights
* Platform Governance – platform firms are private entities that work for private gains, even though they provide public goods. Widened info asymmetry , misinformation, hate speech resulting in heightened polarisation.
* Platforms as Gatekeepers, Marketplaces and Editors – in case of marketplaces they take no responsibility of the content, complementors, services, products , behaviours of the users. They only own matching and discovery algorithms with minimum quality check. Gatekeepers ensures quality of the users and complementors , earns the trust of users. Editors allow user generated and third party content with certain controls. Shared responsibility between platform and content creator.

Problem of Many Hands –

The problem of many hands occurs when multiple uncoordinated entities contribute in different ways to a problem (or in solving the problem) in a manner where it might be difficult to accurately place accountabilities and responsibilities to actions and consequences. Issues like climate change and air pollution are examples of the problem of many hands.

In order to solve this problem of many hands, Helberger, Pierson & Poell (2018) suggest a system of cooperative responsibility.They suggest that these platforms should (a) collective define the essential public values that they intend to uphold; (b) acknowledge that they have a role to play in realization of these values through their activities and decisions; (c) develop a multi-stakeholder process of public deliberation and exchange; and (d) translate the outcomes of these deliberations into shared codes of conduct, rules, and design principles for their platform architecture.

Platform in Contestable Markets – hit and run strategy since new entrants face no entry or exit costs , market is easily accessible, pre-entry prices of incumbents available.