Software product management

Introduction

BITS Pilani

Nandagopal Govindan

Contents

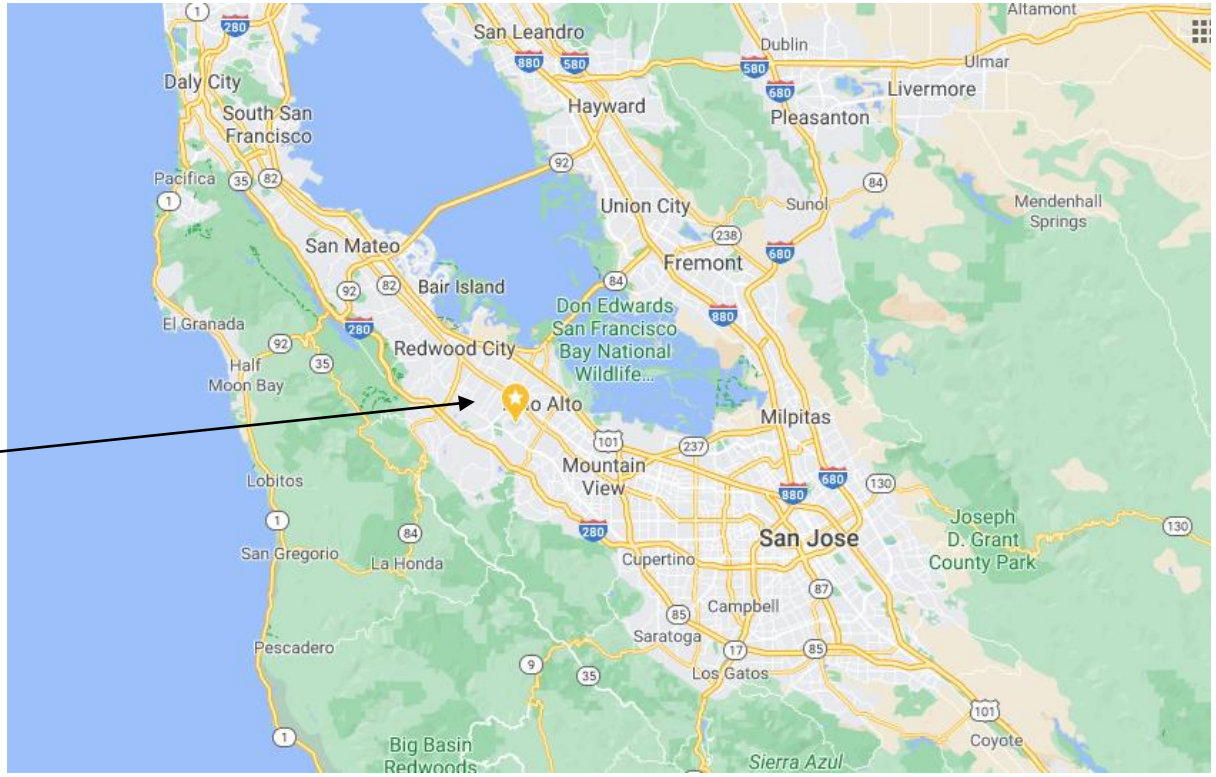
- Software products scenario
- What is spurring product industry?
- Different product categories
- Project business vs Product business
- What is Product management?

- About this course

Software products scenario

Software product revolution started in Silicon valley

Stanford University



Silicon valley

Early companies in Silicon valley: HP, Xerox, Apple, Oracle,…..

How Silicon Valley became successful?

- Convergence of Academia (Stanford, UC Berkley), the Private Sector, and Government
- High Density of Wealthy Investors and Funding Institutions
- Inspiration From Past Success Stories
- Cultural diversity: Half the startups belong to Indians and Chinese
- Level-headed Approach to Failure

Today there are 950+ unicorns across the world

innovate achieve lead

Country	# of Unicorns
United States	300+
China	140+
India	50+
United Kingdom	30+
Germany	12
South Korea	11

https://www.cbinsights.com/research-unicorn-companies

Unicorns by industry

Industry	# of Unicorns
Fintech	80+
Internet software & services	70+
E-commerce & direct-to-consumer	70+
Artificial intelligence	50+
Mobile & telecommunications	35+
Health	35+

https://www.cbinsights.com/research-unicorn-companies

Growth of start-ups in India

innovate achieve lead

The number of start-ups has grown from 7,000 in 2008 to 50,000 in 2017, according to the latest report by **KPMG on the startup ecosystem in india**

KPMG report: https://home.kpmg/in/en/home/insights/2019/01/startup-landscape-ecosystem-growing-mature.html

India's Next Batch Of Unicorns And Their Sectors

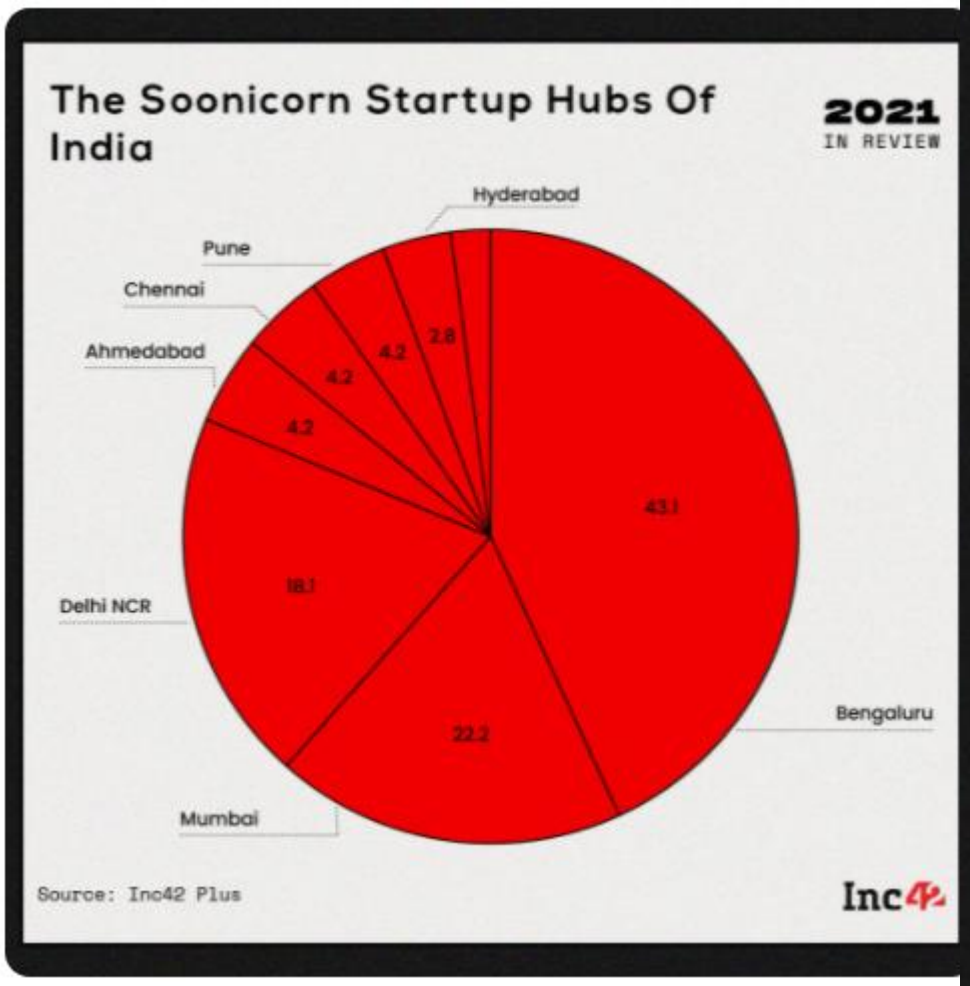
2021
IN REVIEW

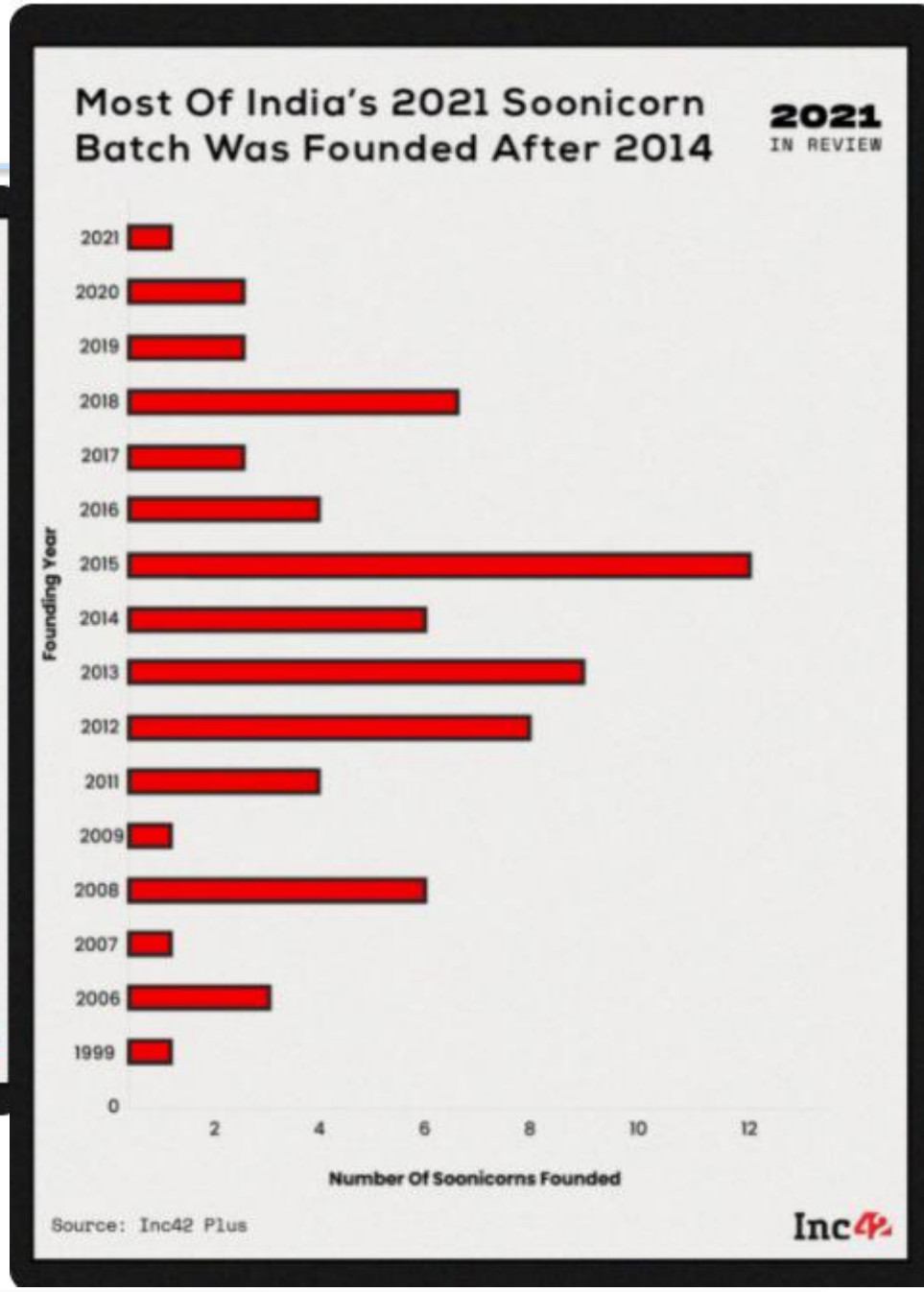
SECTOR	SOONICORNS
Fintech	bankbazaar.com, CAPITAL FLOAT, clear, CredAvenue, DRIP/c, Fi, Fino, InCred, Jupiter, KhataBook, kissht, LENDINGKART, mswipe, navi, one card, open, PayMate, Paytm Money, Rupeek, ZENWORK, zest
Ecommerce	BIZONGO, boAt, CarTrade, DealShare, elasticrun, FURLENCO, infibeam.com, Jumbotail, LIVSPACE, pepperfry, purple, wakefit
Enterprise Tech	capillary, MyGate, uniphore, FarEye, Hubilo, moengage, whatfix
Consumer Services	bookmyshow, EAT CLUB, Fresh to home, HomeLane, zepto
Logistics	Ecom Express, netradyne, PORTER, Shiprocket, XPRESSBEES

Upcoming unicorns start-ups in India

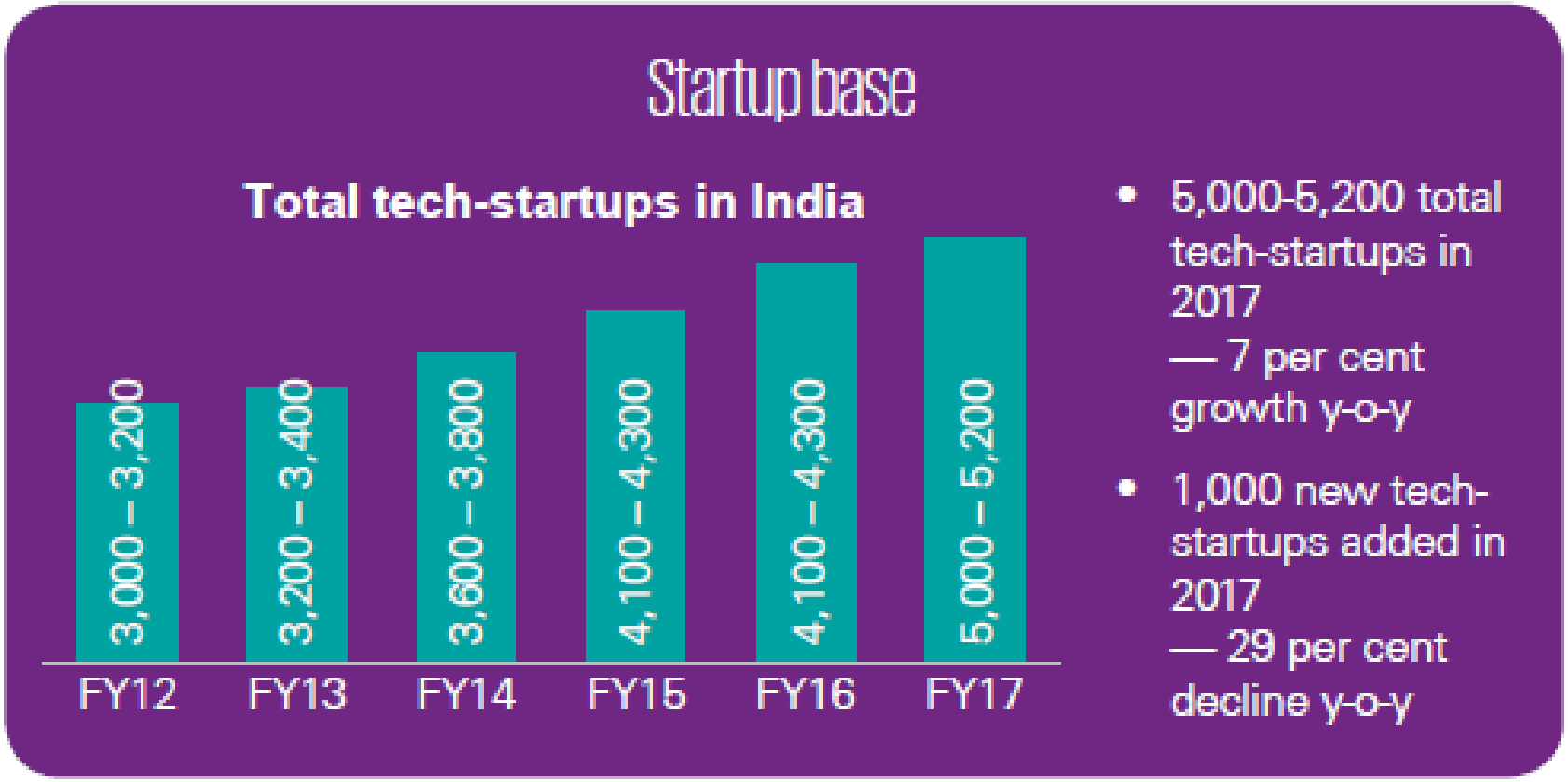
- India has 73 potential unicorns in 2021, up from 52 soonicorns in 2020, with Bengaluru leading the list followed by Mumbai and Delhi-NCR
- The emergence of new models in fintech, consumer services and ecommerce has revitalised funding in these sectors
- As startups raise capital at high valuations, investors caution against short-term thinking around growth at the cost of unit economics

https://inc42.com/features/the-next-unicorns-soonicorn-startups-in-india/


The Soonicorn Startup Hubs Of India
2021
IN REVIEW
Hyderabad
Pune
Chennai
Ahmedabad
Delhi NCR
Bengaluru
Mumbai
43.1
22.2
18.1
4.2
4.2
4.2
2.8
Source: Inc42 Plus
Inc42


Most Of India's 2021 Soonicorn Batch Was Founded After 2014
2021
IN REVIEW
Founding Year
2021
2020
2019
2018
2017
2016
2015
2014
2013
2012
2011
2009
2008
2007
2006
1999
0
2
4
6
8
10
12
Number Of Soonicorns Founded
Source: Inc42 Plus
Inc42

Tech start-ups growth in India



KPMG report: https://home.kpmg/in/en/home/insights/2019/01/startup-landscape-ecosystem-growing-mature.html

Tech start-ups – Advanced technology (India)

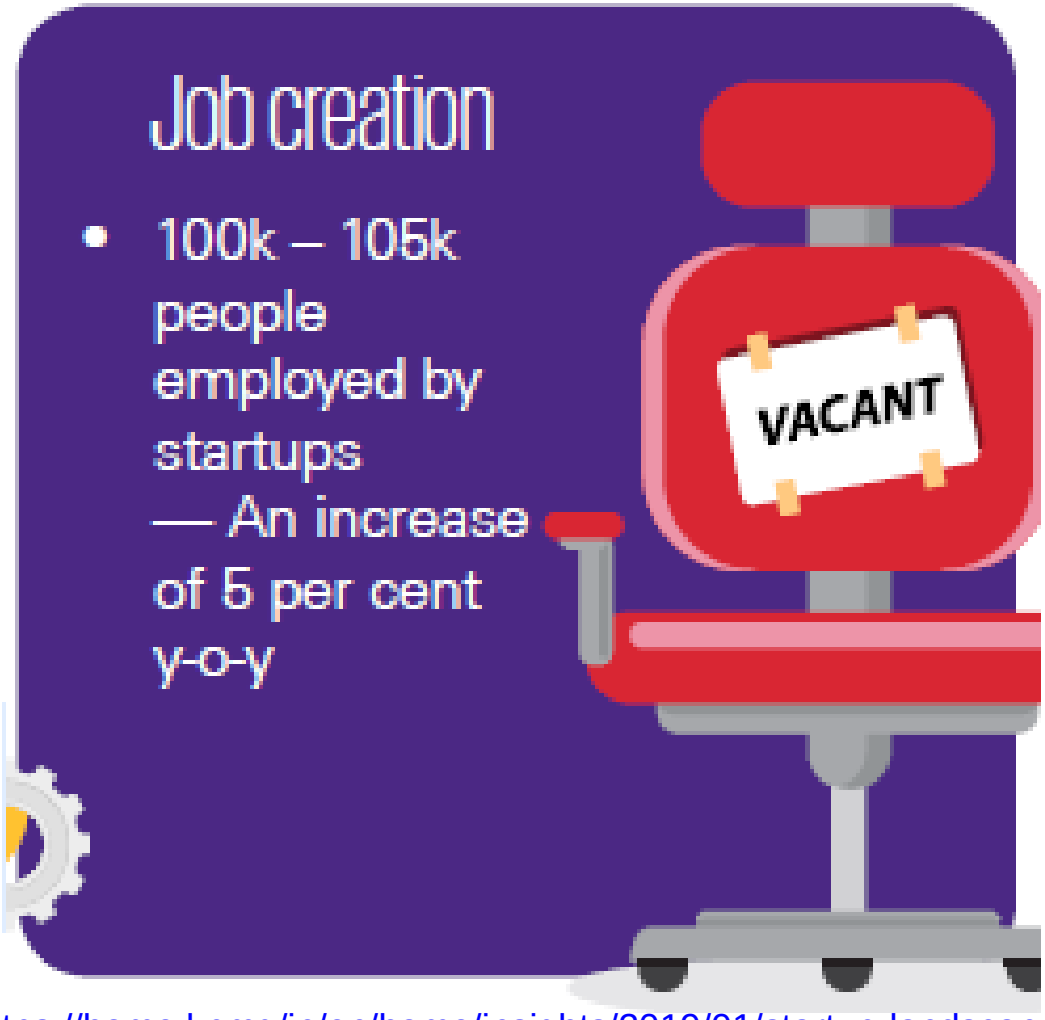
innovate achieve lead

Advanced technology startups

- 15 per cent advanced technology startups (such as analytics, artificial intelligence, Internet of Things (IoT), etc
- 18 per cent software as a services (SaaS) startups in the overall startup base

KPMG report: https://home.kpmg/in/en/home/insights/2019/01/startup-landscape-ecosystem-growing-mature.html

Tech start-ups – job creation (India)



KPMG report: https://home.kpmg/in/en/home/insights/2019/01/startup-landscape-ecosystem-growing-mature.html

What is spurring product industry?

innovate achieve lead

- Global market reach
- Cloud resources – Amazon AWS, Microsoft Azure, IBM, Google
- Funding - 100 angel investors in 2020
- Talent pool

Unicorns in India

Courtesy: https://www.investindia.gov.in/indian-unicorn-landscape

Product categories

Product categories

- By industry – Finance, Health, Retail, Travel
- By technology – AI/ML, Analytics, Robotics, IoT
- B2B vs B2C
- SaaS vs On-premise
- Mobile vs Web
- Regular vs API products (Payment gateway, Google Maps, SMS gateway, Banking API)
- Product vs Product-cum-service (Ola, Uber, Flipkart)
- Product (Paytm), Product platform (Ola), Product family (Office on Windows, Office on Mac, Office on Android), Product Line (Roclwell Collin avionics)
- Any other?

Industry segments

- E-Commerce – Amazon, Flipkart
- HealthTech – Practo, Tata Health, CogniAble
- FinTech – Paytm, Wealthy
- EdTech - Byju
- TravelTech – MakeMyTrip, Tripadvisor
- Logistics – Ecom express, Dunzo, Delhivery
- Consumer services – Swiggy,
- Enterprise Tech – Zoho, Kissflow, Wooqer
- Deep tech - Niflr, Logically, AskSarkar
- Software dev – Postman, WorkDuck

Product platform

Product platform: Amazon AWS, Android, Uber, PayPal, Facebook

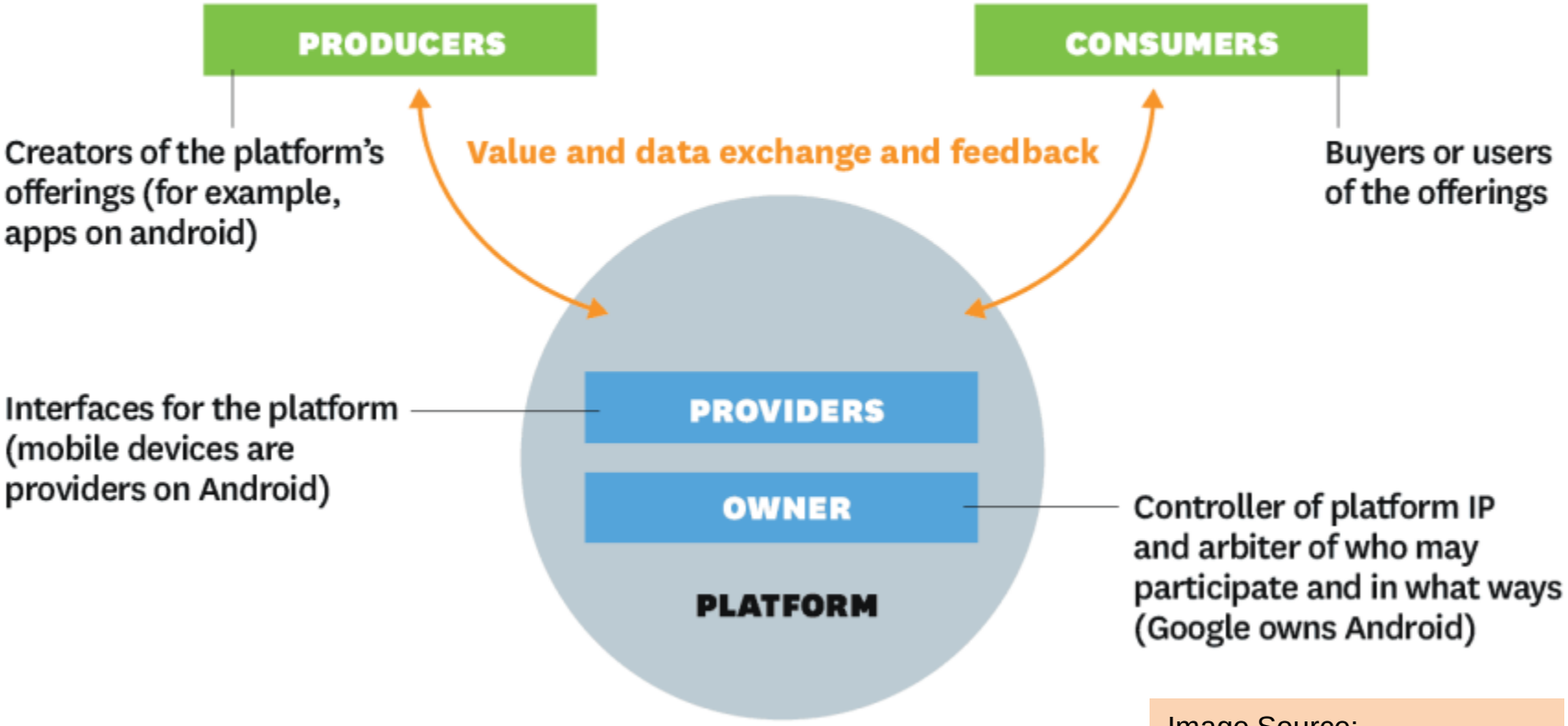
- The technical foundation / eco system on which several software products are based.

Product platform

innovate achieve lead

The Players in a Platform Ecosystem

A platform provides the infrastructure and rules for a marketplace that brings together producers and consumers. The players in the ecosystem fill four main roles but may shift rapidly from one role to another. Understanding the relationships both within and outside the ecosystem is central to platform strategy.



SOURCE MARSHALL W. VAN ALSTYNE, GEOFFREY G. PARKER, AND SANGEET PAUL CHOUDARY
FROM "PIPELINES, PLATFORMS, AND THE NEW RULES OF STRATEGY," APRIL 2016

Image Source: https://hbr.org/2016/04/pipelines-platforms-and-the-new-rules-of-strategy

Product family

Product family: Microsoft Office (Word, Excel, PowerPoint, OneNote, Outlook)

- A group of software products that are marketed as belonging together under a common family name

Product line

Product line: Rockwell Collins Avionics systems for different helicopters

- a collection of similar software systems from a shared set of software assets using a common means of production.





Product business and Project business

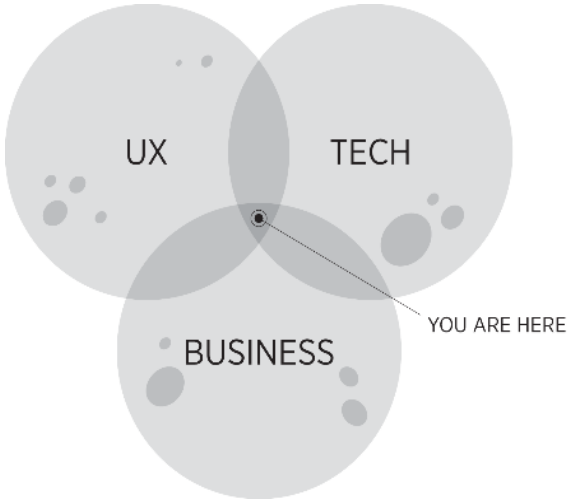
Dimension	Product	Project
Risk	High	Low
Returns	High	Low
Duration	Ongoing	Pre-determined
Customers	Many	One
Objective	Discovered	Given
Funding	Internal & external	Internal
Marketing effort	High	Low
Management	Strategic	Tactical / operational

What is Product Management?

innovate achieve lead

- “The job of a product manager is to discover a product that is valuable, usable and feasible.” – Marty Cagan, Author of ‘Inspired’

- “Product management is an intersection between business, user experience, and technology” – Martin Eriksson, Author of Product Leadership



- “Product management is the glue that holds together all the various functions” - Ken Norton, Product Partner at Google Ventures

Product Management role

innovate achieve lead

- You need to be really good at strategy, be inspirational, and understand the long-term picture.

- At the same time, you have to be really good at the operational side and making things happen
    - Setting a vision
    - Creating a roadmap
    - Build the product
    - Talk to customers

- You need the soft skills of persuasion, negotiation, storytelling, vision setting and communication

Product Management role

Ref: Product Plan.com

About the course

Hope you have handout.

Sharing thoughts

innovate achieve lead

Name one product company you admire.

What is the reason you admire this company?

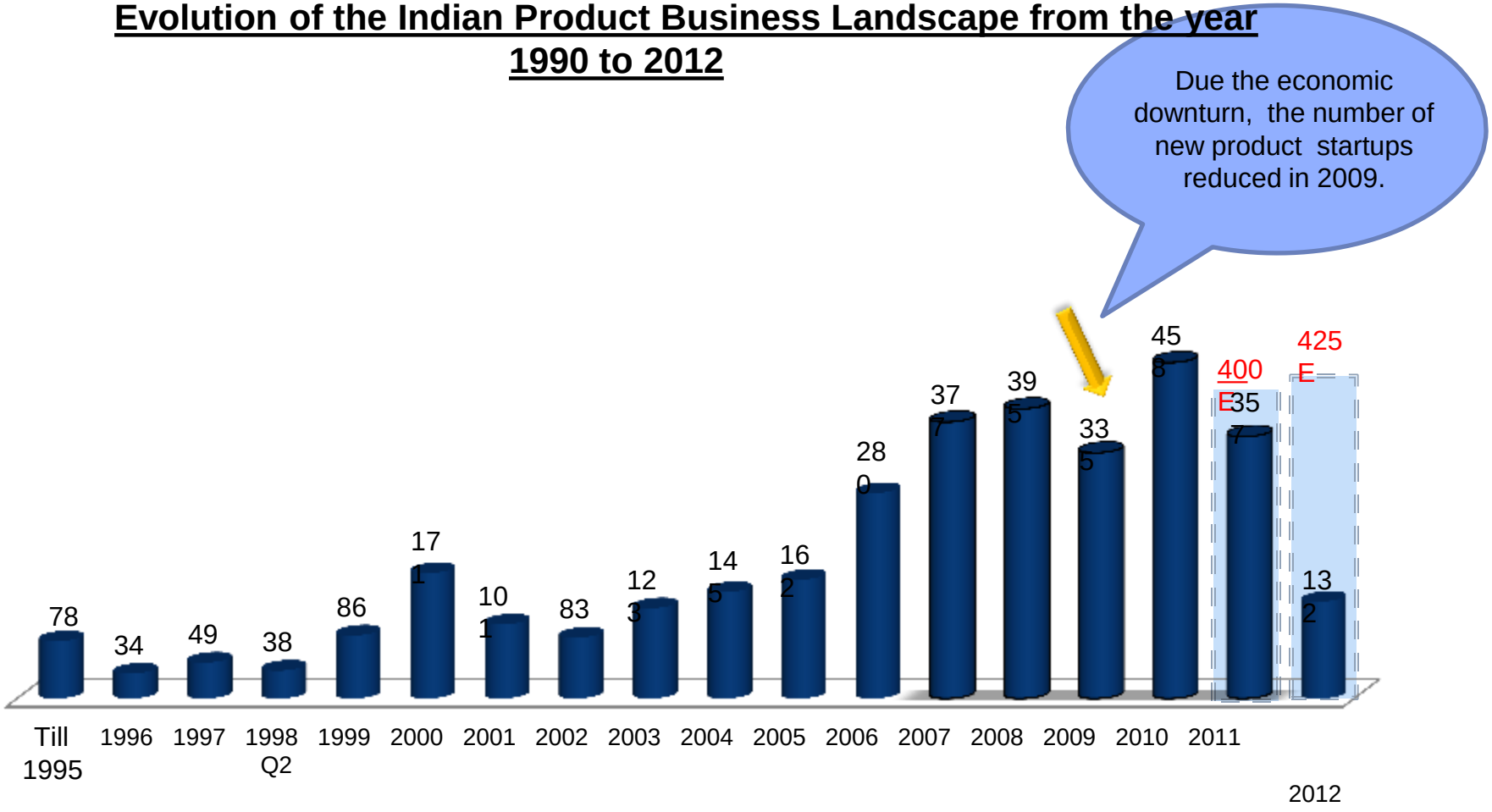
Appendix

Examples of Products

- Zoom – Simplified Cisco Webex
- Ola – Built a platform
- Postman – Eco system for API development
- Slack – Simplified Team collaboration
- Twilio – Tool to Integrate messaging
- Kissflow – Business workflow implementation easily
- Rivigo – Innovation in logistics
- MyGate – Spotted an opportunity

Since 1990, more than 3402 product companies have started in India; however, the YoY numbers vary dramatically due to various other economic variables

Evolution of the Indian Product Business Landscape from the year 1990 to 2012

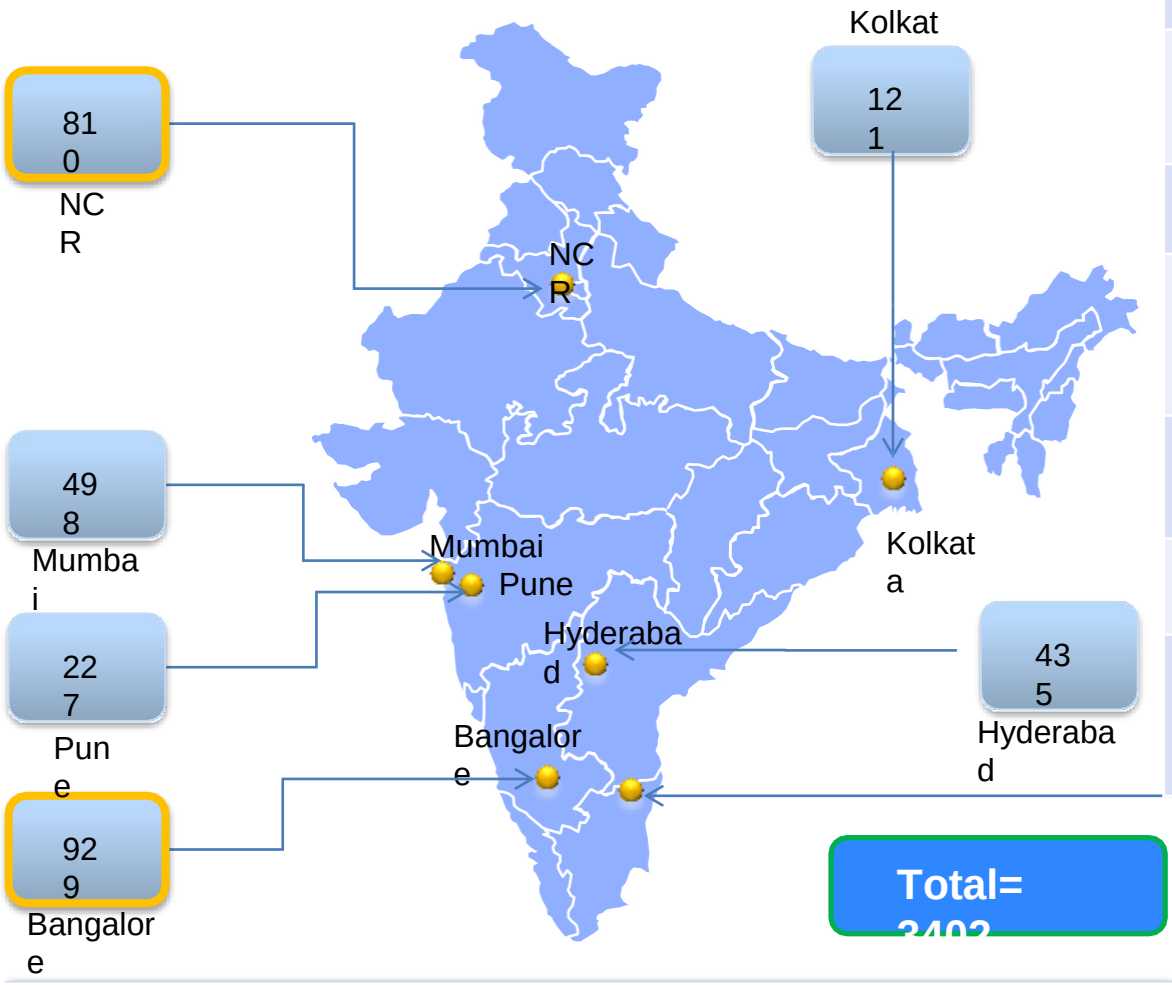


Total= 3402

Note: Only companies with visibility/beta product , live in the market have been considered in the database.; E - Estimated Source: Zinnov Analysis

Of the total 3,402 product companies, approximately 51 percent are based in Bangalore and NCR region

Product companies split across regions



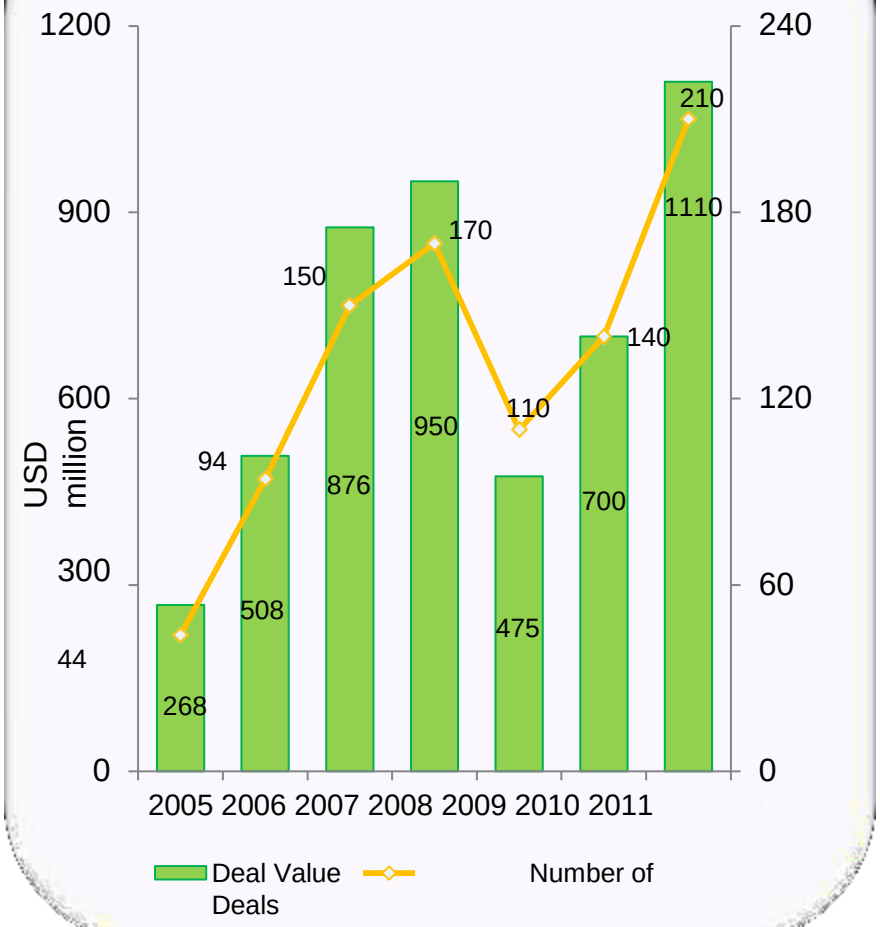
Region	Cities
Bangalore	Bangalore, Mysore, Belgaum, Gulbarga, Hubli
Hyderabad	Hyderabad, Secundrabad,Vishakhapatnu m,Vijayawada
Pune	Pune
Chennai	Chennai, Calicut, **Trivandrum**, Madurai, **Coimbatore, Cochin**, Vellore
Mumbai	Mumbai, Goa, **Ahmedabad**, Vadodara, etc.
NCR	Delhi, Gurgaon, Noida, **Chandigarh**, Mohali
Kolkata	Kolkata, Patna, Bhubaneswar

Note: The cities marked in **bold** are emerging Tier-II cities for product startups

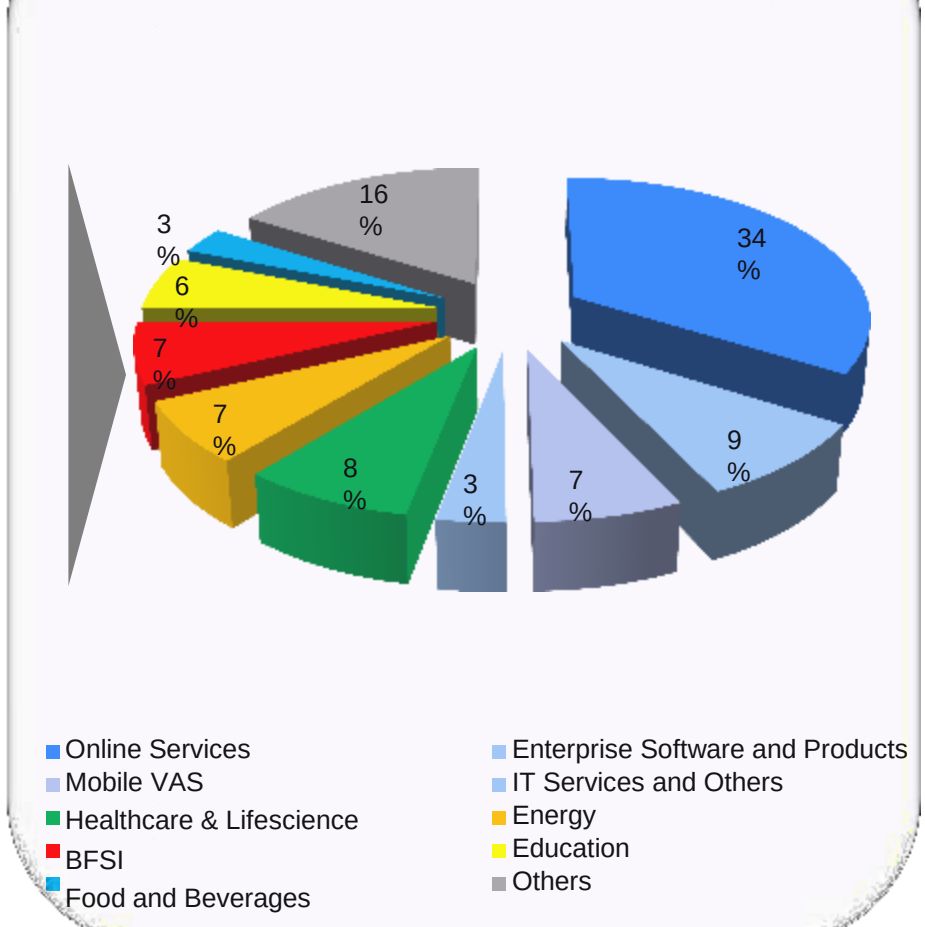
Obtaining funding has proved to be a challenge; however, this is changing as VC investments in this space are rising

innovate achieve lead

VC Investments in India (2005 – 2011)



VC Investments by Industry Value – 2012

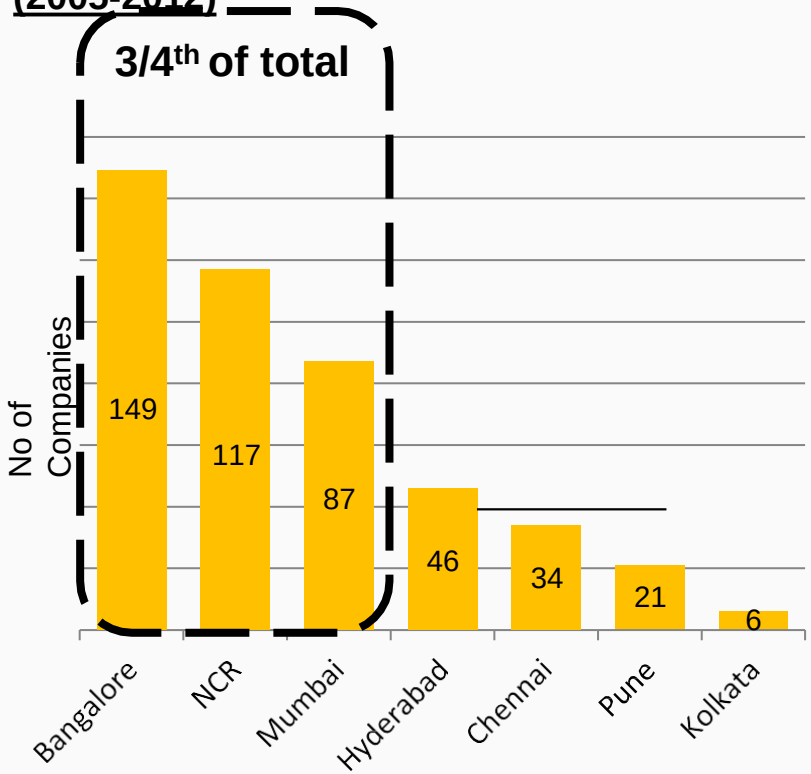


Source: Venture Intelligence; Zinnov Analysis

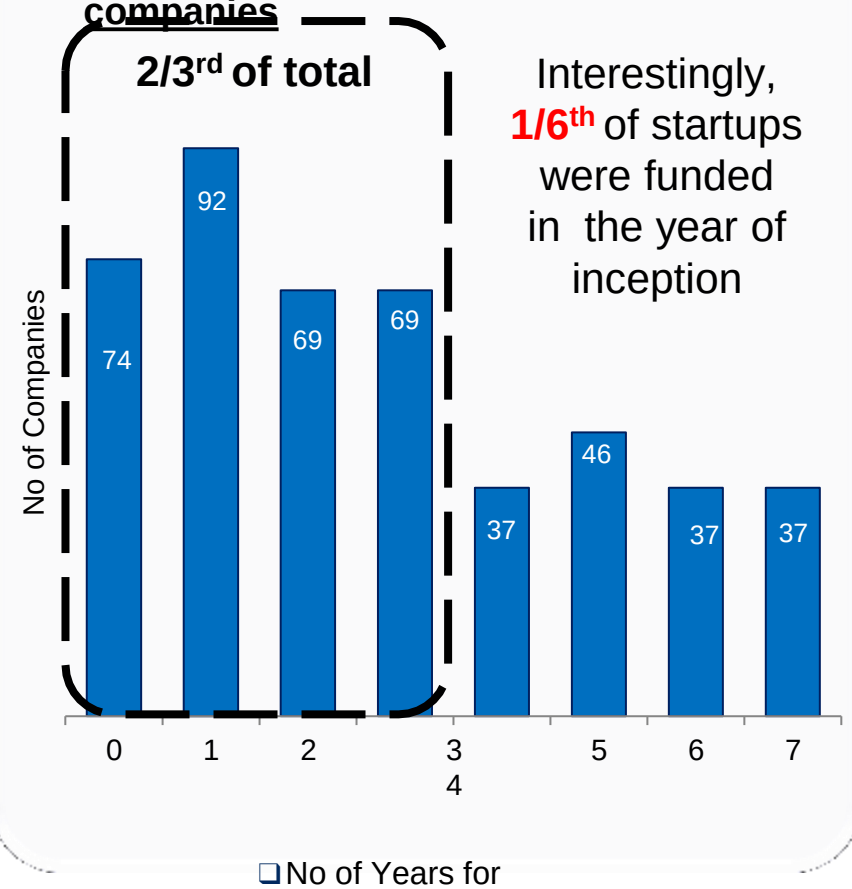
Overall 58 % of the funded companies from 2005 till today are from Bangalore and NCR

innovate achieve lead

VC Investments by companies Location (2005-2012)



Funding timeframe for 2005-2012 companies



- **Overall funded companies from (2005-2012) are around 446 (i.e. 19 % of 2407 startups)**
- **Around 66% of the companies obtained funding within 3 years of inception**
- **69% of the companies which obtained funding during (2005-2012) are from Digital and Software**

Source of Funding: VCCircle, Crunchbase, Company Website, Zinnov Database and Secondary research.

It is noticed that between 2009-12 more than 55% of the startup founders have less than 10 years of experience

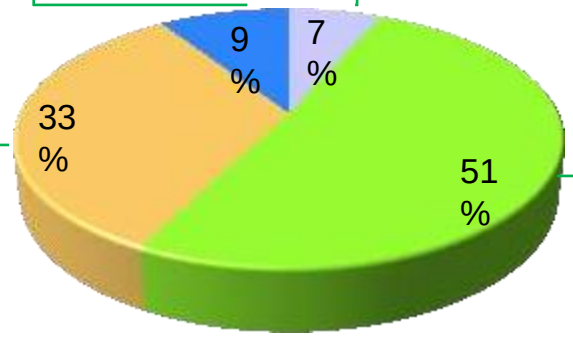
innovate achieve lead

Startup Founder's by Domain – (2009-2012)

Founders	119

Enterprise Software	196
Telecom	72
BFSI	25
Electrical & Electronics	26
Semiconductors	30
Others	76

Tier 1	40
Overseas	44



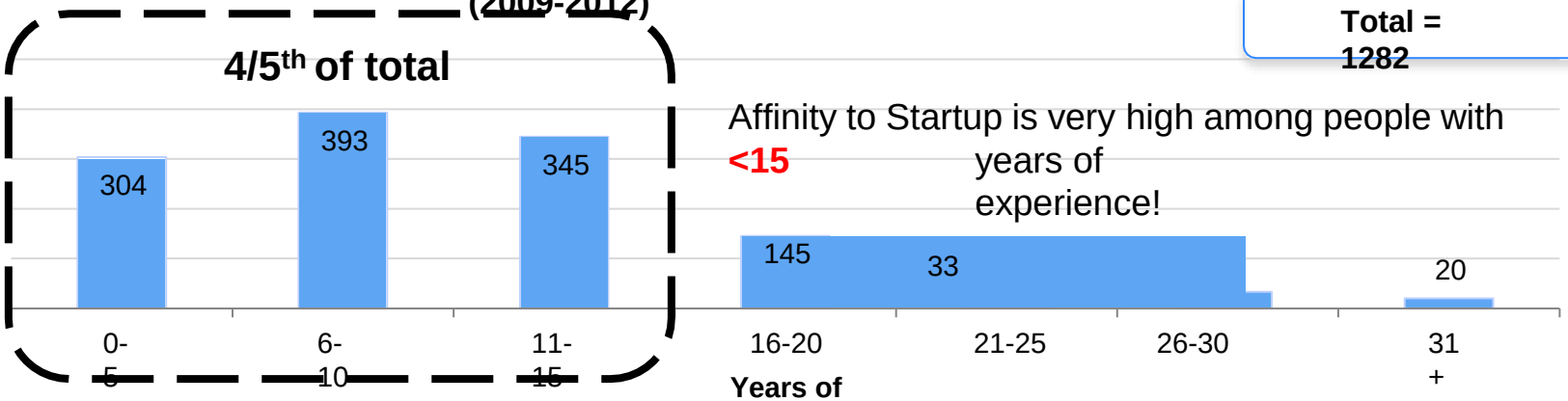
Product Engineering	178
Pure Services	243
ITES	118
Other	114

Total = 1282

Freshers | Service Provider | MNC R&D | Serial Entrepreneurs

Startup Founder's by Experience – (2009-2012)

Total = 1282



Affinity to Startup is very high among people with **<15** years of experience!

Source of Founder profiles: Linkedin, Company Website, Zinnov Database and Secondary research.

Software product management

Overview

BITS Pilani

Nandagopal Govindan

Contents

- Evolution of product organizations
- Why products fail?
- What do best product teams do?
- Product management: Relationship with rest of the company
- Product Lifecycle
- Technology adoption lifecycle
- Journey of some product companies
- Multi-faceted role of a Product manager

Evolution of product organizations

A product organization goes through the following stages:

- Startup
- Growth stage
- Enterprise

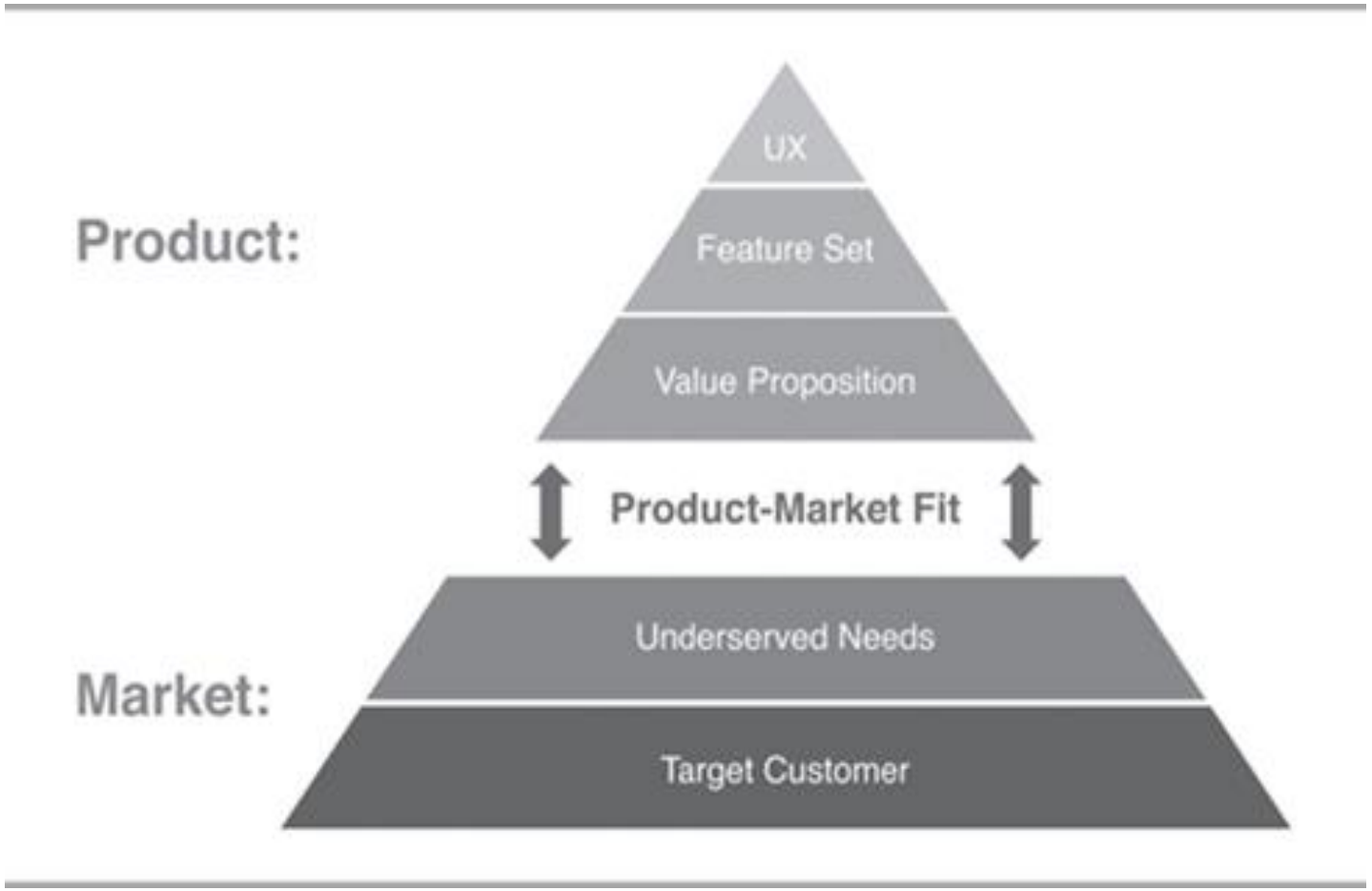
Let us see what are the characteristics of each stage…

Startup stage

- Trying to achieve product-market fit,
- Limited funding,
- Learns quickly
- Little bureaucracy,
- Many fail,
- Those that succeed are good at product discovery,
- Risky but rewarding if things go well.

Examples: WhiteHat Jr, Simpl

Product-Market fit concept



Startup stage examples

WhiteHat Jr

- Founded in 2018
- Offers coding & AI courses to children aged 6 to 14 years.
- Aims to empower children to become creators
- BYJU‘s acquired it for $300 million

Simpl

- Started 2016
- Online payment method that allows a consumer to buy now and pay later
- Digitalizing the old Khata system of payment to grocer, milkman, etc
- Simpl under-writes customer payments based on machine learning
- USP: Transparent financial services and single click payment

Growth stage

- Scale up – more customers
- Replicate earlier successes with new, adjacent products and services – MakeMyTrip flight, train, hotel
- Technology infrastructure is stretched (Netflix during the growth stage)
- There is technical debt (Amazon monolithic to microservices)
- Goes for IPO or gets sold (MakeMyTrip IPO, WhatsApp sold to Facebook)

- Examples: Bounce (2016), Postman (2014), KissFlow (2013).

Growth stage example

innovate achieve lead

Kissflow

- Business Process management software
- Self-service setup / configuration
- 50 process templates to choose from – employee on-boarding, travel reimbursement
- Strong after sales support
- Product led growth - leading to pull rather than push
- 10,000-plus clients, including biggies like Airbus, Danone, Michelin and Pepsi
- Competitors - Pega, Appian, Outsystems
- 200 employees

Enterprise stage

- Focus is on consistent product innovation, stay ahead
- But many companies are satisfied with leveraging the value created and brand created, leading to slow death (ex. Kodak)
- They work hard to protect what they have created and less on new ventures & initiatives
- There is lack of vision, increased bureaucracy, resorts to acquisitions or creating separate innovation centers to incubate new business or products (example Cisco).

- Companies that failed to innovate: Xerox, AoL, Motorola
- Strong enterprise companies: Adobe, Amazon, Apple, Facebook, Google, and Netflix

Enterprise stage: Examples of consistent innovation

innovate achieve lead

Netflix	Amazon	Facebook
• DVD movie sales • DVD rentals • Online booking of DVD, delivered via Post • Streaming video • In house production of serials and movies • Movie / Serial Award function (akin to Oscar)	• Books • Electronics, Others • Recommendation feature • Amazon Prime • Alexa • Kindle • AWS • Firestick • Amazon Pay	• Wall & messaging • News Feed - streams friend's activity • Sell stuff to other Facebookers • Tagging and attachments • 'Like' button • Timeline feature • Buys Instagram, WhatsApp

Why products fail?

- Most companies start with ideas generated internally or got from existing or potential customers.
  - Example: HP's AI-enabling technology on a low-cost, general-purpose workstation developed by Marty Cagan & team (1980s), DB designer – I worked on (1989)
- Based on these ideas they create a business case, roadmap, build the product and deploy
- It is then that they realize that there are no takers

- More examples of failed products:
  - Apple Watch Gold edition
  - Google+ social media
  - The Daily - Digital newspaper in collaboration with Apple

What do best product teams do?

innovate achieve lead

- Tackle risks early
- Define and design products collaboratively – PM, Designer, Engineering
- Solve problems, not just implement features

Tackle risks early

There are 4 types of risks:

- Value – Does customer find value in the product
- Usability – Is the product easy to use
- Feasibility – Is the product techically feasible to build
- Viability - Will be business be viable, can we break even

Tackle risks early - Example

Bounce, AirBnB, Slack

- Bounce spotted an opportunity in Bangalore: Provide scooter to reach the nearest metro station
- Bounce experimented their concept with a few scooters to determine value. Once the demand / value was established, they expanded

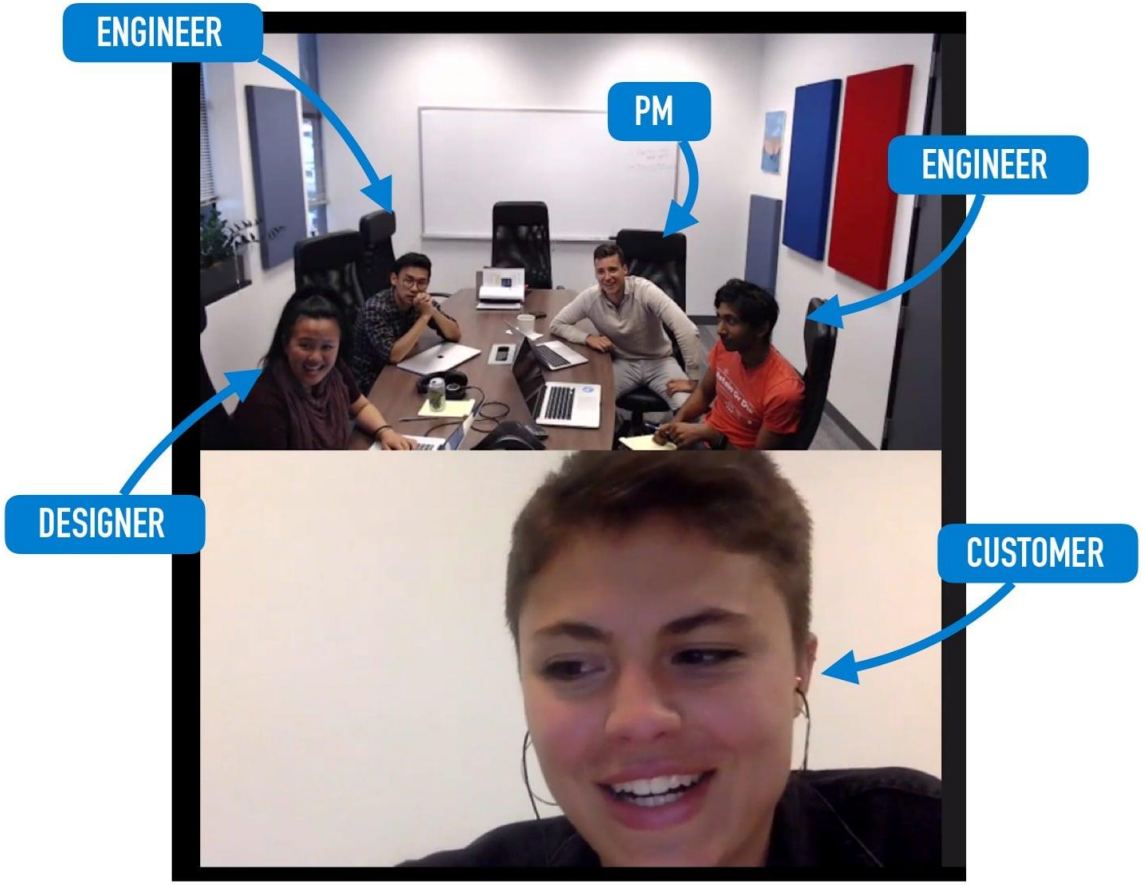
- AirBnB rented their house to test value. A conference was being held in their city and people would be looking for accommodation

- Slack requested friends and cajoled 6-10 companies, to use their product and give feedback to determine usefulness / value and usability and improved the product based on user feedback.

Define and design products collaboratively

innovate achieve lead

- Product, design & engineering work side by side in a give-and-take manner
- Leads to better solution ideas & higher ownership



Example: Amplitude

- A product analytics s/w
- Engineers stay connected with customers by participating in client calls

Solve problems, not just implement features

Example: Kissflow

- Workflow automation improves employee productivity
- Provides 50 ready-to-use workflows from travel reimbursements to employee on-boarding
- Easy diagramming helps model a company's process just as it appears in the business manager's mind.

Solve problems, not just implement features

innovate achieve lead

Example: Wobot Intelligence

- Helps organizations in the Food, Retail, and Manufacturing sectors to reduce risk of non-compliance & pilferage
- Has process compliance modules like hygiene, workforce & workplace safety, customer SOPs, and more
- Uses deep learning Video Analytics to identify people, objects and their activities
- Customers - IRCTC, Rebel Foods, CureFit, Kitopi, Travel Food Services, Burger Singh, G4S, Max Estates, Blue Tokai, Apparel Group and Smartworks

Solve problems, not just implement features - Example

Example: Logically

- Detects fake news & inaccurate news using AI & ML
- Finds out who is spreading misinformation to enable authorities to take action

- Examples:
  - Detected misinformation during the death of a Bollywood actor Sushant Singh, during conflict with China in Ladakh, and during the Kashmir issue with Pakistan.
  - Detected bots originating in Pakistan that were interfering with geopolitical and sensitive issues within India

- Customers: Indian Election Commission, Pharma companies to prevent anti-vaccine information, Mysore Police

Product management: Relationship with rest of the company

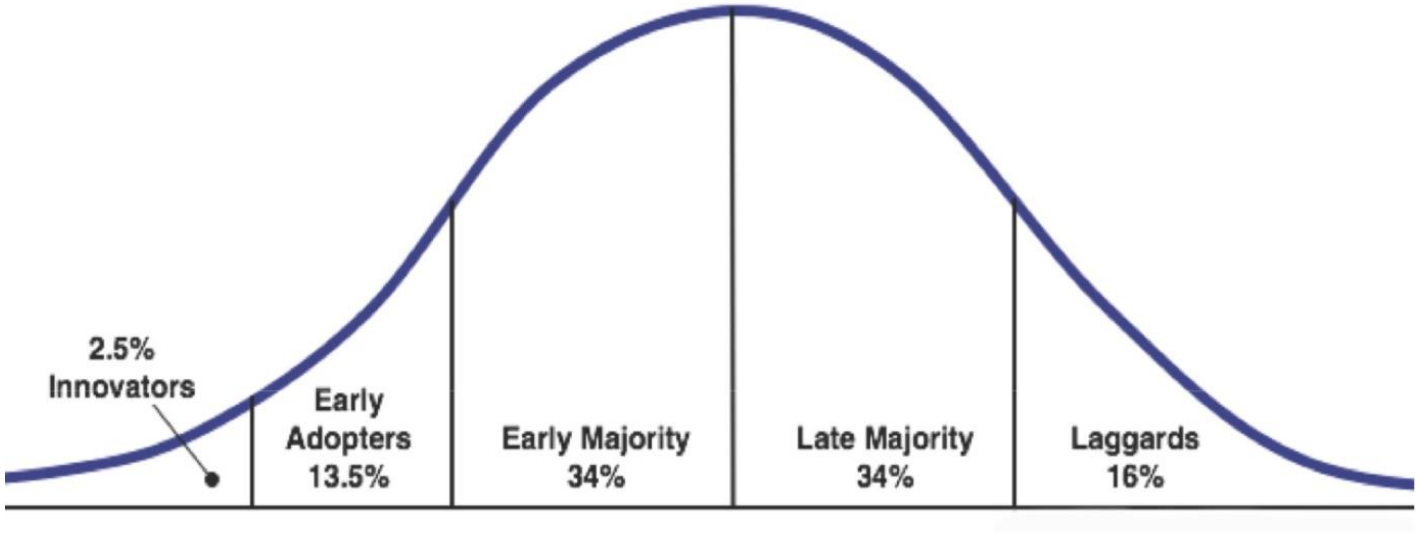
- Development team relies on product management to define a plan and write user stories, requirements, and acceptance
- Marketing team relies on Product management for product information, value proposition definitions. They collaborate to define product position, launch product, define Go-to-market strategy
- Sales team relies on Product management for demo cases, answering detailed inquiries, and helping to close deals.
- Finance and Product rely on each other to build the business through determining pricing, margins, discounting, and so forth.

Product lifecycle

- Determine your target customers
- Identify underserved customer needs
- Define your Value Proposition
- Assess value through customer interaction
- Specify your Minimum Viable Product (MVP)
- Create your MVP prototype
- Test your MVP with customers
- Iterate
- Launch product & support
- Grow & build adjacent products
- End of life

Technology adoption lifecycle

Products using new technology such as AI, NLP, Blockchain, Robotics are adopted gradually



Technology adoption lifecycle…

- **Innovators** are the first to get interested on new products and novelties. They even accept incomplete or defective products just for the pleasure of being the first ones to use this new product.
- **Early adopters**, also known as visionaries or enthusiasts, who accept the risks of testing a new product, but not for the pleasure of coming first but **because they see the potential in it**. Usually, they are influencers within organizations and communities in which they participate.
  - IBM Watson was adopted by a Memorial Sloan–Kettering Cancer Center, Cleaveland Clinic, MD Andersen Cancer Center, to get advise on Cancer
- **Early majority**, also called pragmatic, buy new products only after they got references.
  - Manipal Hospital Bangalore, Georgia tech teaching assistant, H&R Block for tax preparation, Several startups use it for developing cognitive apps
- **Late majority** are the conservatives, in other words, those who buy only after the price has dropped substantially. Example late majority users of SalesForce
- **Laggards**, who only buy a new product if this is the only option available.

Technology adoption lifecycle…

innovate achieve lead

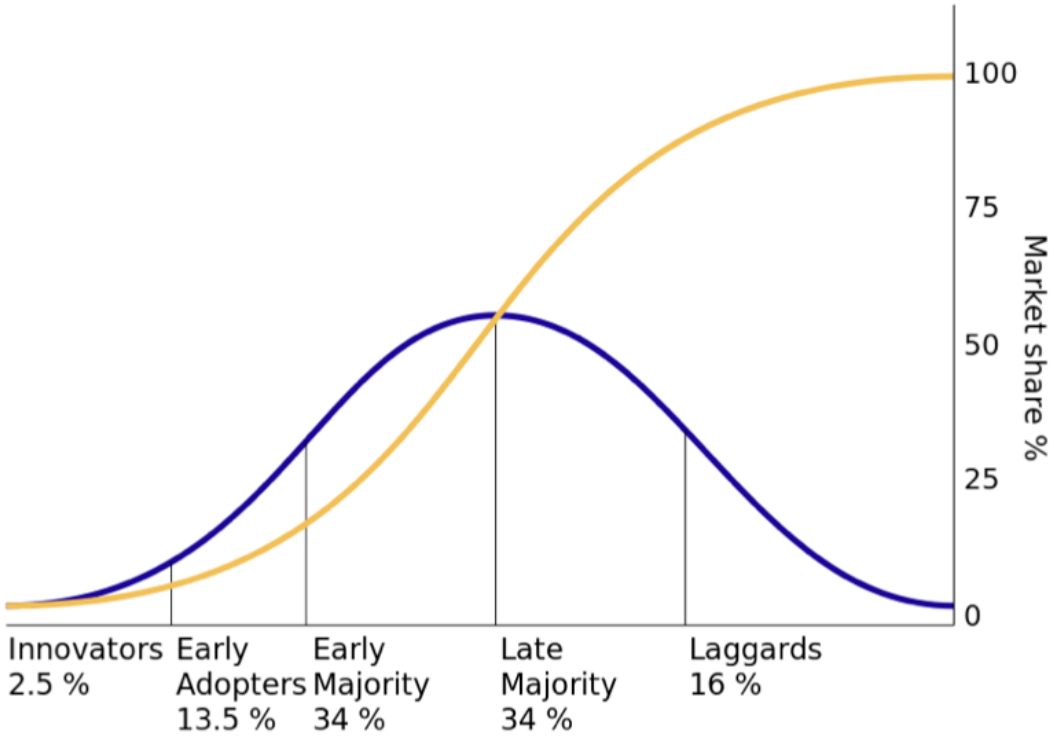
Example:

- IBM Watson & Robotic surgery (Da Vinci) used by one or 2 hospitals.
- In 1999 Salesforce.com was the first to use Cloud to offer applications on the Cloud. 3 years later the industry grew massively with video, music and other media being hosted and delivered online.

https://www.scality.com/solved/the-history-of-cloud-computing/

Technology adoption lifecycle…

S-curve: By calculating the integral (who remembers the calculus classes?) we can obtain the famous S-shaped technology adoption curve.



Multi-faceted role of a Product manager

innovate achieve lead

- Deep knowledge of customer, your business, market & industry
  - Nium - money transfer to foreign countries
  - Had deep knowledge of money transfer markets in Singapore,, Indonesia, Japan, etc.
  - Had good knowledge of forex – how it works, who are the players, banking
- Engage with customers, understand their business, process, pain points
  - Slack understood the collaboration needs of teams
  - Twilio understood the messaging needs of companies
  - Wobot understood the process compliance needs of food, pharma, retail industries
- Prioritize ideas, features & projects
  - Slack focused on Search, synchronization, file sharing
- Collaborate with Design, Engineering, Marketing, Legal, Finance
- Recruit, Train & develop the product team
- Manage upward & outward: Tell a story, sell a vision, get funcding
- Align & focus the organization

Journey of some product companies: Exercise

Study the journey of Netflix and identify:

- Key milestones
- Challenges faced
- What they did right and what they did wrong
- Key Product management learnings

- Courtesy: https://www.businessmodelsinc.com/exponential-business-model/netflix/

Appendix

Software product management

Core concepts

BITS Pilani

Nandagopal Govindan

Contents

- Principles of product management
- Characteristics of a holistic product
- Product-Market fit
- Problem space vs Solution space
- User vs buyer
- Continuous discovery and delivery
- Product eco-system
- Critical success factors

Principles of product management

- Establish compelling value. Examples:
  - MakeMyTrip – a one stop shop for travel,
  - Postman – Make API testing easy
- Many of our ideas won't work out, and the ones that do will require several iterations. Examples:
  - Slack - Initially they developed a multi-player online game which did not succeed, but the inbuilt messaging feature became successful.
  - MakeMyTrip initially targeted Indian travellers, but was not successful. Later targeted NRIs
- We must validate our ideas on real users and customers. Examples:
  - Bounce – Validated the ‘Rent-a-bike’ idea by investing in a few scooters
  - AirBnB – Rented their apartment to conference attendees
- Validate ideas fast and with minimal cost – the more we delay, we may be expending more effort & cost on an idea that does not have a market.

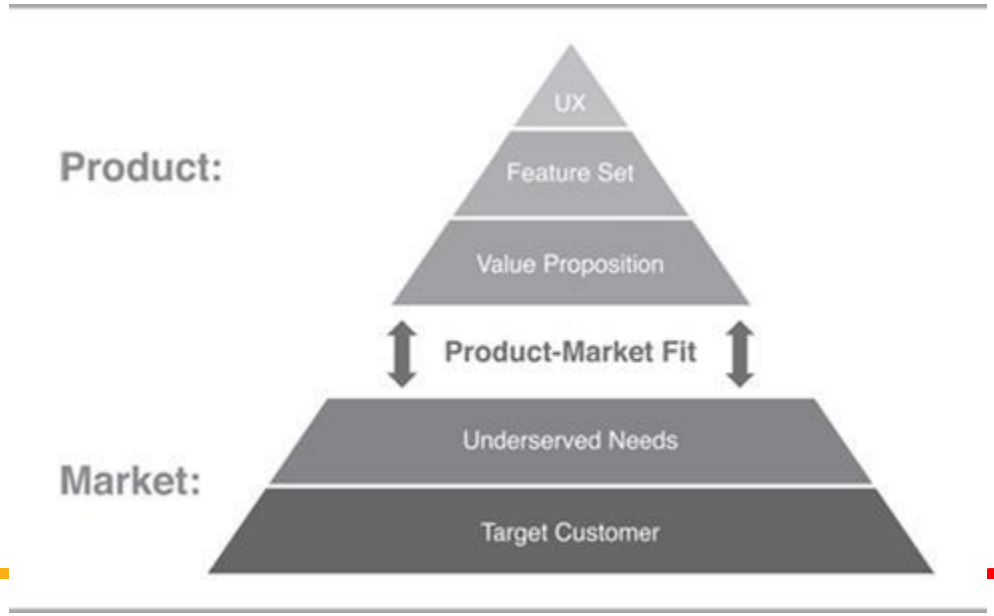
- Have you experienced any of these principles?

Different aspects of a product

- Functionality: Example booking tickets is one function of MakeMyTrip
- Technology: Example: Microservices architecture used by Amazon, Encryption used by WhatsApp, AI/ML used by Logically
- User experience: (UX): Example Tally's ease of use for non-finance people
- How do we monetize?: Example through transaction fee of Payment gateways or subscription fee of SalesForce
- How we attract & acquire customers? Example: Freemium of Zoom, cash back of Paytm, Search Engine Optimization, Ads
- Offline experience: Example: Merchandise fulfilment experience and merchandise return experience of Amazon & FlipKart, support experience by call center personnel, self help material on website

Product-Market fit

- It is about how well the product meets the needs of the customer (market)
- Good Product/market fit results in happier customers, lower churn rates, shortened sales cycles, and rapid organic growth. (Inspired)
- You can always feel when product/market fit isn't happening. The customers aren't quite getting value out of the product, word of mouth isn't spreading, usage isn't growing that fast, press reviews are kind of "blah", the sales cycle takes too long, and lots of deals never close.



Product-Market fit

- Marc Andreessen coined the term *product-market fit* in a well-known blog post titled “The only thing that matters.” (https://pmarchive.com/guide_to_startups_part4.html)

- In a great market -- a market with lots of real potential customers -- the market *pulls* product out of the startup. Example
  - eCommerce, EdTech, FinTech
- Conversely, in a terrible market, you can have the best product in the world and an absolutely killer team, and it doesn't matter -- *you're going to fail*. Example:
  - Video conferencing (2007), Iridium satellite phone
  - Do you know of any great product that failed?
- Great products sometimes create huge new markets – examples:
  - Virtual machine by VMWare, smart phone by Apple
  - Any other?

- The only thing that matters is getting to product/market fit.

Problem space vs Solution space

- Problem space consists of customer needs and pain points.
- However problems are not always easy to know:
  - Customers express their needs in terms of existing solutions.
  - For example they say “I need a cab in 5 minutes”, because they think cab is the only solution
  - The real need is to go from A to B.
- There can be many solutions for this:
  - Hire a cab,
  - Use self-driving scooter or car,
  - Hail a bike taxi.
  - Any other?
- Therefore before finding a solution, we need to understand the real need / problem
  - Understand what customer needs and why
  - Observe what he does, why he does it, etc. (Persona)
  - “If I had only one hour to solve a problem, I would spend up to two-thirds of that hour in attempting to define what the problem is.”

Problem space vs Solution space…

What differentiates one product from another is the quality of solution. Examples:

- Space pen: Need is to write in space. US designed an ink pen that works in zero gravity. Russians used a simple pencil
- Progressive auto insurance: Customer wanted quick settlement of car insurance claim. A process that took 6-7 days was cut down to 1 day through innovative solution
- MoveWorks: Users need quick IT support to install say a Project management software. Solutions can be: Raise a ticket, Call IT support, Use MoveWorks bot which will check your eligibility and download the sw & install it instantly
- Application maintenance service: Is faster problem resolution the need or zero problem the need
- Any other example?

Problem space vs Solution space: Case study

innovate achieve lead

Rivigo case

- What did the founders do to discover the problem?
- What was the real problem?
- How did they solve the problem?

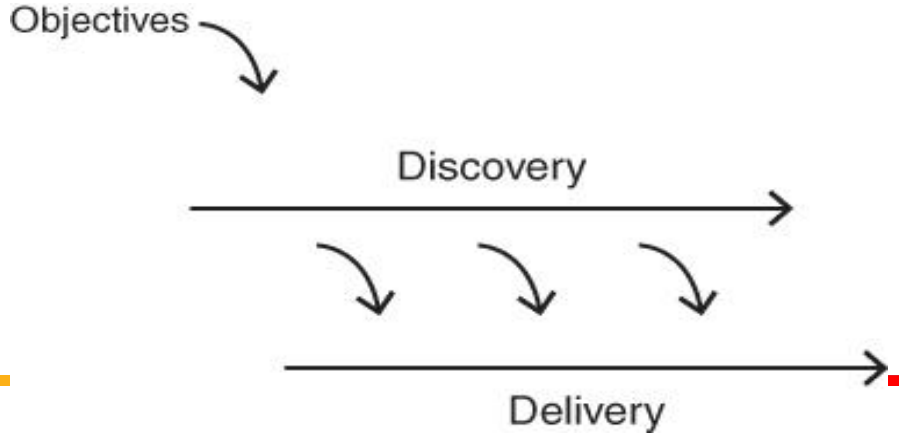
Rivigo story

User vs Buyer

- In large enterprises the decision makers are not the end users
- Decision makers are usually VP and SVP. They want to solve a business problem / pain point.
- Their concerns are functionality that brings business value (increase customer satisfaction, customer growth, reduce customer churn), productivity, security, reliability / stability / quality of solution
- The end users typically do not have the power to approve the product. But ultimately they are the ones who are going to use the product. Hence it needs to be user friendly, efficient in performing their functions.
- Example
  - Lotus Notes: It was a very secure team database and Email system. But not very user-friendly.
  - Cisco WebEx – very reliable but not very user friendly. But corporates prefer it.
  - Do you know of any other examples?
- But this is changing with SaaS product. Management is becoming more aware of UI / UX

Continuous discovery and delivery

- Discovery and delivery are our two main activities on a cross-functional product team, and they are both typically ongoing and in parallel.
- We are always working in parallel - to both *discover* the necessary product to be built—which is primarily what the product manager and designer work on every day—while the engineers work to *deliver* production-quality product.
- The engineers are also helping daily in discovery (and many of the best innovations come from that participation, so this is not a minor point), and the product manager and designer are also helping daily on delivery (mainly to clarify intended behavior). But this is what's going on at a high level.
- Example Postman, Slack
- Does this happen in your product company?



Product eco-system

Product should address the total customer experience (the whole offer)

- Kaagaz & MS Office Lens (document scanner app on mobile) does not only scan but allows us to share the image via email, WhatsApp etc. Because the customer is not just interested in scanning and storing, he wants to share with others
- Xerox started with photo copying facility but soon realized people need to staple the pages, need cover page in different colour, etc. So they enhanced the machine to address the total customer experience
- Clarify: customer support software that involves tracking customer interaction, product details, knowledge base, workflows
- No Broker.com: Find house, pay advance, get painter, get packer & mover

- Have you come across other products that address total customer experience?

Product eco-system

Creating Partnerships & alliances

- Xerox tied up with paper manufacturers to ensure steady supply of paper
- SAP partners: DataXtream for POS solutions, DocuSign for eSignature integration with SAP
- Netflix tied up with telecom service providers such as Verizon, Airtel to host their content at ISP gateways, so as to ensure fast response time to customers
- MakeMyTrip built alliances with Airlines, hotels, etc.

- Any other examples you have come across?

Critical success factors

- Differentiation
  - Intuit – UI and features
  - Apple – UX
  - Citibank– Reliability & infrastructure
  - .Net – Ease of use
  - Toyota – Quality
  - ISRO – low cost satellite launches for world-wide customers
  -
- Entry barrier
  - Google Earth – Entry barrier due to technology
  - Da Vinci Robotic surgery – Technology
  - Microsoft HoloLens – Mixed reality technology for doctors, etc

Case study

Twilio & Byju’s

- What concepts are illustrated by these cases?

Twilio

Byjus

Case study…

- User vs Buyer, Continuous discovery, Critical success factors, Customer acquisition

- Twilio
  - User vs Buyer: Developer vs Org,
  - Continuous discovery & delivery: SMS, email, Call center,
  - Critical success factors: easy to use, even finance person can code this

- Byju's
  - User vs Buyer: Child vs parent
  - Customer acquisition - freemium model
  - Critical success factor:
    - Focus on learning to think rather than spoon feeding
    - Making it interesting and making children addictive

Appendix

Software product management

Product process: Identify opportunity

Nandagopal Govindan

BITS Pilani

Contents

- Overview of product process
- Identifying opportunity

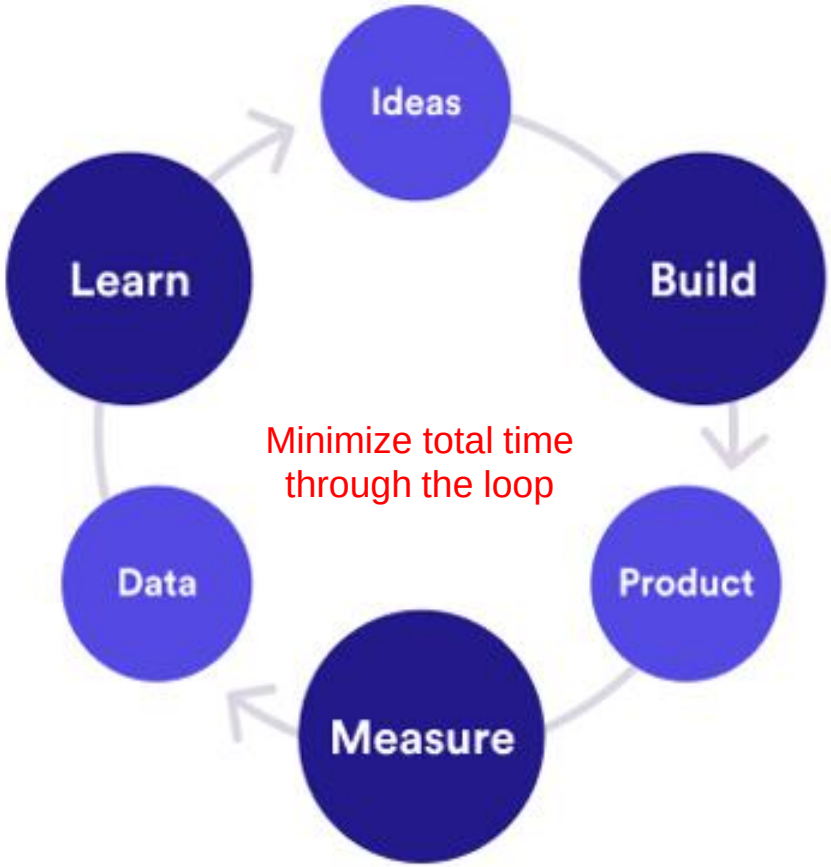
Overview of product process

innovate achieve lead

- Identify opportunity
- Assess the opportunity
- Create business plan
- Specify product features
- Specify Minimum Viable Product (MVP) feature set
- Test your MVP
- Iterate & Pivot to improve product-market fit

Build-Measure-Learn cycle

Customer interviews
Root cause analysis



Minimize total time through the loop

Agile
Continuous integration

- # Visits, conversion, retention
- How many use new feature?

Identify opportunity

- Identify underserved customer needs (LPP)
- Sources of innovation (Peter Drucker)
- Hack days (Inspired)
- Ideation techniques (Cooper & Edgett) (SPM book)

- Case study: DBS Bank
- Case study: Innovation ideas from ID Foods - Mustafa

Identifying underserved needs

- Observe
- Experience
- Fortune at the bottom of the Pyramid – CK Prahlad
- Desire to do social good can find new opportunities

Observe

- Toyota Sienna
  - The car was successful in Japan
  - Toyota wanted to understand the specific needs of US market
  - A senior manager spent several months driving 70,000 miles across length & breadth of US observing how people use cars
  - In US children sit in the backside of the mini van
  - So changes were made to make the back seats more comfortable, safe, etc.
  - When it was launched the car became a big hit

Observe

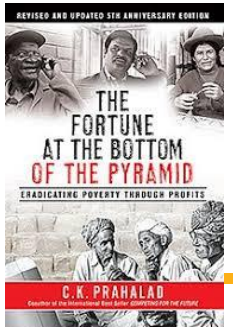
- Oyo: Economy hotels were not clean, lacked basic amenities, etc.
- Sketch: Observed that Photoshop was not easy to use
- Slack: Collaboration between teams was clumsy
- Spotify: People wanted to listen to music legally when illegal music sharing sites were banned

Experience

- Ola cabs: Founder was travelling in a cab and cab driver demanded exorbitant amount to change the destination
- DropBox: Founder kept forgetting to carry files in pen drive
- Tally: Experienced that existing accounting packages had a User interface that catered to accounts / finance professional. But not to non-finance folks

Opportunities are in plenty at the bottom of the Pyramid

- Opportunities are aplenty if look at the right market
- CK Prahlad wrote a book ‘Fortune at the bottom of the Pyramid’
- Large business tend to target the middle class and upper middle class
- However there is a huge market at the bottom of the pyramid of society
- They need products but can not afford high price
- If the products are priced right, there is a big opportunity
- Examples:
  - Shampoo sachet for Re.1
  - Micro credits to rural people to buy a sewing machine, a cow to start milk business, etc. It was observed that default by rural people is significantly less compared to urban people because of the fear of o
  - Jio, Nirma are other examples of targeting the bottom of the pyramid



Desire to do social good can find new opportunities (Social entrepreneurship)

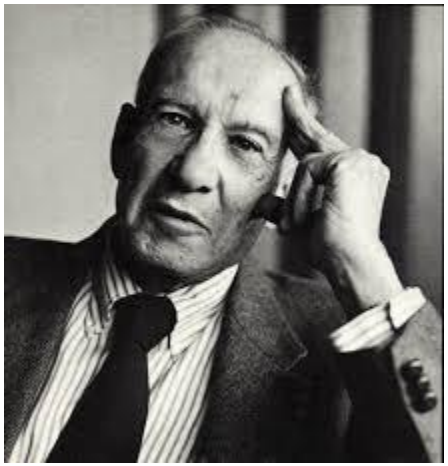
- Grameen Bank: Mohammad Yunus helped poor to stand on their own legs through micro-businesses
- Aravind Eye Hospitals: Free eye surgery for poor, funded by rich patients, developing low cost intraocular lenses
- Narayana Hrudalaya: Dr Devi Shetty offeres low-priced heart surgeries by employing efficient operation procedures, low cost insurance schemes
- Selco: Dr. Harish Hande developed solar lamps to helps silk farmers harvest mulberry leaves which needs to be done during cooler hours – late evening or early morining
- Rivigo: Helped truck drivers lead a stigma free life through relay based truck logistics
- Apna: Developed an app for finding blue collar jobs such as delivery boys

Case study: Qalara

- What was the opportunity identified by Qalara?
- How did Qalara identify the opportunity?

Qalara

Sources of Innovation: Peter Drucker



Father of management
&
A Social scientist

Discipline of
ovation - Druc

Sources of Innovation: Peter Drucker

Drucker argues that most innovative business ideas come from methodically analyzing seven areas of opportunity

- Some of which lie within particular companies or industries
- Some of which lie in broader social or demographic trends.

Astute managers will ensure that their organizations maintain a clear focus on all seven

Sources of innovation: Peter Drucker

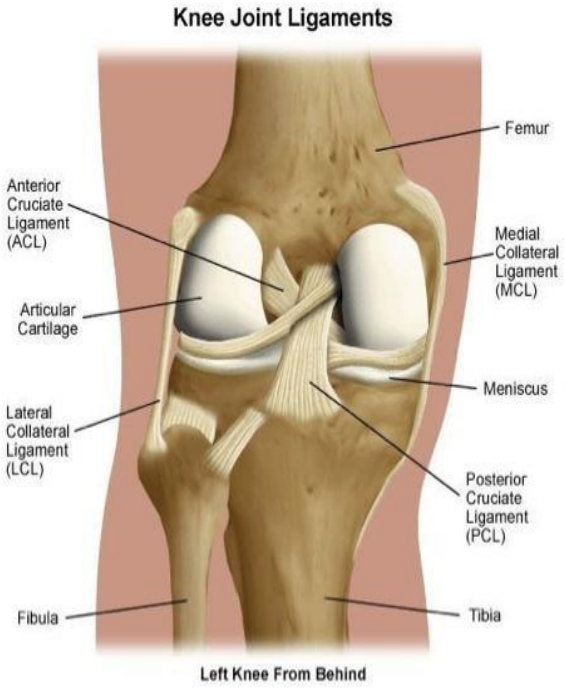
- Unexpected occurrence
- Incongruities (incompatibilities)
- Process needs
- Industry & market changes
- Demographic changes
- Change in perception
- New knowledge

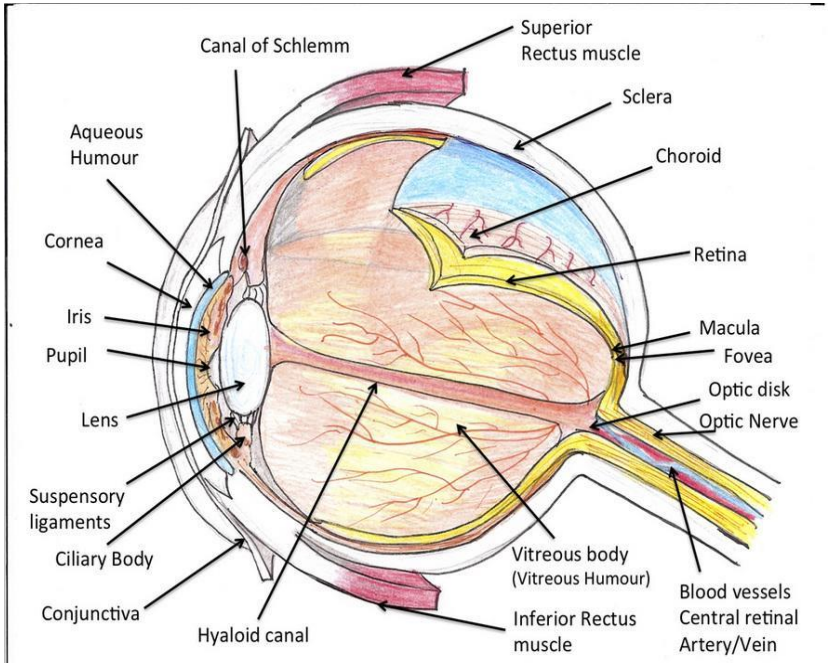
Sources of innovation: Peter Drucker

- Unexpected occurrence
  - IBM developed accounting machines in 1930s. Banks did not have money to buy. But libraries had money and they bought 100 machines
  - Ford Edsel was very carefully designed. But people bought cars for lifestyle. This resulted in newer models like Mustang

Sources of innovation: Peter Drucker

- Incongruities (incompatibilities)
  - Cataract operation: Cutting eye ligament is difficult. Instead used enzyme to dissolve ligament





Sources of innovation: Peter Drucker

innovate achieve lead

- Incongruities (incompatibilities)
  - Shipping industry trying to improve speed and fuel efficiency. But problem was time wasted at ports to load & unload. Adopted containers used in railroad and trucks

Sources of innovation: Peter Drucker

- Process needs
  - Newspapers needed a faster way to print. This resulted in Linotype machine
  - Those days newspapers did not make much money. So they invented advertisements and kept the cost to customer low

- Industry & market changes
  - Retail industry changes: E-Commerce
  - Banking changes: Payment banks

Sources of innovation…

- Demographic changes
  - 1970s saw baby bust and education explosion. This led to shortage of workers. Japan created Robots
  - Affluent educated young people wanted a different kind of holiday. This led to resort business
- Change in perception
  - In spite of fall in mortality rates, Americans were concerned about cancer, heart disease, etc. This led to health mags, gym, healthy foods
- New knowledge
  - Computers
  - Etc.

Principles of Innovation – Peter Drucker

innovate achieve lead

- Go out, look, ask, listen, because innovation is conceptual & perceptual
- Keep innovation simple and focused. Else people get confused
- Start small: Example putting the same number of match sticks into a matchbox (it used to be 50), gave Swedes a world monopoly for half a century
- Aim at leadership from the beginning, else it is unlikely to be innovative enough
- Innovation requires knowledge, ingenuity, and, above all else, focus. Edison worked in electric field only. Citibank did not venture into health care
- If diligence (careful), persistence, and commitment are lacking, talent, ingenuity, and knowledge are of no avail. Like in any other endeavour

Identify opportunities…

- Annual Idea generation by Bill Gates
  - 2 weeks shut out from world
  - Go through ideas submitted by employees
- Hack days (Inspired)
  - *Hack days – directed and undirected.*
  - *Eg of directed hack day with a theme – reduce customer churn, increase life time value (Inspired)*

Ideation techniques (Cooper & Edgett)

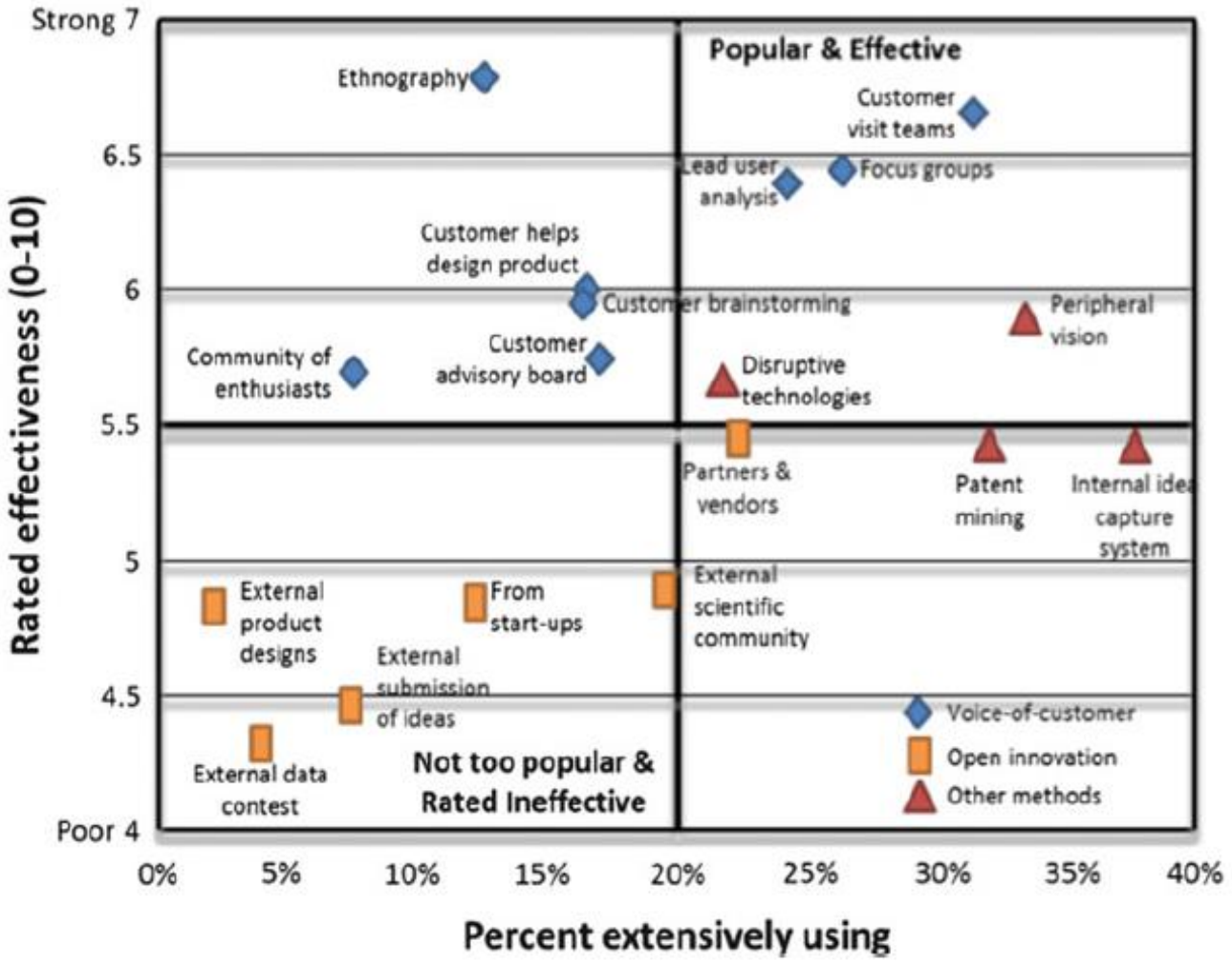


Fig. 5.5 The effectiveness vs. popularity of ideation techniques [CooEdg09]. Used with permission

Case study: DBS

Are you really innovating around customer needs? – HBR

- What is the assumed need & real need of the customer of DBS?
- How did DBS satisfy that need?

)BS case - HBI

Case study: ID Fresh Foods

Innovation ideas from ID Fresh Foods – PC Musthafa

What innovation lessons can we learn from ID Fresh Foods?

- Fresh & preservative free is possible
- Packaging innovation – Vada
- Marketing innovation: Trust shops

ID Fresh foods

Exercise

innovate achieve lead

Consider your current job & company

Think about the unmet / underserved needs of your customers

Give one example of such a need & its compelling value / benefit to customer.

Appendix


The Lean Startup BY ERIC RIES
IDEAS
Learn Faster
LEARN
Split Tests
Customer Interviews
Customer Development
Five Whys Root Cause Analysis
Customer Advisory Board
Falsifiable Hypotheses
Product Owner Accountability
Custom Archetypes
Cross-functional Teams
Smoke Tests
BUILD
Code Faster
Unit Tests
Usability Tests
Continuous Integration
Incremental Deployment
Free & Open-Source Components
Cloud Computing
Cluster Immune System
Just-in-time Scalability
Refactoring
Developer Sandbox
Minimize total time through the loop
DATA
CODE
Measure Faster
MEASURE
Split Tests
Clear Product Owner
Continuous Deployment
Usability Tests
Real-time Monitoring
Customer Liason
Funnel Analysis
Cohort Analysis
Net Promoter Score
Search Engine Marketing
Real-time Alerting
Predictive Monitoring
COPYRIGHT Eric Ries - startuplessonslearned.com
BROUGHT TO YOU BY KISSmetrics

Software product management

Assess opportunity

BITS Pilani

Nandagopal Govindan

Contents

- Define value proposition
- Assess value of the product
- Assess the risks

Define value proposition

Steps:

- Define Customer problem / pain point
  - Ex. Difficult to reach Metro station (Bounce)
- Explain how your product solves customer problems or improves their situation (relevancy)
  - Ex. Rent a bike – pickup near your house & drop anywhere (Bounce)
- Determine a specific set of benefits it delivers, preferably quantifiable (Value)
  - Ex. Easy to reach Metro station. Saves 30 minutes.
- Explain why the customer should buy your product instead of the competition's (Differentiation)
  - Ex. More convenient than walking to bus stop, then taking a bus and then once again walk to the Metro station

Define value: Examples

Product	Pain point	How does it solve	Benefit / Value prop.	Differentiation from competition
Bounce	Difficult to reach Metro station	Provide bike on rent – pickup & drop anywhere	Easy to reach Metro station	More convenient than bus
AirBnB	Unable to get a feel for the city & its people & culture	Rent room in a house instead of hotel	Get unique experience of local culture	Hotels do not provide this experience
Zoom	Poor video quality	Better technology	Superior experience	Superior quality compared to WebEx

Define value: Exercise

Product	Pain point	How does it solve	Benefit / Value prop.	Differentiation from competition
Rivigo				
OYO				
Postman				

Assess value of the product

- Talk to potential customers to assess the opportunity
  - *This is one of the most powerful and important skills for any product manager and very often the source or inspiration for many breakthrough product ideas.*

- Through interview, understand
  - Are your customers who you think they are?
  - Do they really have the problems you think they have?
  - How does the customer solve this problem today?
  - What would be required for them to switch?

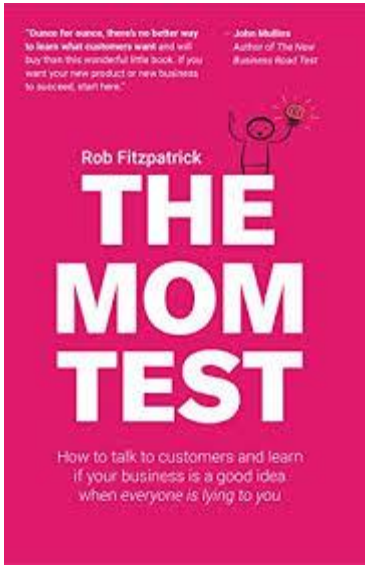
Interview customer: Example

innovate achieve lead

‘Mom Test’: How to ask the right questions to assess a product idea?

PDF

Mom test - Ch 1



Mom Test: Part 1

What wrong questions were asked?

- Asking close ended question “You like your iPad right?” instead of “How often do you use the iPad?” or “What do you use your iPad for?”
- Asking whether you will buy the product without first explaining the product: “”Would you ever buy an app which was like a cookbook for your iPad?”
- Telling the features without first trying to understand what features are needed “you can share recipes with your friends, and there’s an iPhone app which is your shopping list. And videos of that celebrity chef you love”.

Mom test: Part 2

Did Mom have a need for recipe book on iPad?

Probably for healthy dishes

What market segments could be were discovered from the conversation?

Young people

What kind of recipe books could be targeted to young people?

Basic dishes

What is good about this question: “What’s the last cookbook you did buy for yourself?”

Tips for customer interview

- Go with intention to learn – Ask about their work, how they do it
- Meet customer in their location – This will make them comfortable
- Go with Product manager, UX designer and engineer – to brainstorm later
- Do the customer's job for them, to understand the problem

Insight to be gathered during opportunity assessment:

innovate achieve lead

- Do consumers have the problem you are trying to solve? – Is our hypothesis true?
- If there was a solution, would they buy it? – Is the need compelling?
- Would they buy it from us? - Are we better than competition?

Also try to signup pilot customers, during this phase

innovate achieve lead

- Identify 6 customers who truly feel the pain and are near desperate for the solution we plan to build, who are willing to test the product and buy it once ready and willing to be reference.
- If you are unable to find even 4 or 5, then we are probably chasing a problem that is not very important.

- It is important to explain that you are trying to build a product useful to many customers and not a custom solution.
- Explain that you will dive deep into the problem and build a single solution that works well for all 6 customers.

Assess opportunity: Exercise

Design a set of interview questions to assess the following product idea

a) Online book library for students - technical & management books that allows student to borrow & read digital books (similar to Spotify) (B2C)
   - Pain point: Students need to refer to many books. But only some parts of the book are useful. Buying the whole book is not value for money
   - Solution:
     - Tie-up with publishers to make books available online
     - Students pay a monthly subscription
     - Students get to borrow 5 books at a time and read them online
     - Publishers gets commission based on books borrowed and the duration the book was used

Role play: Interview

Let us do a role play

- Need 2 volunteers – Interviewer and Interviewee
- Interviewer: Vinay Adaki, Shashank
- Interviewee: Dewraj, Vinay
- Let us observe the conversations and note down which questions were good and which could have been better
- Please note that if we were the interviewer, we might have fared in a similar way
- This is only a learning exercise and not a test of your interview skills

Possible questions to ask the students…

- What courses are your doing?
- How many hours do you study every week?
- What resources do you use to study?
- How sufficient are these, for your study?
- What kind of additional resources would help?

Assess opportunity: Exercise

Design a set of questions to validate the following product idea

a) Website to enable a company to identify the right software product to purchase for a given business need (B2B product)
   - Pain point: There are many products in same category. Companies find it hard to pick a right product for their needs such as logistics, workflow, payroll, sales, customer service
   - Solution:
     - Provide a directory of selected software products along with product details, product comparisons, business use cases they support, etc.
     - Provide phone consultancy to help clients select the right product for their need

Appendix

Software Product Management

Risk assessment

BITS Pilani

Nandagopal Govindan

Contents

- Value risk
- Usability risk
- Feasibility risk (technical feasibility)
- Business viability risk

Introduction

Key risks to be assessed are:

- Will the customer buy this, or choose to use it? (*Value risk*)
- Can the user figure out how to use it? (*Usability risk*)
- Can we build it? (*Feasibility risk*)
- Does this solution work for our business? (*Business viability risk*)

Test value

- Good product teams spend most of their time on creating value. If the value is there, we can fix everything else.
- If value is not there, then it does not matter how good our usability, reliability, or performance is.
- Just because someone can use our product doesn't mean they will choose to use our product.

Test value

- Identify 6 customers who truly feel the pain and are near desperate for the solution we plan to build, who are willing to test the product and buy it once ready and willing to be reference.
- If you are unable to find even 4 or 5, then we are probably chasing a problem that is not very important.
- It is important to explain that you are trying to build a product useful to many customers and not a custom solution.
- Explain that you will dive deep into the problem and build a single solution that works well for all 6 customers.

Test Value

2 types of testing value

- Qualitative
- Quantitative

Qualitative testing

Qualitative testing is focused on the *response*, or reaction:

- Do customers love this?
- Will they pay for it?
- Will users choose to use this?
- And most important, if not, why not?
- Are they willing to recommend?
- Are they willing to spend significant time to work with you to develop the product
- Any other?

Quantitative testing

Techniques to do quantitative testing:

- Landing page technique (also called Fake door)
- Crowd funding technique
- A/B testing for features
- Use pre-selected / agreed customers who have agreed to be partners / to discover the product – how many of those want it

- Any other?

Test Usability: How?

- Get sample users to test. Tell them it is just a prototype of an early product idea, request for honest feedback
- See if they can tell from the landing page what the product is meant for
- Observe if users can easily do the tasks
- Identify places where the model presented by the software (design model) does not match with how the user is thinking (mental model)
  - For example, a user clicked on a button and you are not sure why he did it (these need to be fixed in next iteration)
- Wrap up by asking:
  - Which features were valuable? (value)
  - How easy to use was the product? (usability)
  - How likely are you to buy the product? (value)

- Experience sharing….

Test feasibility
(Technical feasibility)

- This is needed when we need to use new technologies like AI / ML, Robotics, Augmented reality
- Getting the engineer's perspective earlier also tends to improve the solution itself, and it's critical for shared learning

- Example: There can be multiple ways to solve the problem of preventing leakage of confidential company data
  - Check when data is being sent out: High on safety, low on performance, low on deployment
  - Check after data is being sent out: Low on safety, High on performance, high on deployment
  - Which solution is better is for the business to decide

- Experience sharing…

Test business viability

Business aspects to be considered:

- Marketing
- Sales
- Customer service
- Finance
- Legal

Marketing

Your product must fit within the brand (image) promise of your company's other offerings.

- HSBC PayMe Moble app example:
  - HSBC bank is known for high quality customer service.
  - They planned to introduce a Mobile app PayMe which should have highest quality of UX, performance and security.
  - It can not have afford to have a login feature, where the user logins with Facebook user id / password or Google user id / password, even though this may be good enough.
  - The perception created will be that the bank is compromising on security by depending on external entities such as Facebook

Marketing…

Your product must fit within the brand (image) promise of your company's other offerings.

IBM Mainframe example:

- IBM is known for highly reliable products and high customer service.
- Once a customer’s mainframe crashed
- An engineer flew from Bombay to Delhi with a small part to fix a mainframe, because it was mission critical for the org.
- If the new product idea is not backed up by a solid customer support plan, it will not fit in the brand promise of IBM

Sales

Do the sales people / channels have the skills to sell the product?

- Our sales people may be familiar with selling business oriented products such as Payroll, Customer support or Expense process.
- Now if we are introducing a tech oriented product for detecting autism using AI that analyses videos of patients who have autism (CogniAble), then the sales staff may not have the skills to handle this product and we need to have a plan to address this.
- If we are used to sell product a B2C via channel partners and now we are planning to do direct sales because it is a B2B product, then our sales people may not be able to handle this.

Customer service

Do we need a high touch customer service model or low touch?

- Twilio offers simple API such as: Dial, Play, Disconnect
- Open API of banks: This may require a high level of support since it involves money

Finance

The costs to produce, market and sell your product must be sufficiently less than the revenue your product generates. What is the RoI, break even?

- Let us say we are going to spend 100 on building, marketing and selling and recurring operational costs are negligible (hypothetical)
- If the cost of the product is 1 and sales per month is 2 copy, then it will take 4 years to recover the cost. The break-even period is 4 years
- RoI in 10 years is 240 (10 years * 24 copies per year * 1) - 100 = 140

Experience sharing…

Legal

Are there any Privacy concerns, compliance concerns, intellectual property, and competitive issues

- Privacy & Compliance:
  - EU data should be stored in EU data centers only
  - HIPAA compliance for health records related data
  - SOX
  - GDPR
- Intellectual property
  - Are we using any IP without purchasing them – eg. Samsung, Nokia, Apple
  - Open source software licence usage: what can be distributed freely
    - GNU General Public License (GPL)
    - Apache license

Experience sharing….

Exercise: Risk identification and mitigation

- Vedicure is a medical device company that wants to develop a device (hardware + software) to cure fever, stomach pain, headache, etc.

- The device produces sound waves (vibrations) based on Vedic mantras, which has a positive effect on the patient.

You are a mentor to the product team. What prominent risks do you see & what mitigation approach would you suggest?

Answer:

- Feasibility risk – Create a PoC
- Marketing risk (acceptance by market may be a challenge) – Get Vedic scholars like Baba Ramdev, to endorse the product

Exercise: Risk identification and mitigation

innovate achieve lead

- Ad-creator is a software that creates an ad based on product, its value and the target segment.
- The ad consists of heading, description text and a picture.
- This ad can then be published in newspapers.

You are an Angel investor. What prominent risks do you see & what mitigation approach would you suggest?

Answer:

- Feasibility – Create PoC
- Marketing risk – Sign up high profile pilot customers

- Khata-book is a product that maintains the purchases you make at your local kirana (small grocery) store and you can make payment at the end of the month.

- Target market is Kirana stores and customers (who will have to approve the purchase)

You are a product consultant. What prominent risks do you see & what mitigation approach would you suggest?

Answer:

- Value risk – Speak to 50 kirana stores and 1000 customers to assess value
- Usability risk – since users are kirana store owners & lay people. Do usability testing with sample users

Experience sharing…

innovate achieve lead

How did you address the risks in your product solution?

Appendix

Software Product Management

Create business plan – Lean Canvas

Nandagopal Govindan

BITS Pilani

Contents

innovate achieve lead

Introduction

- Once we have assessed an opportunity, it is good to put all our thoughts together on paper.
- A detailed business plan covering – problem, solution. USP, market size, revenue generation, etc. needs to be created
- A simpler 1-page plan can be created for quick understanding

Business Model Canvas by Alexander Ostervald

innovate achieve lead

Key partners	Key activities	Value propositions	Customer relationships	Customer segments
Who are our key partners? Who are our key suppliers? Which key resources are we acquiring from our partners? Which key activities do partners perform?	What key activities do our value propositions require? Our distribution channels? Customer relationships? Revenue streams?	What value do we deliver to the customer? Which one of our customers' problems are we helping to solve? What bundles of products and services are we offering to each segment? Which customer needs are we satisfying? What is the minimum viable product?	How do we get, keep, and grow customers? Which customer relationships have we established? How are they integrated with the rest of our business model? How costly are they?	For whom are we creating value? Who are our most important customers? What are the customer archetypes?
	Key resources		**Channels**	
	What key resources do our value propositions require? Our distribution channels? Customer relationships? Revenue streams?		Through which channels do our customer segments want to be reached? How do other companies reach them now? Which ones work best? Which ones are most cost-efficient? How are we integrating them with customer routines?	

Cost structure	Revenue streams
What are the most important costs inherent to our business model? Which key resources are most expensive? Which key activities are most expensive?	For what value are our customers really willing to pay? For what do they currently pay? What is the revenue model? What are the pricing tactics?

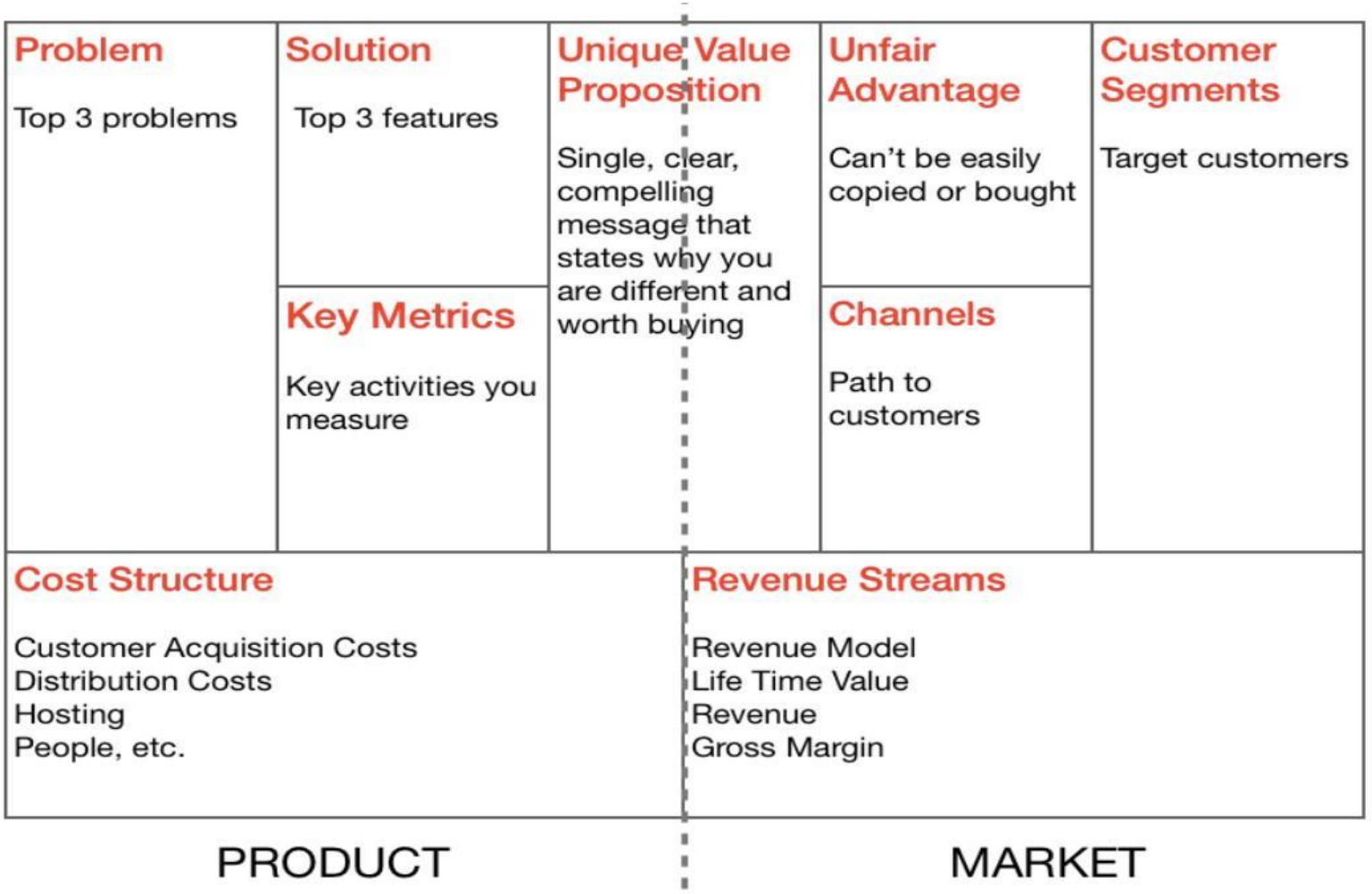
Ref: www.businessmodelgeneration.com/canvas

Lean canvas – a simplified model

- However when are in the early stage, it may not be necessary to go so much into detail, because our product is not yet ready, it has not been validated and many things will change which will yield the model redundant / waste.

- Hence a simplified canvas called Lean Canvas is recommended at this early stage. This was proposed by Ash Maurya. Helps get your idea(s) out from your head into a tangible format so that you can communicate that with others

Lean canvas



Ref medium.com

Some explanations

- Channels can be email, social, CPC ads, blogs, articles, trade shows, radio & TV, webinars etc.
- Metrics can be how many visited, how many signed up, what is the usage, how many continued using
- Unfair advantage can be insider information, a dream team, getting expert endorsements, existing customers etc

amazon

1994

PROBLEM

- Lack of online bookstores
- Hard to select books in offline stores (no rating, recommendations, hard to find a book, etc.)

SOLUTION

Build an online bookstore with millions of titles

UNIQUE VALUE PROPOSITION

Buy books using a PC from home/office (without visiting several local stores to find a particular book)

UNFAIR ADVANTAGE

- Lower price (less employees, less rent payment and other costs)
- no competition for online booksellers

CUSTOMER SEGMENTS

Book readers

EXISTING ALTERNATIVES

- Interloc (future Alibris)
- Local booksellers
- Barnes & Noble

KEY METRICS

- Website traffic
- CAC
- ROI (sales conversion rate, revenue per visitor, percentage of shopping cart abandoned rate, etc.)

HIGH-LEVEL CONCEPT

Earth's biggest bookstore (company's original tagline)

CHANNELS

Affiliates
Resellers

EARLY ADOPTERS

- Customers searching for rare and specialized books
- Internet users looking for bookselling services

Amazon Lean Canvas…

https://railsware.com/blog/5-lean-canvas-examples/

AirBed&Breakfast

2008

PROBLEM

- Hard to find cheap/affordable accomodation options when travelling
- Staying in hotels travellers cannot get authentic experiences of a location
- It's not easy for a homeowner to monetize vacant areas on a day-by-day basis
- Uncultivated home sharing culture

EXISTING ALTERNATIVES

Booking.com
Hotels.com

SOLUTION

- An online service where travelers can rent an affordable local apartment, and homeowners can earn extra money by renting out vacant areas on a day-by-day basis

KEY METRICS

- Number of views-to-bookings per host
- Number of hosts applied
- NPS
- DAU/MAU

UNIQUE VALUE PROPOSITION

- Travelers can get authentic experience of local area
- Extra monetization of vacant areas for homeowners

HIGH-LEVEL CONCEPT

Everyone can become a host
Sharing economy

UNFAIR ADVANTAGE

- Any homeowner can rent out space
- Trust building: bi-directional rating system of hosts and visitors
- Insurance by default for hosts

CHANNELS

- Referrals
- Recommen-dations
- Advertising (both online and offline)

CUSTOMER SEGMENTS

- Travellers looking for an adequate accommodation experience for a low price
- People having some accomodation options to become a host

EARLY ADOPTERS

People ready to share their residence and earn money as hosts

AirBnB Lean Canvas…

COST STRUCTURE

Development
Hosting
Marketing
Payroll
Insurance
Photography

REVENUE STREAMS

Fees for travellers

https://railsware.com/blog/5-lean-canvas-examples/

Exercise

Create a Lean Canvas for

1. Rivigo
2. Qalara

Solution

_ean Canvas -
Rivigo

Appendix

Software Product Management

Specify product features – Story Map

Nandagopal Govindan

BITS Pilani

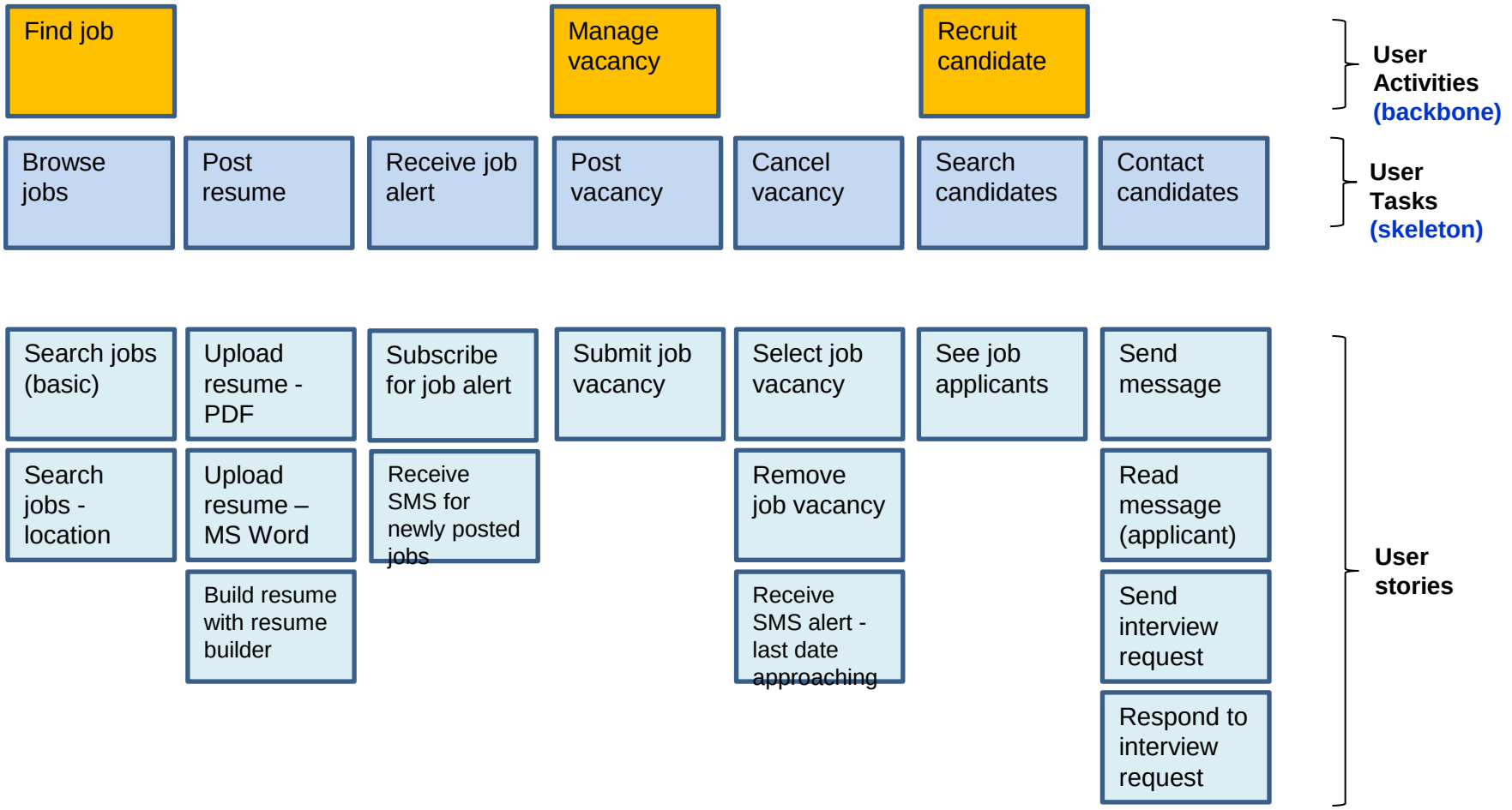
Contents

- Story map
- Classification of features: Kano model
- Exercise

Introduction

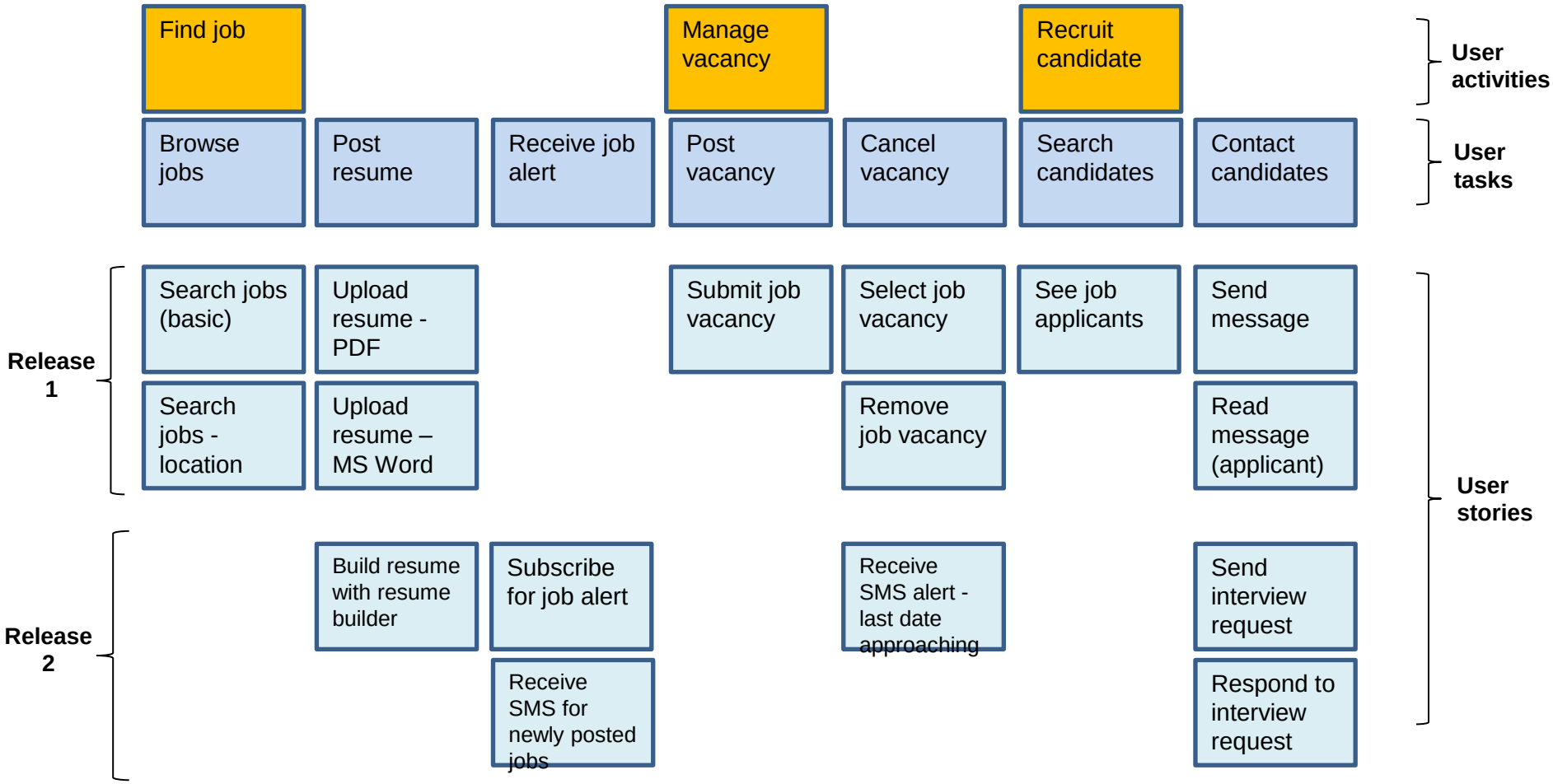
- Once we have understood the need and we have assessed the need by interacting with customers & users, we need to capture all the requirements / features / functionality
- Story map is an effective tool to capture the features
- Invented by Jeff Patton

Story map: Job portal



https://www.visual-paradigm.com/guide/agile-software-development/what-is-user-story-mapping/

Story map: Job portal



https://www.visual-paradigm.com/guide/agile-software-development/what-is-user-story-mapping/

About Story map

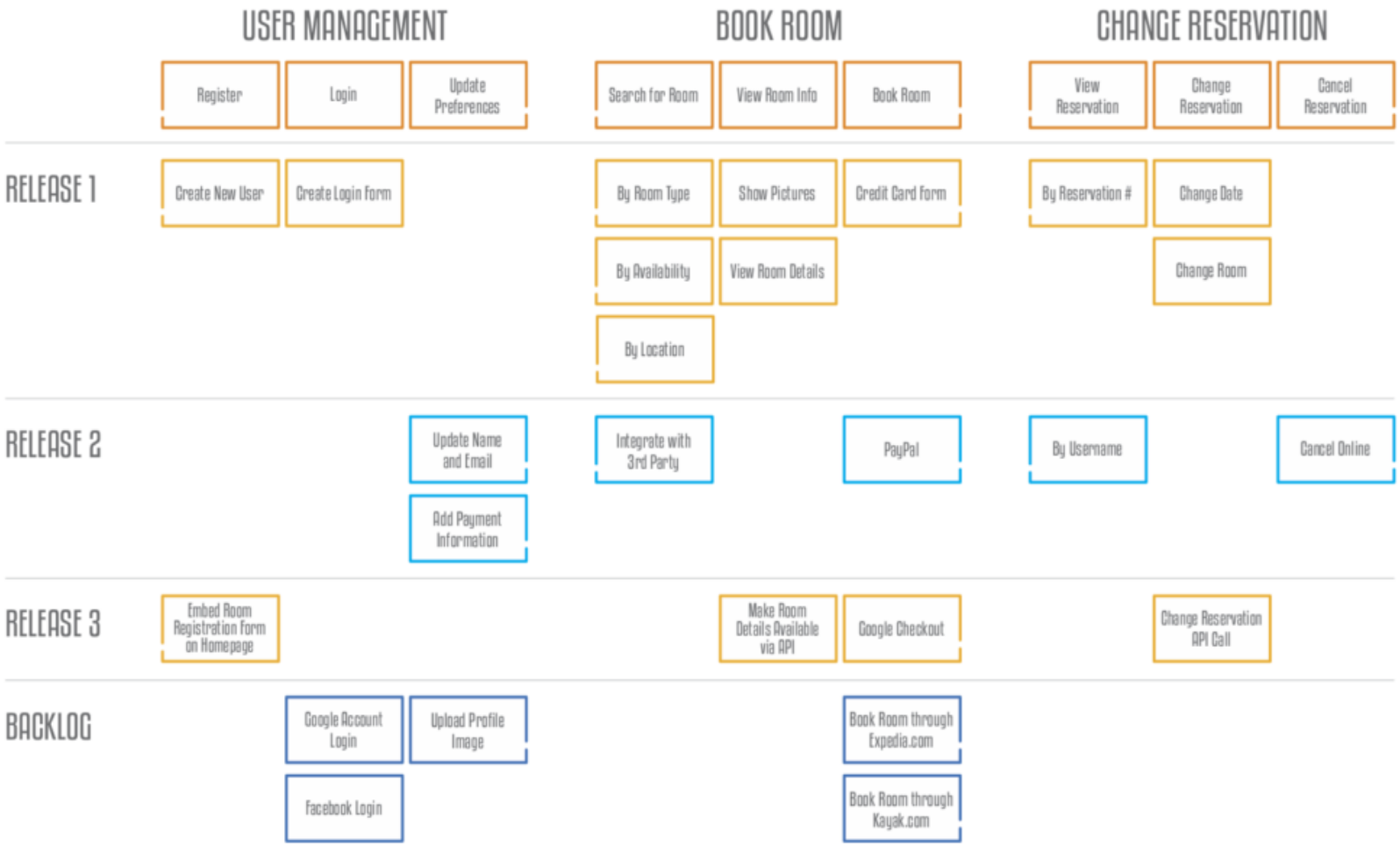
- Story map
  - Uses top down
  - Helps organize features based on importance
  - Helps plan releases

Exercise

Create story map for:

- Hotel booking software

Solution


USER MANAGEMENT
BOOK ROOM
CHANGE RESERVATION
Register
Login
Update Preferences
Search for Room
View Room Info
Book Room
View Reservation
Change Reservation
Cancel Reservation
RELEASE 1
Create New User
Create Login Form
By Room Type
Show Pictures
Credit Card Form
By Availability
View Room Details
By Location
By Reservation #
Change Date
Change Room
RELEASE 2
Update Name and Email
Add Payment Information
Integrate with 3rd Party
PayPal
By Username
Cancel Online
RELEASE 3
Embed Room Registration Form on Homepage
Make Room Details Available via API
Google Checkout
Change Reservation API Call
BACKLOG
Google Account Login
Upload Profile Image
Facebook Login
Book Room through Expedia.com
Book Room through Kayak.com

We need to classify and prioritize features: Kano model

Classification of product features:

- Must have
- Wants
- Delighters

Classification of features: Example: Laptop

Must have	Wants	Delighters
• 2 Ghz CPU • 4 MB RAM • 1 TB Disk	• OS pre-loaded • Anti-virus • Finger print scanner • Touch screen • Dolby sound • Log battery life • Light weight	• Green PC (low power consumption) • Spill proof (water proof) key board • 4G card for internet

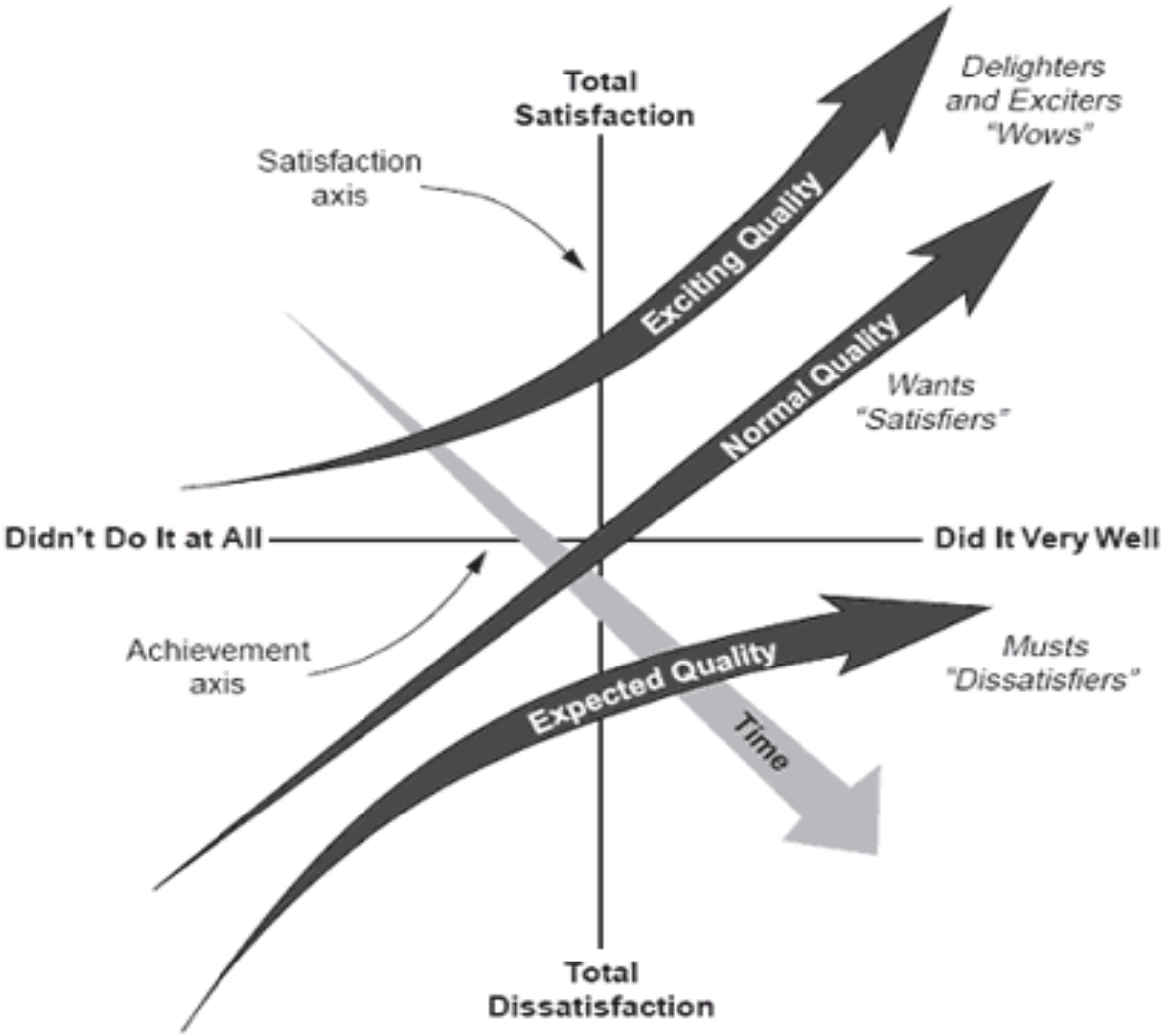
Classification of features: Job portal software

Must have	Wants	Delighters
• Post vacancy • Apply • View applicants	• Get job alert • Hot job indicator	• Resume builder • Good Interview videos • Tips to negotiate salary • Psychometric test

Classification of features: Job portal software

Must have	Wants	Delighters
• Post vacancy • Apply • View applicants	• Get job alert • Hot job indicator	• Resume builder • Good Interview videos • Tips to negotiate salary • Psychometric test

Classification of features changes over time…



As people start using the products, some features move on from Wants to Must haves and Delighters to Wants.

Classification of features changes over time…

Example of delighters becoming wants: Job portal software

Must have	Wants	Delighters
• Post vacancy • Apply • View applicants	• Get job alert • Hot job indicator	• Resume builder • Good Interview videos • Tips to negotiate salary • Psychometric test

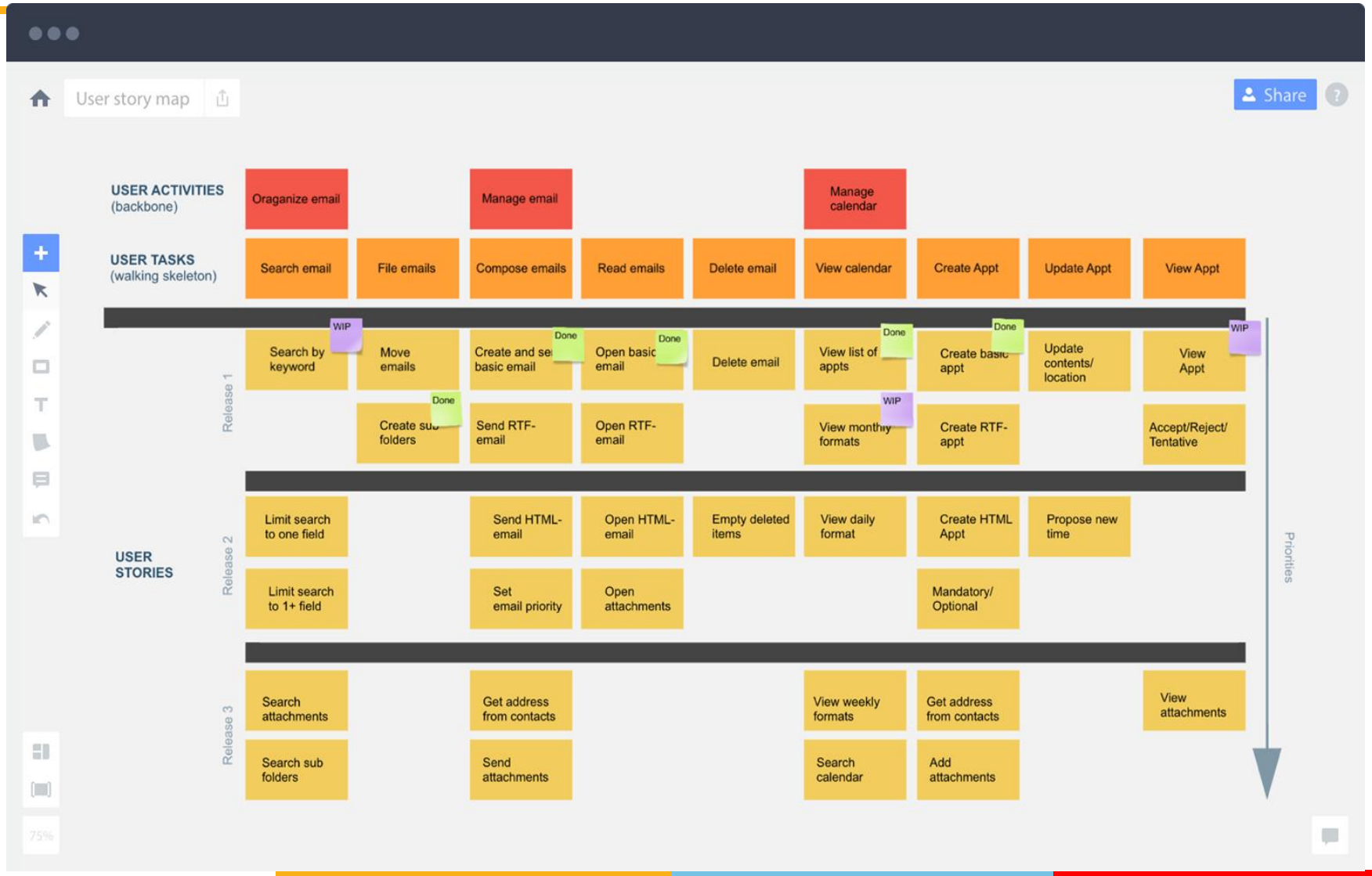
Exercise

Identify ‘Must have’, ‘Wants’ & ‘Delighter’ features of

- Online banking
- Airline reservation
- eCommerce

Appendix

Story map: Email system



https://medium.com/@mal.sanders/top-5-takeaways-from-user-story-mapping-by-jeff-patton-f8c80cf73750