



**BITS Pilani**

# Software product management

## Overview

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- Product management: Relationship with rest of the company
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# Evolution of product organizations

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A product organization goes through the following stages:

- Startup
- Growth stage
- Enterprise

Let us see what are the characteristics of each stage...

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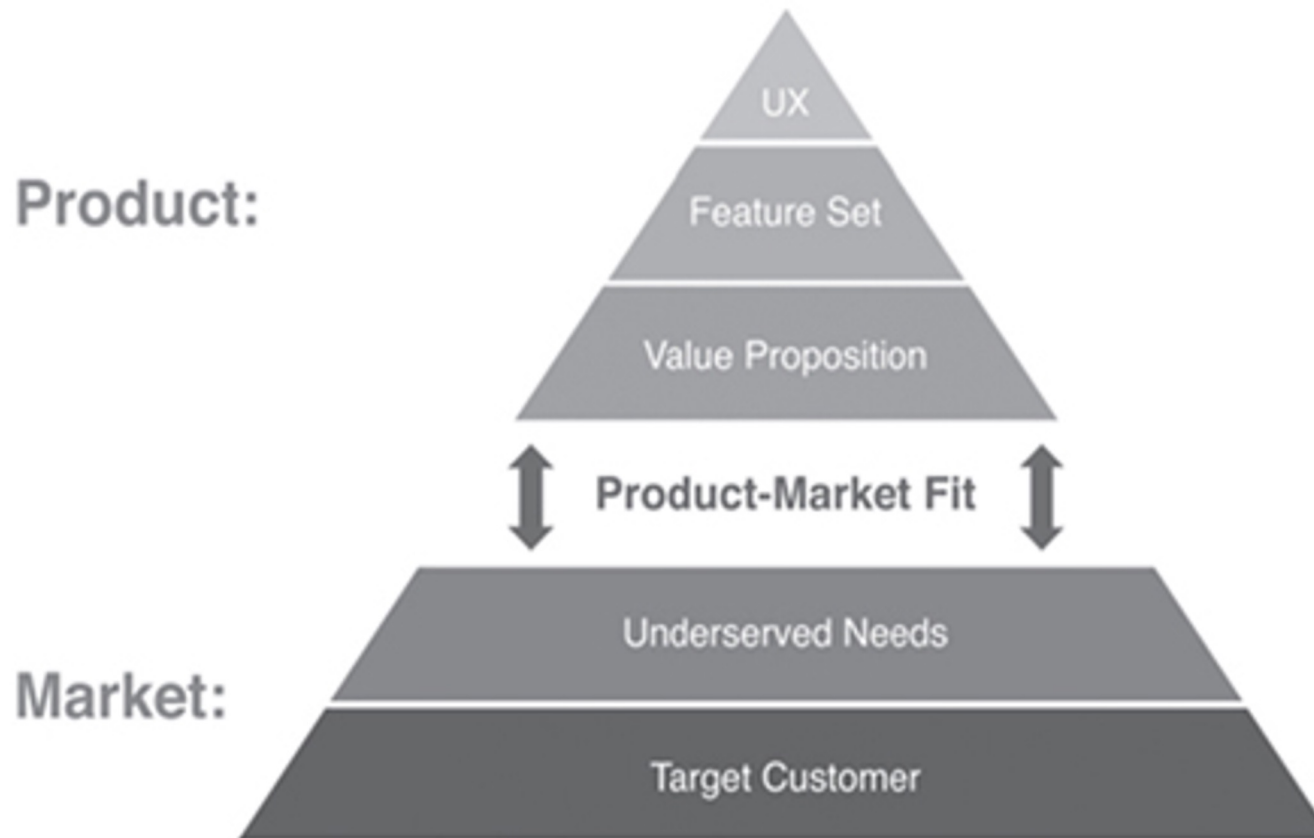
# Startup stage



- 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

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## 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

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## 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
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# 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



Netflix	Amazon	Facebook
<ul style="list-style-type: none"><li>• DVD movie sales</li><li>• DVD rentals</li><li>• Online booking of DVD, delivered via Post</li><li>• Streaming video</li><li>• In house production of serials and movies</li><li>• Movie / Serial Award function (akin to Oscar)</li></ul>	<ul style="list-style-type: none"><li>• Books</li><li>• Electronics, Others</li><li>• Recommendation feature</li><li>• Amazon Prime</li><li>• Alexa</li><li>• Kindle</li><li>• AWS</li><li>• Firestick</li><li>• Amazon Pay</li></ul>	<ul style="list-style-type: none"><li>• Wall &amp; messaging</li><li>• News Feed - streams friend's activity</li><li>• Sell stuff to other Facebookers</li><li>• Tagging and attachments</li><li>• 'Like' button</li><li>• Timeline feature</li><li>• Buys Instagram, WhatsApp</li></ul>



# Why products fail?

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- 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
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# What do best product teams do?



- 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 technically 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.

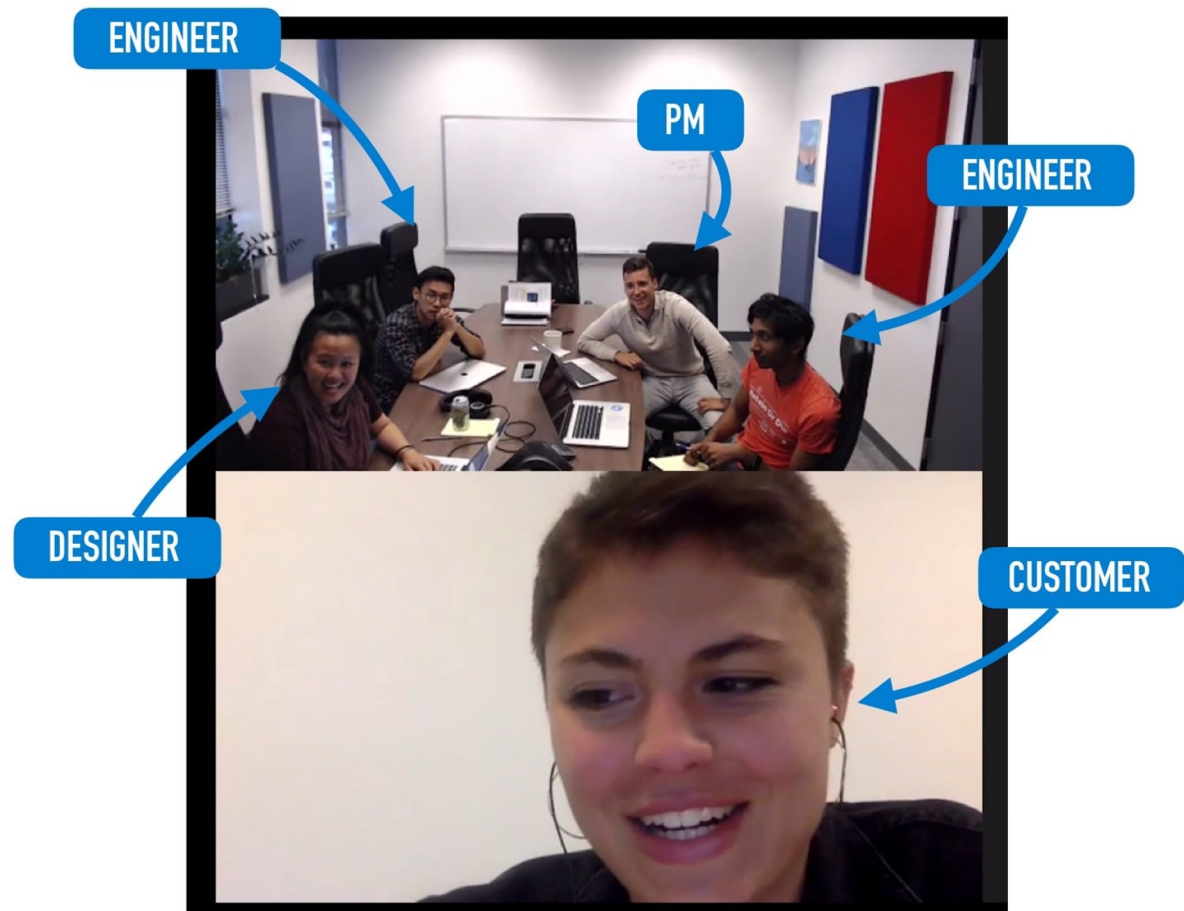
# Define and design products collaboratively



- 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

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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.
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# Solve problems, not just implement features

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## 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
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# Solve problems, not just implement features - Example

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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
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# Product management: Relationship with rest of the company

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- 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.
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# Product lifecycle

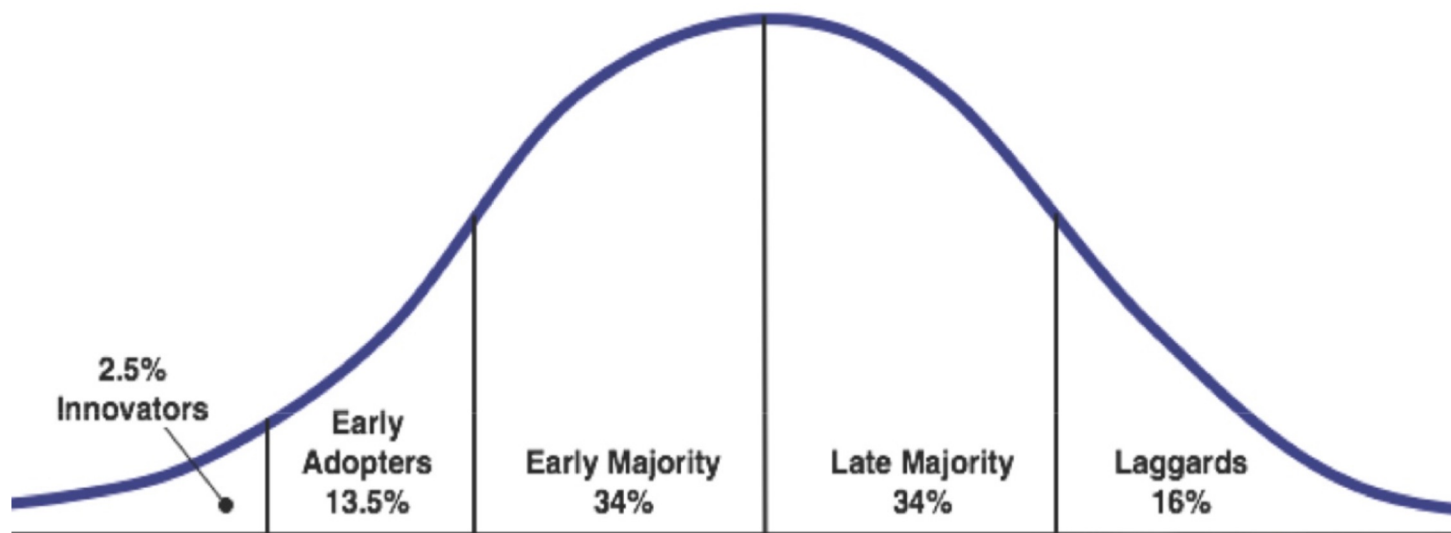


- Determine your target customers
- Identify underserved customer needs
- Define your Value Proposition
- Assess value through customer interaction
- Specify your Minimum Viable Product (MVP)
- Create your MVP prototype
- Test your MVP with customers
- Iterate
- Launch product & support
- Grow & build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

# Technology adoption lifecycle



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



# Technology adoption lifecycle...

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- **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.
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# Technology adoption lifecycle...

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## 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.

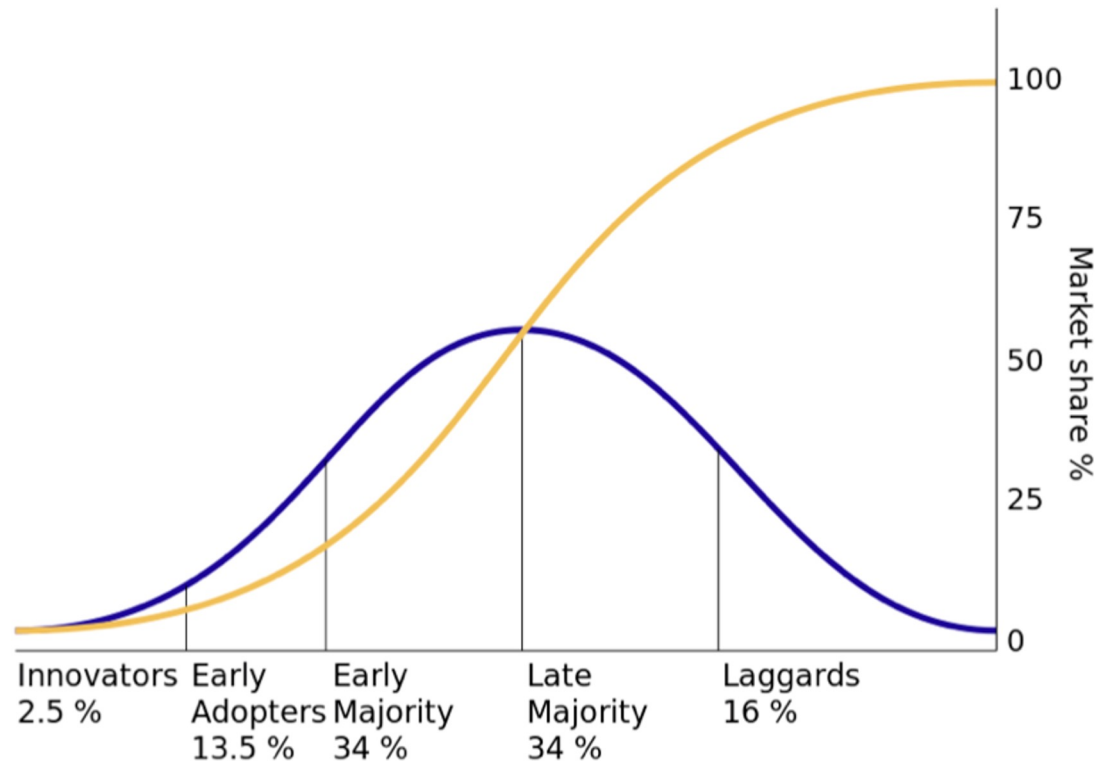
<https://www.scality.com/solved/the-history-of-cloud-computing/>

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# 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

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- 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 funding
  - Align & focus the organization
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# Journey of some product companies: Exercise

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Study the journey of Netflix and identify:

- Key milestones
  - Challenges faced
  - What they did right and what they did wrong
  - Key Product management learnings
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- Courtesy: <https://www.businessmodelsinc.com/exponential-business-model/netflix/>

# Appendix

