# Service Science
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MVP TYPES

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Recap

- Build-Measure-Learn-Feed-back Loop
- Goal:
  - minimize the loop time
  - be sure that learning is real
- Minimum Viable Product (MVP): an early prototype of a new product/service which allows a team to collect
  - the maximum amount of validated learning about customers
  - while minimizing the effort spent
- Use the insights gained in each development cycle to make improvements
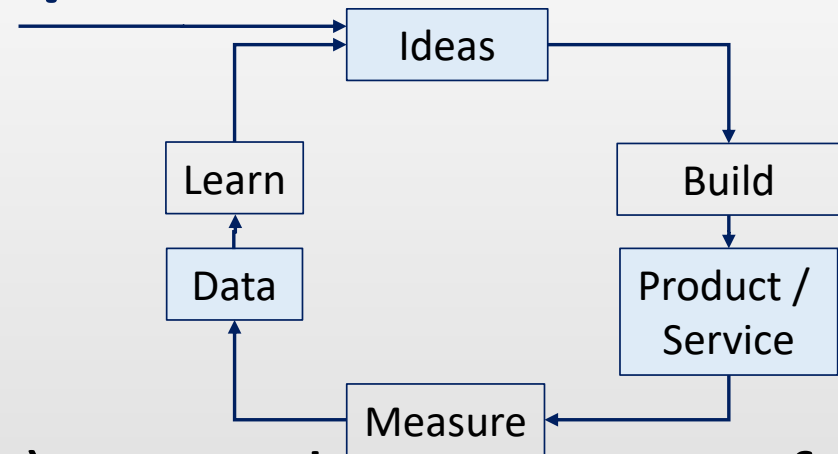
MVP Types

- Concierge MVP
- Video MVP
- Wizard of Oz MVP
- Landing Page MVP
- Email MVP
- …

Concierge MVP

- Introductory case: **Food on the Table** (Texas based Start-up)
  - Creates weekly meal plans and grocery shopping lists based on
    - Customer (and family) preferences
    - Best deals on ingredients local grocery stores
  - Focus on the customers
    - Identify the **preferred local grocery** store(s)
    - Select the the preferred **foods** (considering family wishes)
    - Select **how many meals** per week the system should suggests
  - The site provides (on a weekly basis)
    - **Recipes** matching the customer needs,
    - A **shopping lists** based on the recipes, taking into account local grocery deals

- Beyond the stage (now)
  - Chefs editing recipes
  - Information system for grocery information acquisition and management
  - Algorithms for matching recipes …

How did FotT start?

- Food on the Table (FotT) began with
  - A single customer
  - A single grocery store
  - No recipes
- The two company founders interviewed people outside a local grocery store in Austin (Texas)
  - Customers stopped and asked questions (i.e., market research)
  - But also the founders
    - Explained the service
    - Looked for their very first client
      - Most times they were rejected. After all most people are not early adopters
      - But eventually they found their first customer
- The first client got the "**concierge treatment**"

Concierge Treatment

- The lady (the early adopter) got, each week, a **personal visit** from the company CEO and Vice President
  - They described the **grocery store deals**
  - They carefully **select recipes** on the basis of her **preferences**, learning her favorite recipes for items she regularly cooked
- Each week the CEO and VP would also
  - Bring her -**in person**- a prepared packet containing
    - shopping list
    - relevant recipes,
  - Solicit her feedback, and make changes as necessary
  - **Collect a check** for $9.95 (i.e. they take the payment)
- In a concierge MVP (like in this case), the personalized service is more a learning activity rather than a product …

Concierge Pros and Cons

- Cons
  - No scalable system, very inefficient
  - No information system / IT / Automation / …
  - No structured/standard organization
  - Solving just one customer's problem instead of millions
- Pros
  - Knowledge Acquisition
  - E.g., every week the CEO and VP gained valuable knowledge about
    - What was required to make their product a success
    - Customers preferences / habits
    - Groceries

Concierge 2nd Customer

- A **new customer** every few weeks
  - Each **customer gets the same concierge treatment** (personal in-home visits, pack, feed-backs, check collection)
  - New customer selected outside the same grocery store. Leveraging previous knowledge about
    - The store
    - The customer habits
- The CEO and VP became **too busy** in the end (customers kept growing)
  - No more resources to bring in additional customers
  - What will you do?

Expanding the Concierge MVP

- The company invested in automation to free resources for new customers
- E.g.,
  - Recipes and shopping list sent via e-mail instead of via an in-home visit
  - Online credit card payments instead of a handwritten checks
  - Software automatically parsing the on-sales items instead of manual work
  - ...
- Priority problem! Not enough resources to automate all the above tasks at the same time
  - Beware: the goal of an MVP is to learn
  - During each iteration of their minimum viable product, it was easy to identify ...
    - ... the most time consuming activity ...
    - ... which could be easily automated

Dropbox Case

- Dropbox www.dropbox.com/
  - File sharing tool
  - On line repository
  - Works on several platforms (win, mac, iOS, Android, …)
- Question faced at the very beginning:
  - Is file synchronization a value for customers?
  - Will people give the product a try?
- People could hardly understand the underlaying concepts
  - Focus groups were not helpful
  - Even the tech-oriented investors were not able to figure out how the new product was supposed to work
  - Existing file transfer tools were ugly and the proposed new concept was completely different

Dropbox Challenges

- Dropbox development required to address great technical challenges
  - High reliability and availability
  - Deep Integration with several Operating Systems (Win, Mac, Linux, …)
  - **Huge development effort**
- **Risk**: to realize that **nobody want** the **product** after months/years of development
- Before building the product, …
  - how to demonstrate to customers?
  - how to test for user acceptance?
- What will you do?

Video MVP

- Drew Houston (Dropbox CEO) created a **video**
  https://youtu.be/iAnJjXriIcw
  - 4 minutes demonstration
    - Targeted at a community of technology early adopters
    - Showing the "running" product features
  - The video was created (well) before terminating the product implementation

- Results
  - "The video drove hundreds of thousands of people to the website"
  - "Our **beta waiting list** went **from 5,000 people to 75,000** people literally overnight"

The Wizard of Oz MVP

- (Spoiler alert) The Wizard of Oz history/movie. It turns out that the wizard is a man who pulls levers behind a curtain

- Humans performs all the tasks supposed to be carried out by an automated system. From the outside, it looks like a fully-functional system
  - At the beginning
    - Cheaper to mimic an automated system rather than implementing it
    - Quick way to see how the system would behave before implementation
  - It could be slow compared to an automated system

- Very critical aspect: The Wizard of Oz MVP requires the humans behind the scene to be **motivated** and do a **good job**

The Wizard of Oz MVP 2

- **Differences** between Wizard of Oz and Concierge MVPs?
  - Front line people are evident in Concierge MVPs
  - People in Wizard of Oz are hidden behind the System Interface
  - Of course, the distinction can be blurry
- Customer collected data
  - Less prone to human bias in Wizard of Oz
  - Maybe biased by subjective thoughts of front line people in Concierge MVP

Landing Page MVP

- In online marketing, a **landing page** is a welcome web page
- Can be hosted on
    - Web sites
    - Social networks (e.g., Facebook pages, …)
    - Social Network Groups (e.g., Linkedin)
- Typical landing page contents
    - The project/product/service/… **description**
        - Project summarizing the **vision**
        - Highlight of **features** and **advantages**
        - (In case) videos
        - …
    - **Feed-back form**
    - Link for subscribing the **mailing list**
    - link for **donating**/supporting the project
    - …

Metric examples
- # Subscribers
- Fund raised
…

The Email MVP

- An email MVP can be used
  - To test how product features appeal possible customers
    - An email is sent to potential/existing customers
    - Responses to the email / click on URLs are monitored
  - To test if a community of people can gather around a specific topic
    - E.g., creating a linkedin / facebook/… group (strictly speaking they are not mailing services …)
    - … and monitoring the subscriptions
  - Emails and Social Network Groups can be used together
- Metric examples
  - E.g., how many click on the "action button"
  - How many people joined the group, …

No Limits to MVPs

- Some more types of MVP can be created
- … no limits to creativity e.g.,
  - Mock-up (the Italian for mockup is "manichino")
    - E.g., a (graphical) front-end/user-interface frequently created using Photshop, Powerpoint, …
    - Nothing (or very little) works behind the mockup
  - …
- Creating an early prototype, is not only related to software development
  - Virgin Airlines
    - Now several airlines connecting UK, USA, Africa, Middle East, Asia, and Australia
    - How they started? It was just one plane flying between Gatwick and Newark
  - Groupon start
    - Wordpress website
    - PDF coupons
      - manually created
      - individually sent by email by the founder

MVP Issues

- MVP quality issues
- Risks building an MVP
  - Legal issues (e.g., patents)
  - Fears about competitors
  - Branding risks
  - The impact on team self-confidence

MVP & Quality

- Start-ups fight against time
- Trading quality for time is dangerous
  - If you are causing (or missing) quality problems now …
  - … the resulting defects will slow you down later
    - Rework might be required (additional effort/costs)
    - can make customers leaving
- Knowledge before quality
  - Focusing on quality requires to know what is worthwhile for the customer
  - How to manage Knowledge Acquisition and Quality?
    - Address quality problems when/if they slow down the Build-Measure-Learn loop
    - Prioritize quality interventions based on the knowledge gained
    - Even a "low-quality" MVP contributes to build a great high-quality product
- An MVP usually focuses on early adopters
  - They are happy about new products …
  - … and they are more forgiving about quality issues

Legal Issues

- Company's whose competitive advantage is based on new scientific breakthroughs
  - May need to **fill a patent**
  - May be sensible to **disclose new findings**
- In some jurisdictions the window for filling a patent begins when the product is released to the general public
  - **Releasing** the **MVP** may **start** the **clock** (depends on how it is structured)
  - Even if this doesn't apply to your local jurisdiction, it may apply for international patent protection
- In many industries, patents are used primarily for defensive purposes,
  - E.g., as a deterrent for competitors
  - In such cases, the patent risks of an MVP might be minor compared with the learning benefits
- In all cases, innovators should seek legal counsel to ensure that they understand the risks fully

Patents Timeline

- "**Absolute novelty** requirement" countries (EU countries, Japan, China, …)
  - The patent should be filled before any public disclosure or commercial activities (e.g., marketing)
- "**Relative novelty** requirement" countries (U.S.A., Canada, Australia, a lot of South American countries)
  - Grace period from the time of public disclosure or commercial use
    - A valid patent can be filled during the grace period
    - In the U.S.A. 12 months of grace period
  - Grace period is not valid outside the granting countries
    - E.g., doing marketing activities before patent filling although allowed in "relative-novelty-requirement countries" …
    - … will waive any possibility of obtaining a patent in "absolute novelty requirement" countries

More on different Countries

Foreign Protection
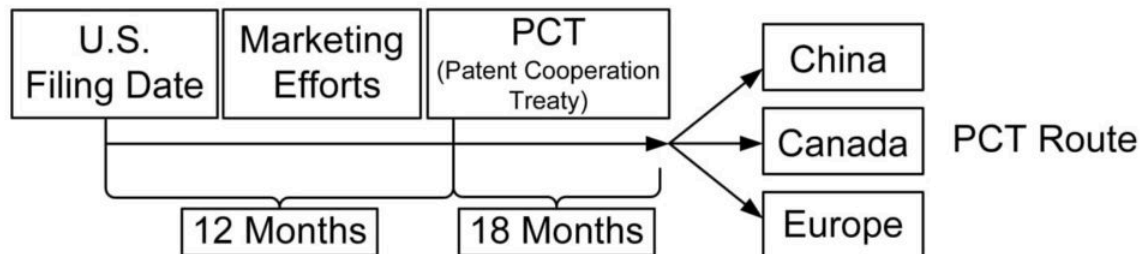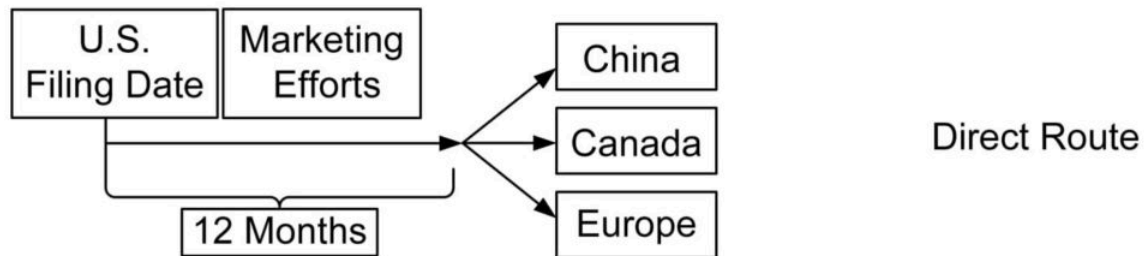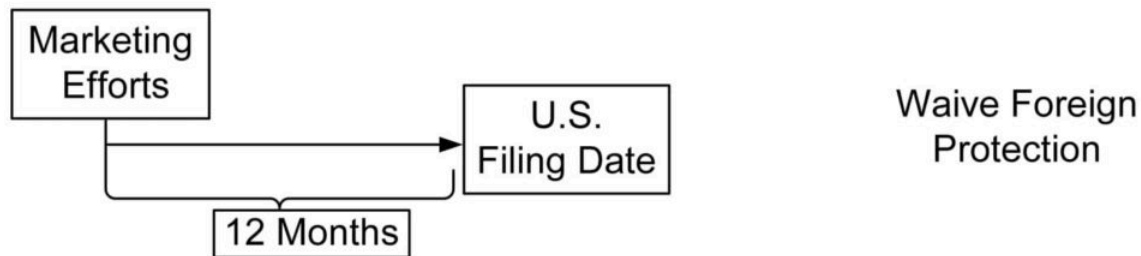
- Terminology: "filling a patent" i.e. starting the patent request process, (it doesn't mean finishing it)
- Filling a U.S.A. patent grants 12 more months to fill a patent in foreign countries
  - It applies to countries having an agreement
  - An application per country is required
  - Useful if few foreign countries should be covered
- 18 more months after filling a PCT (i.e. worldwide) patent
  - Very frequently used to shift the 12 months deadline of 18 more months
- Information may change without notice. Credits:
  https://ocpatentlawyer.com/pros-cons-securing-worldwide-patent-protection-steps/

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Fear of Competitors

- Large and established companies may steal a start-up idea?
- Assignment
  - Find the name of a relevant company product manager and try to get that company to steal your idea
  - Call them up, write them a memo, send them a press release…
  - The truth is that most managers are overwhelmed with good ideas. Their challenge lies in prioritization and execution, and it is those challenges that give a startup hope of surviving
    Ries, Eric. The Lean Startup. The Crown Publishing Group

Fear of Competitors 2

- A similar thesis is also advocated in "The Innovator's dilemma" a book studying why "… aggressive, innovative, customer-sensitive organizations could ignore … technological innovations with enormous strategic importance".
Christensen, Clayton. The innovator's dilemma: when new technologies cause great firms to fail. Harvard Business Review Press, 2013.

- **Sooner or later** a successful startup will face **competition** from **fast followers**

- If a competitor can outrun a startup once the idea is known
  - The startup has no future anyway, independently of the secrecy
  - The reason to build a start-up is that you believe you can go faster than anyone else

Brand Issues

- Creating a "famous brand" may be a strong component of a start-up strategy
- An **MVP** can be a dangerous **branding risk**
  - Initial failure may create long-term damage to brand perception
  - Low quality can be difficult to forgive
- Existing organizations are afraid of damaging the company's established brand
- Solution: launch the MVP under a different brand name
  - Start-ups / new initiatives have a small number of customers and little exposure
  - This is an advantage to experiment under the radar
  - A public marketing launch can follow once the MVP has proved itself viable

Cultural Problems

- Managers are extremely worried of flawed products to be rejected
  - They work a lot to launch only fully formed products
  - A lot of development effort (and time)
  - No customer feed-back/testing when the product is less than full splendor
  - The longer is the development/release time, the more difficult is to get feed-backs
- Cultural implications
  - Product development teams frequently make **go/kill decisions**
  - Since feed-backs are usually obtained very late, if problems are detected at the early stage, the project is discarded (i.e., kill decision)
- Consequences
  - managers are very worried of MVPs
  - MVPs are likely to be killed at the first bad results
- But flawed MVPs can be corrected by means of the learning loop

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Impact on Morale

- MVPs often result in bad news (be prepared)
  - Several Build Measure Learn loops might be required …
  - … before achieving positive results
- What to do?
  - Commitment to iteration
  - The team has to commit to a **locked-in agreement (ahead of time**) …
  - … that no matter what comes of testing the MVP, people will not give up