Software Startups

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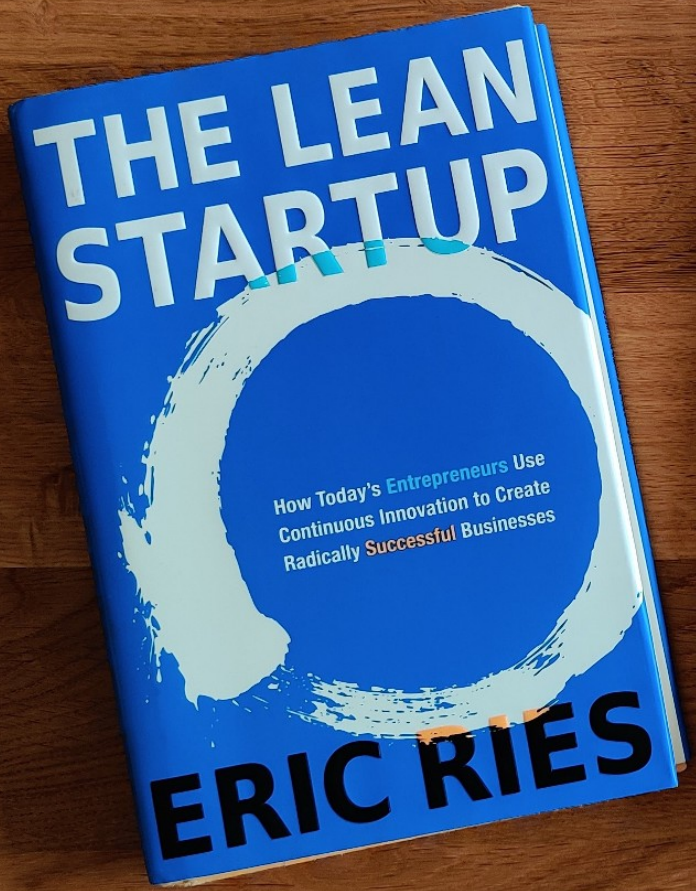
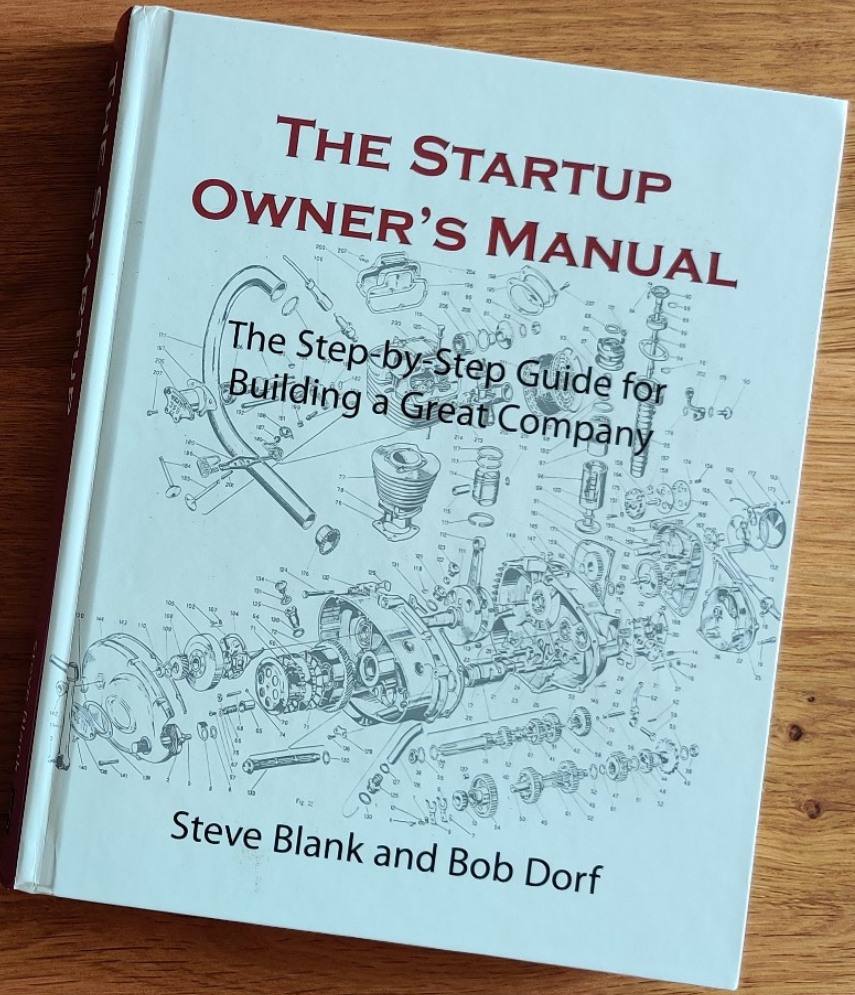
COSS D01

Agenda

1. Definition (startup)
2. The search process
3. Problem-solution fit
4. Product-market fit
5. Product-channel fit
6. Startup metrics


THE LEAN STARTUP
How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses
ERIC RIES

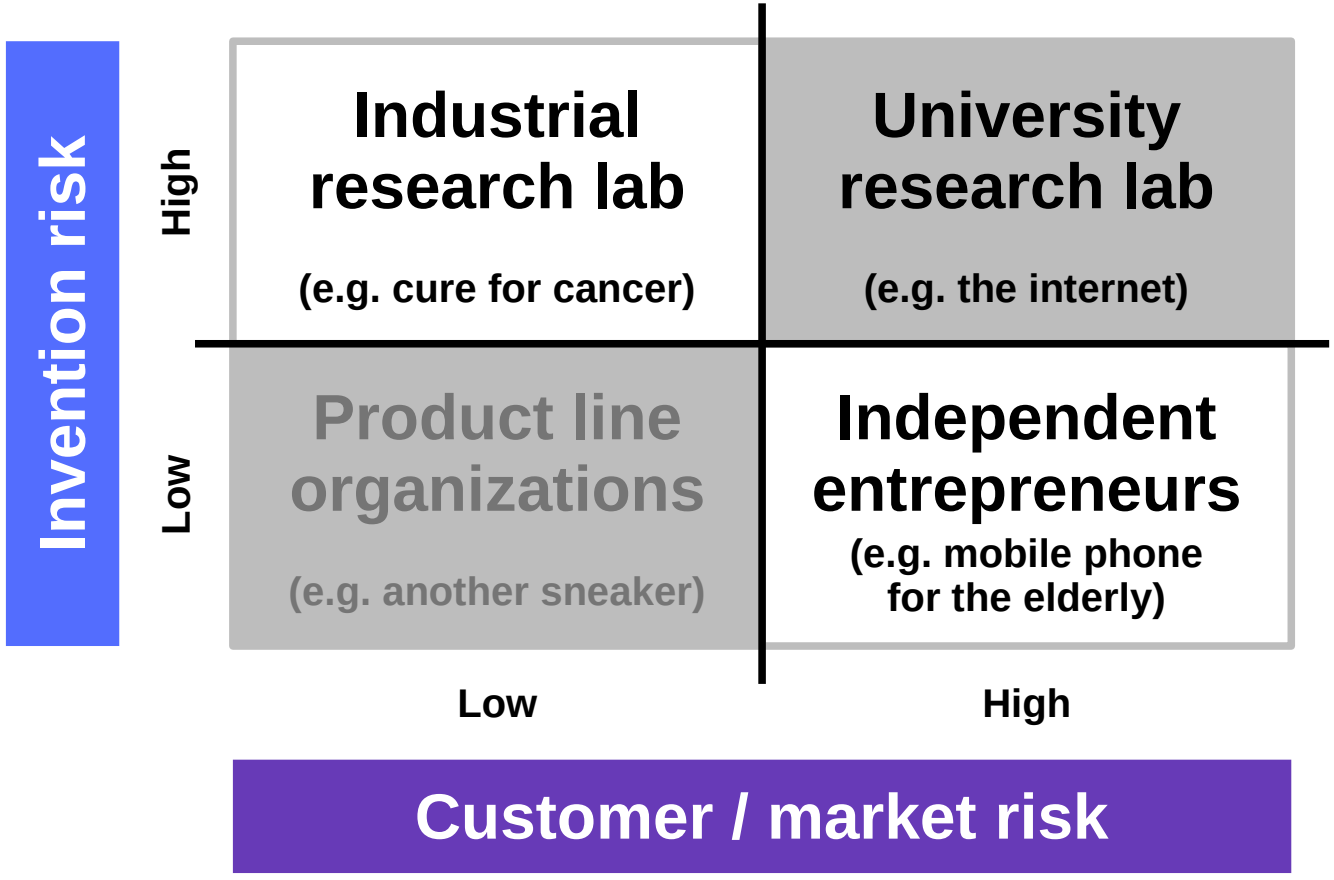

THE STARTUP OWNER'S MANUAL
The Step-by-Step Guide for Building a Great Company
Steve Blank and Bob Dorf

1. Startup Definition

What is a Startup?

- A startup
  - Is an organization in search of a viable business model
  - Is not a small version of a large company

Sources of Innovation and Their Risk Profiles



2. The Search Process

The Road to Failure

- Because you have this great idea
  - You know what the customer wants or needs
    - You know what features satisfy the customer
  - You don’t need to allow for iteration and learning
    - You can set a launch date and work backwards
    - You can already focus on execution and efficiency
  - You can bring in people from established firms
- All everyone needs to do is to execute your plan

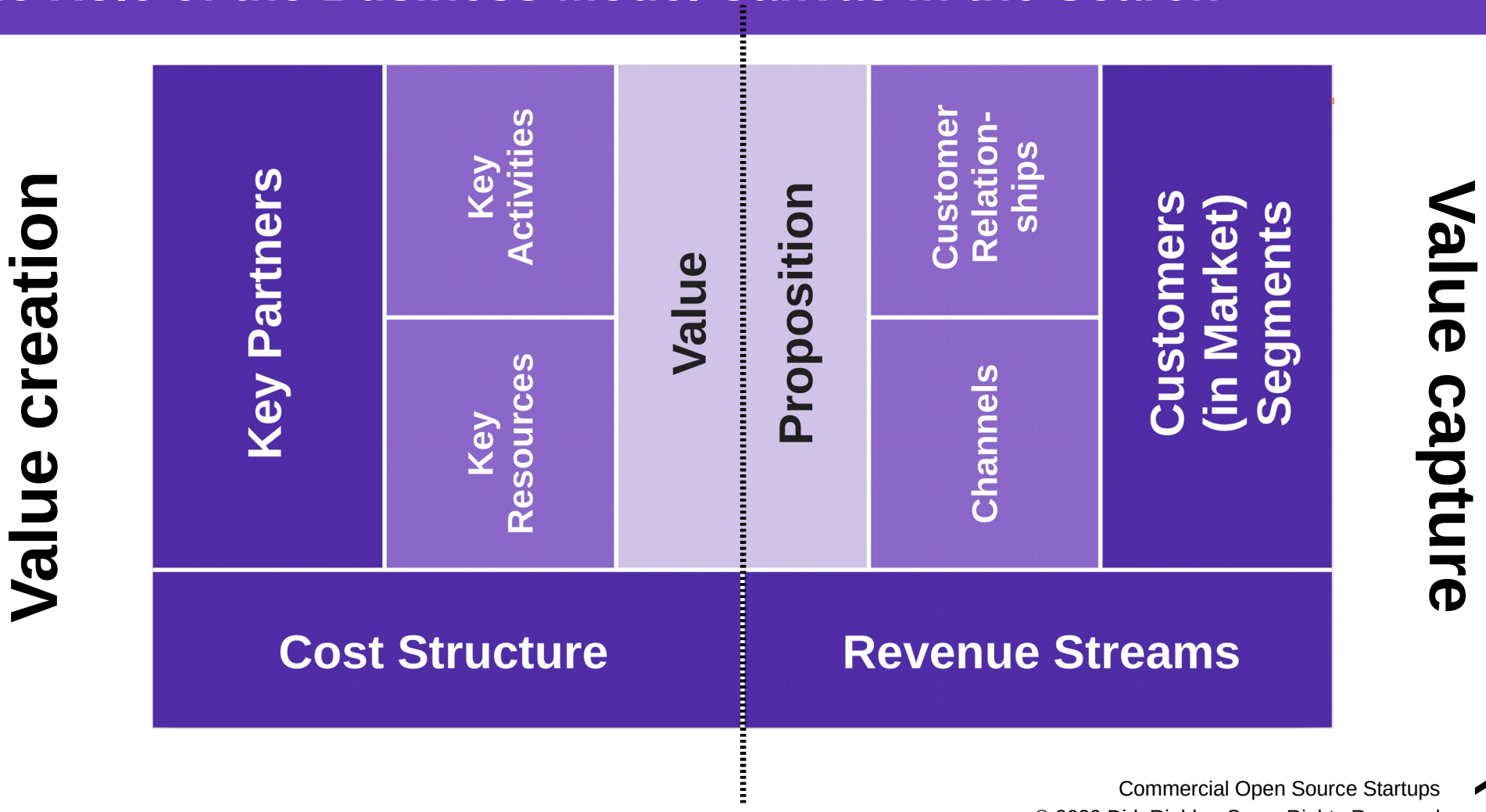
How to Avoid Failure

- Establish and follow a structured process of incremental “validated learning” where
  - A structured process is a process of incrementally discovering your business model
  - And learning is a process of creating, testing, and evaluating hypotheses
- You therefore start with an idea, but do not assume it is true

Incremental Learning Needs Feedback

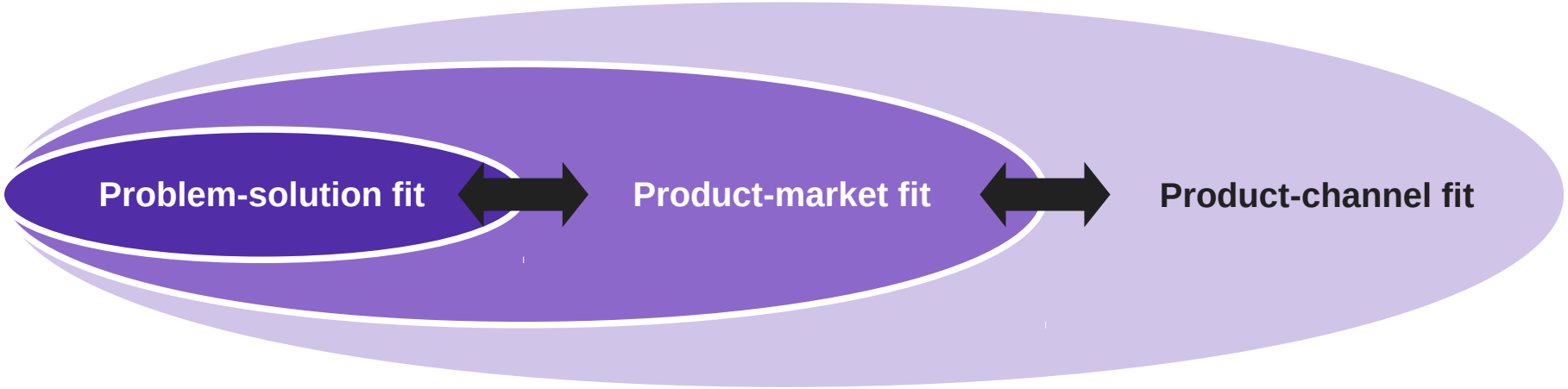
“There are no facts inside your building.”
(Various authors.)

The Role of the Business Model Canvas in the Search



The Three Stages of the Search Process

- The business model achieves
  1. **Problem-solution fit**
  2. **Product-market fit**
  3. **Product-channel fit**

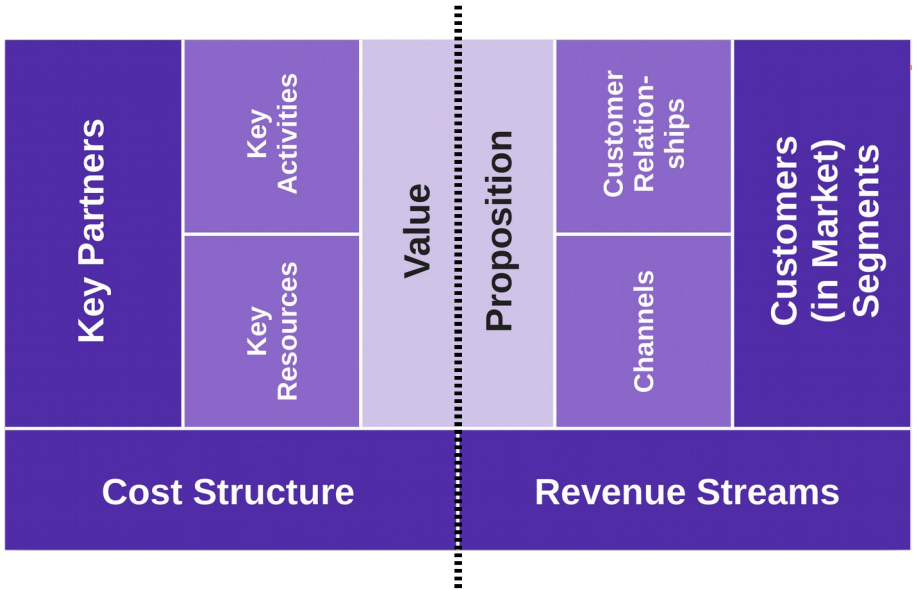


The Two Activities of Each Stage of the Search Process

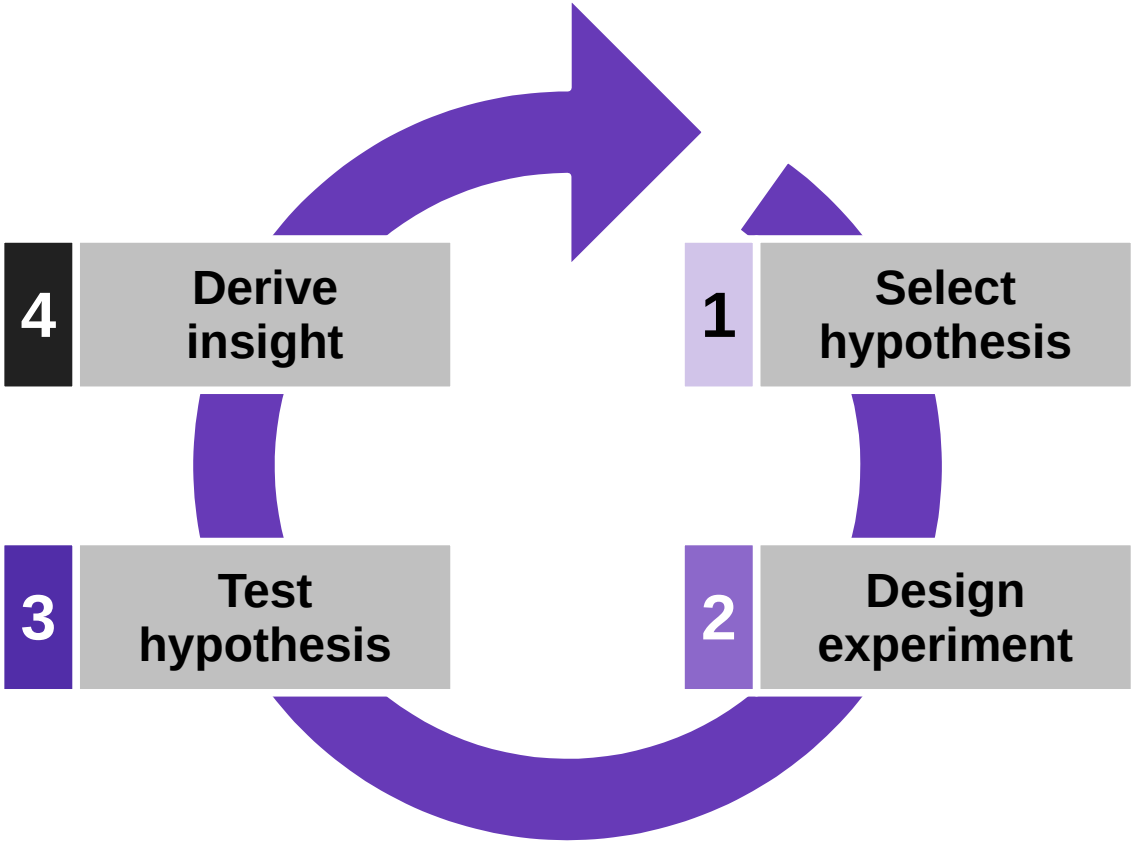
1. Business model building
   - Creating coherent sets of hypotheses (descriptive statements) about the business
2. Business model validation
   - Testing hypotheses from the business model to gather feedback

1. Business Model Building as Hypothesis Creation

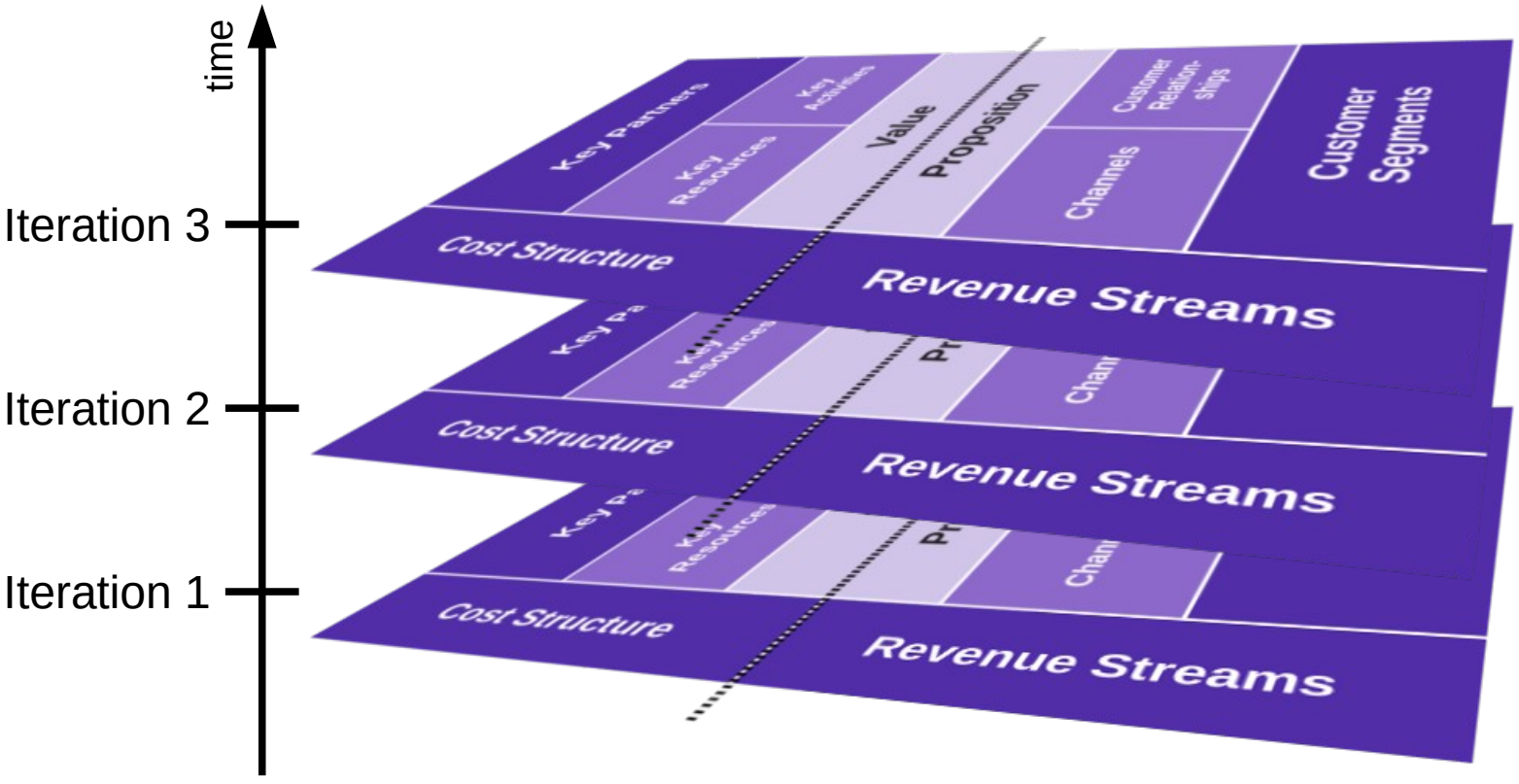
- Create hypotheses from introspection and feedback
  - Introspection provides the initial potentially disruptive ideas
  - Experimental feedback guides incremental refinement



2. Business Model Validation Using Hypothesis Testing



The Business Model Canvas Over Time



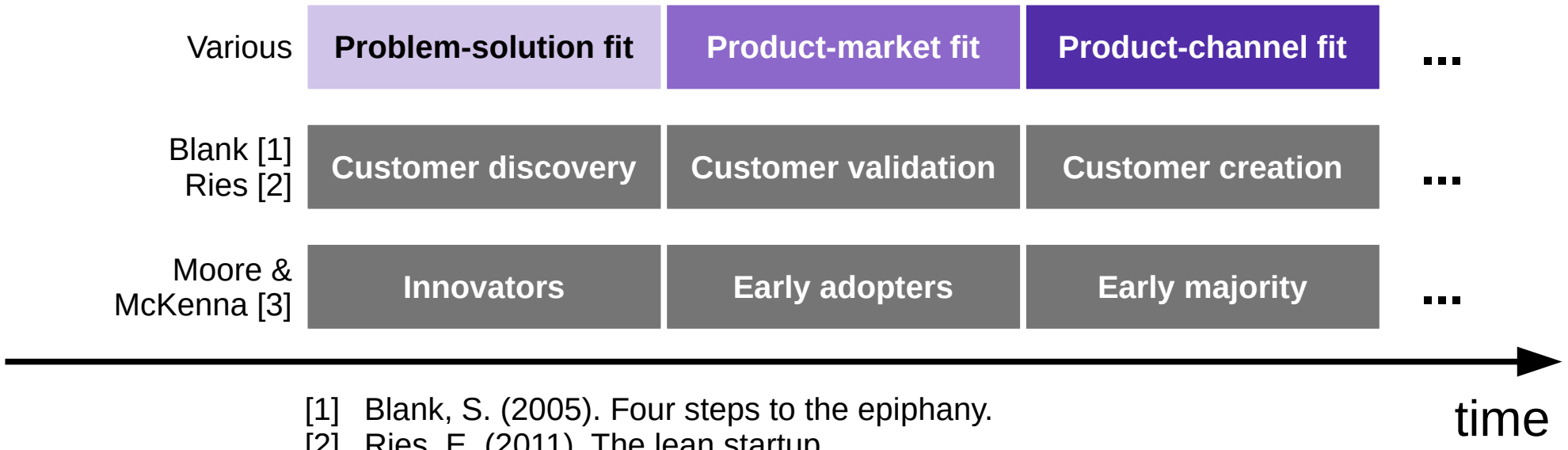
Pivot or Proceed

- A pivot
  - Is a change of direction
    - Based on a change in the underlying assumptions (idea) of the business
    - Basically, you have been climbing the wrong hill
  - Is triggered by experimental learning
  - Is not a failure

Benefits of the Search Approach

- Time efficient
- Resource efficient
  - Both capital and labor
- Still, an efficient search requires experience

Model Correlations

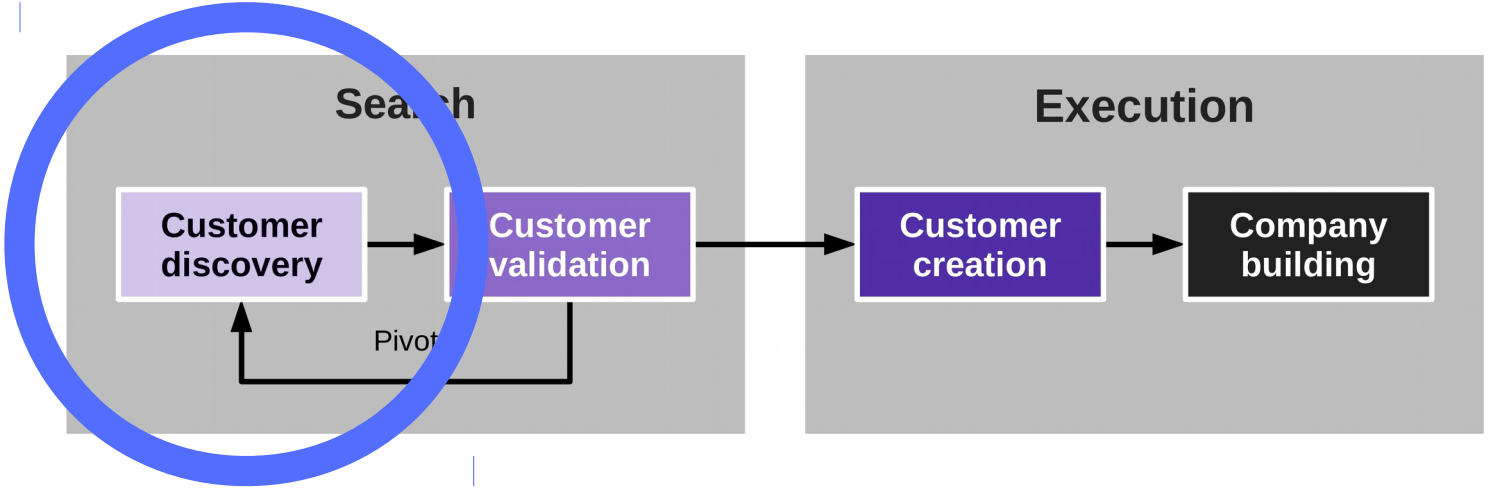


[1] Blank, S. (2005). Four steps to the epiphany.
[2] Ries, E. (2011). The lean startup.
[3] Moore, G. A., & McKenna, R. (1999). Crossing the chasm.

3. Problem-Solution Fit

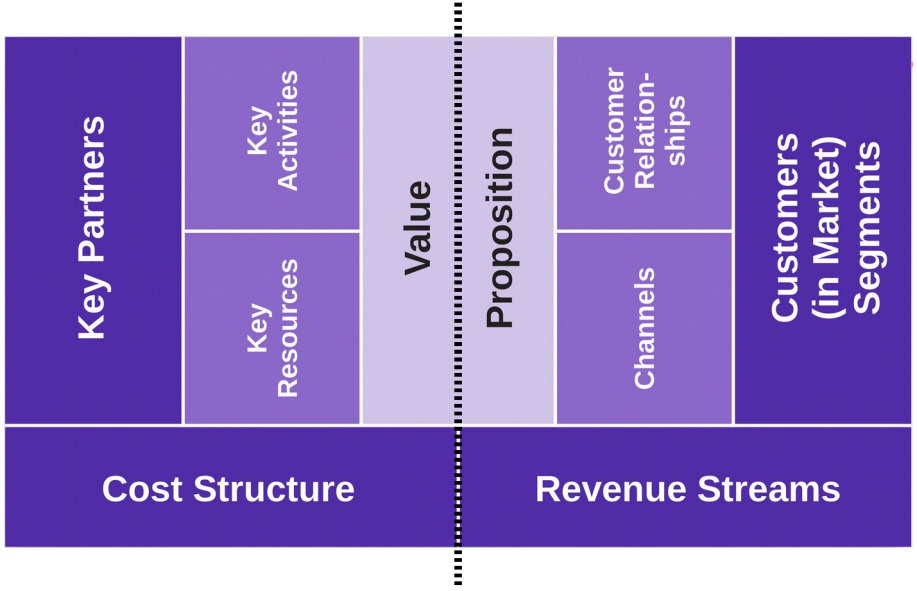
Finding Problem-Solution Fit with Customer Discovery

- Customer discovery is a search process that
  - Tests whether the hypothesized business model fundamentally works
- Problem / solution fit
  - Is the matching of a value proposition with a market segment



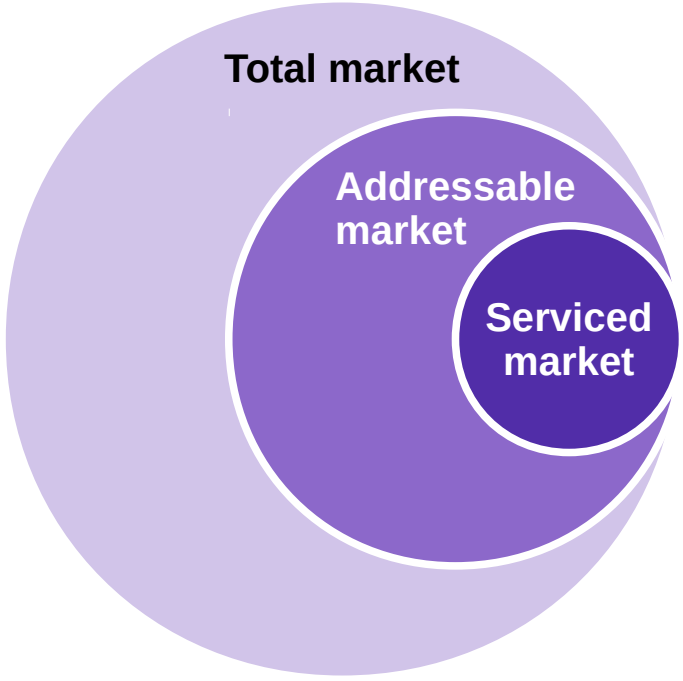
From Product Vision to Business Model

- Founders often have a product vision
  - Assumed value proposition for customers
- But what about
  - Market segments
  - Channels
  - Customer relationships
  - Revenue streams
  - Key partners
  - Key resources
  - Key activities
  - Cost structure

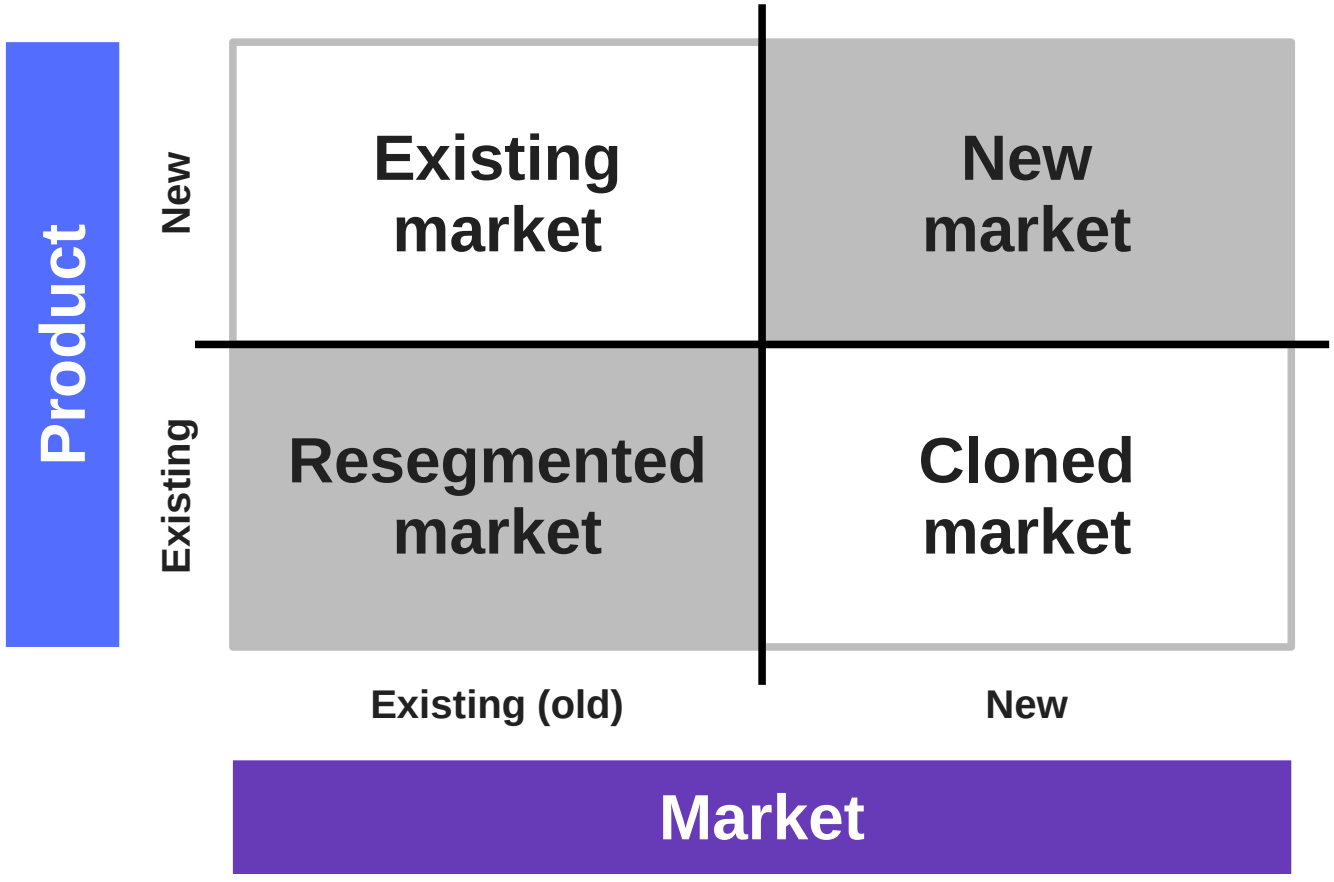


Start the Search with Market Sizing

- Start with a market size assessment
  - Too small a market
    - Makes you unfundable through VCs
    - May not meet your own expectations
- This way, you start in a good spot



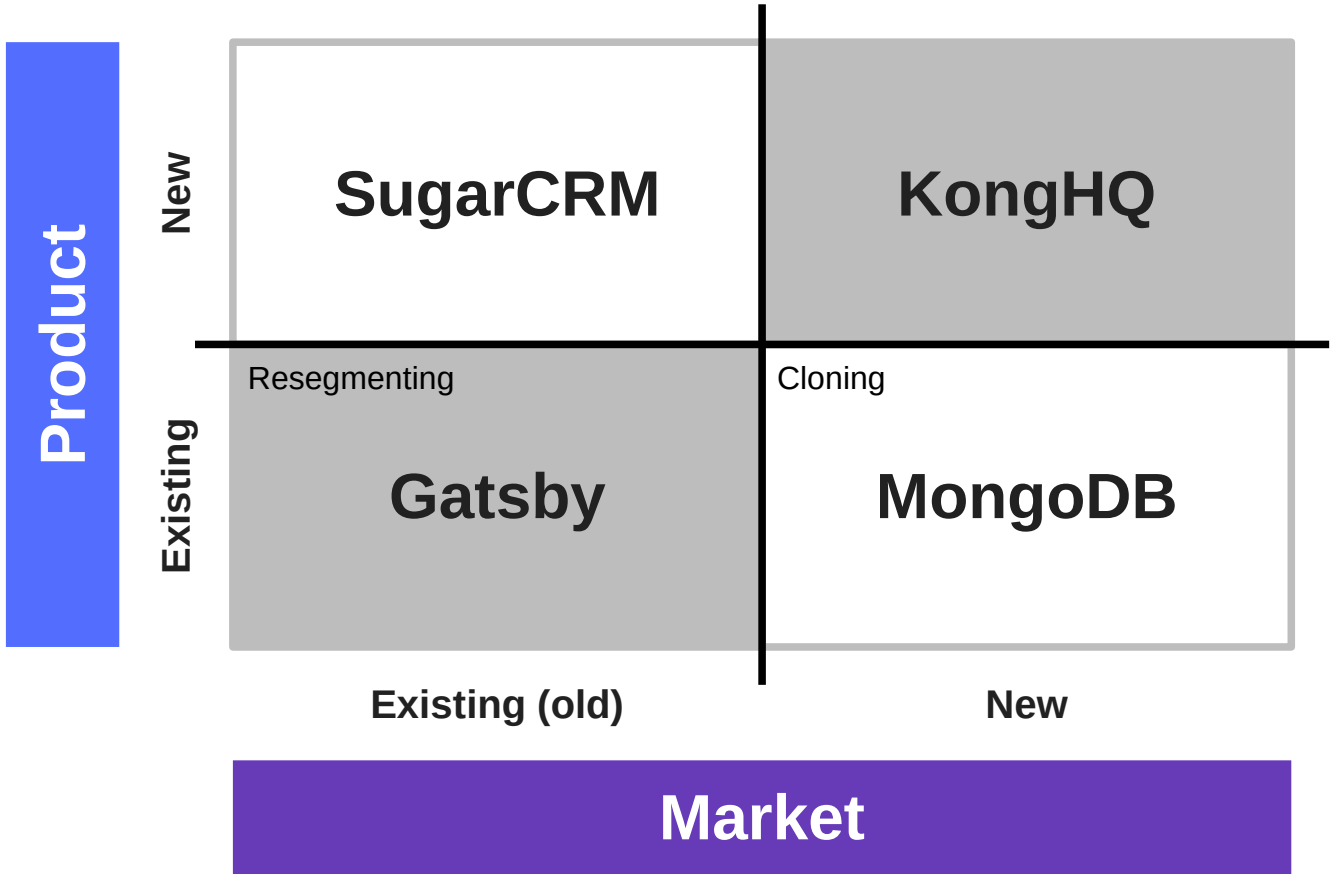
Market Types and Business Models



The Impact of Different Market Situations

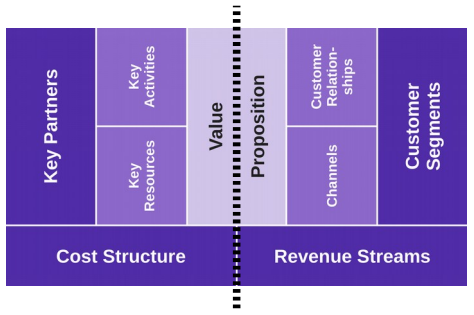
- A new product in an existing market
  - Market is known, little uncertainty
  - Product has efficiency gains
- A new product for a new market
  - No market yet; evangelism needed
  - Breakthrough product
- Resegmenting an existing market
  - Market is known, little uncertainty
  - Product focus on low-cost or niche
- Cloning into a new market
  - Market can be reasonably guessed
  - Product is well understood

Market Types (Commercial Open Source)

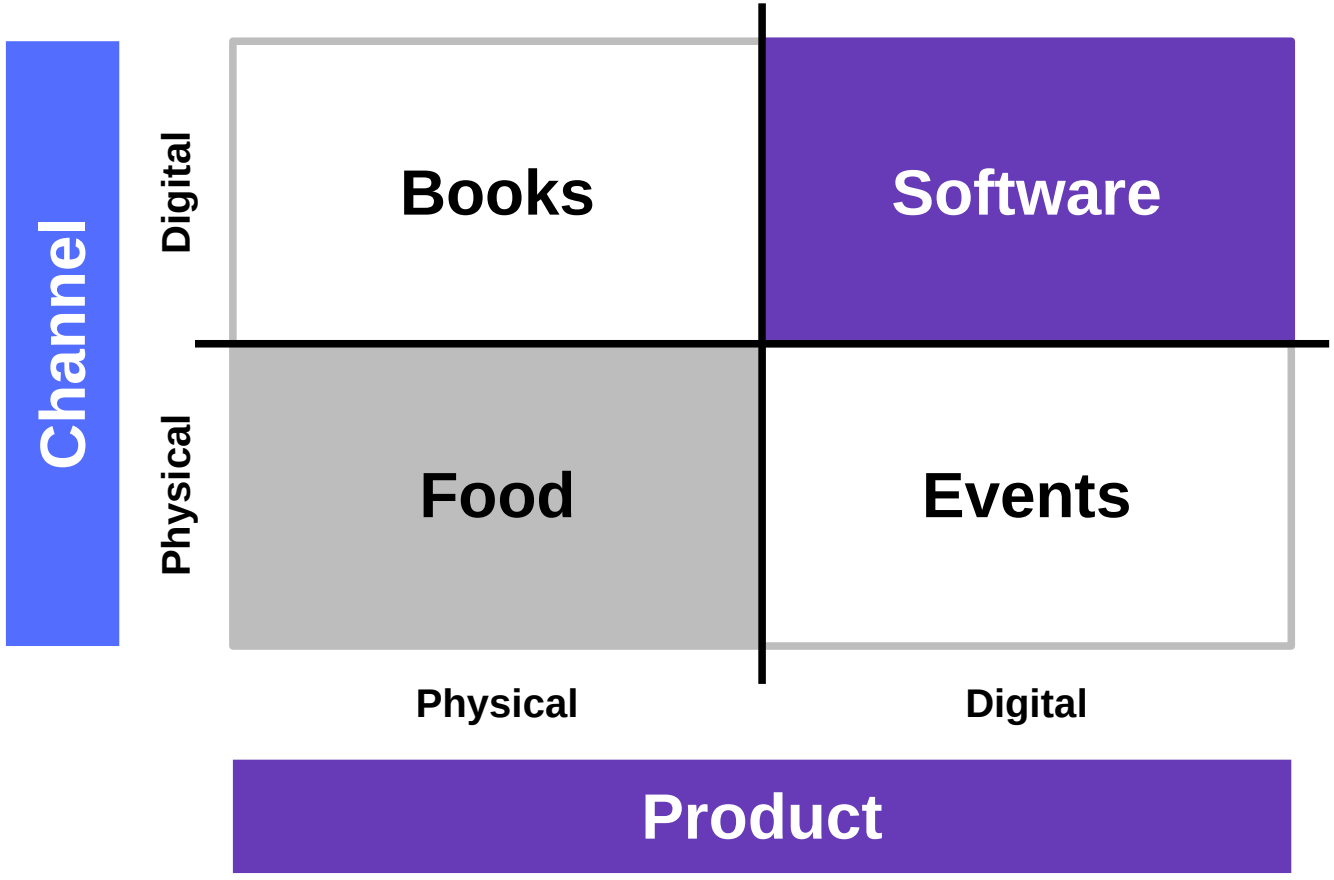


1. Create Hypotheses (Problem-Solution Fit)

- Turn the product vision into a proposed business model
  - Using the business model canvas
- Turn the business model into testable hypothesis
  - Write short summaries for each hypothesis
- Align each hypothesis with a BMC section
  - Value proposition (problem)
    - Customer want/need
    - Channels
  - Value proposition (market type)
    - Customer relationships
    - Key resources
    - Key partners
    - Revenue streams



Products and Channels for the Digital World



Questions to Ask / Hypotheses to Describe

KP

By category, ask
- Who they are
- What they provide
- What you provide

KA

Ask, what
- Capabilities and
- Activities you need

KR

By category, ask
- What you need
- How much
- Where to find them
- At what cost

VP

Describe
- The market you are in
- The competition you face

Describe
- How to fulfill wants/needs
- A minimum viable product

CR

Describe your
- Customer acquisition
- Retention, and
- Growth strategy

CH

Describe
- How the product gets from company to customer

MS

Describe
- Market segments
- Customer wants/needs
- (Customer) personas

C$

Describe
- Fixed costs
- Variable costs per unit
- Assumed economics
  - Of scale
  - Of scope

R$

Of product sold, describe
- Expected quantities
- At what prices

Assess
- market sizes

Create Hypotheses (the Open Source Way)

- Listen to the community for insights and ideas

2. Design Experiment (Problem-Solution Fit)

- Design an experiment to test the hypotheses
- In the initial stages, you don’t necessarily need code
- A mock-up / sign-up / survey can provide the needed information

Minimum Viable Product

- The minimum viable product (MVP)
  - Represents the value proposition for testing
  - In a minimal form that answers the test
- The MVP is minimal in terms of
  - Features customers need
  - Development costs

The Minimum Viable Product Over Time

Phase	Action	Goal
Customer engagement preparation	• Build lo-fi MVP • Drive a little traffic to MVP	• Test customer problem/need • Assess significance
Low-fidelity problem test	• Slowly increase acquisition • Closely study customer behavior • Meet customers face-to-face	• Understand problem/need • Learn how to explain problem • Keep assessing significance
High fidelity problem test	• Increase customer acquisition • Monitor speed of acquisition	• Test solution (do customers buy?) • Determine early evangelists
Customer acquisition optimization	• Scale up customer acquisition	• Optimize customer acquisition

Design Experiments (the Open Source Way)

- Open source lets you design and run experiments in parallel
  - Let the community explore options (their own experiments)
  - Lead community to design and implement your experiments
  - At a university, you can use student theses to design experiments

3. Test Hypothesis (Problem-Solution Fit)

- Run the experiment as designed and collect the needed information

Test Hypotheses (the Open Source Way)

- Get users through open source project community
- Test hypotheses through up-sell

4. Derive Insight (Problem-Solution Fit)

- Analyze the data and determine validity of hypotheses
- Based on overall validity (or lack thereof) decide to pivot

Derive Insight (the Open Source Way)

- Openly discuss findings / mirror back findings to community
- Listen to and learn from the response to identify biases

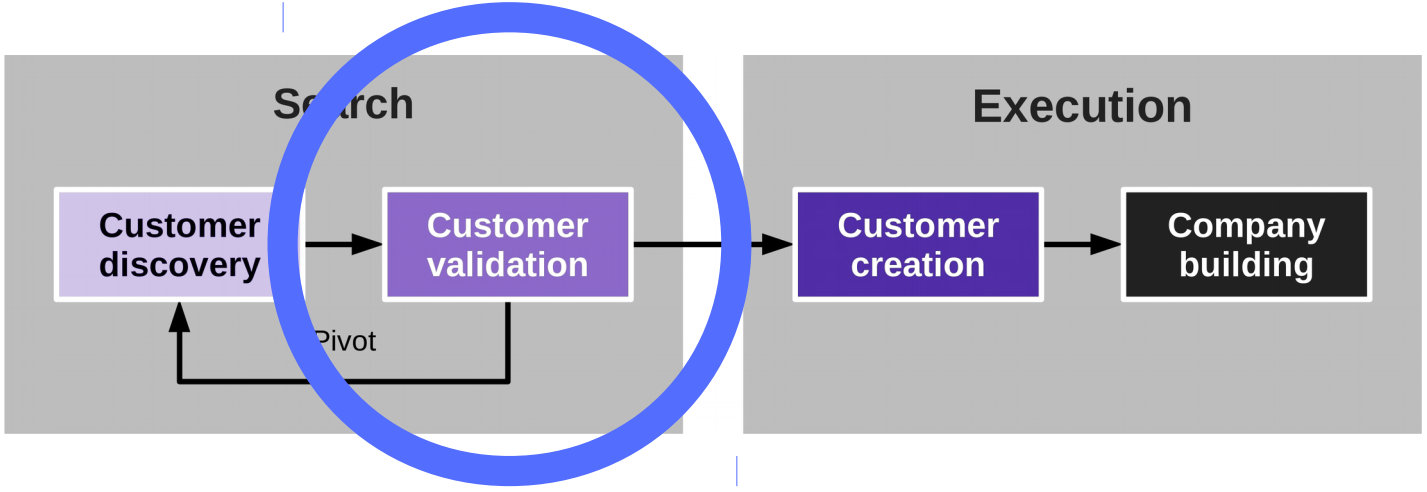
Pivot or Proceed?

- Based on analysis, decide whether to pivot or proceed

5. Product-Market Fit

Finding Product-Market Fit with Customer Validation

- Customer validation is a search process that
  - Tests whether the discovered business model is repeatable and scalable
- Product-market fit
  - Is the matching of all value propositions with their market segments



After Customer Discovery…

- You have a tested business model that delivers value to customers
  - Your initial market sizing suggests the market is worth your efforts, but
  - Your customer discovery tests are not representative
- Customer validation will now test the market in its entirety
  - By testing and validating how to scale the business
  - Do you have product-market fit for the assumed market?

Testing for Both a Scalable and Repeatable Business Model

- Scalable
  - After an initial startup, will CLV >> CAC consistently?
  - Is customer acquisition (sales funnel) predictable?
- Repeatable
  - Can you consistently and predictably sell?
  - Can you consistently produce and deliver?

The Customer Validation Feedback Loop

1. Generate hypotheses
   - Decide on most promising market segments
   - Decide on most promising channels and relationships
2. Design experiment
   - Prepare MVP and collateral with market and reach in mind
   - Prepare for priming and using channels
3. Test hypotheses
   - Instrument! Be ready to collect data! Then:
   - Fill channels, let sales work
4. Derive insights
   - Analyze data, possibly revise business model
   - Stop if stopping criterion is reached

Demand Creation (the Open Source Way)

- Word-of-mouth marketing
  - Social media
  - Conferences
- Practitioner conference talks
- Research conference talks

Pivot or Proceed

- Before you start, define a stopping criterion for customer validation
  - For example, sales volume reached or number of customers acquired
- Only after stopping criterion is fulfilled, proceed to customer creation

6. Product-Channel Fit

Product-Channel Fit

- Product-channel fit
  - Is when the product fits your channel, that is, the product's features are optimized for
    - Growth (initially)
    - Throughput (later)

6. Startup Metrics

Business Model Metrics

- Customer lifetime value (CLV) and costs (CLC)
- Customer acquisition (CAC), retention, growth costs
- Annual / monthly recurring revenue (ARR / MRR)

Startup Survival Metrics

- Cash burn rate
- No. months of cash left
- Time to cash-flow break even

Summary

1. Definition (startup)
2. The search process
3. Problem-solution fit
4. Product-market fit
5. Product-channel fit
6. Startup metrics

Thank you! Questions?

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