

# Experimenting in Start-ups: Lean Start-up Methods

Sabancı University

MGMT402: Entrepreneurship

Summer 2022

Kerem Kilic

# How is the course going so far?

# Antecedents of lean start-ups

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Lean Manufacturing

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## Agile Software Development

- Rapid iterations
- Small batches
- Short cycle-times

# Lean startups

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- Not merely about cost-minimization as experiments could be very costly
- More about finding the right product-market fit before scaling
- A very 21st century approach to business

## **Main philosophy of lean start-ups**

# **“Test, then invest”**

**Main philosophy of lean start-ups**

# Step 1: Develop Business Model

# Business Model

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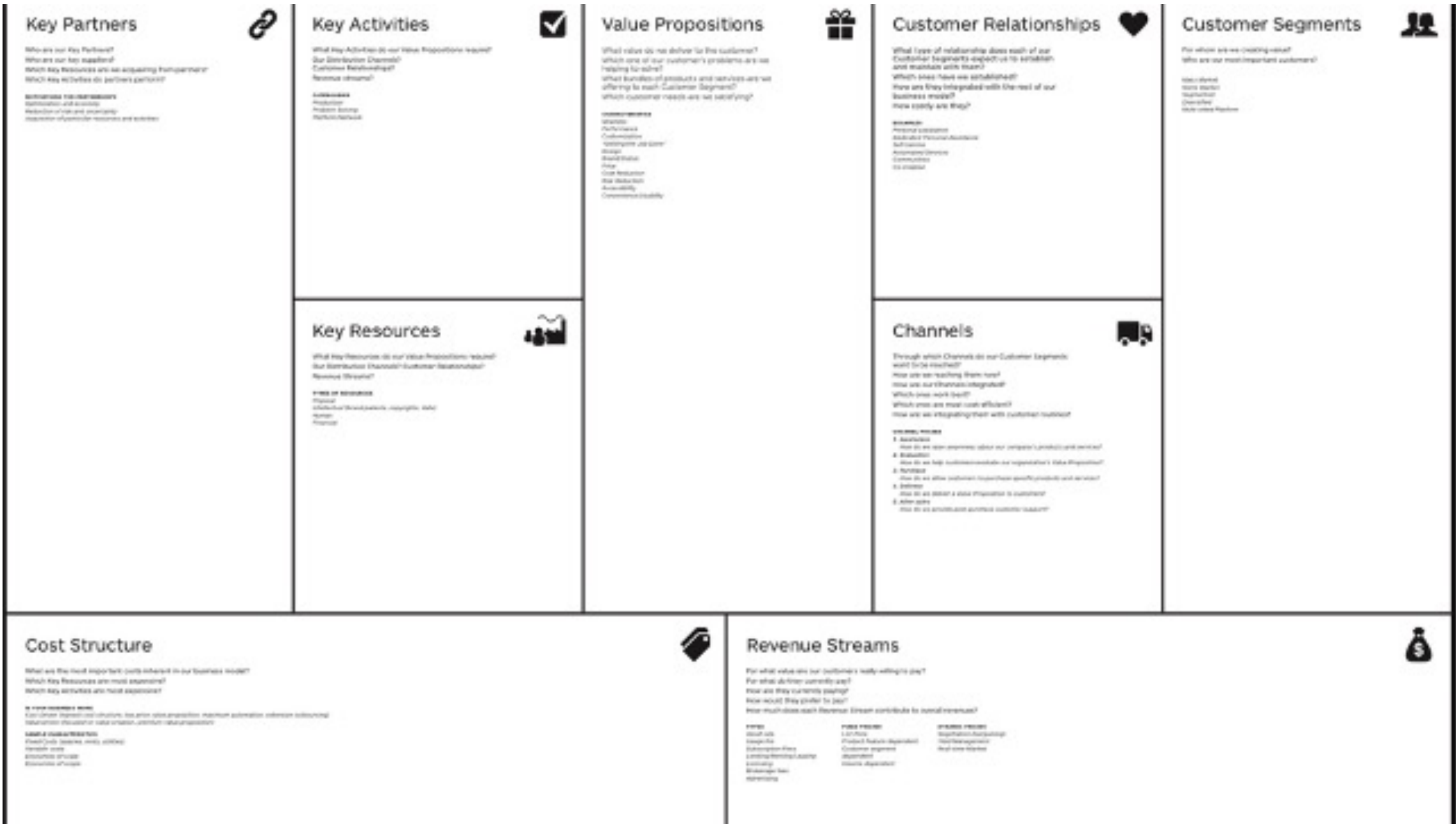
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  - How to create value
  - How to capture value



# Step 2: Turn Choices into Hypotheses

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  - Customer reach
  - Marketing
  - Costs, etc.

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  - The choices have to be scientific
  - You should be able to accept your reject your hypothesis through experimentation, i.e. falsifiable

# Examples of Hypotheses

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Version 2

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We believe that 60% of dog owners aged between 30 and 40 would be willing to pay upwards of €10 a month for this service.”

We will achieve an average monthly growth rate of 40% in our number of active users in the first 6 months of our operations.

# Step 3: Test

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  - Divide whole sample into two groups: treatment and control
  - Collect data at the end of the treatment period
  - Compare differences to the hypothetical scenario where there wasn't a treatment, i.e. false positives (p-value)



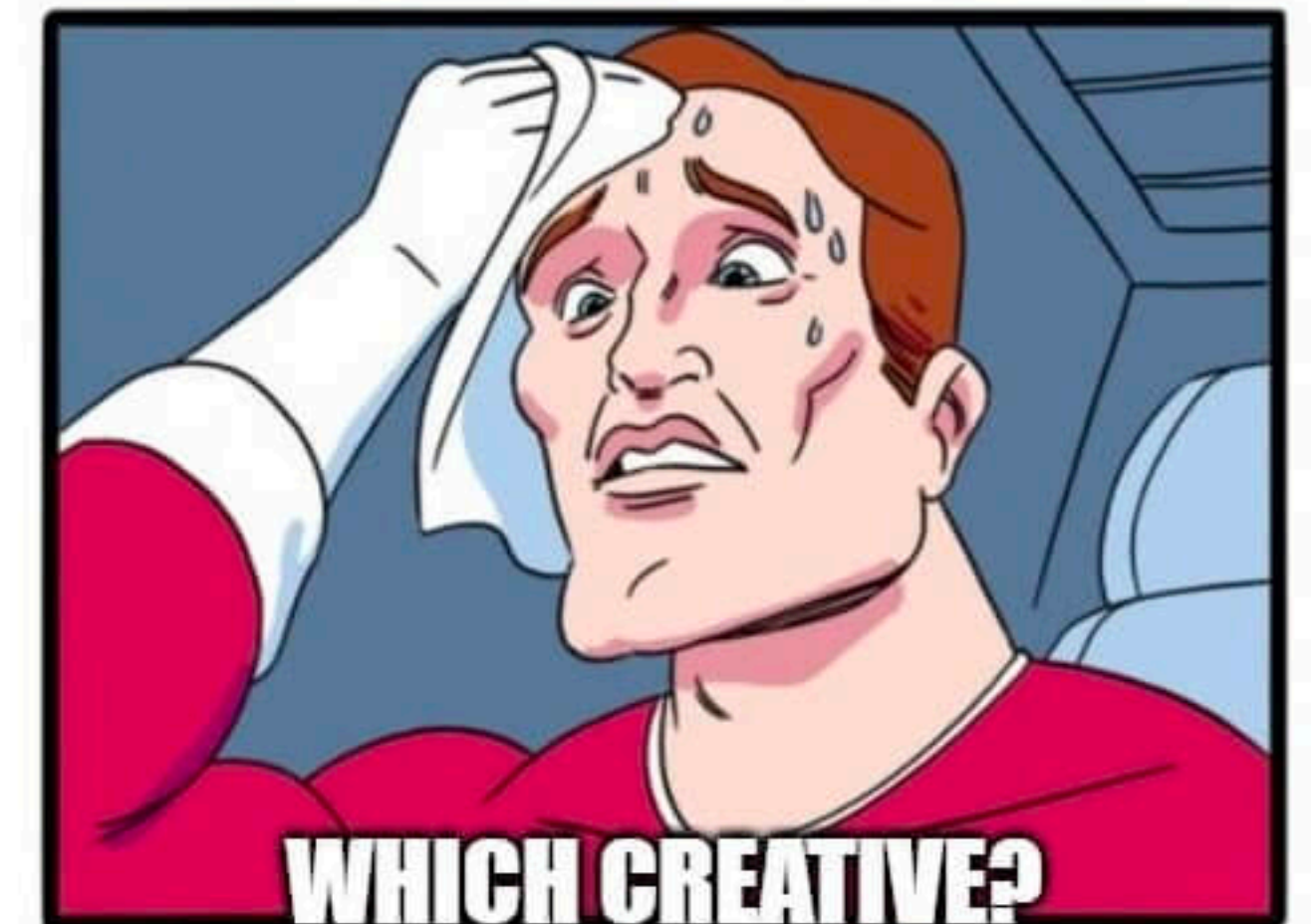
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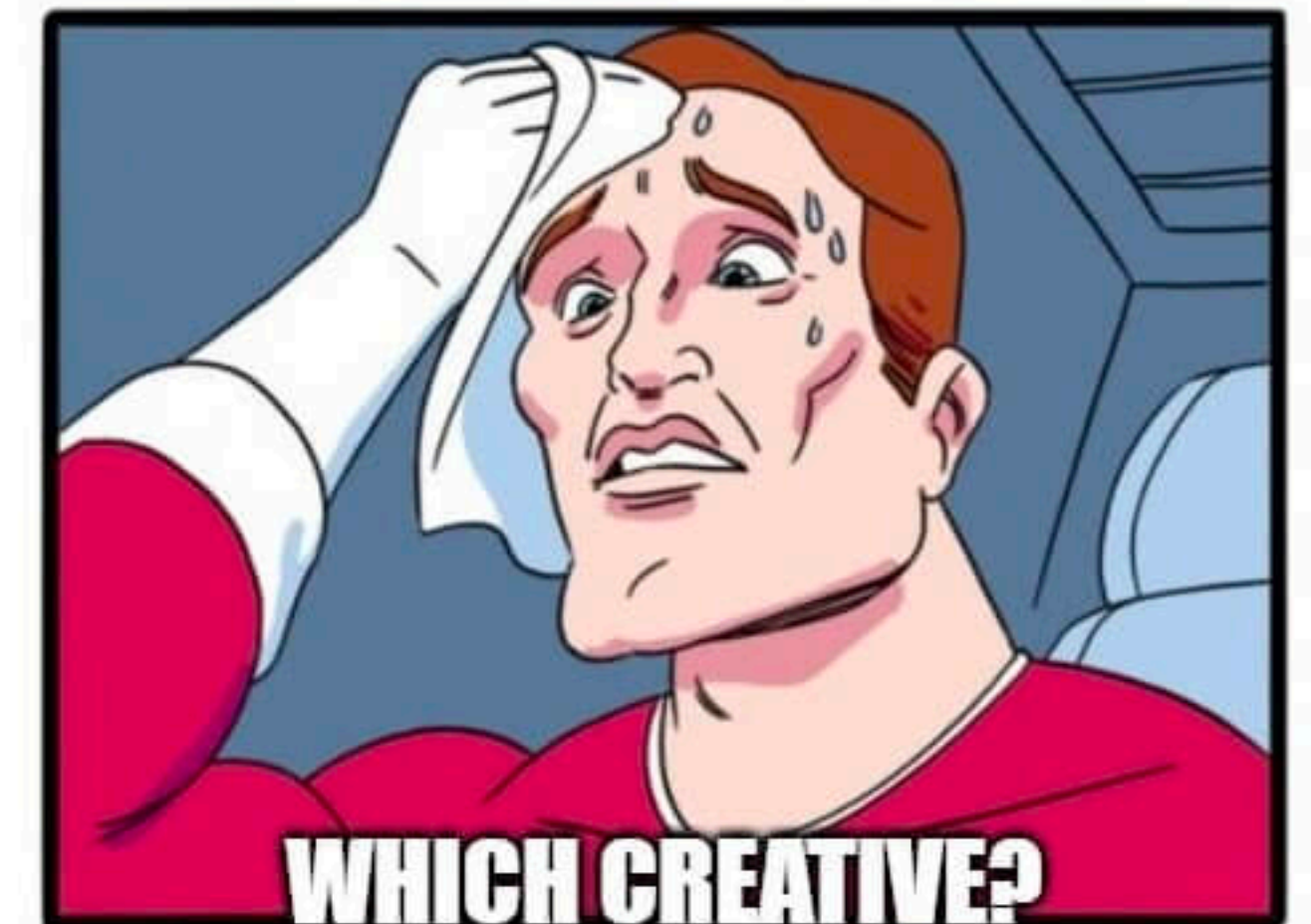
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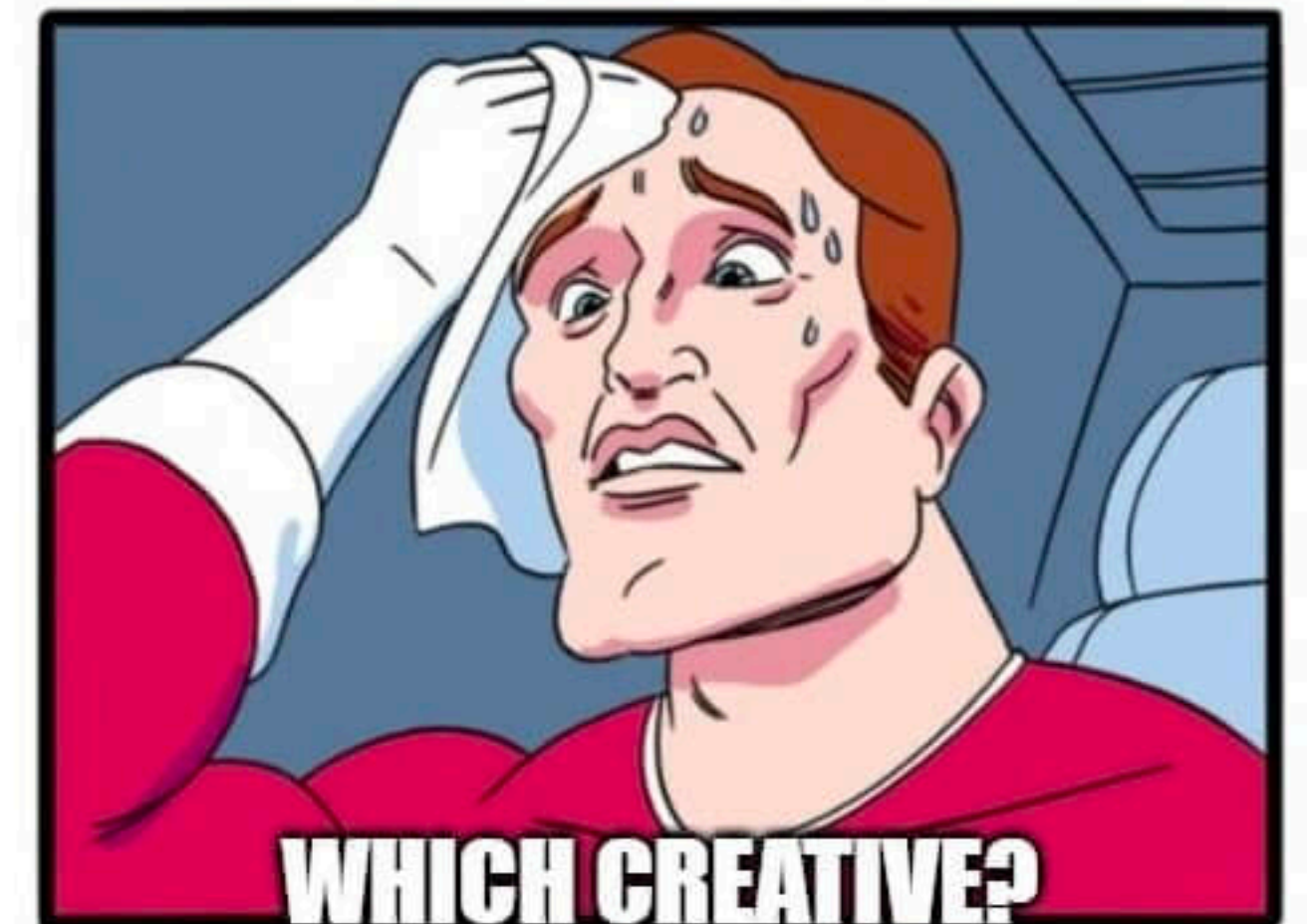
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- The most basic kind of randomized controlled experiment



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Treatment

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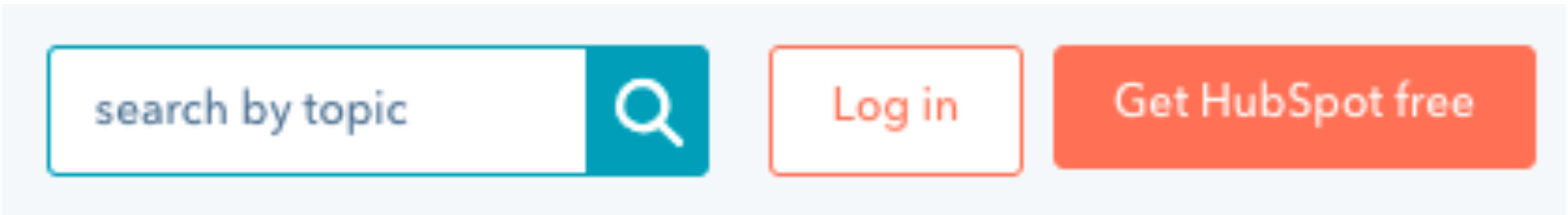
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[Log in](#)

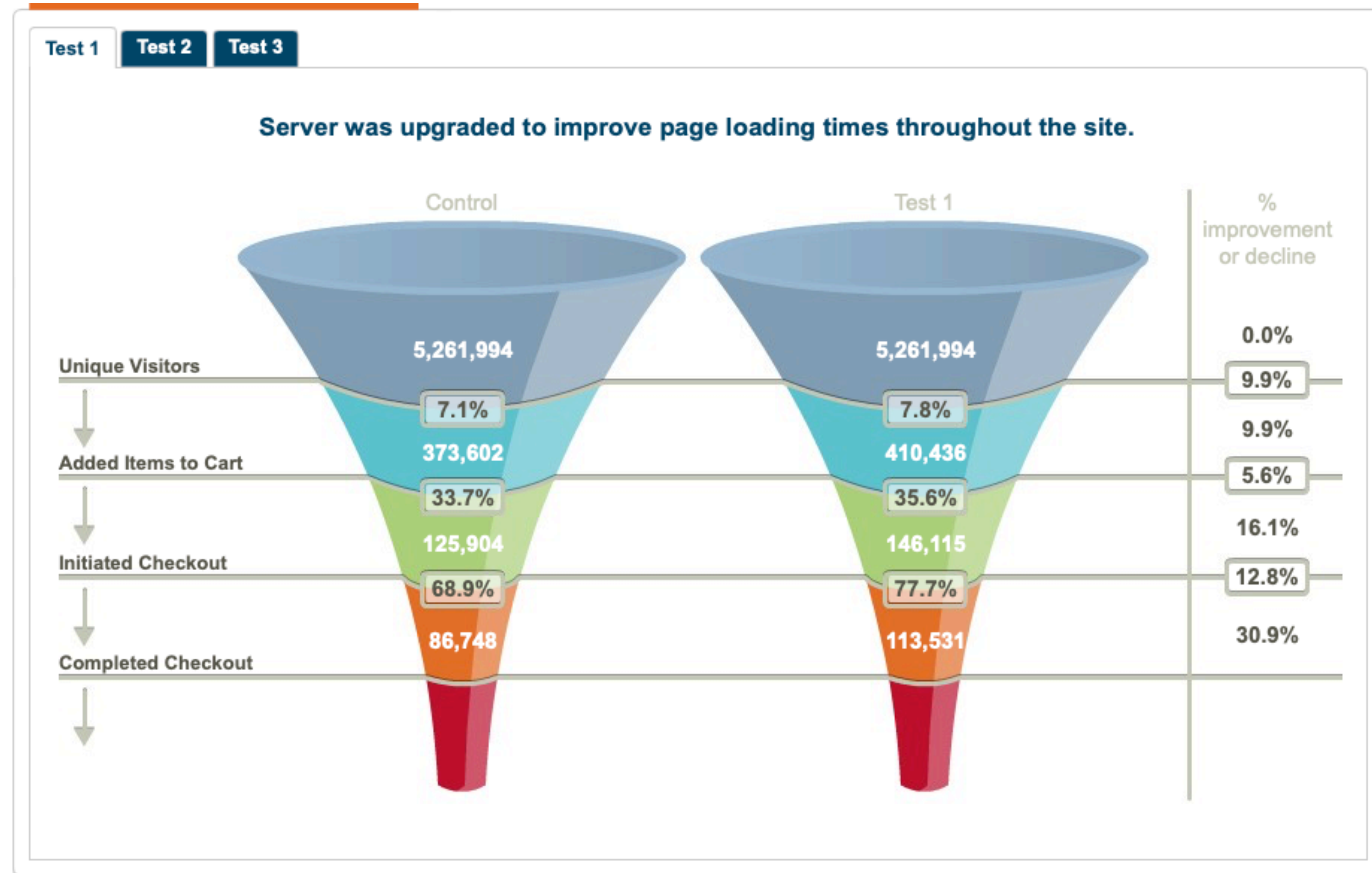
[Get HubSpot free](#)

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- Data-based decision making
- Limits the influence of HIPIOs – highest paid individual's opinion
- Opportunity to try out many hypotheses rapidly and with minimal cost

# MVP Testing

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  - Reduce product development cycles and have quick feedback before investing too much time in features that no one will use
  - Release feature revisions in small batches to interpret test results and to diagnose problems

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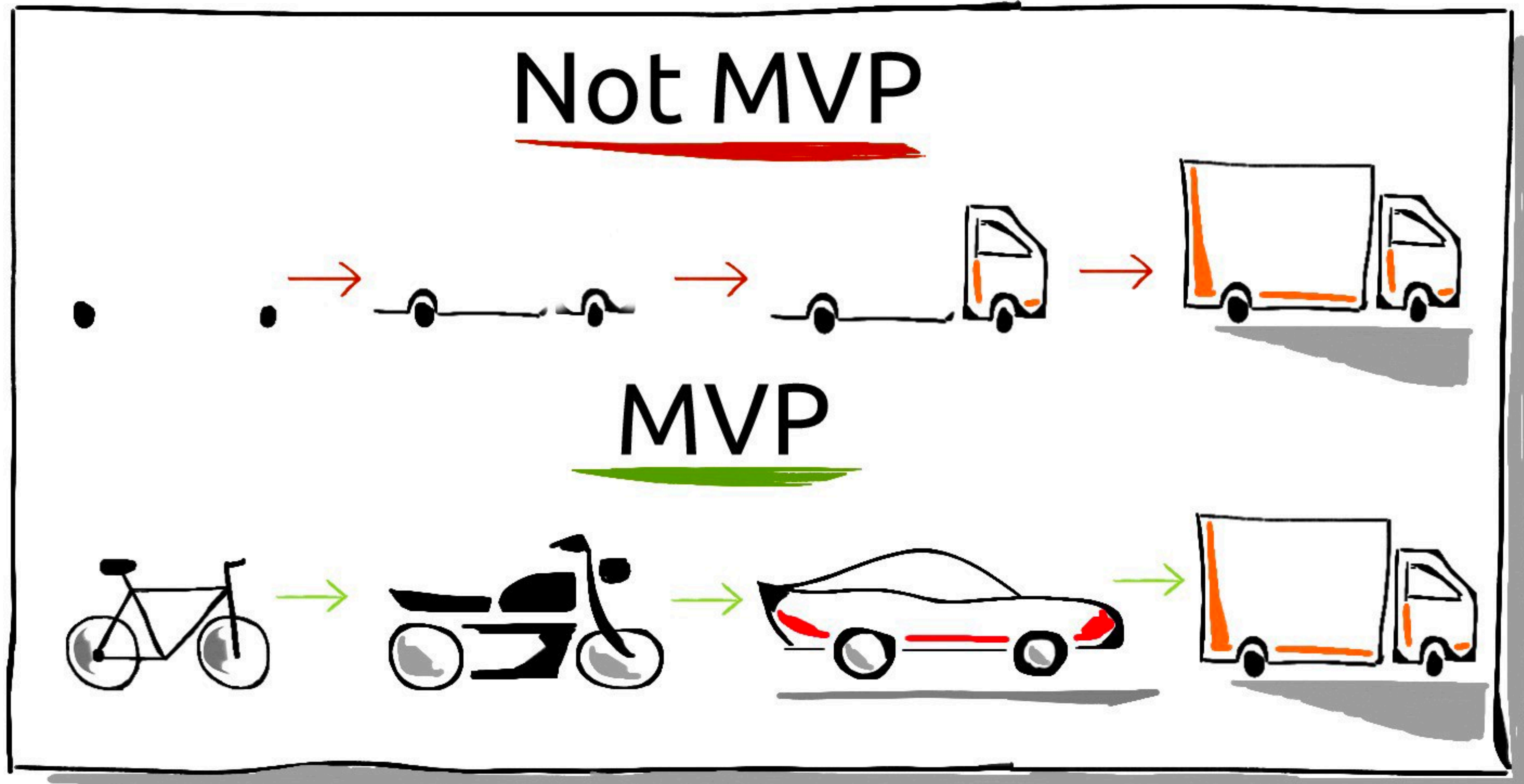
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# Examples of MVP tests



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  - A pivot changes some business model elements while retaining others. You can change, e.g., some product features, targeted customers, sales and distribution channels, pricing method...
- **Perish:** If an MVP test decisively rejects a very important business model hypothesis and you cannot identify a promising pivot opportunity, then you should shut down the business.

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- False negative: Rejecting an hypothesis that should have been accepted
  - Bad MVP
  - Poorly managed experiment

# The Lean Path

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# The lean path

**Search**

**Execution**



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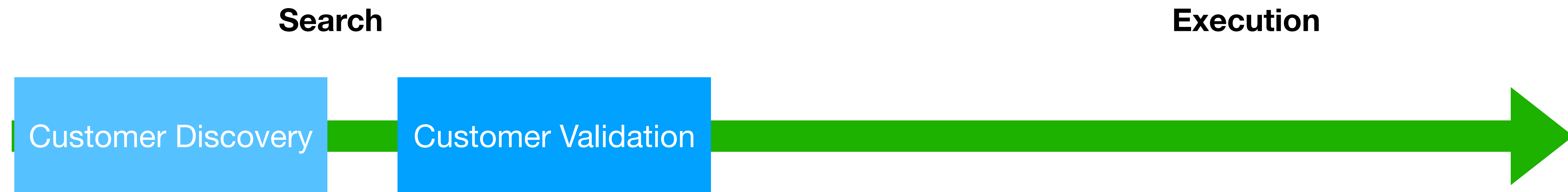
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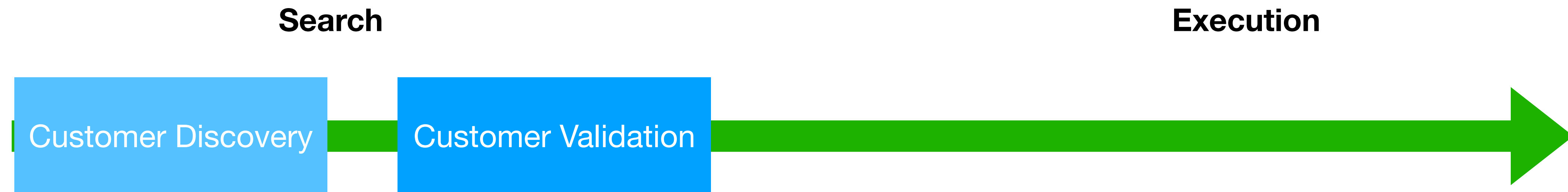
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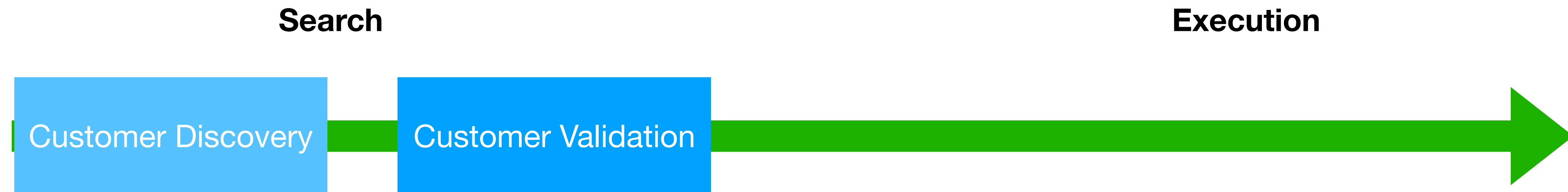
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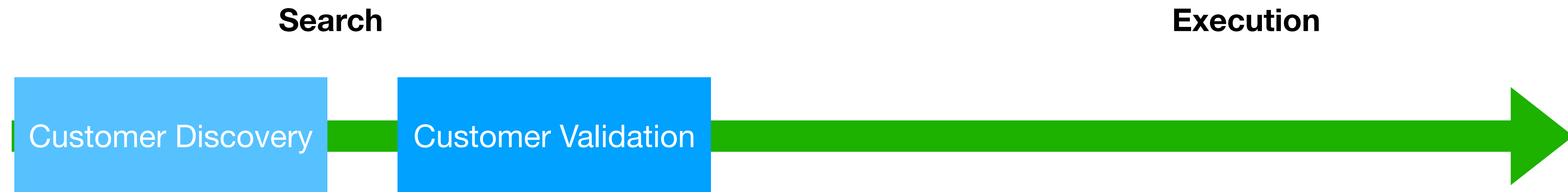
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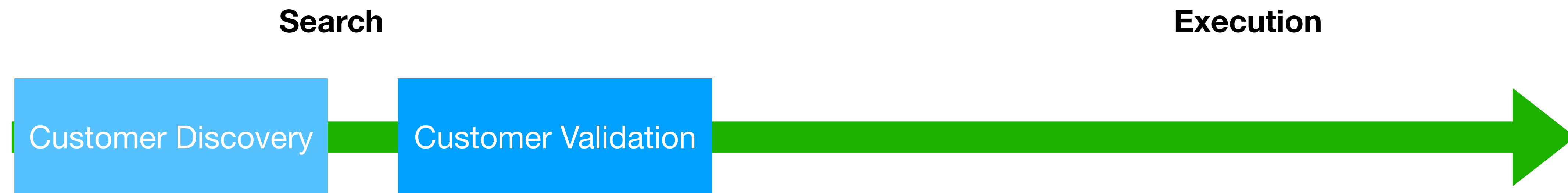
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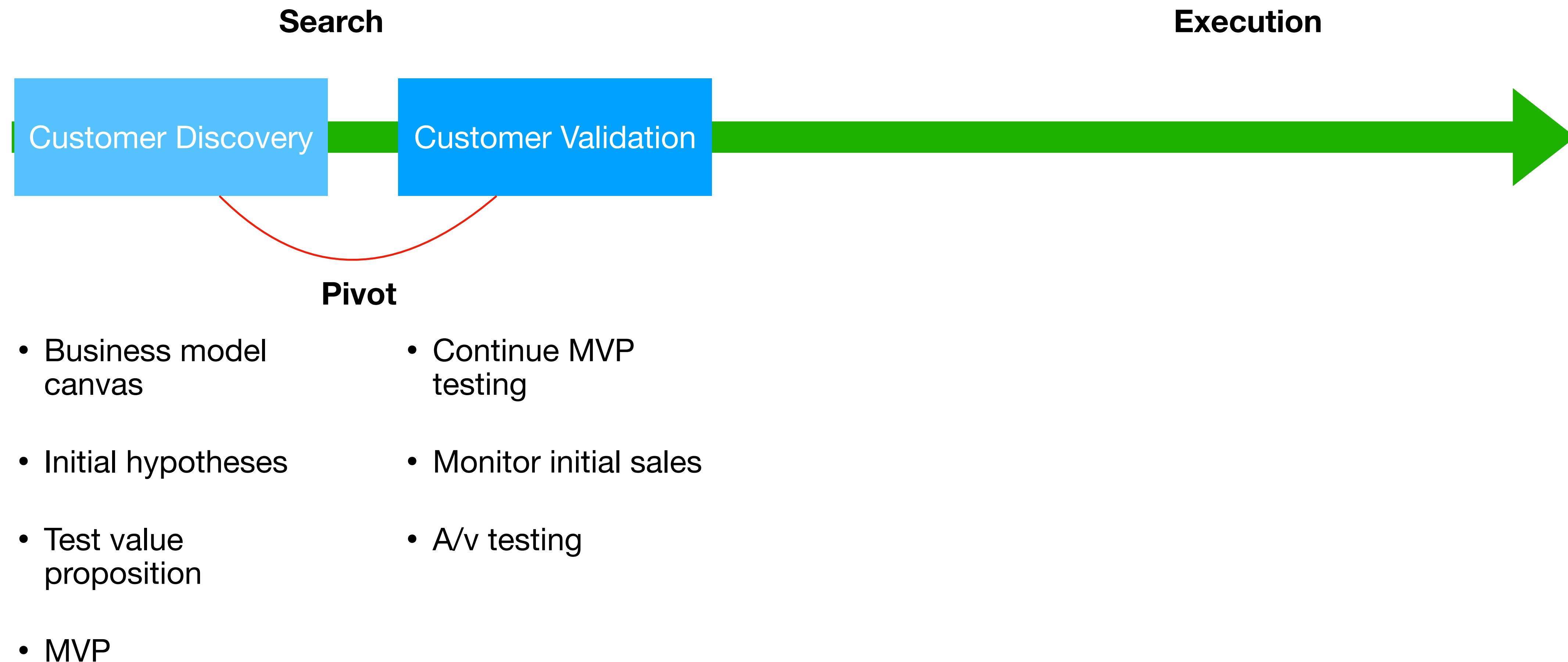
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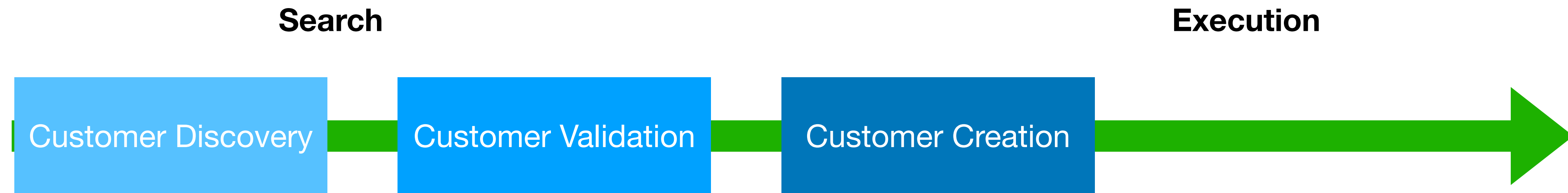
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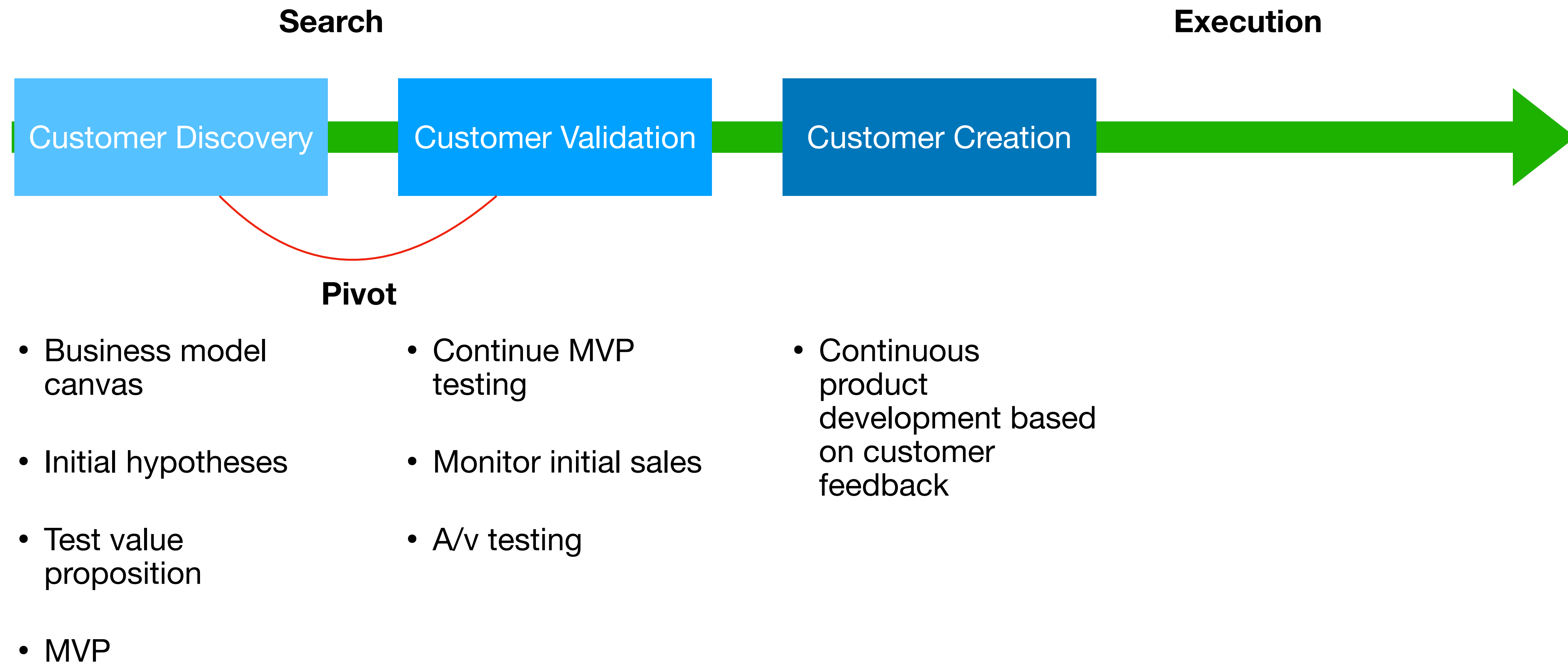
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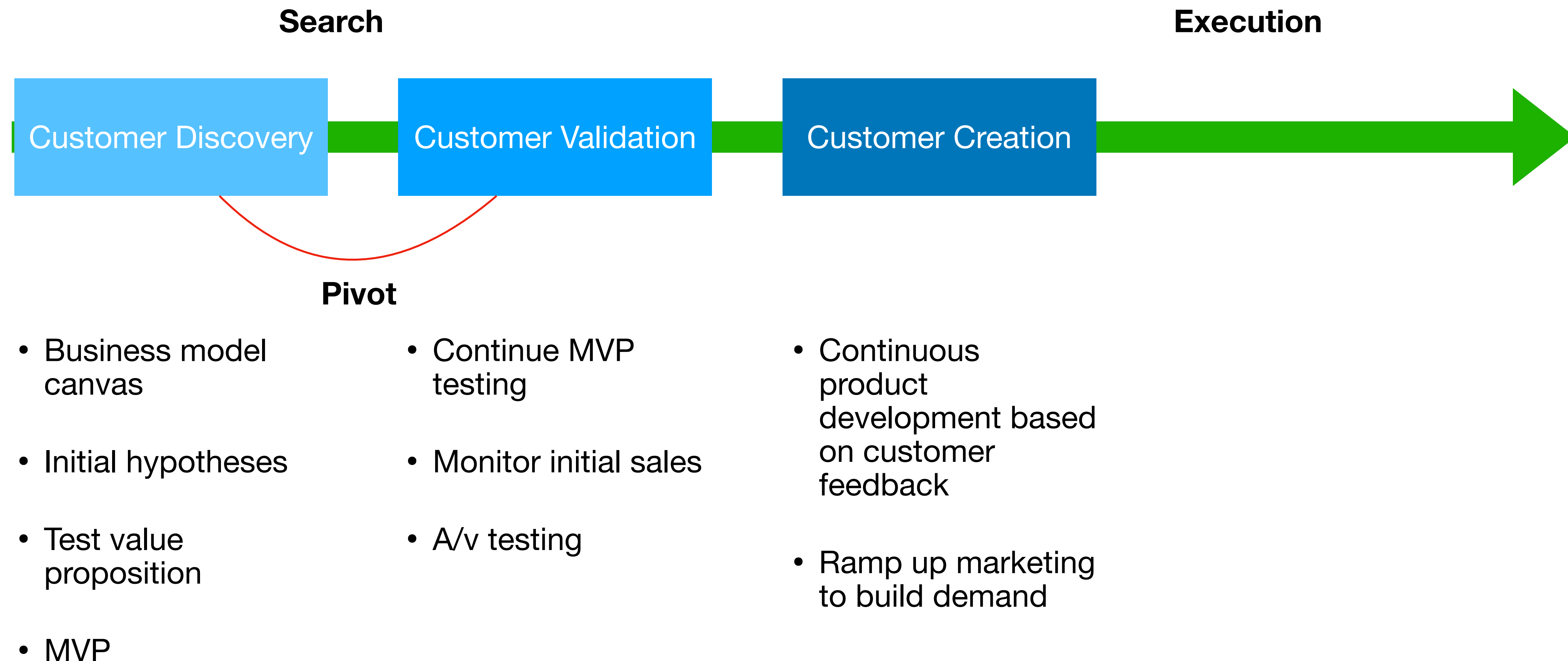
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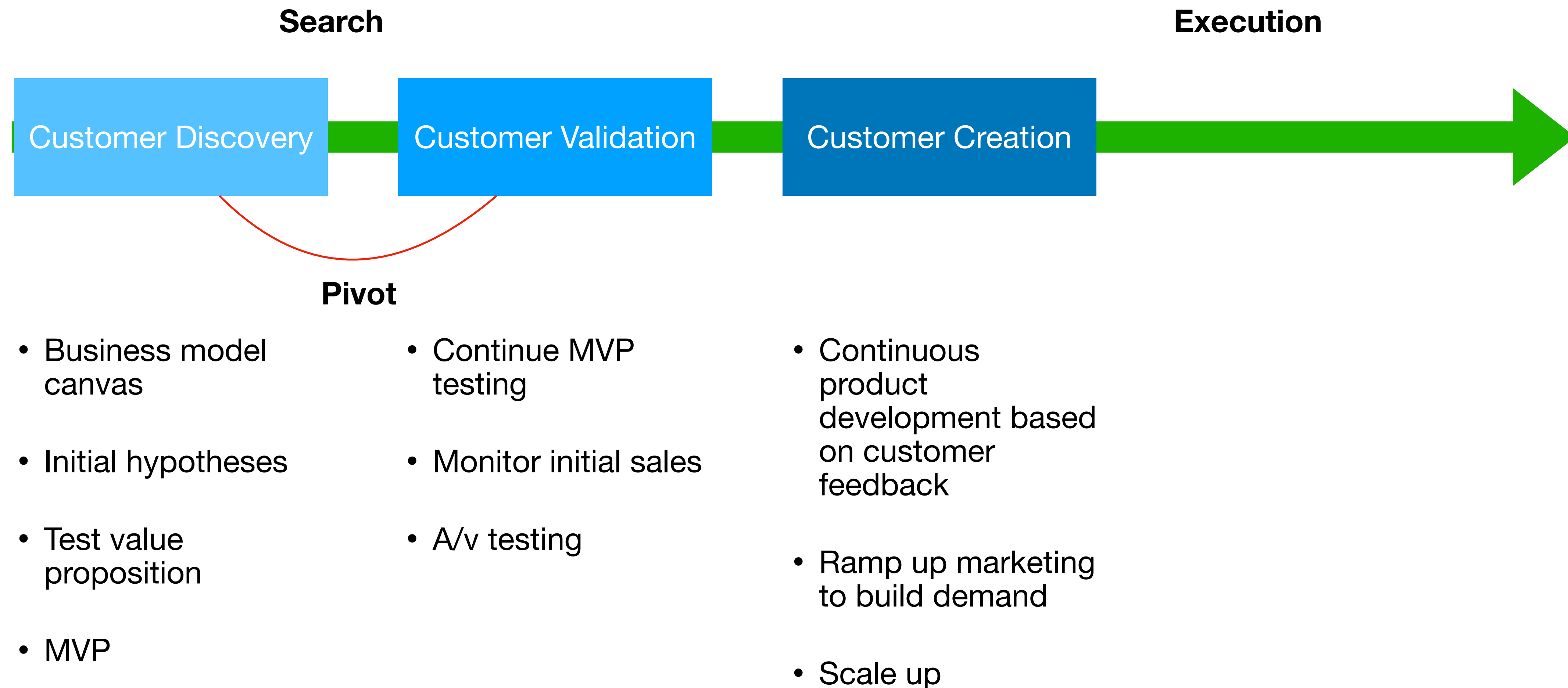
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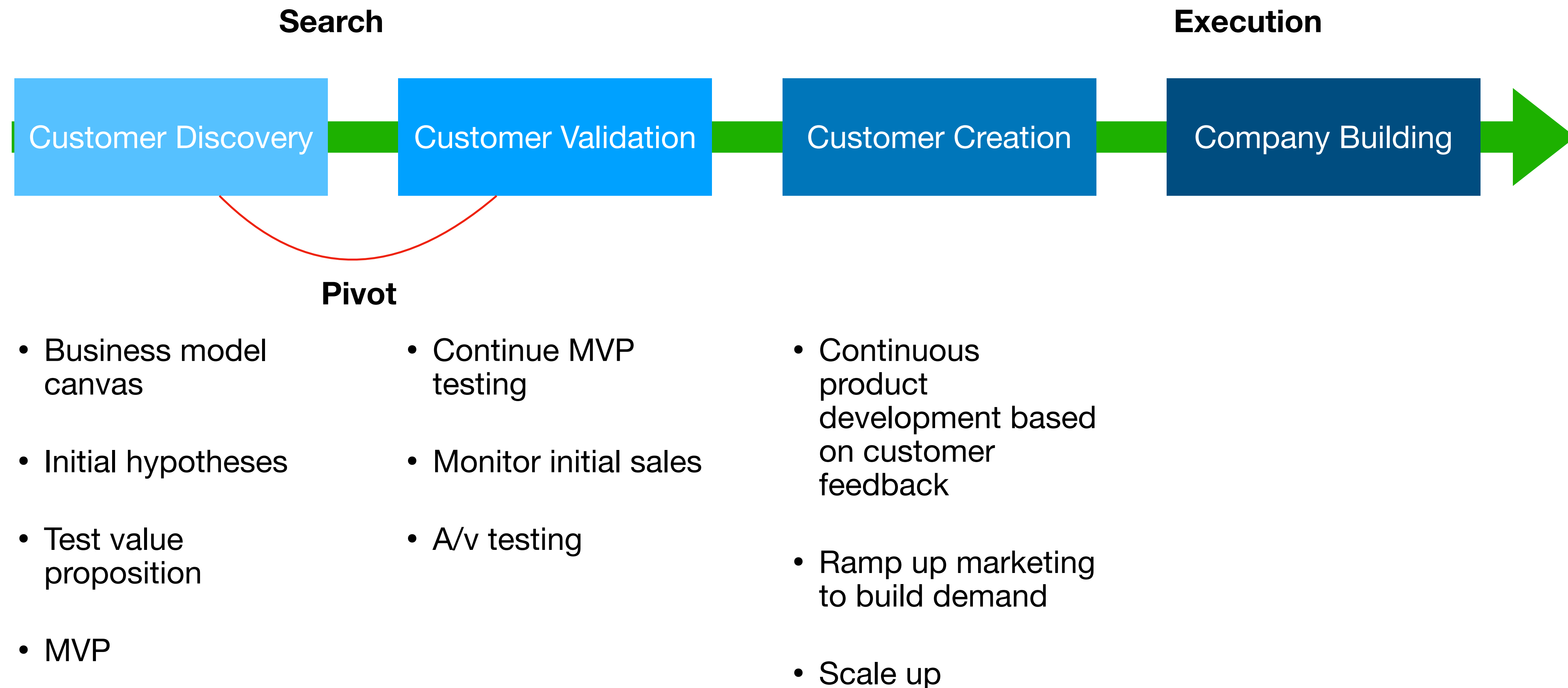
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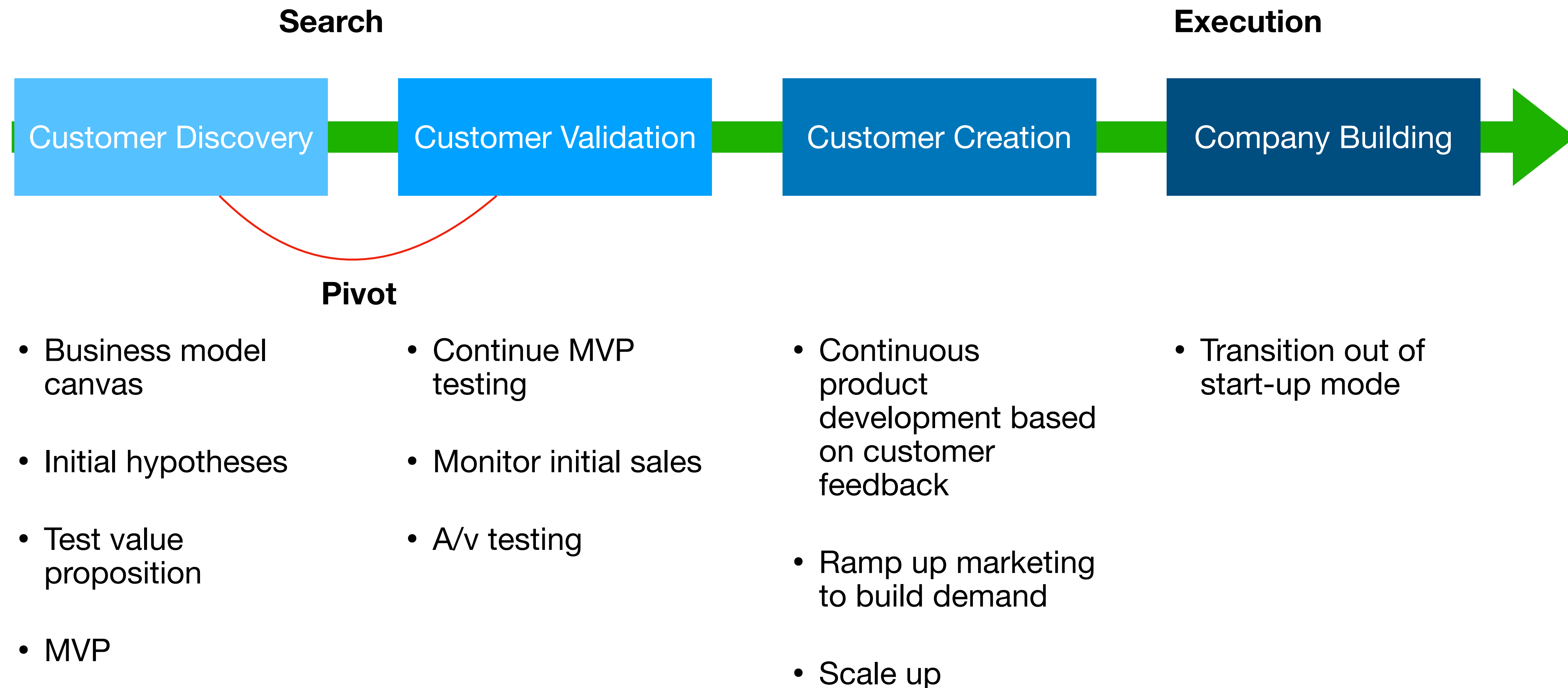
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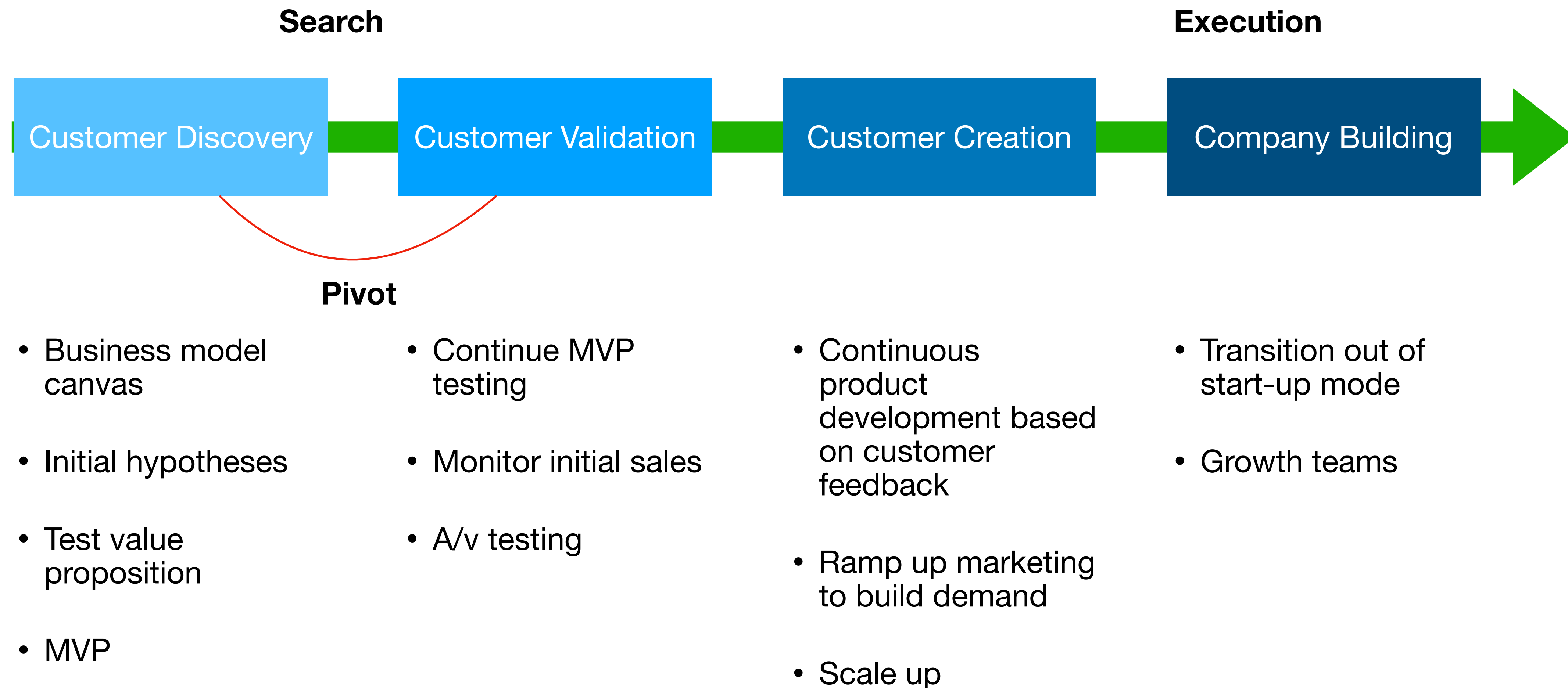
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# What lean start-ups do differently

**Strategy**

**Product Development**

**Engineering**

**Failure**

**Speed**

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- Standard accounting measures

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- However, they could be a sub-optimal launching strategy a specific set of circumstances

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  - Regulated markets
    - E.g. pharmaceutical, finance

# Low Demand Uncertainty

- When there is a clear (obvious) demand for a product or service, using experimentation could cause the start-up to lose very precious time
  - e.g. green energy, cancer drugs

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- Fat start-ups should still embrace the lean method, however, sometimes it is hard for them to maneuver