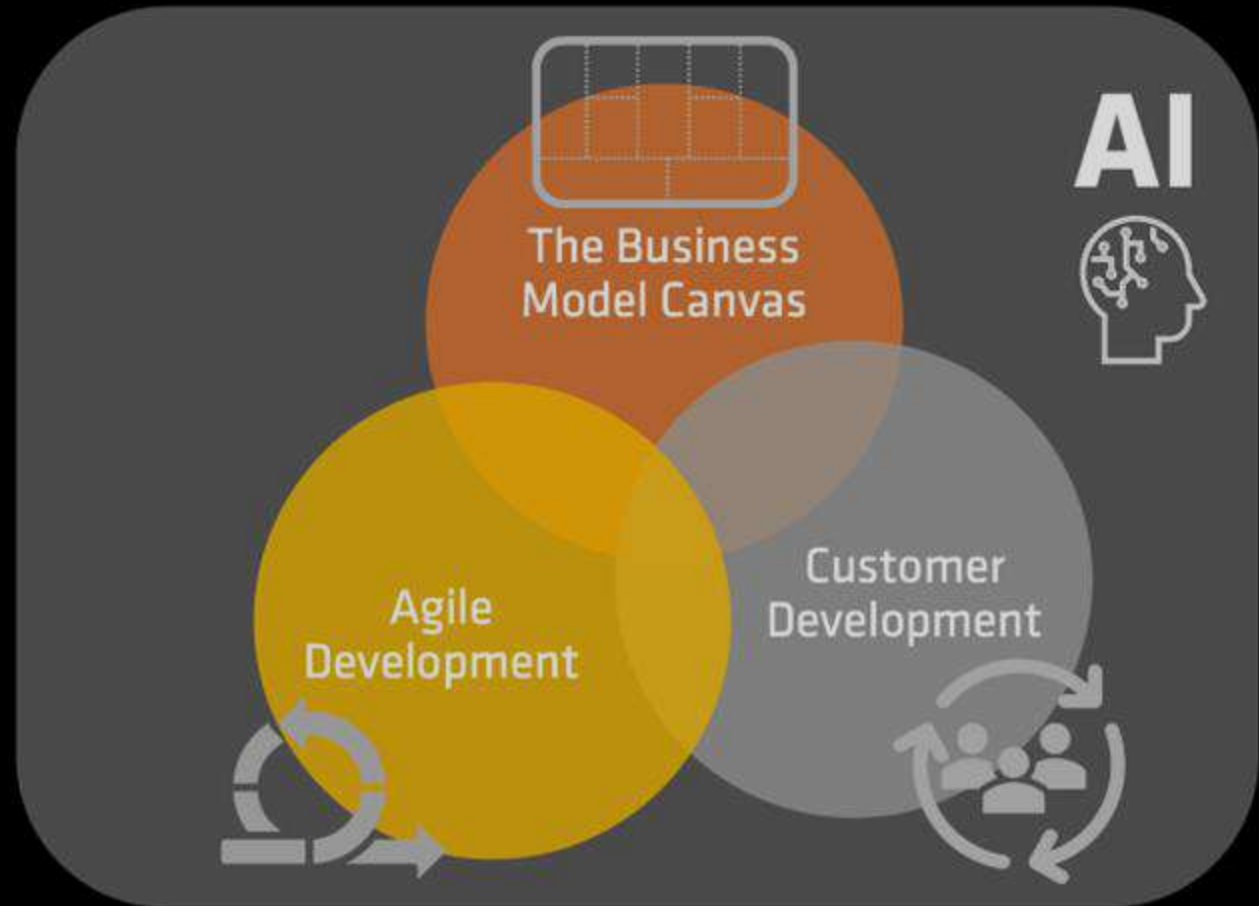


# Entrepreneurship, Innovation and Technology Transfer

## Key Concepts on EITT

Luis Caldas de Oliveira

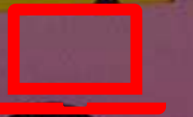


Please close your computer and mobile  
phone

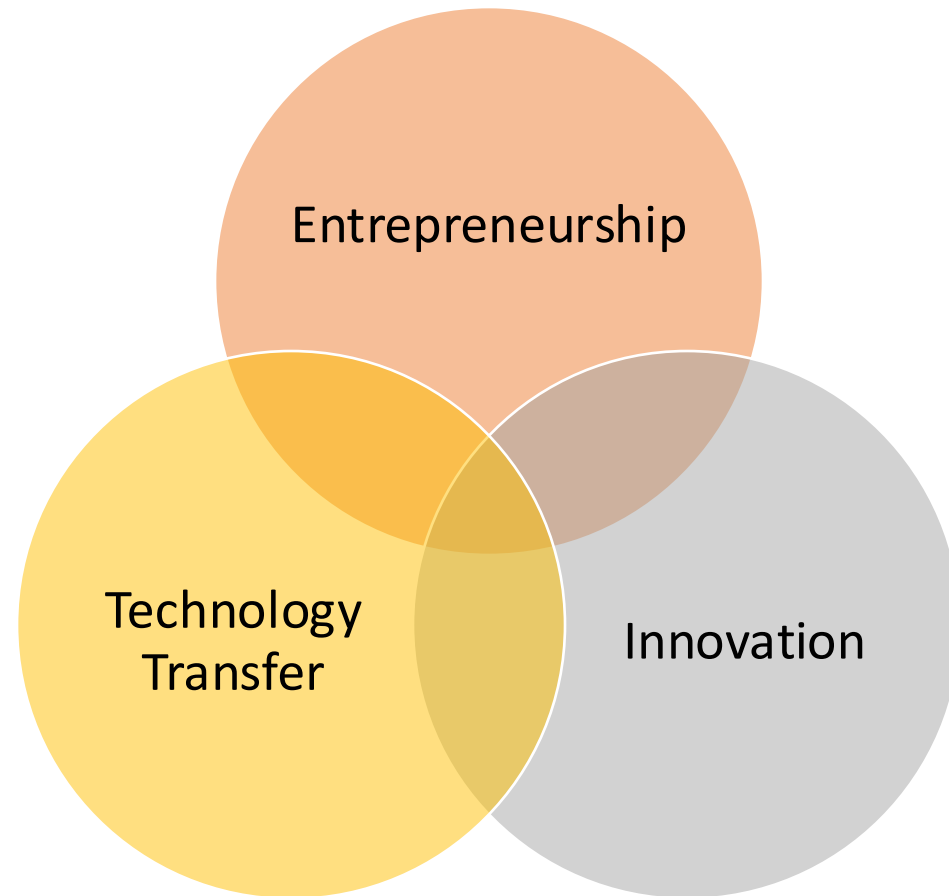


The background consists of a dense, overlapping field of small, rectangular sticky notes in various colors including teal, light green, pink, and yellow. Each sticky note features a large, bold, black question mark. The notes are scattered across the entire frame, creating a textured, busy appearance.

Why EITT?

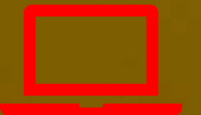


# Why EITT?





What is entrepreneurship?





# Entrepreneurship

“Entrepreneurship is the process by which individuals pursue opportunities **without regard to the resources they currently control**”

Howard Stevenson, 1983



# Entrepreneurial mindset and personal initiative

## Entrepreneurial Mindset

- a specific set of attitudes, skills, and behaviors that enable individuals to identify opportunities, **take risks**, and innovate

## Personal Initiative

- the proactive behavior of **taking charge** and acting independently to achieve goals.



Campos *et al.*, Science 357, 1287–1290 (2017)

ECONOMICS

# Teaching personal initiative beats traditional training in boosting small business in West Africa

Francisco Campos,<sup>1\*</sup> Michael Frese,<sup>2,3\*</sup> Markus Goldstein,<sup>1\*</sup> Leonardo Iacovone,<sup>1\*</sup>  
Hillary C. Johnson,<sup>1\*</sup> David McKenzie,<sup>1\*†</sup> Mona Mensmann<sup>3\*</sup>

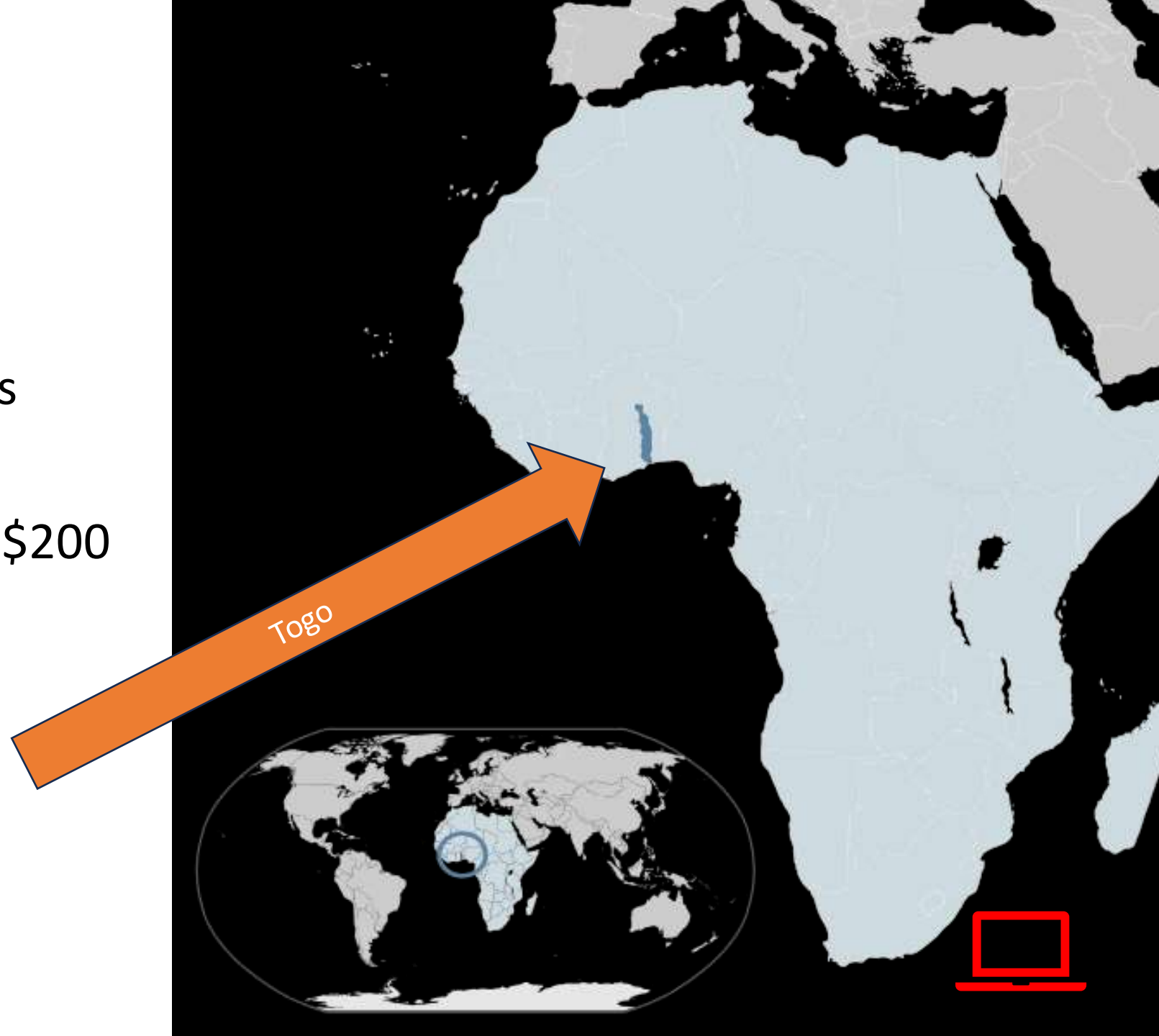
Standard business training programs aim to boost the incomes of the millions of self-employed business owners in developing countries by teaching basic financial and marketing practices, yet the impacts of such programs are mixed. We tested whether a psychology-based personal initiative training approach, which teaches a proactive mindset and focuses on entrepreneurial behaviors, could have more success. A randomized controlled trial in Togo assigned microenterprise owners to a control group ( $n = 500$ ), a leading business training

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# Sample

- 1500 micro-enterprises
- In business > 12 months
- <50 employees
- average monthly sales: \$200



# 3 test groups of 500 microenterprises

## Traditional business training

- Accounting
- Marketing
- Human resources
- Formalization

## Personal initiative training

- Self-starting
- Innovation
- Goal setting
- Planning
- Feedback
- Barriers

## Control group

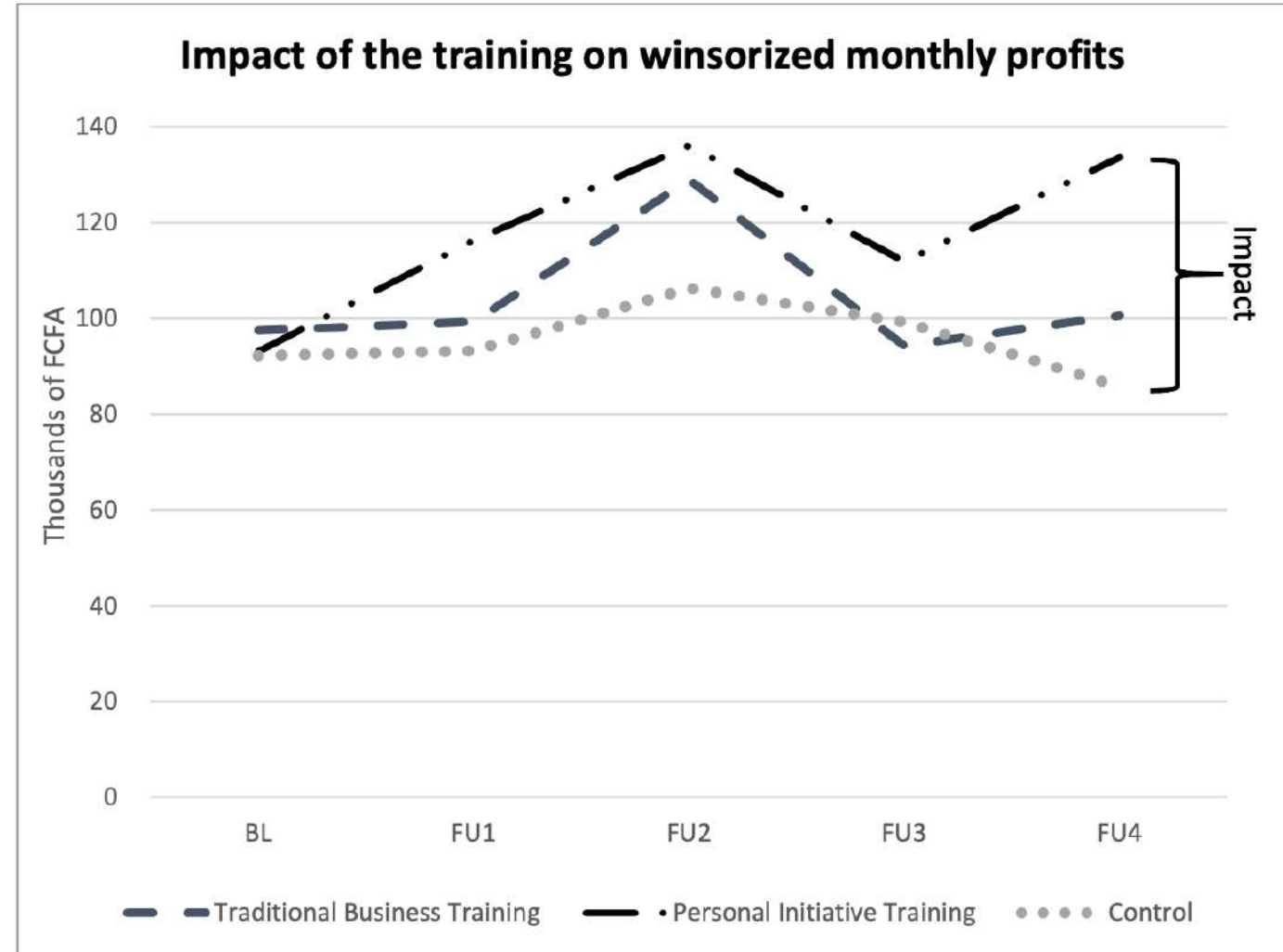
- No treatment



# Follow-up surveys (2 years)

Personal initiative training  
increased firm profits by 30%,  
compared with a statistically  
insignificant 11% for  
traditional training.

Figure S1: Round by Round Trajectory of Monthly Profits



Notes: BL denotes Baseline, FU1-FU4 denote follow-up 1 through follow-up 4.



What is innovation?





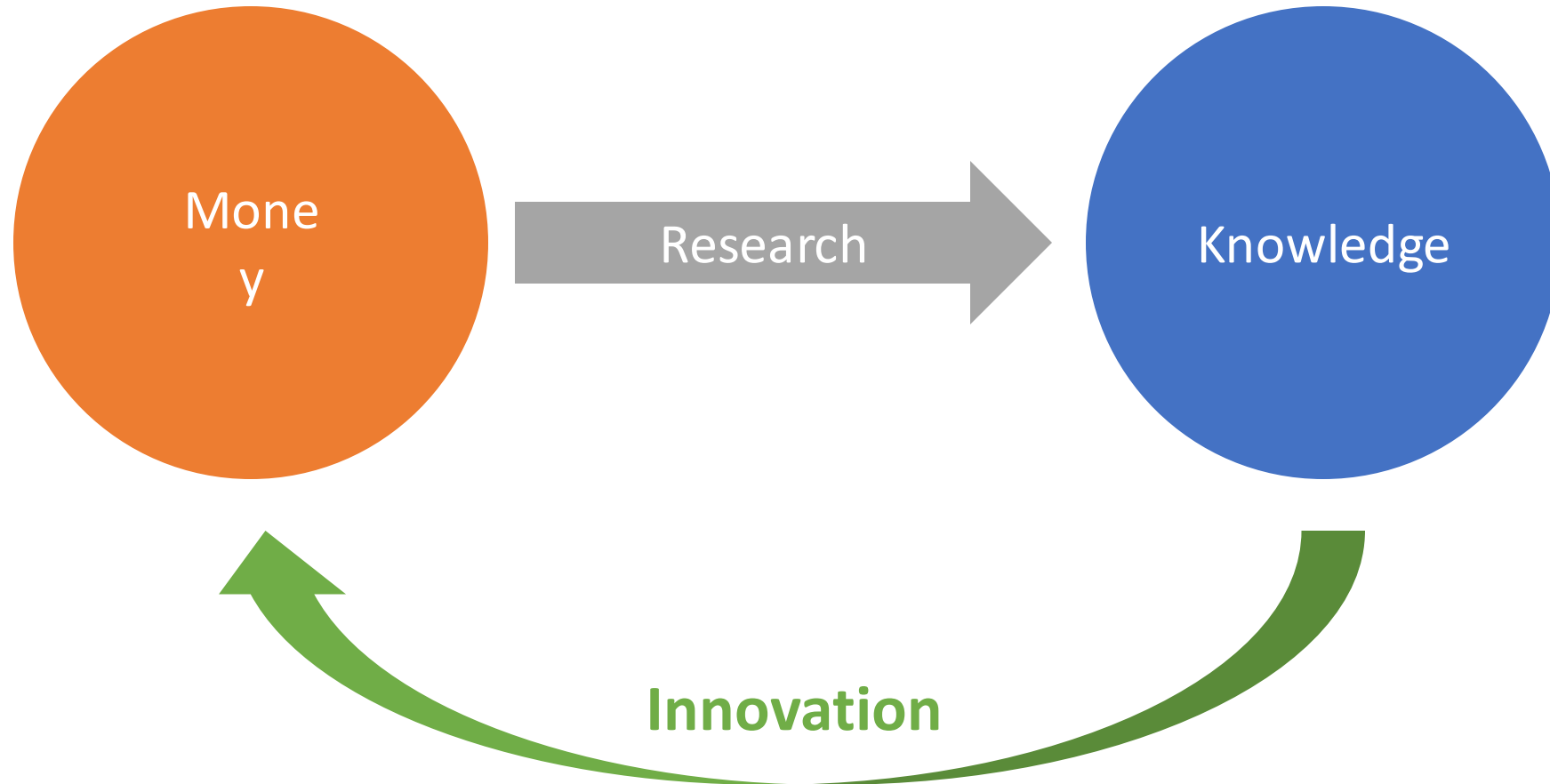
# Innovation

"Innovation is the **multi-stage process** whereby organizations transform **ideas** into new or improved **products, services or processes**, in order to **advance, compete and differentiate themselves** successfully in their marketplace."

(Baragheh et al. 2009)



# Research vs Innovation



# What is Technology Transfer?





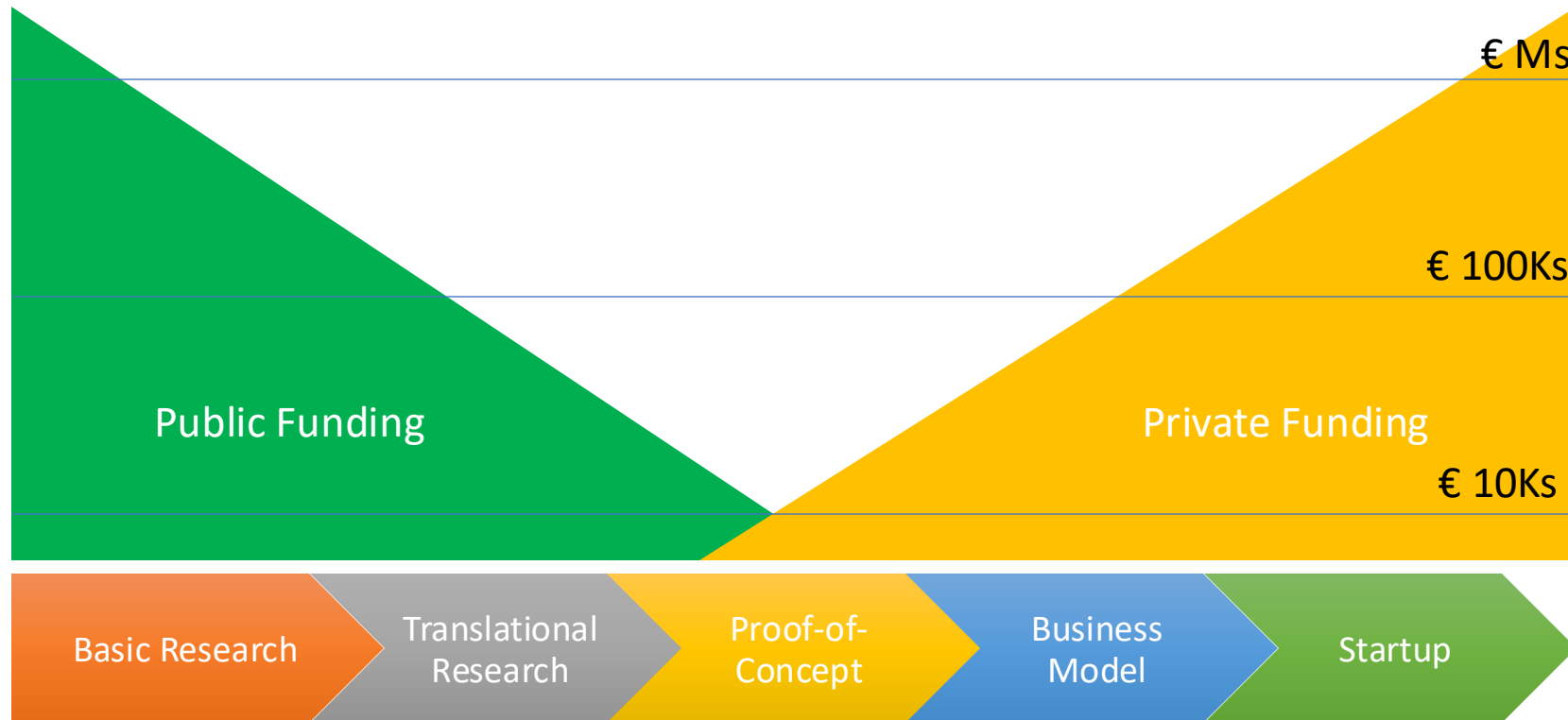
# Technology Transfer

The process of sharing or disseminating technology, knowledge, skills, manufacturing methods, or facilities among governments, universities, businesses, and other institutions.

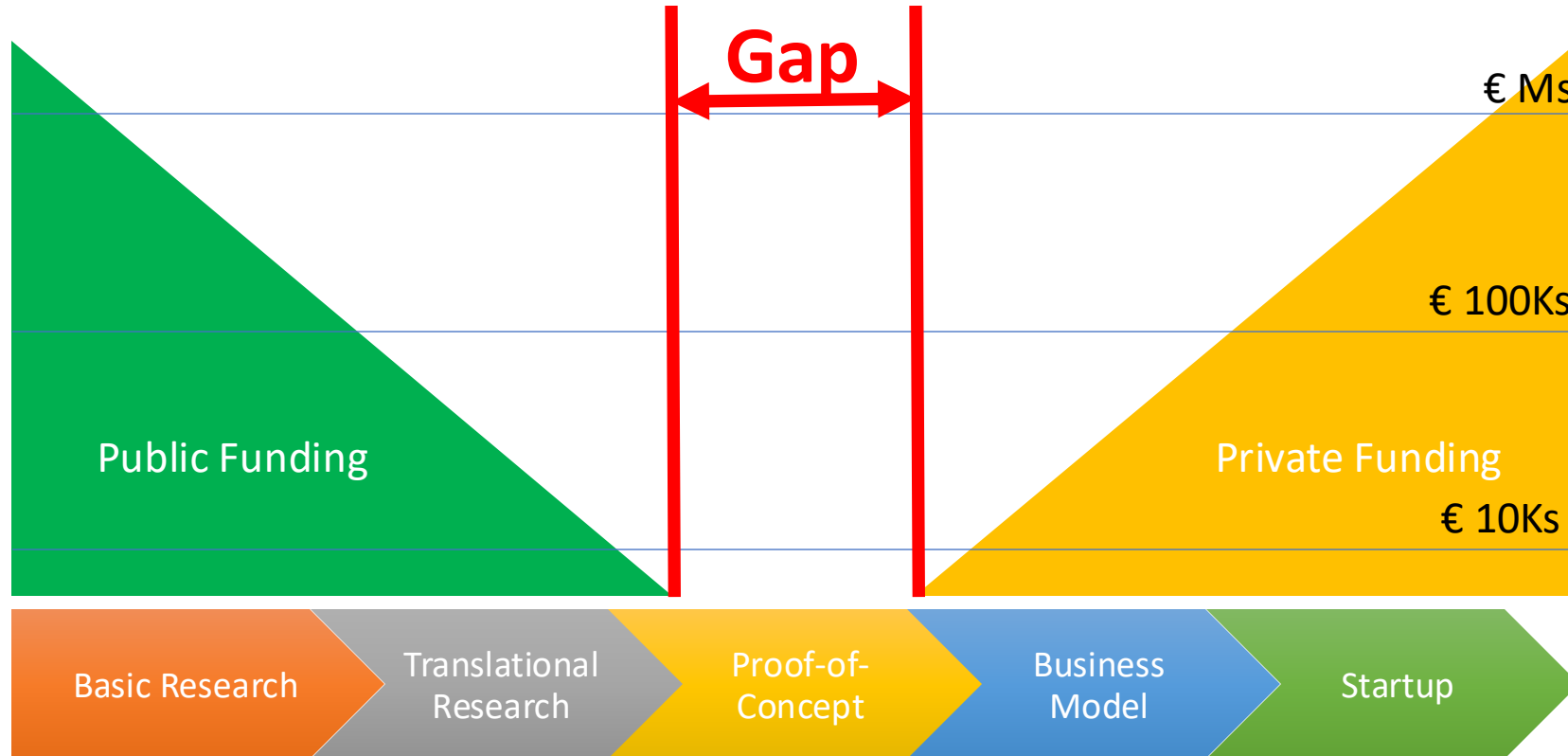




# Funding (Ideal)



# Funding (Real)



# Forms of Technology Transfer

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Licensing Agreements

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Joint Ventures

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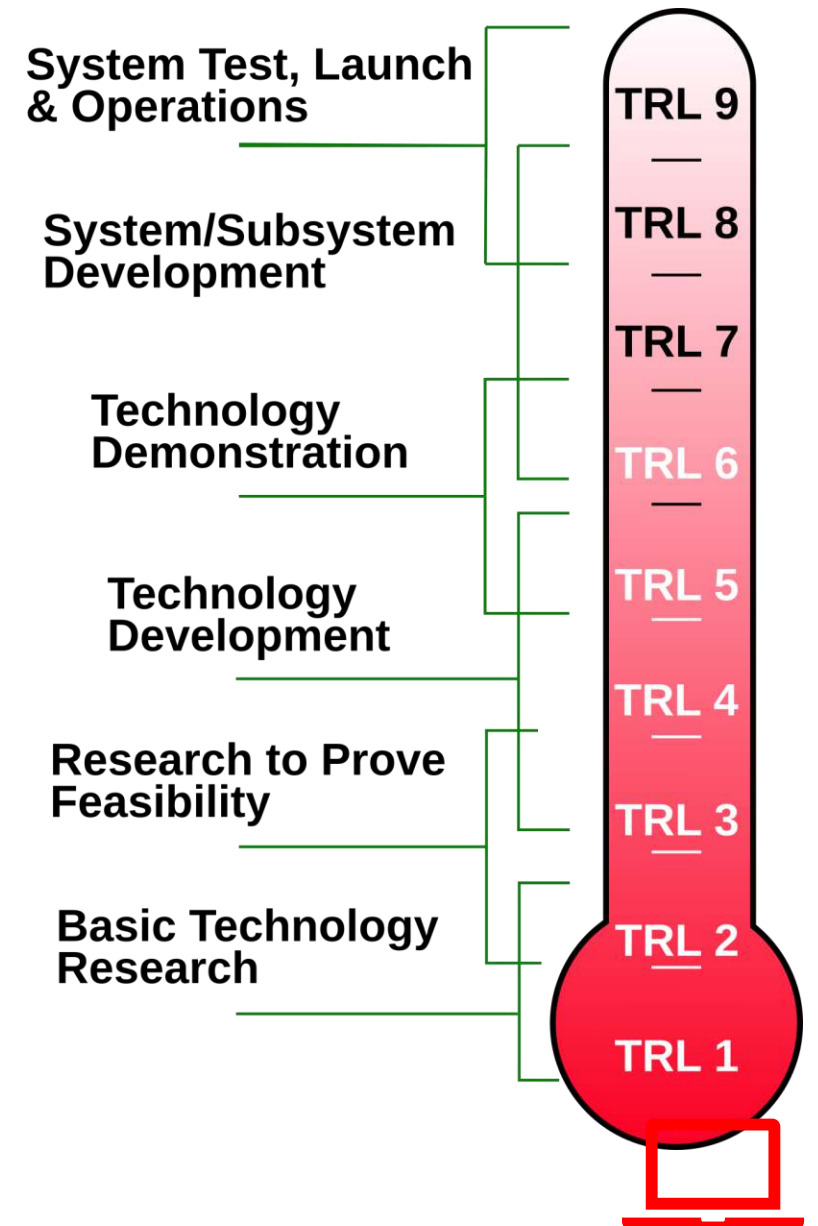
Research Collaborations

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Spin-offs

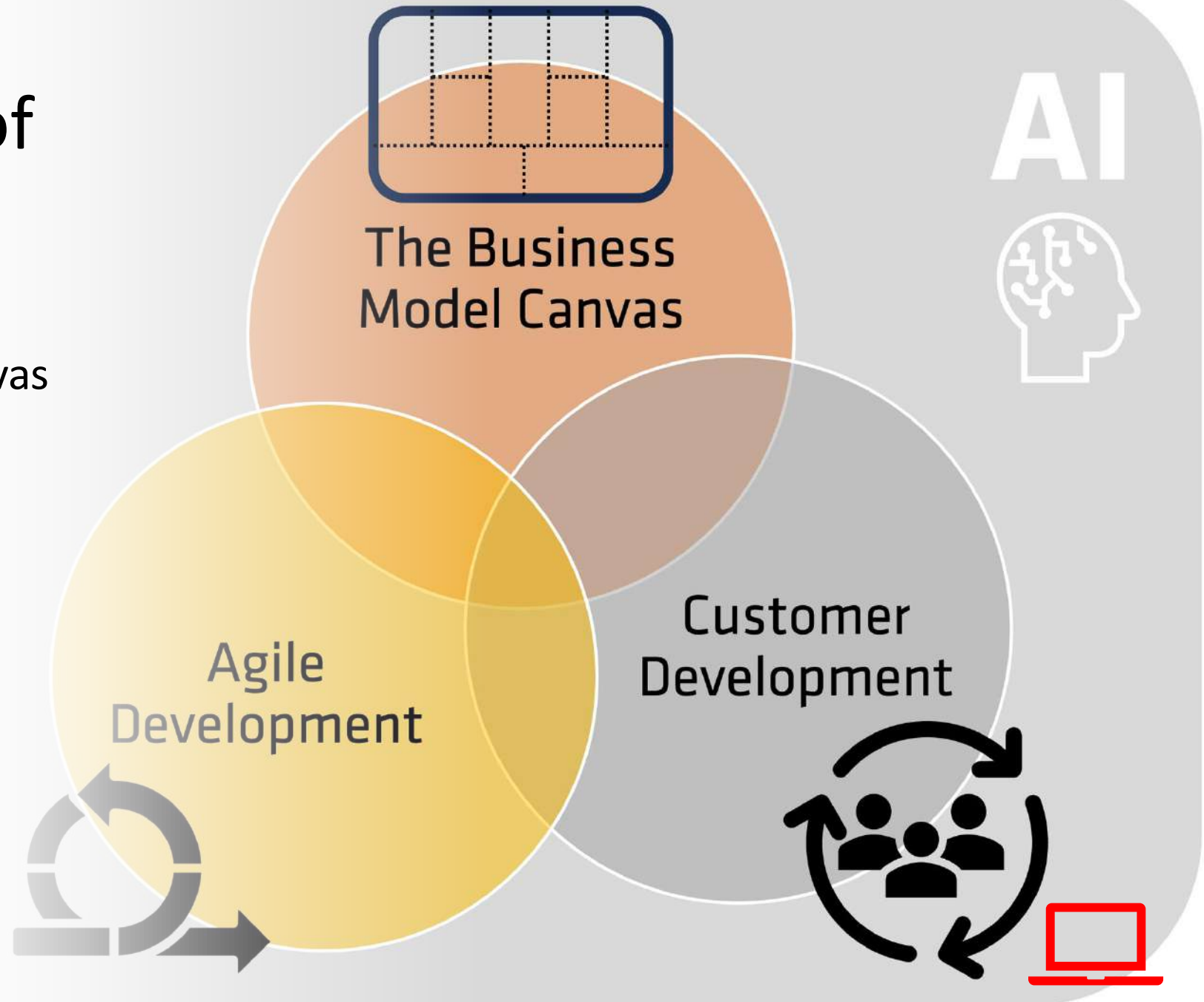
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Consulting Services



# The Four Tools of EITT

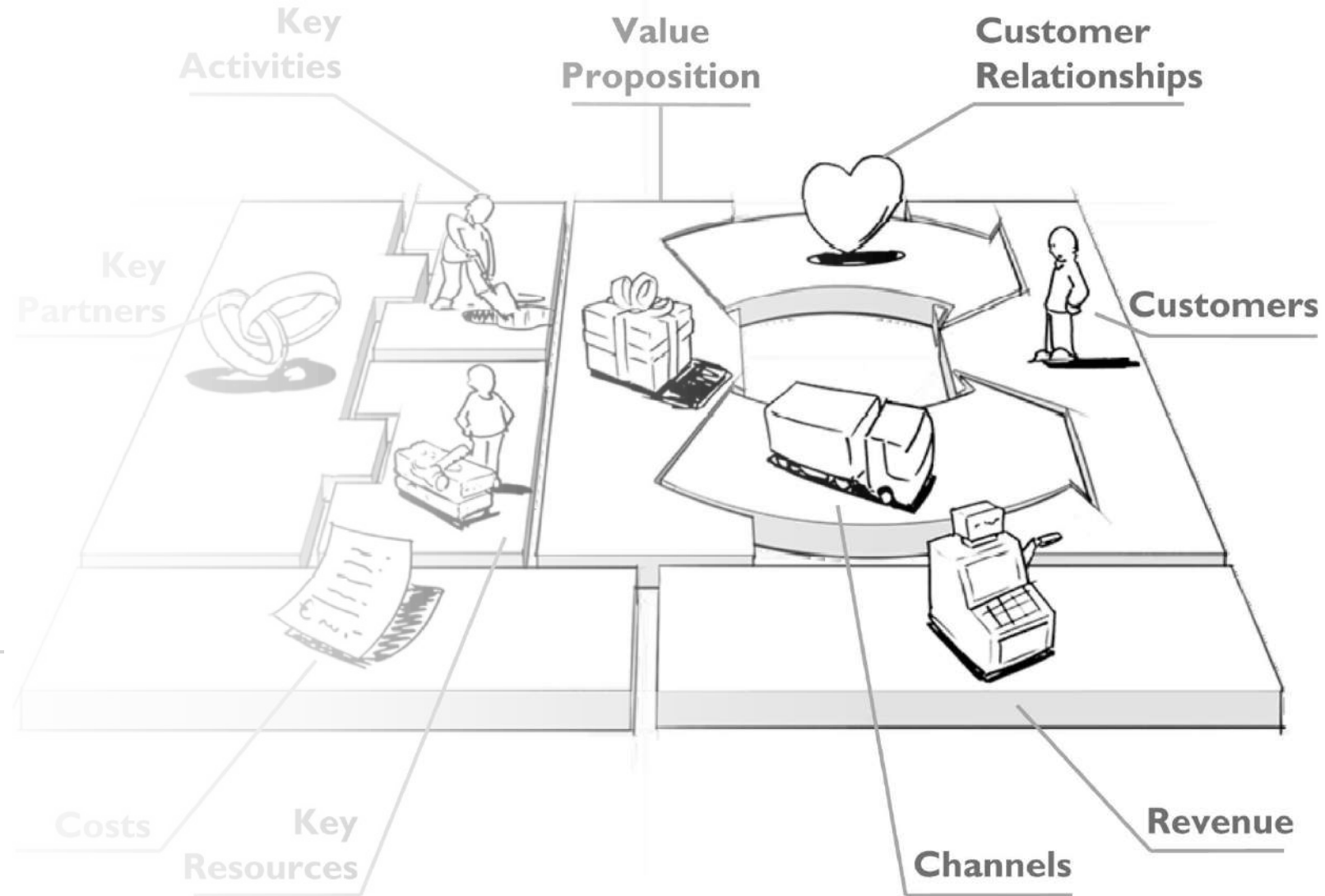
- The Business Model Canvas
- Agile Development
- Customer Development
- AI





# The Business Model Canvas (BMC)

A structured method for visualizing how a business creates, delivers, and captures value.



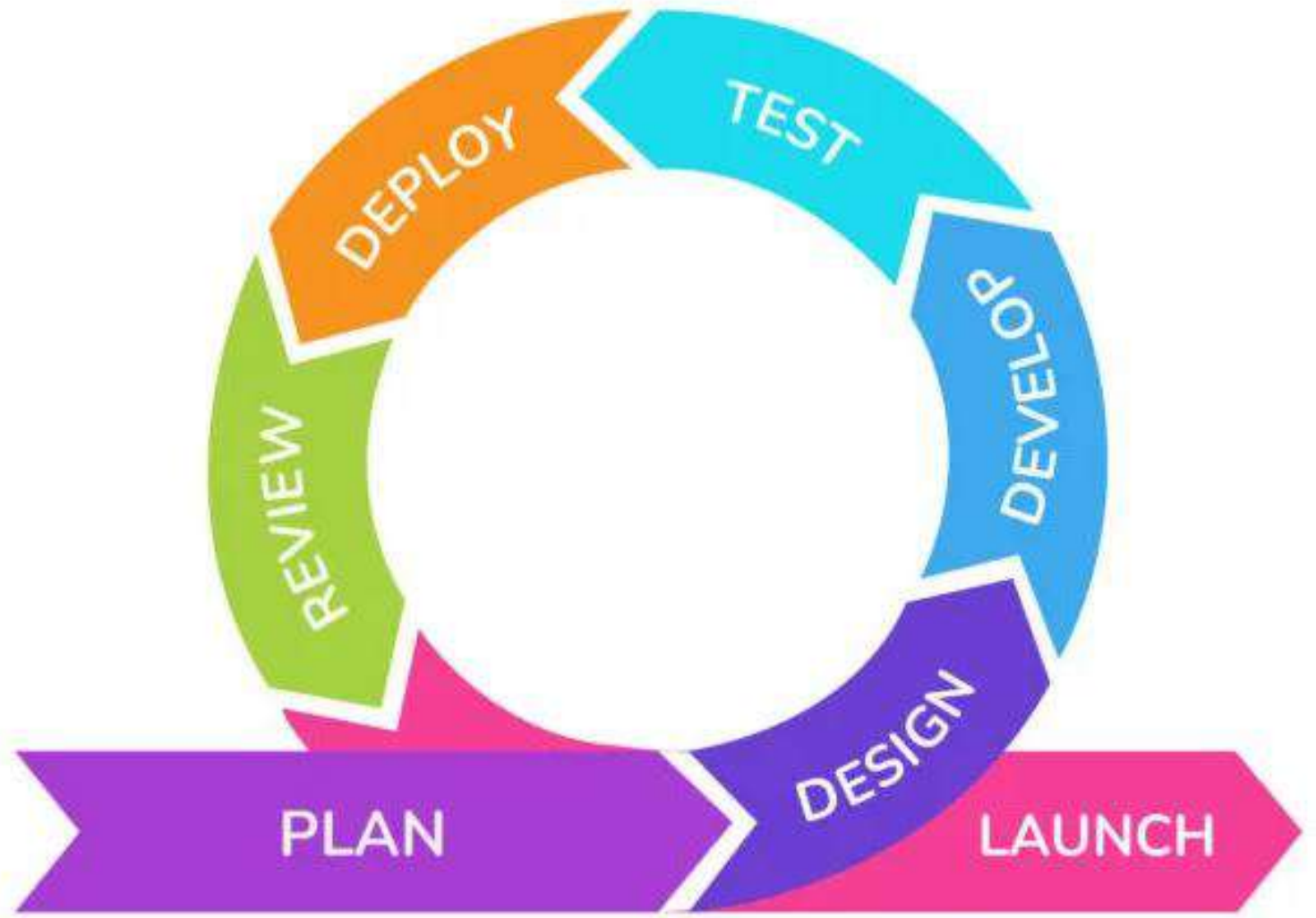
drawings by JAM



# Agile Development

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Flexibility, iterative progress, and customer feedback.



# Customer Development

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Understanding customer needs and validating assumptions before scaling a product or service



# Artificial Intelligence (AI)

Familiarity with AI tools prepares students to use these technologies for innovation and competitive advantage.





# Debate

A debate is a structured discussion where participants present and argue opposing viewpoints on a specific topic or issue.







# Public Forum Debate

1. Constructive speeches
2. Rebuttal speeches
3. Summary speeches
4. ~~Final focus~~





# Key Distinctions

1. Business Idea
2. Business Model
3. Large Companies
4. Waterfall Development
5. Product Development
6. Roles in Large Companies
7. Business Education
8. Traditional Entrepreneurship

1. Business Model
2. Business Plan
3. Startups
4. Agile Development
5. Customer Development
6. Roles in Startups
7. Entrepreneurship Education
8. Social Entrepreneurship



Use your computer or mobile phone



Business Idea  
versus  
Business Model



Which is more important, the  
business idea or the business  
model?







# Business Idea

The identification of a product or service that fulfills a need or solves a problem for consumers, businesses, or other organizations



# Business Model

A conceptual framework that outlines how an organization creates, delivers, and captures value



# Business Model versus Business Plan



Which is the better thing to have, a business model or a business plan?





# Business Plan

A detailed document that outlines the goals, strategies, target market, financial forecasts, and operational details of a business.





# SIMPLE BUSINESS PLAN OUTLINE TEMPLATE

## TITLE PAGE

- Company name and contact information
- Website address
- Presented to: (Company or Individual Name)

## TABLE OF CONTENTS

1. Executive Summary
2. Company Overview
3. Products and Service Offerings
4. Competitive and Market Analysis
5. Sales and Marketing Plan
6. Ownership Structure and Management Plan
7. Operating Plan
8. Financial Plan
9. Appendix

## 1: EXECUTIVE SUMMARY

- Company background and purpose
- Mission and vision Statement
- Management team
- Core product and service offerings
- Briefly describe target customers
- Describe the competition and how you will gain market share
- Define your unique value proposition
- Summarize financial projections for the first few years of business operations
- Describe your financing requirements, if applicable

## 2: COMPANY OVERVIEW

- Describe your business and how it operates in the industry.
- Explain the nature of the industry (e.g. trends, external influences, statistics).
- Historical timeline of your business

## 3: PRODUCT AND SERVICE OFFERINGS

- Describe your product or service and the problem it is solving
- List current alternatives
- Describe the competitive advantage (or unique value proposition) of your product in comparison to the alternatives

## 4: COMPETITIVE AND MARKET ANALYSIS

- Define the estimated size of the market
- Describe your target market segment(s)
- Outline how your offering provides a solution to your segment(s)
- Estimate the number of units of your product or service target buyers might purchase, and how the market might be affected by external changes (e.g. economic, political).
- Describe your projected volume and value of sales compared to competitors.
- Discuss how will you differentiate yourself from competitors

## 5: SALES AND MARKETING PLAN

- Describe your pricing strategy for your offerings
- List the various methods you will use to get your message to prospects (marketing channels)
- Detail the market materials will you use to promote your product, including an approximate budget
- Describe how you will distribute your offerings to customers (distribution methods)

## 6: OWNERSHIP STRUCTURE AND MANAGEMENT PLAN

- Describe the legal structure of your business
- List the names of founders, owners, advisors, etc.
- Detail the management team's roles, relevant experience, and compensation plan
- List out the staffing requirements of your business, including if external resources or services are needed
- Detail any training plans you will put in place for employees and management

## 7: OPERATING PLAN

- Describe the physical location(s) of your business
- Detail any additional physical requirements (e.g. warehouse, specialized equipment, facilities)
- Describe the production workflow
- Describe materials needed to produce your product or service, and how you plan to source them

## 8: FINANCIAL PLAN

- Demonstrate the potential growth and profitability of your business
- Create a projected income statement
- Create a projected cash flow statement
- Create a projected balance sheet
- Provide a breakeven analysis

## 9: APPENDIX

- Attach supporting documentation, which can include:
  - Charts and graphs
  - Market research and competitive analysis
  - Information about your industry
  - Information about your offerings
  - Samples of marketing materials
  - Professional references



# New Opportunity



Business Idea



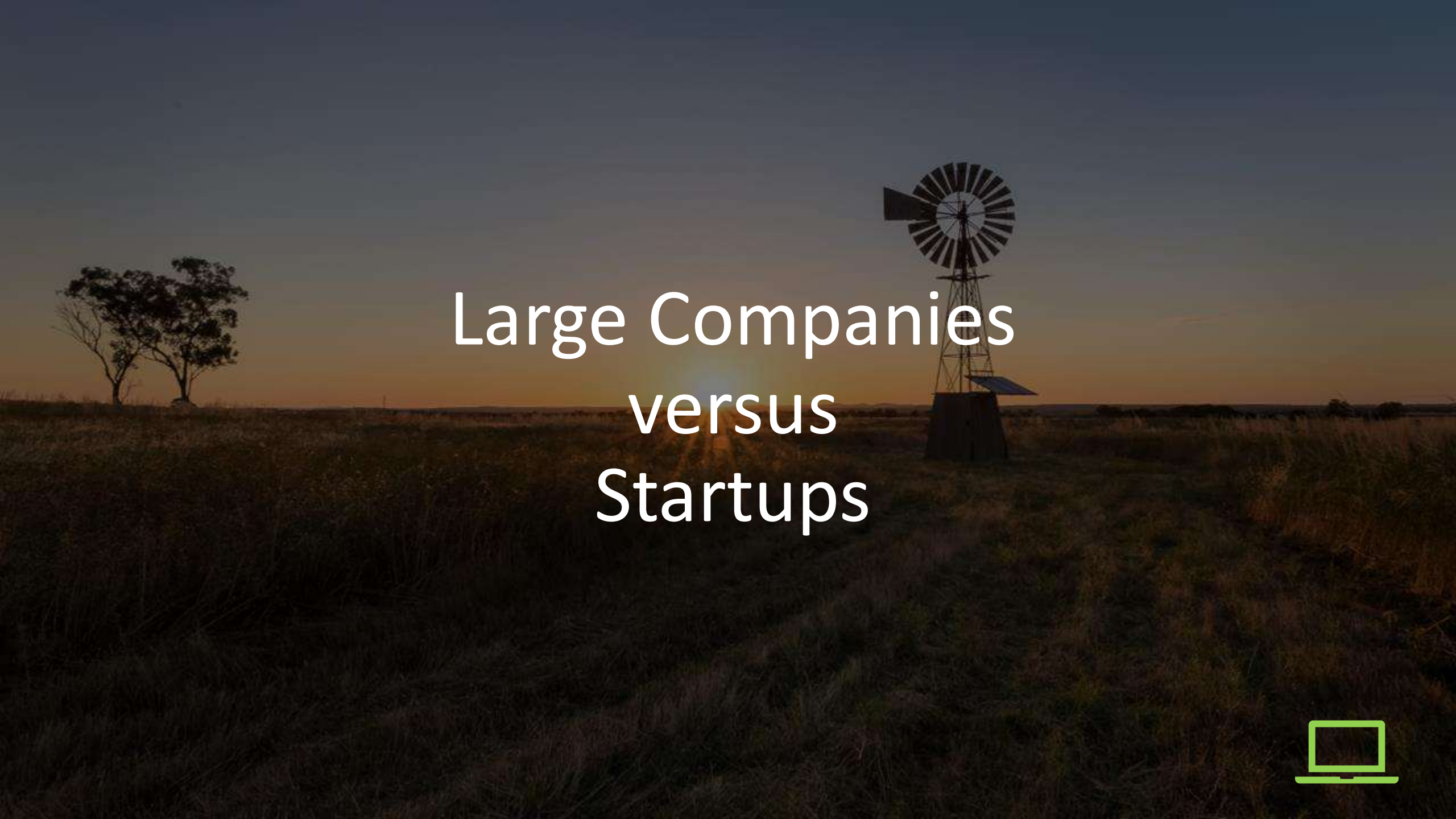
Business Model



Business Plan

If you know your market!



A landscape photograph at sunset or sunrise. The sky is a gradient of orange, yellow, and blue. In the foreground, there is a field of tall grass. On the left, there are two trees. On the right, there is a large, multi-bladed windmill structure. The text "Large Companies versus Startups" is overlaid in the center in white.

# Large Companies versus Startups





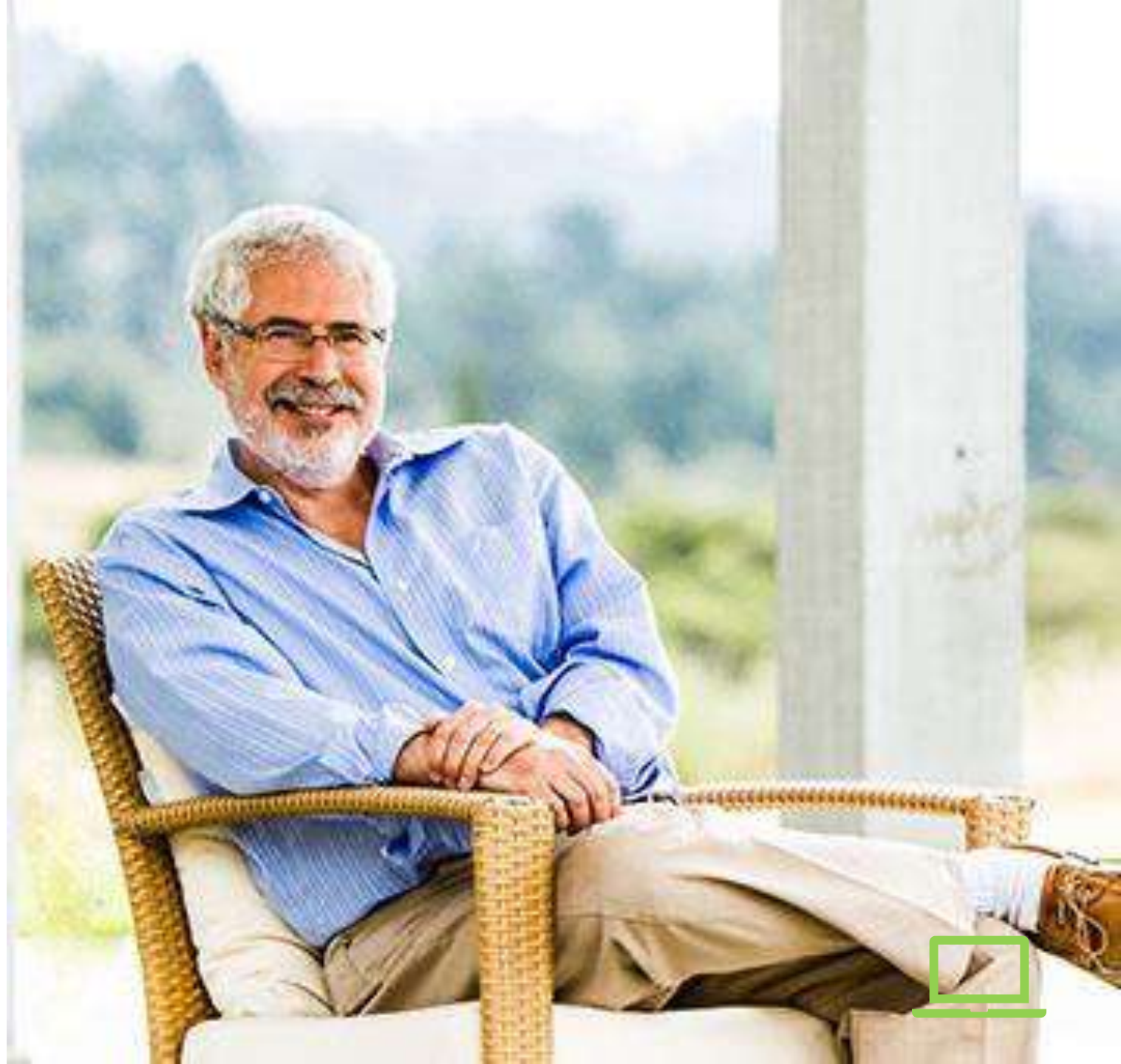
A landscape photograph at sunset. The sun is low on the horizon, creating a bright glow and long shadows. In the foreground, there is a field of tall grass. In the middle ground, a windmill stands on the right, and a tree is on the left. The sky is a mix of orange, yellow, and blue.

Which is a better place to work, a large company or a startup?



# Large Companies and Startups

"Startups are NOT just smaller versions of larger companies", Steve Blank.





# Company

"A company is a business organization which sells a product or service in exchange for revenue and profit."

Steve Blank





# Startup

"A startup is a temporary organization designed to search for a repeatable and scalable business model"

Steve Blank



# Waterfall Development versus Agile Development



Which is the better, waterfall development or agile development?

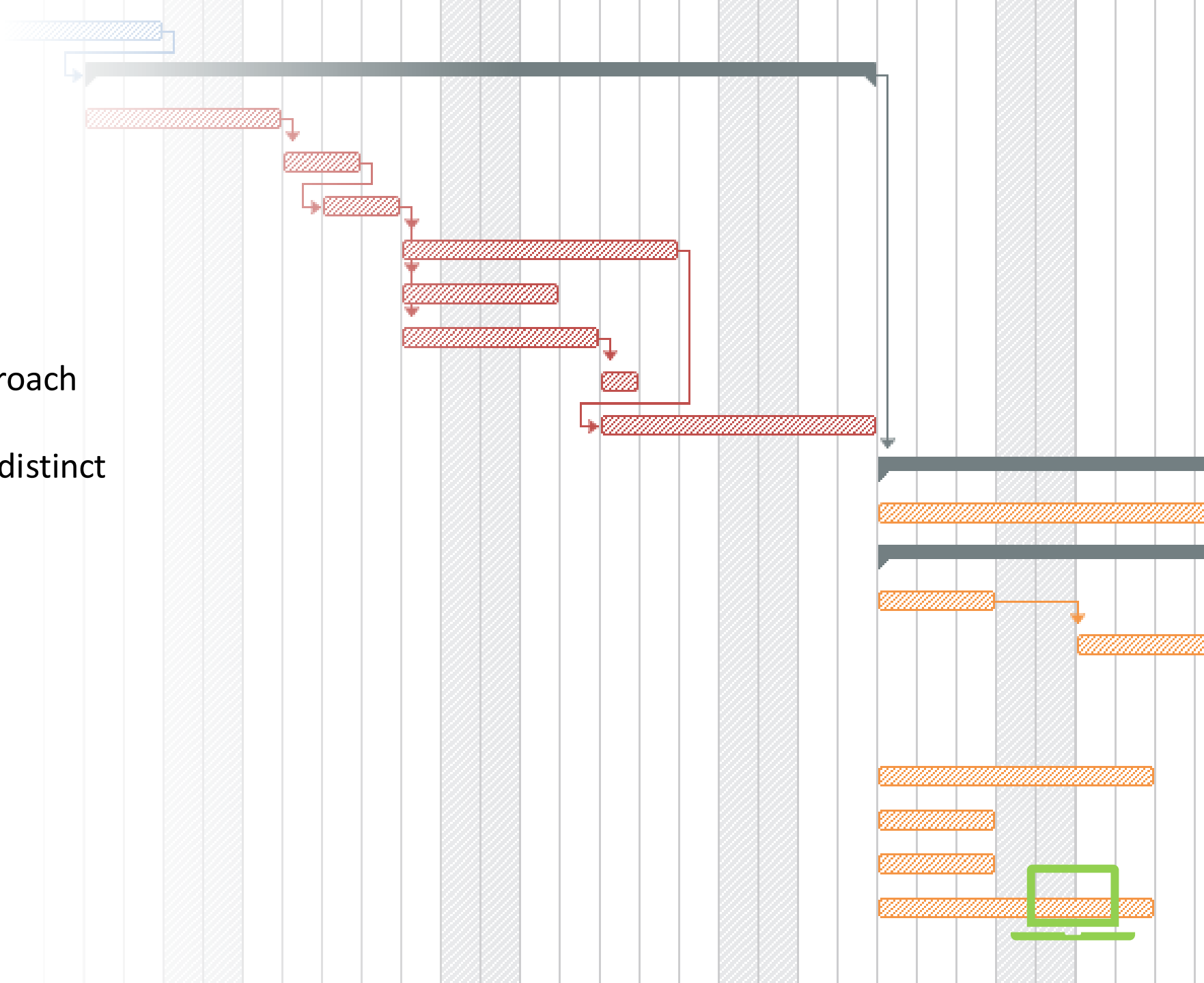




# Waterfall Development

A linear and sequential approach to product or software development, consisting of distinct phases:

- requirements gathering
- system design
- implementation
- testing
- deployment
- maintenance

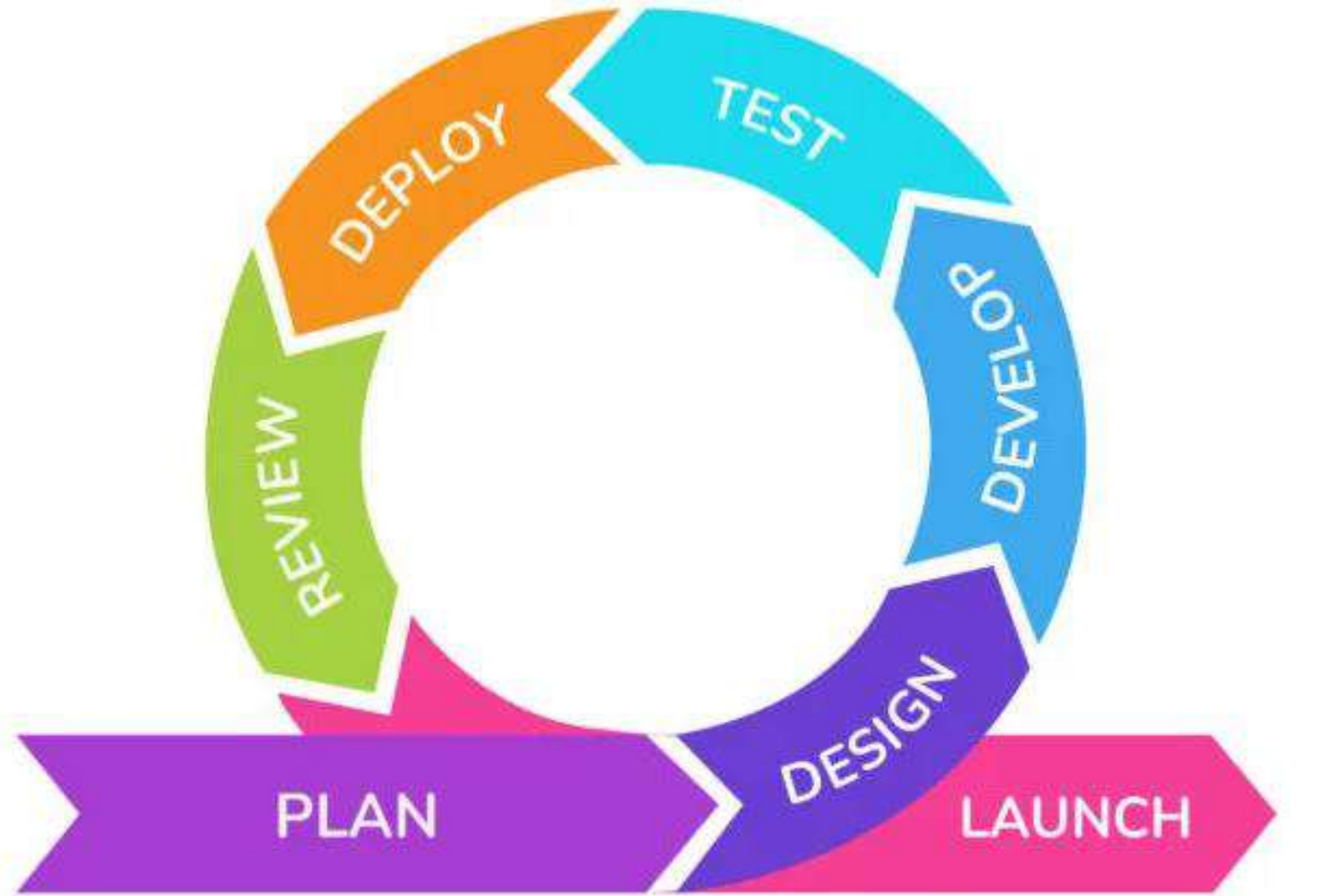


# Agile Development

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A project management methodology that emphasizes flexibility, collaboration, customer feedback, and iterative progress. Key principles:

- iterative development
- customer collaboration
- cross-functional teams
- adaptability
- continuous improvement
- development over documentation
- simplicity

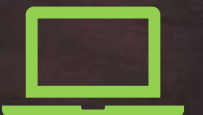


A person in a red jacket stands on a beach at sunset, with their reflection in the water. The sky is filled with soft, colorful clouds in shades of blue, orange, and pink. The water is calm, creating a clear reflection of the person and the sky.

# Product Development versus Customer Development



Which is a better strategy for a startup,  
product development or customer  
development?





# Product Development

A waterfall approach where startups would begin with a concept, secure seed funding, and proceed through stages like product development, alpha and beta testing, and finally, first customers.





# Customer Development

An agile approach where startups focus on understanding and validating customer needs before fully developing a product. It involves two main phases: customer discovery and customer validation.



# Executive Roles in Large Companies versus Executive Roles in Startups



Which is better, having an executive role in a large company or in a startup?





# Executive Roles in Large Companies

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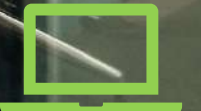
Executives in large companies operate within established departments such as sales, marketing, and business development. The primary focus is on executing established strategies and optimizing existing processes.



# Executive Roles in Startups

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In startups, executive roles require flexibility. Executives may need to wear multiple hats and adapt to rapidly changing circumstances. The emphasis is on discovering and validating a business model.



# Business Education versus Entrepreneurship Education





Which is more useful, a business education  
or an entrepreneurship education?





# Business Education

Covers essential areas such as accounting, human resources, and organizational behavior, which are crucial for managing and scaling established businesses. Focus on execution and how to implement predefined plans




# Entrepreneurship Education

Emphasizes the search for and validation of viable business models. It involves understanding the uncertainties of starting a business and adapting to changing conditions. Focus on personal initiative with a mindset of continuous learning and adaptation.





A photograph of two people standing on a beach at sunset. The person on the left is seen from behind, looking out at the ocean. The person on the right is in profile, looking towards the left. The sun is low on the horizon, creating a warm glow and reflecting on the wet sand. The text is overlaid in the center of the image.

# Traditional Entrepreneurship versus Social Entrepreneurship





A photograph of two people standing on a beach at sunset. The person on the left is seen from behind, looking out at the ocean. The person on the right is in profile, looking towards the ocean. The sun is low on the horizon, creating a warm glow and reflecting on the wet sand. The text is overlaid in the center of the image.

Which provides more value to society,  
traditional entrepreneurship or social  
entrepreneurship?



# Traditional Entrepreneurship

The success is measured by financial metrics such as profitability, market share, and return on investment.

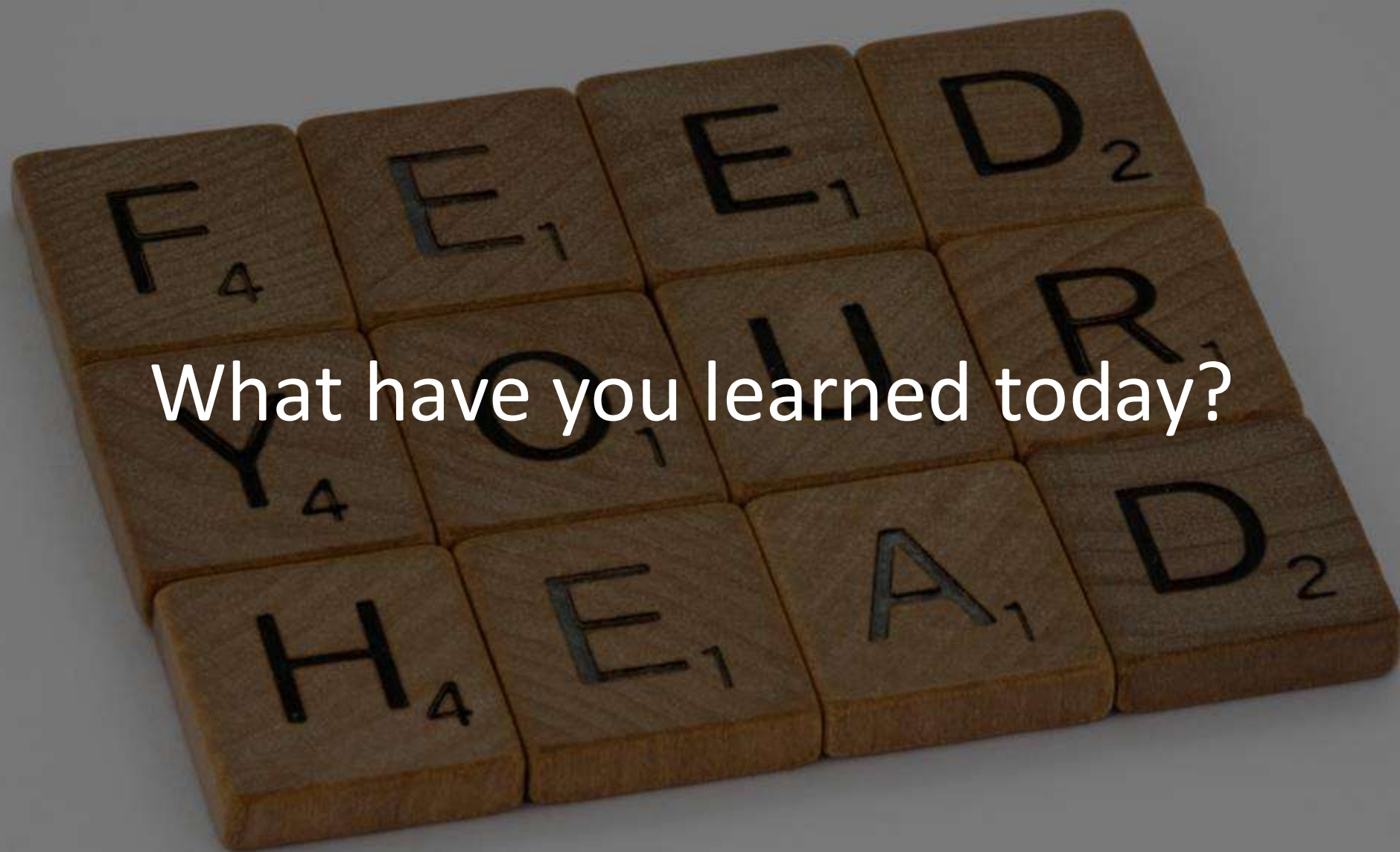


# Social Entrepreneurship

The success is measured by the extent to which the venture achieves its social objectives and creates meaningful change in society.







What have you learned today?





## MULHERES QUE INSPIRAM

NÃO PERCAS ESTA MESA REDONDA COM MULHERES INFLUENTES NO MUNDO DO EMPREENDEDORISMO!



MARÇO  
**06**

🕒 18h

📍 IST - Campus Alameda  
Sala VA2 - Pavilhão de Civil

**Inscreve-te até 05/03!**

## CONHECE AS ORADORAS

MARÇO  
**06**

🕒 18h

📍 IST - Sala VA2



### Ana Prata

Entrepreneur | Life & Molecular  
Scientist | Professor & Speaker |  
Business Innovator



### M. Gabriela Almeida

CEO Nitrogen Sensing Solutions |  
Women TechEU | Associate  
Professor



### Ana Filipa Rebelo

Project Manager @ LabToMarket |  
Co-founder & CTO @ eBreathie |  
Biomedical Engineer



### Camila Rodrigues

Activist for Gender Equality | Top 100  
Woman in Social Enterprise | PhD  
Political Science

# Work for Next Class

- Watch Lesson 3 (Business Models and Customer Development, Part 1) of Udacity's course on How to Build a Startup
- Interview experts on your technology or technologies
- Find valuable applications for the technologies
- Identify the resources you already have for these applications





Obrigado



TÉCNICO LISBOA