

ReTraCE Network Schools



ReTraCE Network Schools

- **1st Network School: Sheffield, June 2019**
- **2nd Network School: Naples, December 2019**
- **Project Meeting with Industry: May 2019**
- **3rd Network School: December 2020**

Clipboard: Paste, Cut, Copy, Format Painter

Slides: New Slide, Layout, Reset, Section

Font: 40, A, A, B, I, U, S, AV, Aa, A

Paragraph: Text Direction, Align Text, Convert to SmartArt

Drawing: Shape Fill, Shape Outline, Shape Effects, Arrange, Quick Styles

Editing: Find, Replace, Select

- 10 Motivation
- 11 Motivation
- 12 A Timely Motivation
- 13 ReTraCE Network Schools
- 14 Why this event?

ReTraCE Network Schools

Click to add notes

Why this event?

- Wide acknowledgment of multiple routes for the transition to a CE
- Importance of Bottom-up mechanisms
- Need for fostering CE entrepreneurial solutions
 - Even more relevant in the current Covid-19 scenario

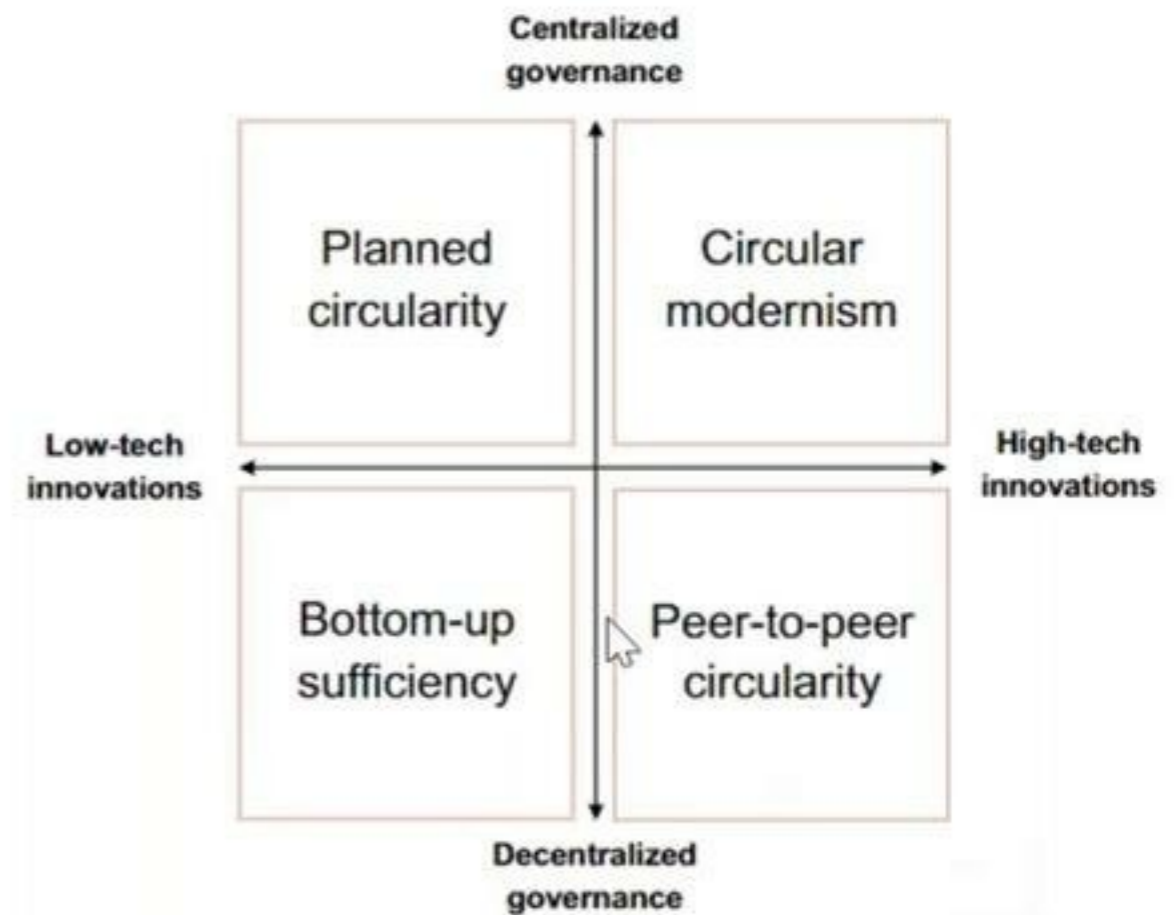


Fig. 1. Four scenarios for circular futures.
Source: constructed by authors.

Bauwens et al. (2020)

Programme

- **Mornings: open to the public**
 - Lectures, seminars
 - Presentations from CE entrepreneurs and business leaders
- **Afternoons: just for ReTraCE ESRs**
 - Collaborative work
 - Final pitches

Thank You!

- Stay Safe
- Stay with us
- Have fun!



Agenda

Day 1 (7th December) –
Entrepreneurship Crash – Course
– Part I

7 Dec.

Day 2 (8th December) –
Entrepreneurship Crash – Course
– Part II

8 Dec.

Day 3 (9th December) – RRI &
Circular economy business model
cases

9 Dec.

Day 4 (10th December) – Meet
the circular economy
entrepreneurs & investors

10 Dec.

Day 5 (11th December) – Pitching
Session to Investors & Business
Angels

11 Dec.

The teams

- *Team 1: Azar, Josep, Kevin, Mira*
- *Team 2: Amos, Emilija, Tommaso*
- *Team 3: Dimitris, Jayani, Mariana, Wasim*
- *Team 4: Felipe, Mecia, Mohammad, Sanja*

You will receive Google invitations with a Meet link for a 5' initial and a 5' final session, should you wish to ask Adrian and Andrea any clarifications, and each group will also receive links to its own Google Meet room and [Jamboard](#) for collaborative work.



Day 1

- 09:45 – 10:00 Introduction & welcome (Prof Andrea Genovese)
- 10:00 – 10:10 Introduction & welcome (Prof Panayiotis Ketikidis, SEERC)
- 10:10 – 11:00 Technological innovation patterns: grasping the opportunity & handling the threats (Dr Roberto Cerchione, UPN)
- 11:00 – 11:05 Break
- 11:05 – 11:40 Creative thinking & Business Model Canvas (BMC), Lean BMC, Circular BMC (Prof Panayiotis Ketikidis, SEERC)
- 11:40 – 12:00 Break
- 12:00 – 13:05 Operationalising circular business models; A Deep dive into organisational, legal & financial aspects of circular economy (Aglaia Fischer, Circle Economy) (Project Manager Circle Finance Programme)
- 13:05 – 13:10 Break
- 13:10 – 13:55 Financial management for startups (income statement, balance sheet, pricing strategy) (Ms Violeta Sfouri, SEERC)
- 13:55 – 14:15 Conclusion & task allocation (Dr Adrian Solomon, SEERC)
- Remote in teams per WP (2h)
- **Expected output:** In groups, think how your joint work (innovation) would serve as a “startup” and develop a Lean/Circular BMC (the teams to be split across the WPs)

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TECHNOLOGICAL INNOVATION PATTERNS

GRASPING THE OPPORTUNITY & HANDLING THE THREATS



Roberto Cerchione
 Co-Editor-in-Chief of the "Journal of Entrepreneurship Education"
 Department of Engineering - University of Naples Parthenope
roberto.cerchione@uniparthenope.it

Fare clic per inserire le note



**TECHNOLOGY
INNOVATION
GRASPING THE OPPORTUN**

Roberto

Co-Editor-in-Chief of the “
Department of Engineering

roberto.cer

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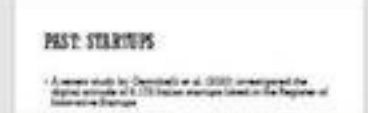
TECHNOLOGICAL INNOVATION PATTERNS

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Presentazione
 Riprendi presentazione



TECHNOLOGICAL INNOVATION PATTERNS

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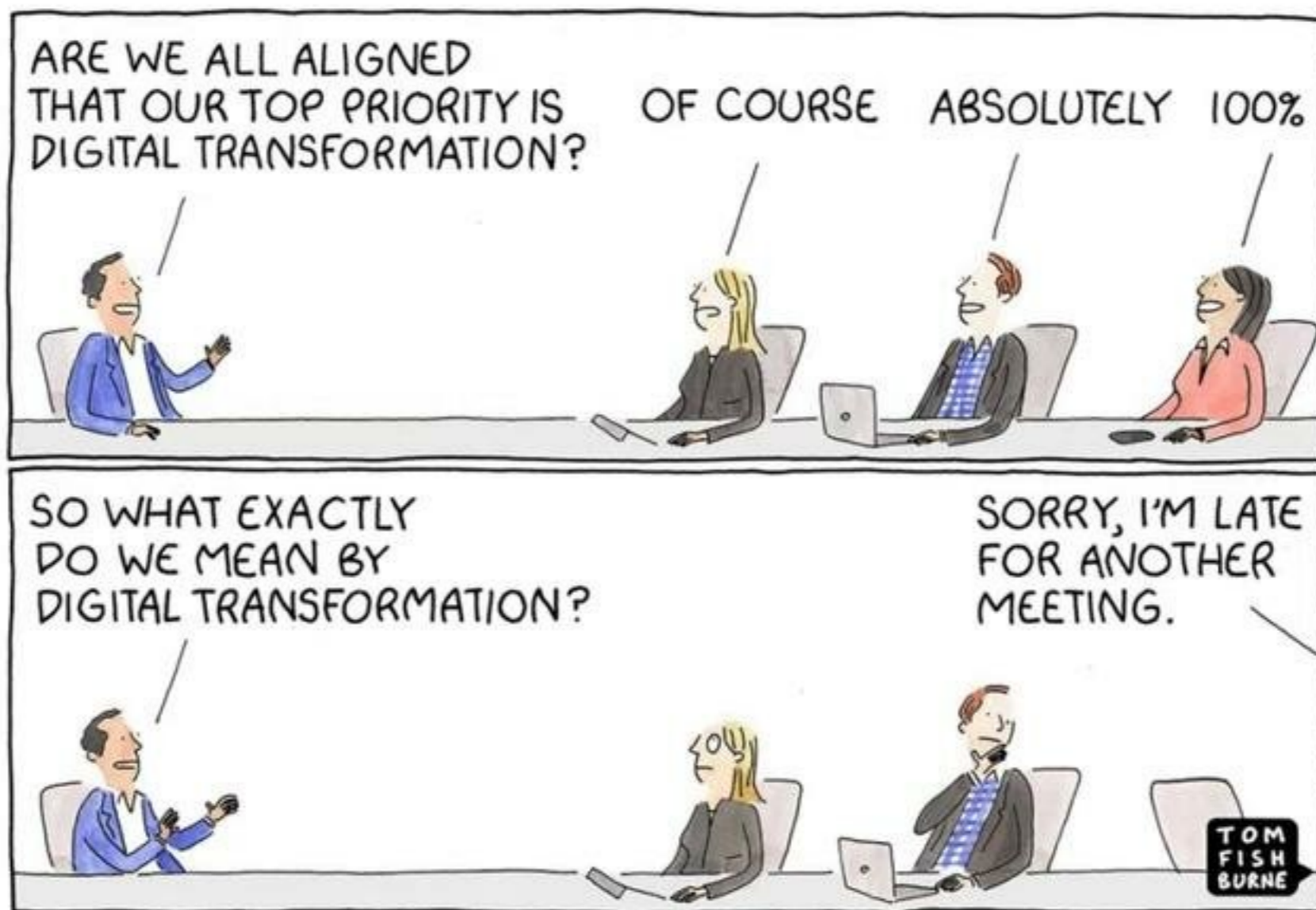
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PAST: LARGE COMPANIES



PAST: SMEs



PAST: STARTUPS



PAST: STARTUPS

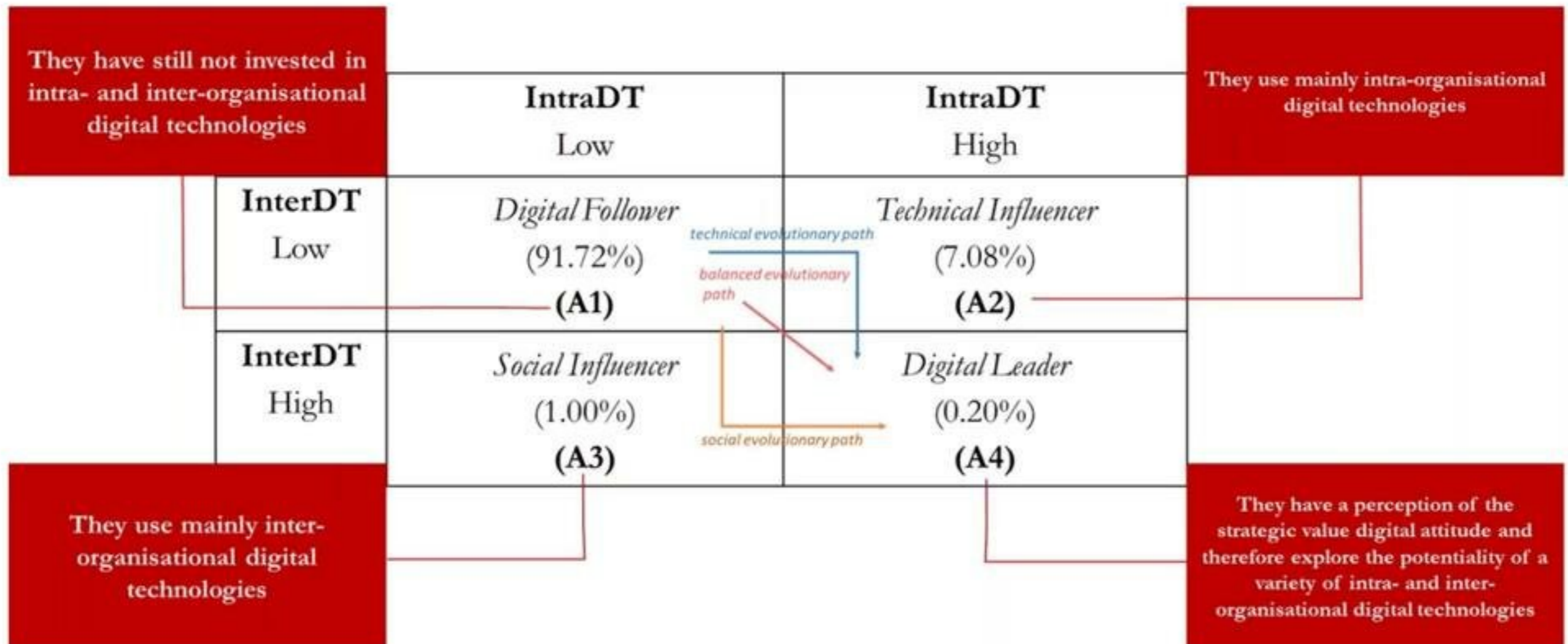
- A recent study by Centobelli et al. (2020) investigated the digital attitude of 6,178 Italian startups listed in the Register of Innovative Startups

	IntraDT Low	IntraDT High
InterDT Low	<i>Digital Follower</i> (91.72%) (A1)	<i>Technical Influencer</i> (7.08%) (A2)
InterDT High	<i>Social Influencer</i> (1.00%) (A3)	<i>Digital Leader</i> (0.20%) (A4)



PAST: STARTUPS

- A recent study by Centobelli et al. (2018) investigated the digital attitude of 6,178 Italian startups listed in the Register of Innovative Startups



Source: Centobelli P., Cerchione E., Esposito E., Passaro, R., Quinto, I. (2018).

“Digital attitude of startups: Evidence from Italy”



PAST: STARTUPS

- The results of the analysis highlight a situation of a generally weakness of the digital attitude of startups for both inter- and intra-organisational digital technologies
- Startups may take advantage of the impact of digital technologies by better exploiting the opportunity offered by the digitalization
- From the digital providers' perspective, this paper stresses that startups typically do not have dedicated resources to monitor the process of innovation in the field of digital technology management.
- Nevertheless, they may well represent a significant market. To seize this opportunity, it is necessary create not only a new market segment dedicated to startups but also direct channels of communication between startups and digital providers.
- Policy-maker may create specific policy measures aimed to develop a balanced adoption of Intra- and Inter-DT in order to evolve through a balanced evolutionary path

Source: Centobelli P., Cerchione E., Esposito E., Passaro, R., Quinto, I. (2018).

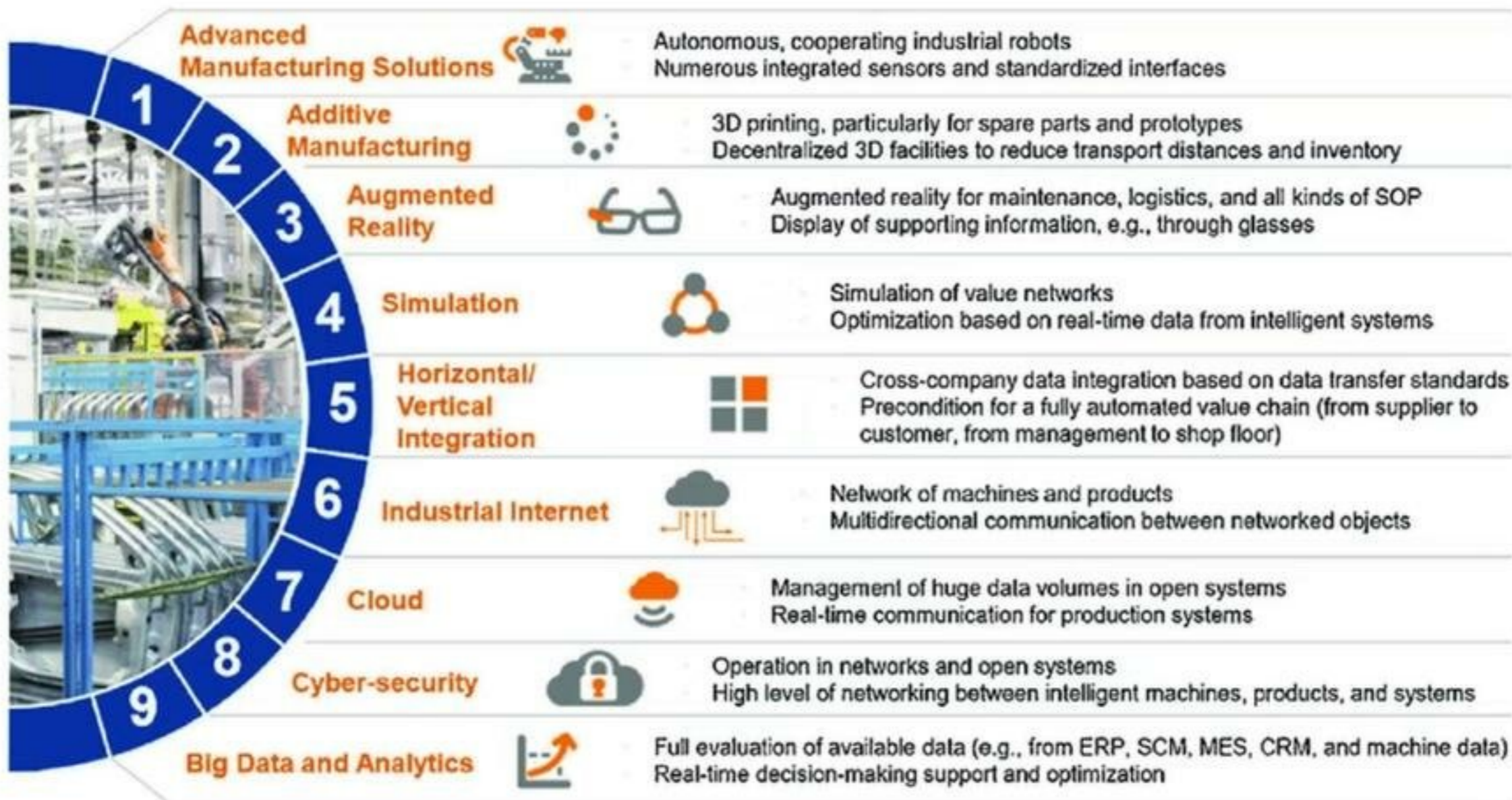
"Digital attitude of startups: Evidence from Italy"



PRESENT



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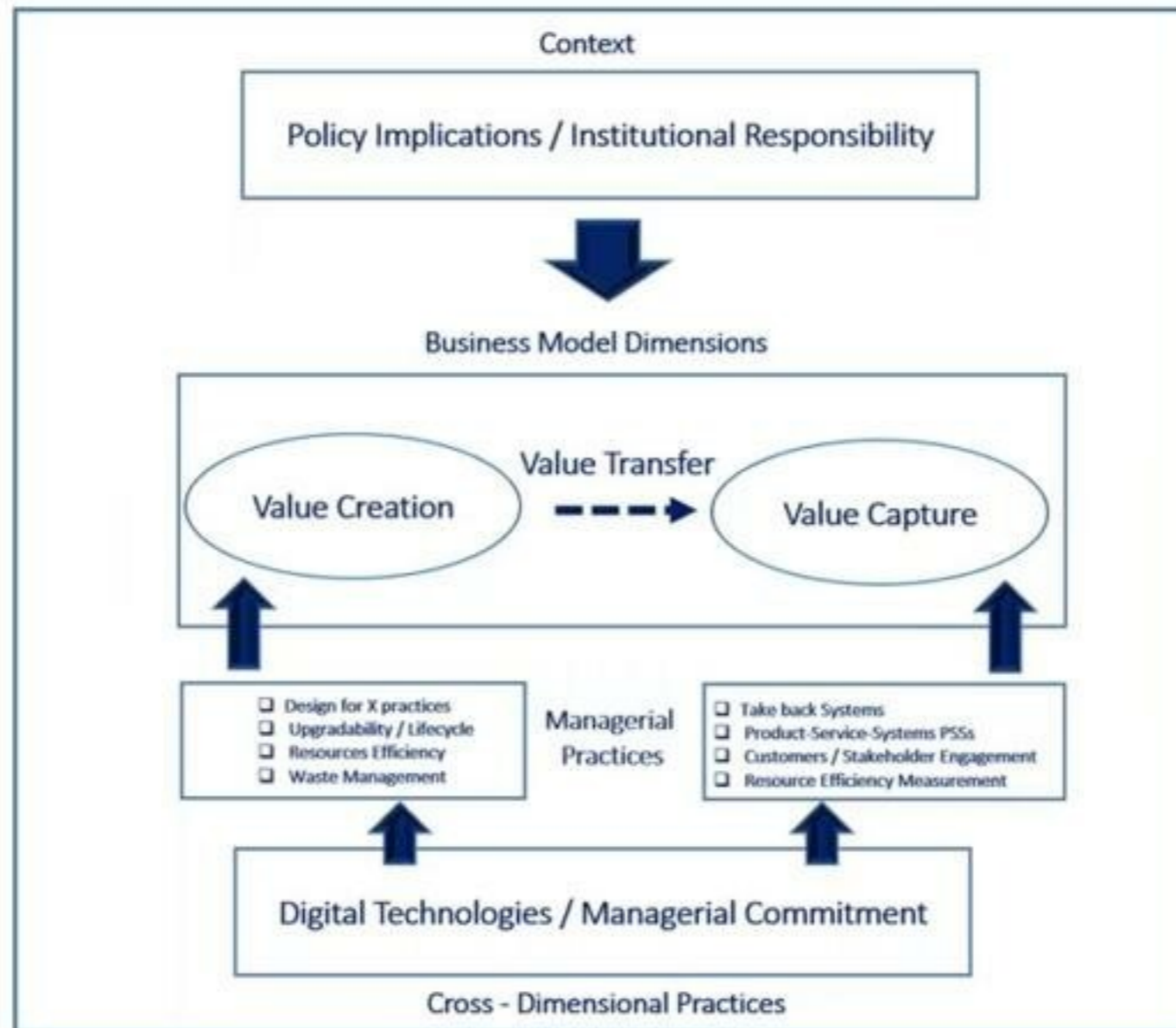
Source: Confindustria, MATTM, MEF, MIPAAF, MISE



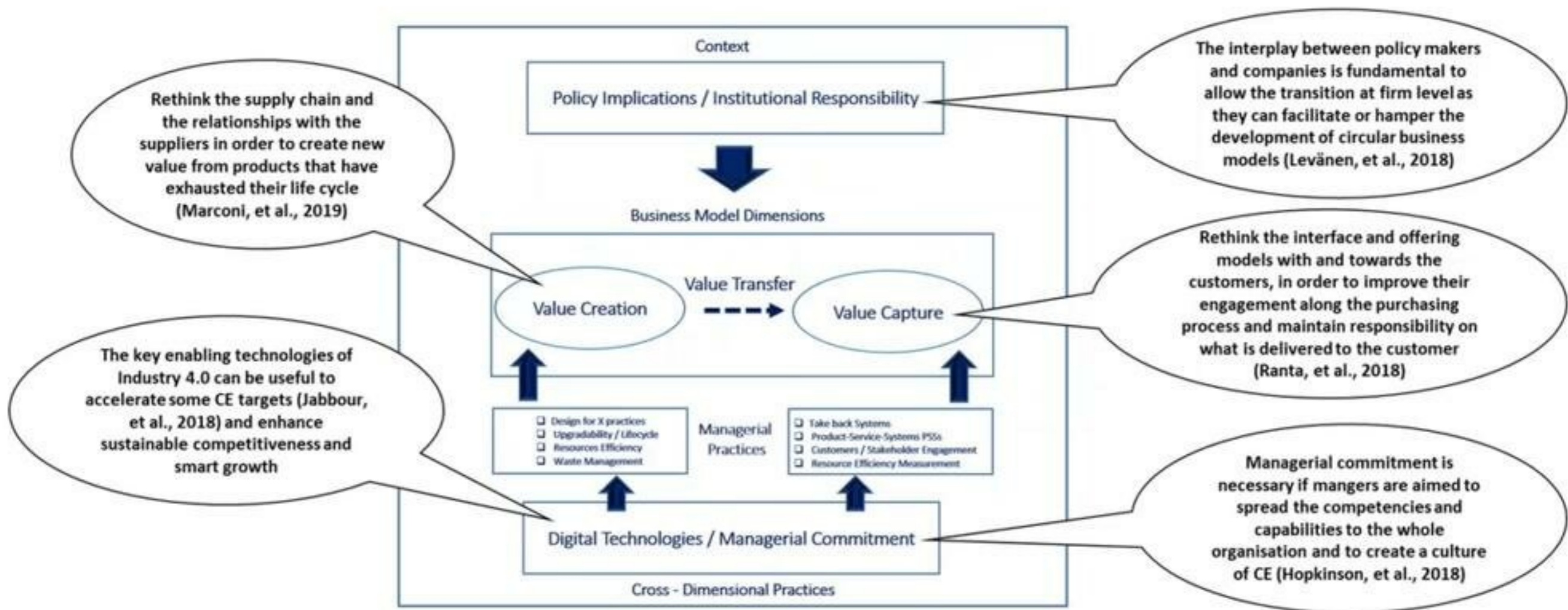
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PRESENT: CE BUSINESS MODELS



PRESENT: CE BUSINESS MODELS

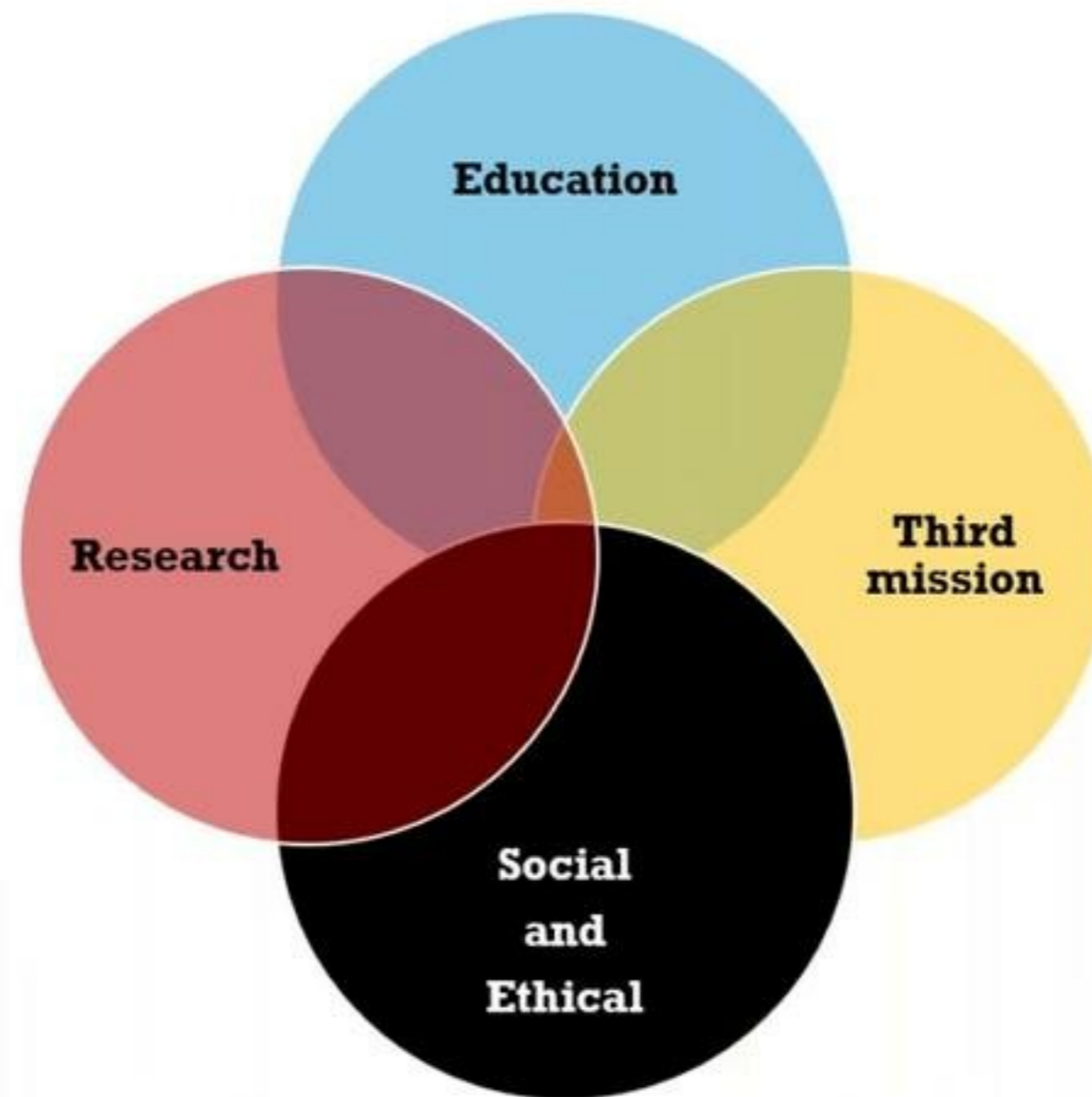


PRESENT: CE BUSINESS MODELS

Thematic Area	Emerging Research Questions
<i>Contextual Factors</i>	<ul style="list-style-type: none"> • Which is the role of policy makers and third sector associations in promoting the CE? • Are there distinctive and common patterns into the different experiences related to the implementation of CE strategies at national and regional level? • Which are the main drivers of success of a national/regional innovation system (education, institutional stability, expense in R&D, etc) supporting CE?
<i>Circular Business Model Dimensions</i>	<ul style="list-style-type: none"> • Which are the drivers of value creation in a CE business model? • Which is the meaning of value creation, capture and transfer in a CE business model?
<i>Managerial Practice for Value Creation, transfer and capture</i>	<ul style="list-style-type: none"> • How is it possible to innovate a business model for CE? • Which is the role of customers in the value creation in the context of CE? • How does company's network impact on the value creation, transfer and capture within a CE business model?
<i>Cross - Dimensional Practices</i>	<ul style="list-style-type: none"> • Which is the impact of digital technologies on an organizational supporting CE? • How does the implementation of a CE business model impact on human capital? • Which are the meaning of intangible assets in a CE business model? Which are new metrics for measuring the value in a CE business model? • Which is the meaning of Industry 4.0 and Digital Humanity in a CE perspective?



PRESENT: OPPORTUNITY AND THREATS



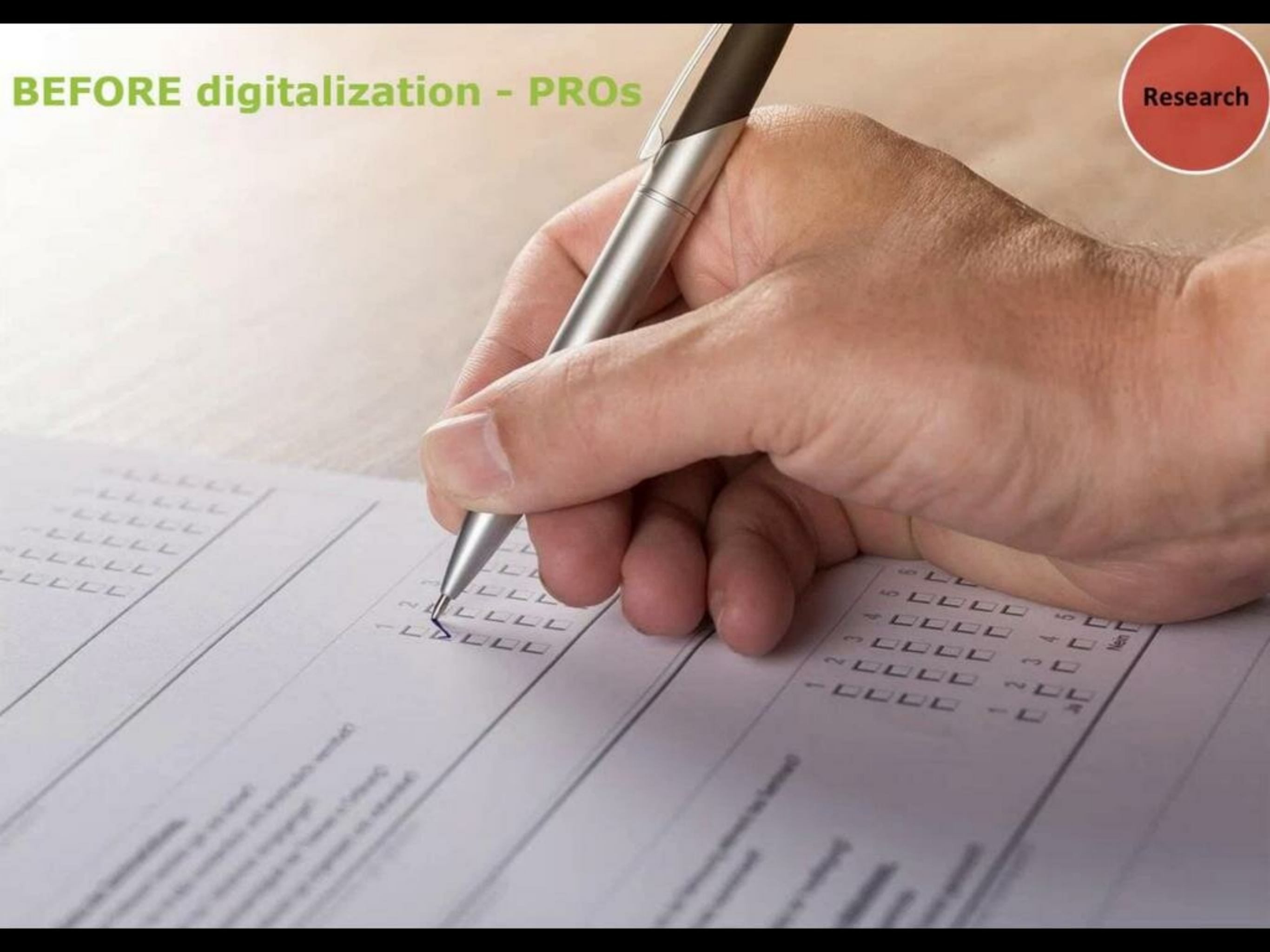
BEFORE digitalization - PROs

Research



BEFORE digitalization - PROs

Research



BEFORE digitalization - PROs

Research



BEFORE digitalization - PROs



BEFORE digitalization - CONs

Research



BEFORE digitalization - CONs

Research



AFTER digitalization - PROs

Survey Overview

Surveys 12

Collectors 23

Responses 0.87K

Partial Responses 113

Avg Time Taken (mins) 5.04

Survey Completion Rate 87.58%

Surveys by Category

Category	Percentage
customer_feedback	16.7%
demographics	16.7%
human_resources	25%
market_research	16.7%
other	25%

Question Type Distribution

Question Type	Percentage
single_choice	52.2%
open_ended	19.8%
matrix	18.7%
multiple_choice	2.7%
datetime	~1.0%
demographic	~1.0%
presentation	~1.0%

Survey Summary

Surveys	Created Date ↓	Pages	Questions	Respondents	Completion Rate	Avg Time taken to complete (mins)
Customer Demographics Survey	2017-06-14	1	10	1	100%	0.45
Customer Satisfaction Survey	2016-12-20	1	10	5	60%	5.83
Customer Satisfaction Survey-II	2017-10-30	4	14	100	89%	5.32
Employee Engagement Survey	2017-07-06	7	42	1	0%	2.00



AFTER digitalization - PROs

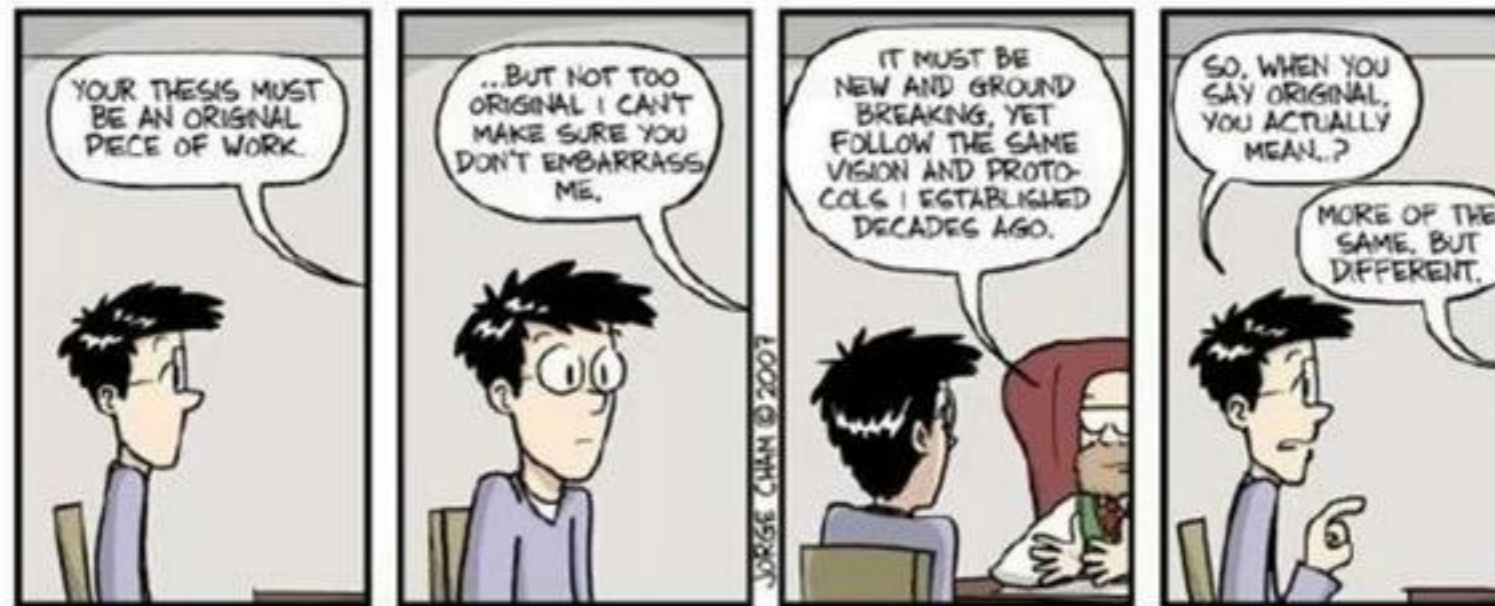
The screenshot shows the Yoast Real-time Content Analysis tool interface. At the top left is the Yoast logo. A navigation bar contains links for Home, Academy, Software, Review your site, and About us. A search bar is located on the right side of the navigation bar. Below the navigation bar, there are links for SEO blog, eBooks, and Courses. The main content area has a breadcrumb trail: Home > Yoast SEO plugin > Real-time Content Analysis. The title of the page is "Real-time Content Analysis". On the left, there is a text input field with the placeholder text "Start writing your text!". On the right, there is a section titled "Your SEO score" with the text "This is the overall score for your text and snippet preview." Below this text is a circular progress indicator that is currently empty.



AFTER digitalization - CONs

Don't do "more of the same"...

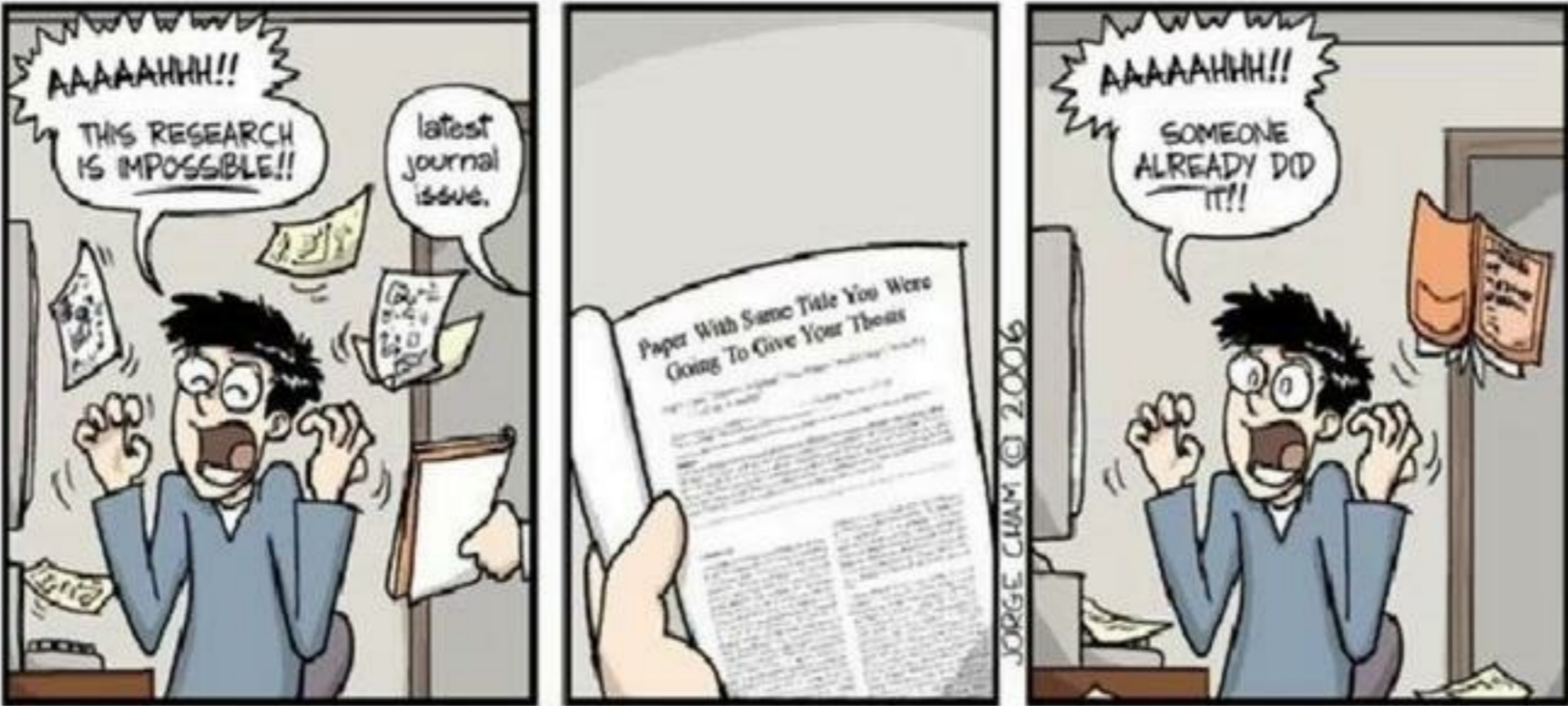
Implication of incomplete literature review!



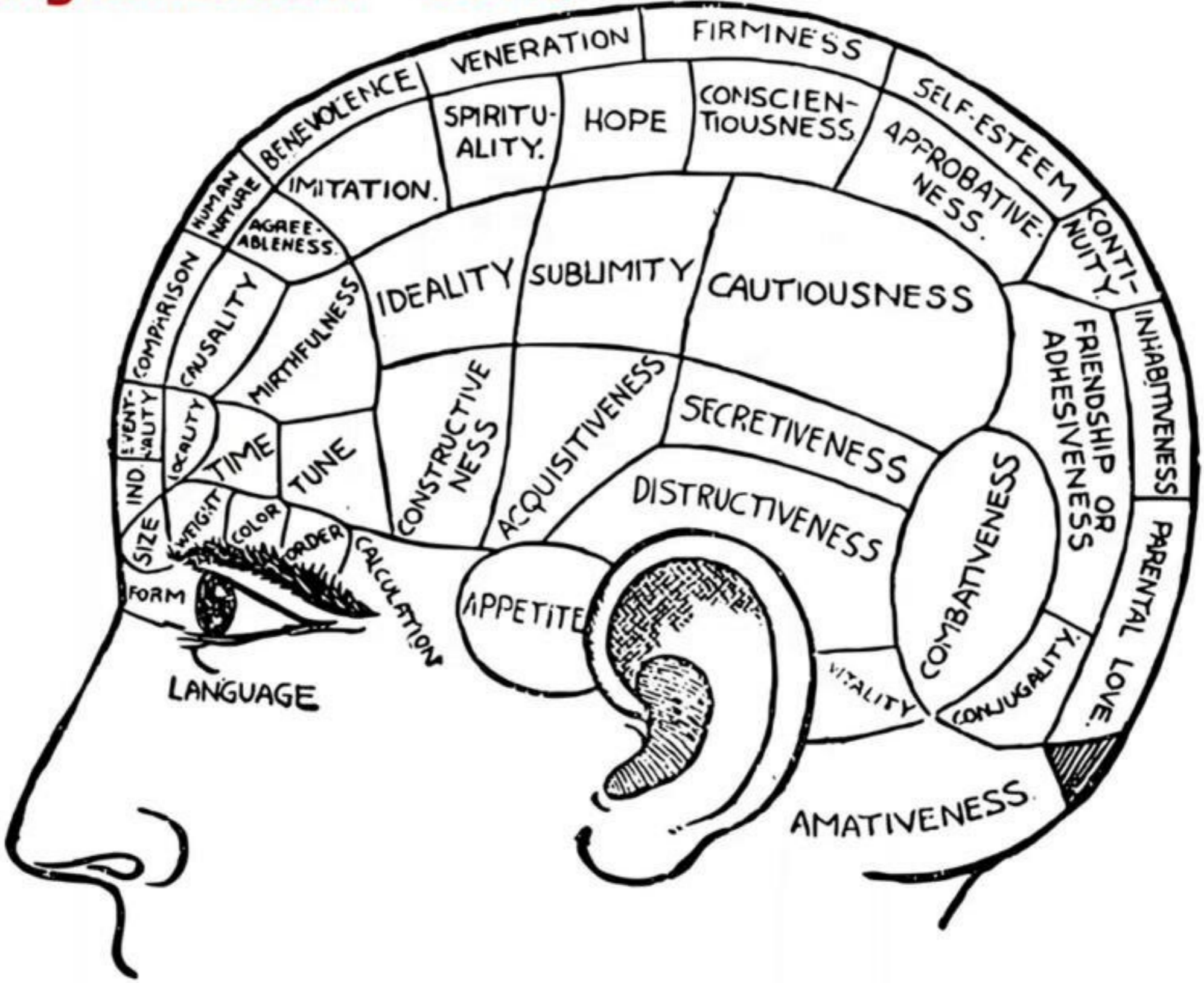
AFTER digitalization - CONs

Don't reinvent the wheel...

Implication of incomplete literature review!



AFTER digitalization - CONs



AFTER digitalization - CONs

Research



BEFORE digitalization - PROs



BEFORE digitalization - PROs

Teaching



BEFORE digitalization - CONs



BEFORE digitalization - CONs



AFTER digitalization - PROs

Teaching



AFTER digitalization - PROs

Teaching



AFTER digitalization - PROs

Teaching



AFTER digitalization - PROs

Teaching

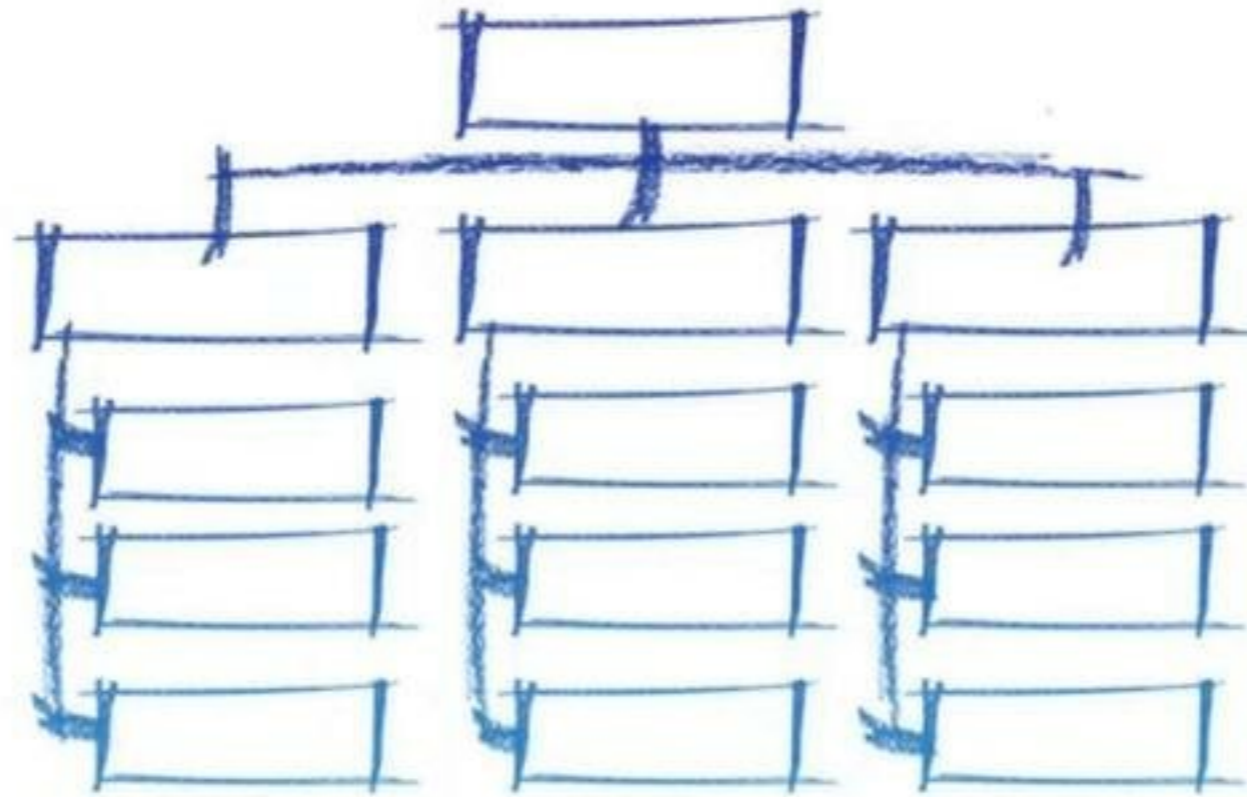


AFTER digitalization - CONs

Teaching



AFTER digitalization - CONs



BEFORE digitalization - PROs

Third mission



BEFORE digitalization - PROs

Third mission



BEFORE digitalization - CONs

Third mission



BEFORE digitalization - CONs

Third mission



AFTER digitalization - PROs

Third mission



AFTER digitalization - PROs

Third mission



AFTER digitalization - PROs

Third mission



AFTER digitalization - PROs

Einstein, Albert

Institute for Advanced Studies, Princeton, United States

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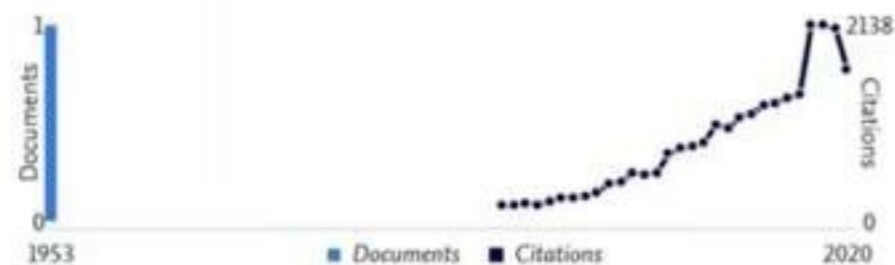
Metrics overview

102
Documents by author

25203
Citations by 22152 documents

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AFTER digitalization - PROs



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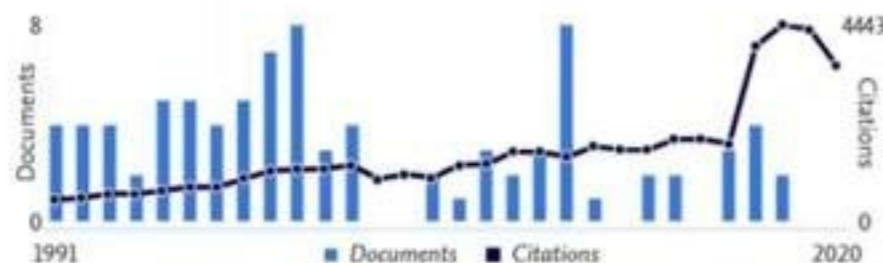
Metrics overview

163
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Document & citation trends



Most contributed Topics 2015–2019

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Multiverse; Cosmological Constant; De Sitter Space
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163 Documents Cited by 26060 Documents 72 Co-Authors Topics



BEFORE digitalization - PROs



BEFORE digitalization - CONs



AFTER digitalization - PROs

Social
and
Ethical



AFTER digitalization - CONs



A Broken Social Elevator? How to Promote Social Mobility





WE ARE THE LAST WITNESSES OF THE MOST DISRUPTIVE TECHNOLOGY AND KNOWLEDGE REVOLUTION...

FUTURE? 😊

THANKS FOR YOUR ATTENTION



Creative thinking & Business Model Canvas (BMC)

by

Prof. KETIKIDIS H. Panayiotis, BSc, MSc, Ph.D.

Day 1 (7/12/2020)

Entrepreneurship Crash course – Part I

11:05 CET

Creativity

How creative ARE YOU ?



**I AM NOT AN ARTIST, SO I AM NOT
CREATIVE...**

Creativity

- **Creativity:** The ability to produce work that is *useful and novel*.
 - Individual creativity is a function of:
 - Intellectual abilities (e.g., ability to articulate ideas)
 - Knowledge (e.g., understand field, but not wed to paradigms)
 - Style of thinking (e.g., choose to think in novel ways)
 - Personality (e.g., confidence in own capabilities)
 - Motivation (e.g., rely on intrinsic motivation)
 - Environment (e.g., support and rewards for creative ideas)

Tips for Enhancing Individual Creativity

- Allow yourself to be creative
- Give your mind fresh input every day
- Recognize the creative power of mistakes
- Keep a journal handy to record your thoughts and ideas
- Listen to other people
- Take some time off
- Talk to a child



How to generate ideas?

- Go outside your comfort zone by going to places you have never been before.
- Sit at places where you observe individuals.
 - Try to find patterns
 - Use your intuition
 - Ideas sometimes emerge out of luck or serendipity.
- Leverage on the impulses other give you
 - Brainstorming
 - Focus group sessions
- Brows the Internet and visit libraries.

**LIST 3 PROBLEMS THAT COME INTO
YOUR MIND RIGHT NOW
RELATED TO CIRCULAR ECONOMY**

Unsolved problems

- Does your favorite problem emerge from
 - Economic change
 - Social change
 - Technological change
 - Change in rules and regulations?
- Is your favorite problem a brand new one or an already realized and solved?
- Can your problem be solved with existing solutions?

**SELECT ONE OUT OF THE 3 AND
START COMING UP WITH
POSSIBLE SOLUTIONS TO THAT
PARTICULAR PROBLEM.**

Creativity and Innovation

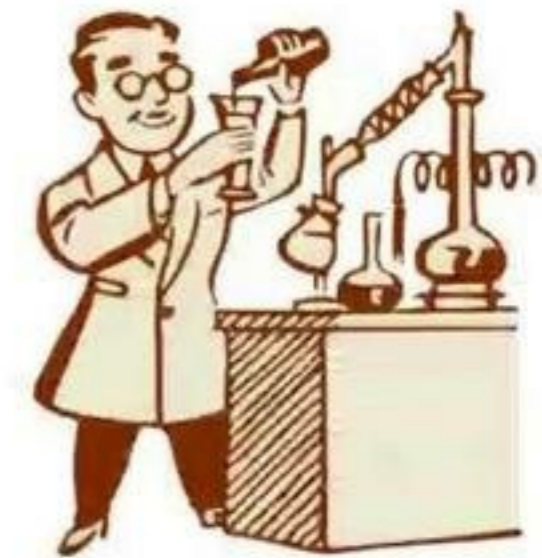


Creativity - the ability to develop new ideas and to discover new ways of looking at problems and opportunities; *thinking new things.*

Innovation - the ability to apply creative solutions to problems or opportunities to enhance or to enrich people's lives; *doing new things.*

What is innovation ?

- **Innovation is not limited to technology**
- **Innovation can come in many varieties including:**
 - **Technology**
 - **Process**
 - **Positioning,**
 - **Paradigm, and more....**



Models and Modes of Innovation

Dimensions of ‘innovation space’:

- **product** – changes in the things (products/services) which an organization offers,
- **process** – changes in the ways in which they are created and delivered
- **position** – changes in the context in which the products/services are introduced
- **paradigm** – changes in the underlying mental & business models which frame what the organization does

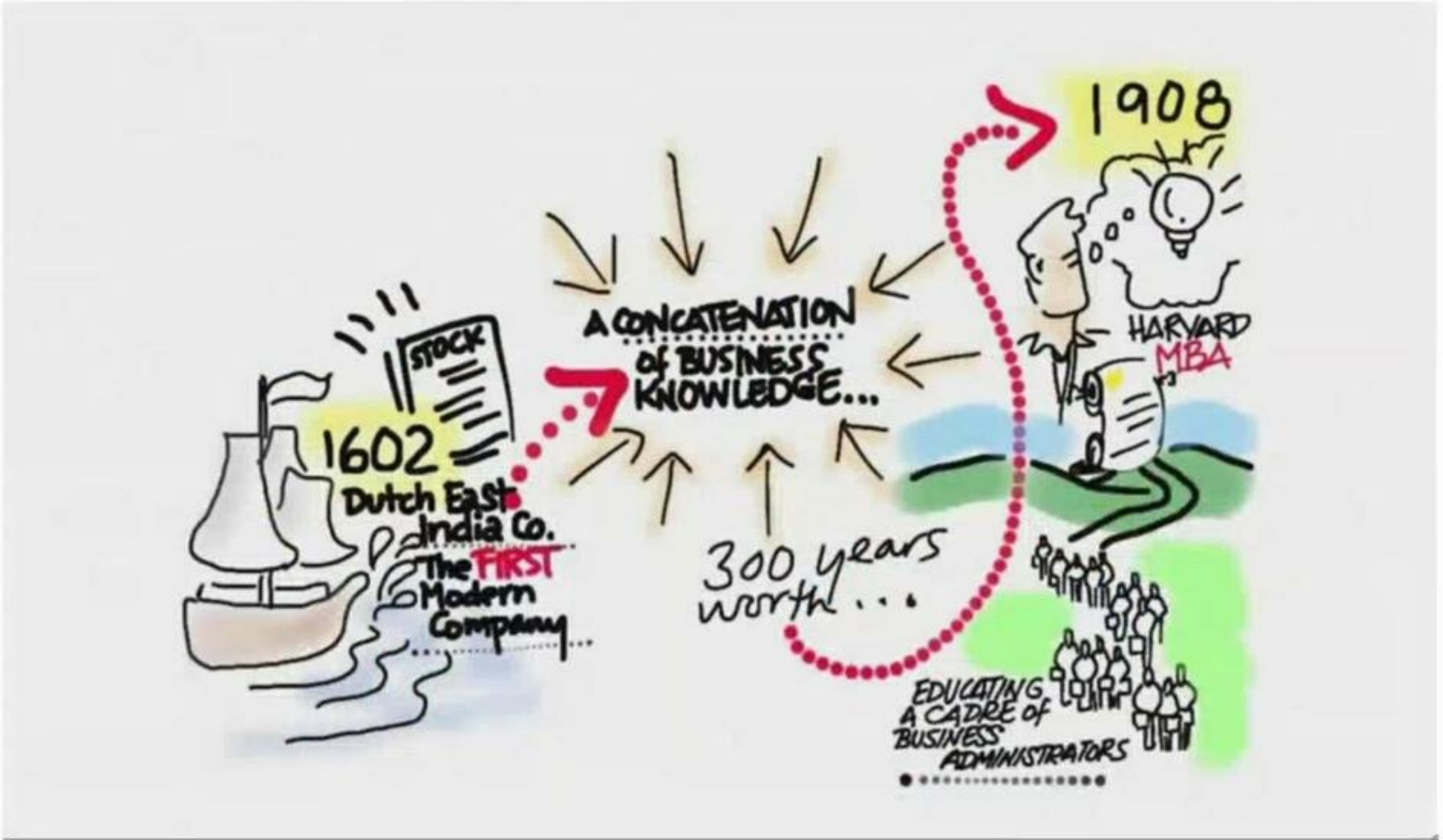
What is innovation ?

- **Innovation - the use of new technological or market knowledge to offer a new product or service that customers want**
 - **Innovation = invention + commercialisation**
- **Innovation - the adoption of ideas that are new to the adopting organisation**



Innovation is the successful implementation of new ideas

1st Modern Organisation



What is a Company ? Revenue and profit



WHAT'S A COMPANY?

A BUSINESS ORGANIZATION WHICH
SELLS A PRODUCT OR SERVICE IN
EXCHANGE FOR REVENUE + PROFIT

The Dream of the Founder

What are your dreams?



Examples

“ We want to sell our water quality equipment to 10,000 Europeans in 2018”



Examples

“ We want a world without rubbish”



- Change the world
- Become rich



Achievable
Measurable



The Business Idea

What do you offer?

Example



Business Models

How will you satisfy your customers?

Questions to help you reflect

- How will you recover the investment?
- How will you earn money?
- Who is benefited?
- Who pays?
- Who recommends your product/service?



What is a Business Model?

It is a summary of how a business will satisfy its **customers**...

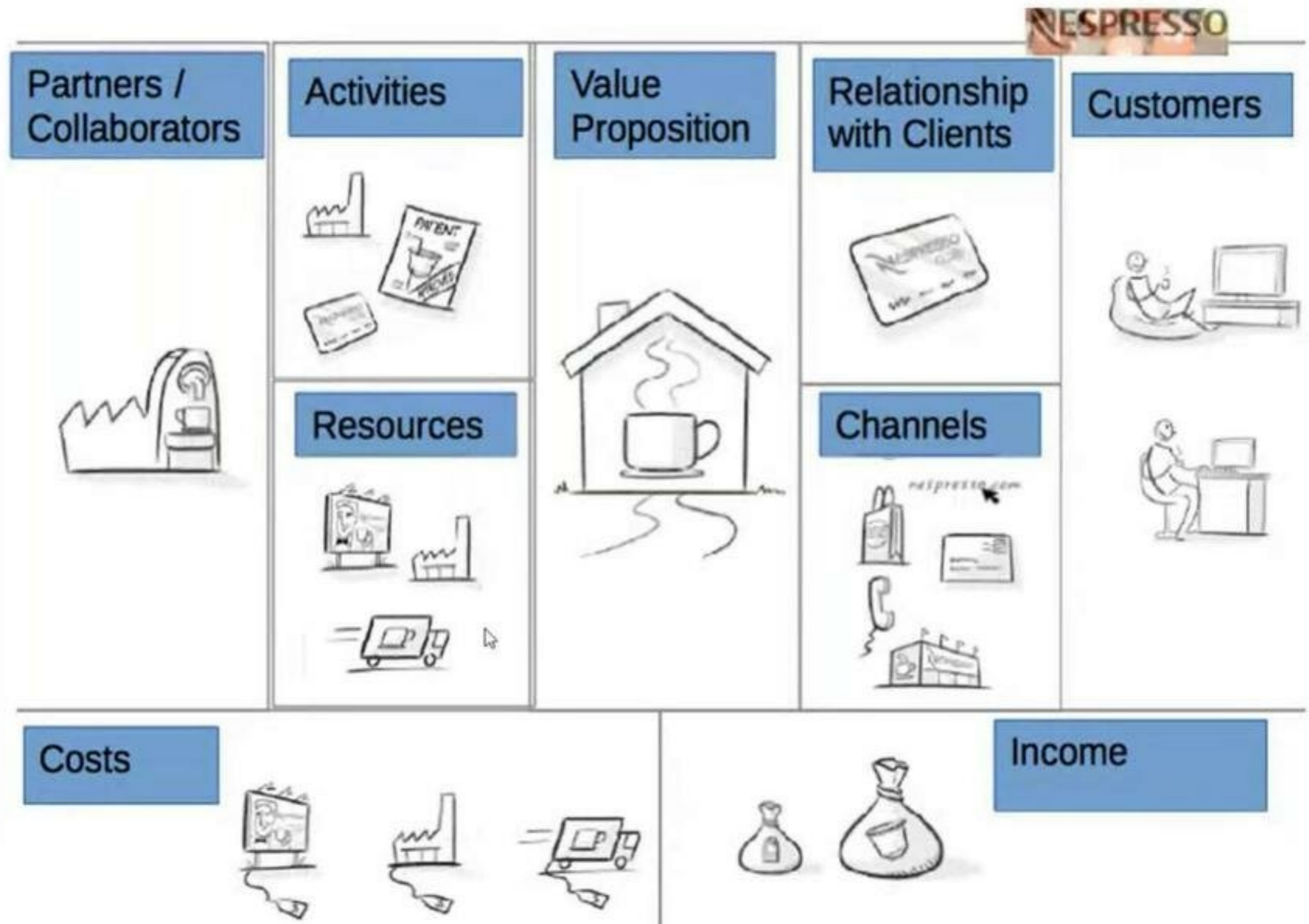
... or how it will generate income and benefits



How to design a Business Model

<u>Key Partners</u>	<u>Activities</u>	<u>Value Proposition</u>	<u>Customer Relationships</u>	<u>Customers</u>
	<u>Resources</u>		<u>Channels</u>	
<u>Costs</u>		<u>Income</u>		

Business Model. Example: NESPRESSO



Strategy – Business Plan



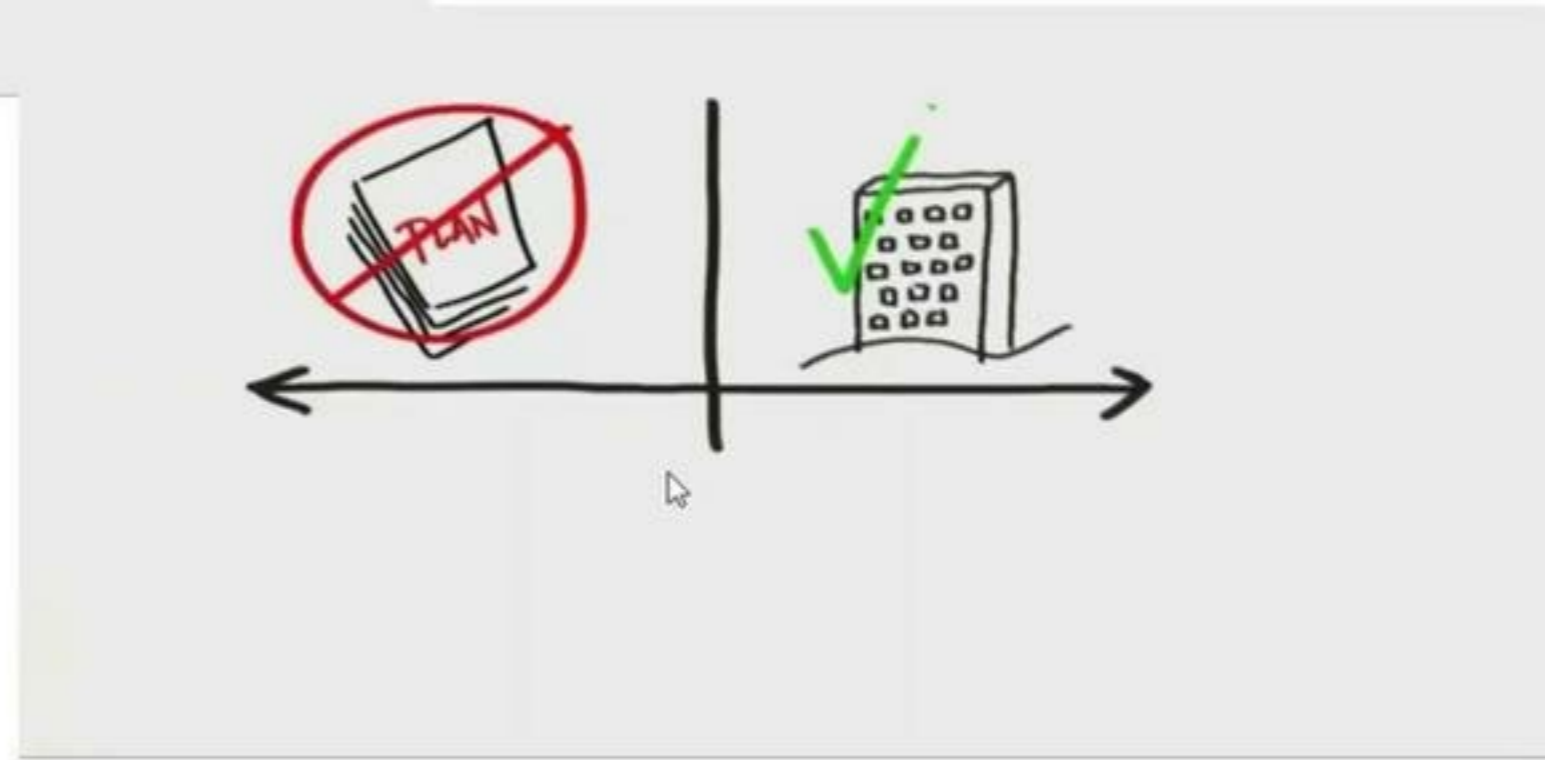
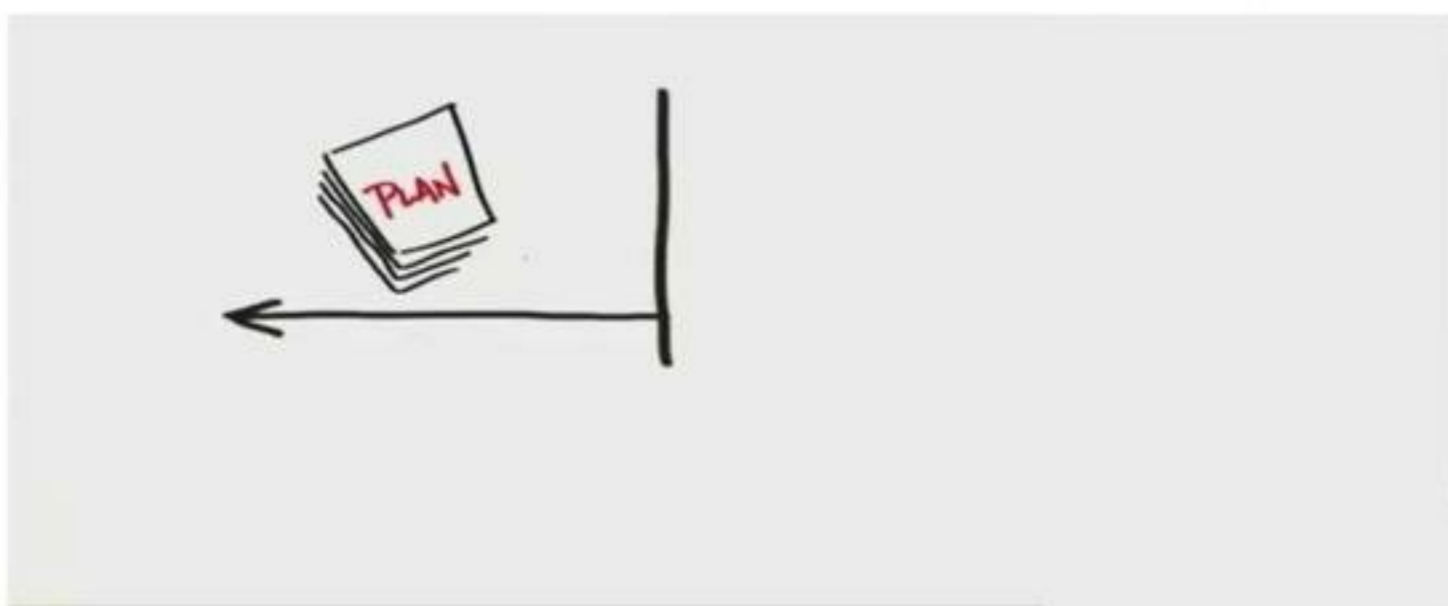
NO PLAN SURVIVES
FIRST CONTACT WITH
CUSTOMERS



Business Model Canvas



Business Plan



Strategy



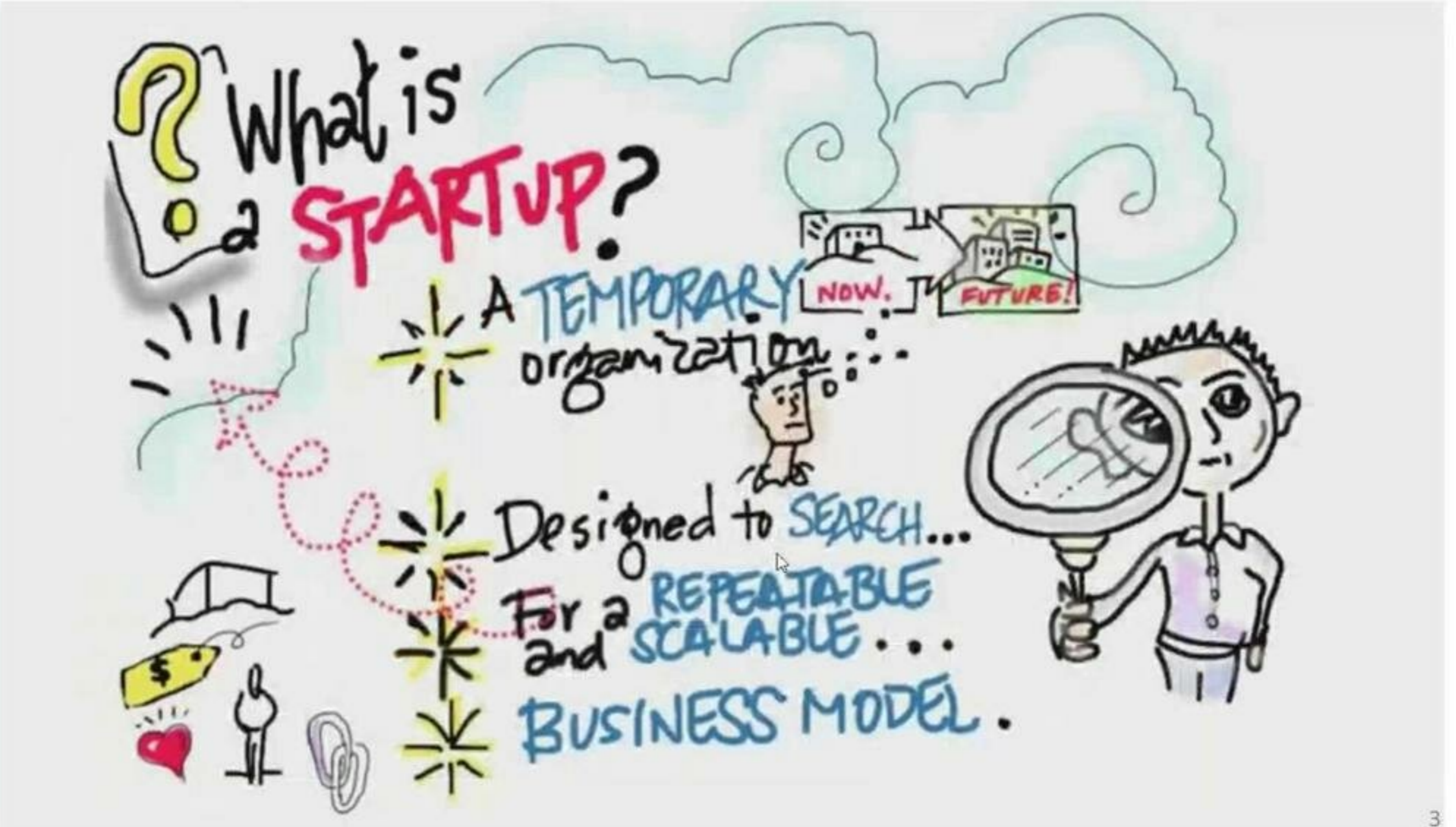
Question ?

- Are startups a smaller version of a Large Company ?
 - Start-ups ----- SEARCH (core of their time)
 - Large Companies ----- EXECUTE (core of their time)

What is a Startup ?



What is a Startup



What is a Startup?

*“A startup is a human institution designed to deliver a new product or service under conditions of **extreme uncertainty**”*

- Eric Ries -

Business vs. Startup

Cargo Ship



Large, slow and efficient

Optimized for carrying high number of containers over long distances

Research Ship



Small, agile and robust

Able to work in versatile environments and under conditions of uncertainty

Definition of a Business Model

A business model describes the rationale of how an organization creates, delivers, and captures value.

What is Business Model Canvas (BMC)?

Business Model Canvas (BMC) helps you to map, discuss, design and invent new business models.

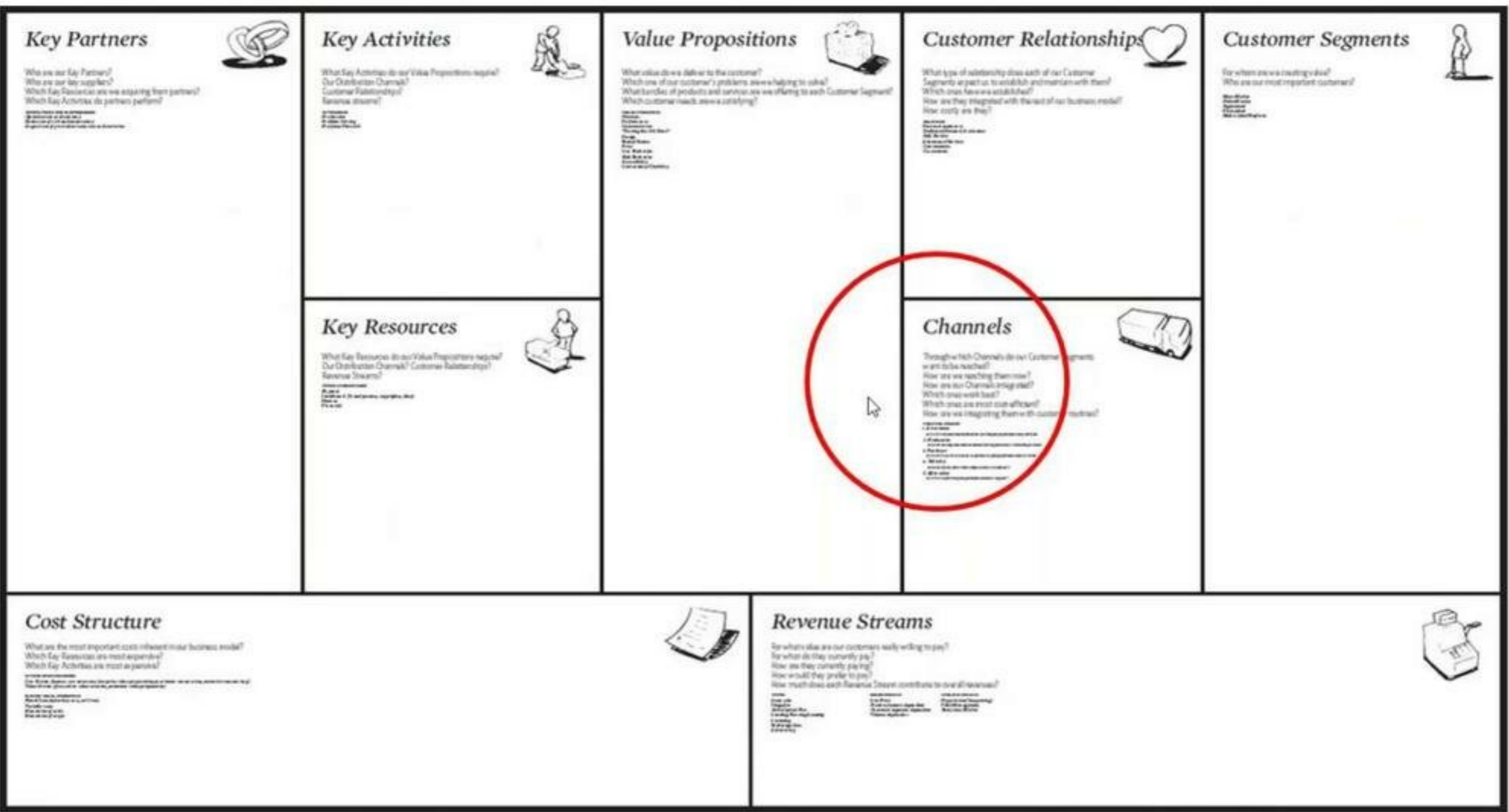
- Business Model Canvas:
 - Is a helpful tool to plan, build, develop, test, review and finetune your business model
 - Enables to quickly grasp all key elements of your business model and present them to the investors, partners and other important stakeholders
 - Works as a visual chart of the key elements of the business operations
- In action business model canvas can work as a hands-on tool that stimulates discussion, creativity and analysis

***Business
Model Canvas:***
How a company
creates value for itself
while delivering
products or services for
customers.

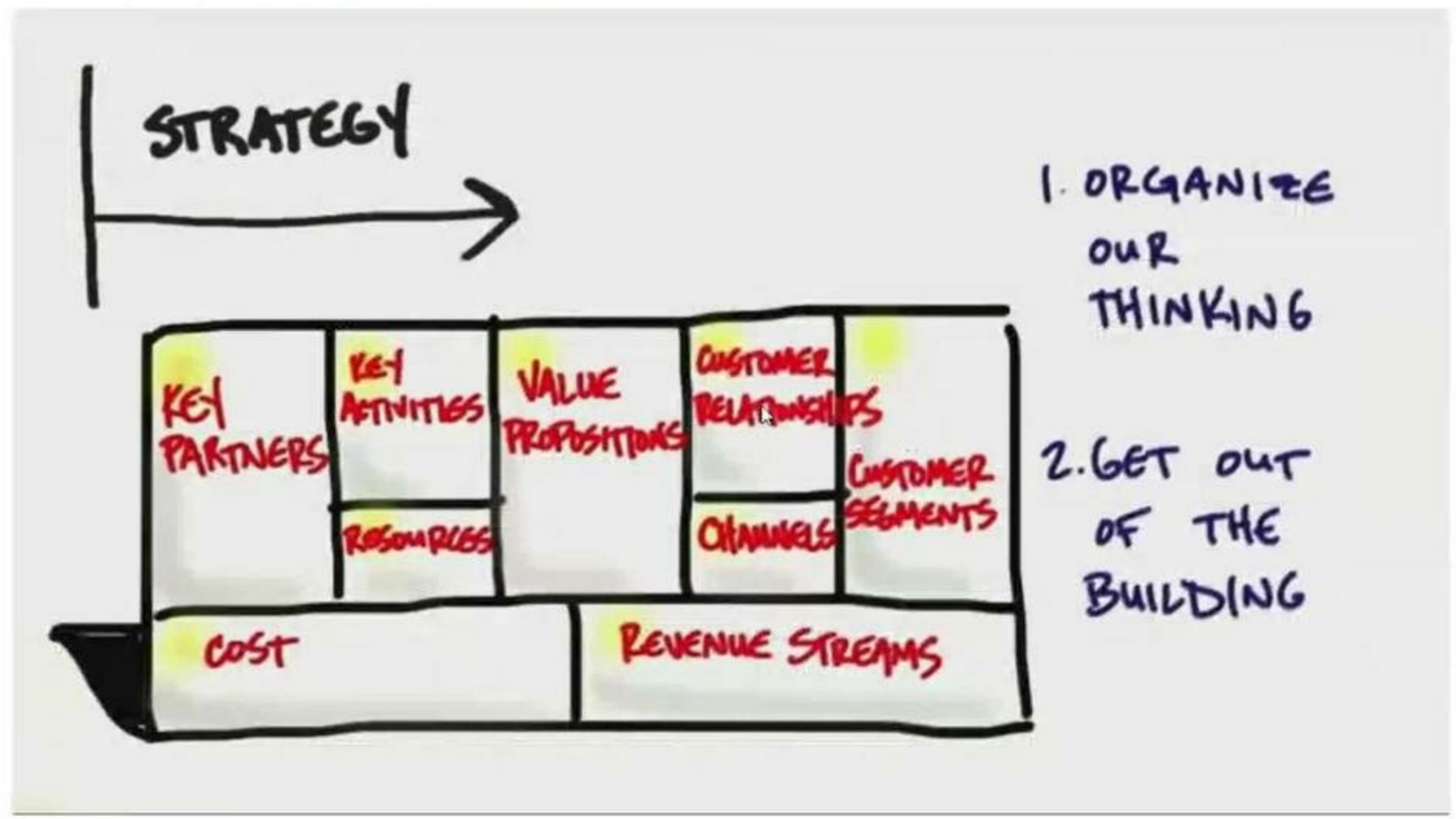
***Osterwalder ja Pigneur
(2010) comprise their
standardised Business
model of 9 building blocks:***

1. Value proposition
2. Customer segments
3. Channels
4. Customer relationships
5. Key activities
6. Key resources
7. Key partners
8. Cost structure, and
9. Revenue streams.

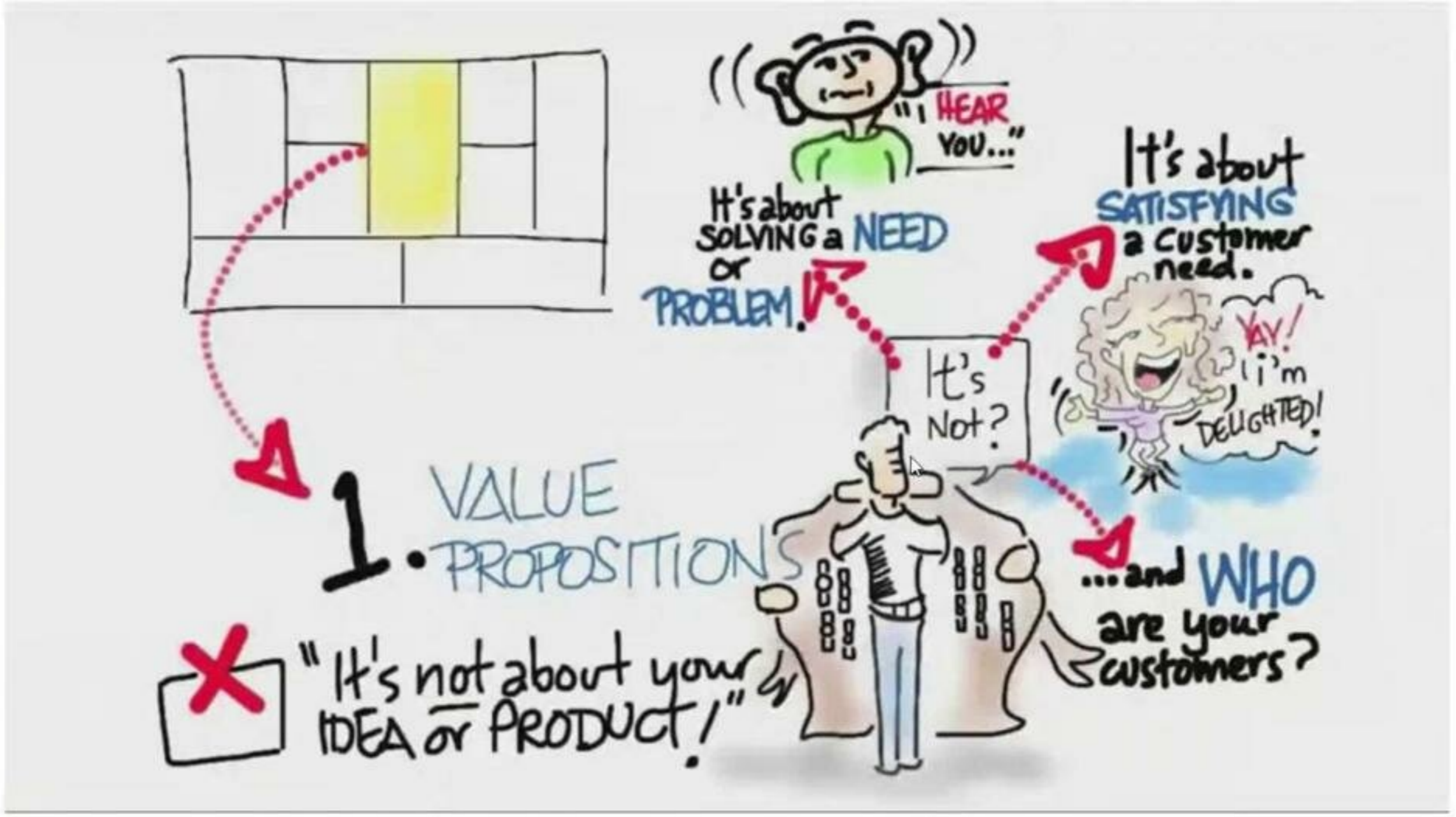
The nine blocks of BMC



Business Model Canvas



1. Value proposition - what are you Building and for WHO ?

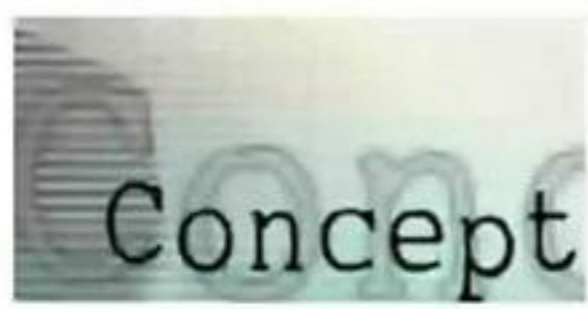




The **Value Proposition** defines the company to the customer.

The value proposition is the reason why customers turn to one company over another.

It solves customer problem or satisfies a customer need.

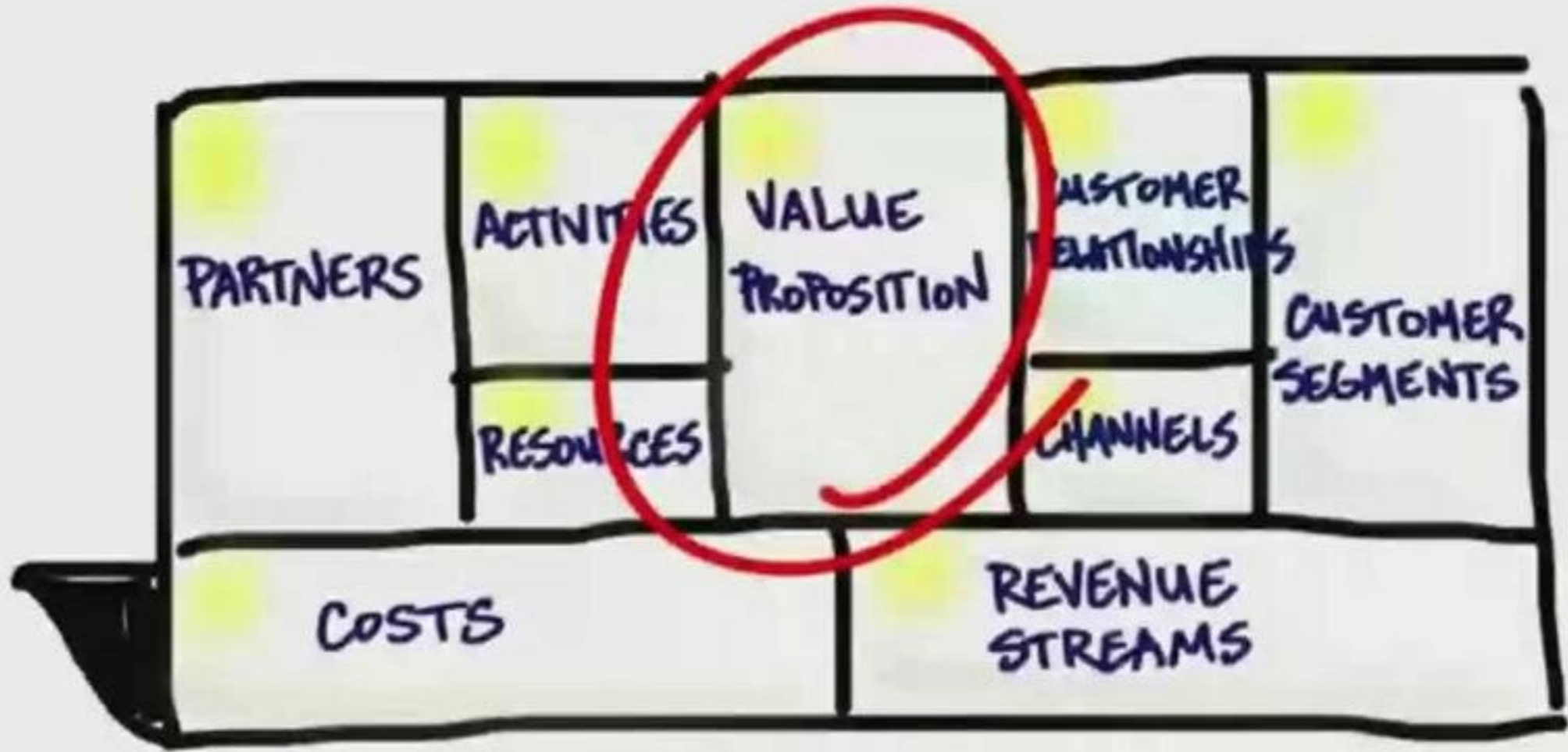


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It solves customer problem or satisfies a customer need.

Business Canvas



What product or service are you building,
for who, and what does it solve?

Define your Unique Value Proposition

UNIQUE VALUE PROPOSITION

Single, clear, compelling message that states why you are different and worth paying attention.



The Unique Value Proposition is a clear message that describes the advantages of your offer, what makes you different and distinguishes you from the competition.

EF → Who creates value with your solution? Who benefits from this value? Is it sustainable?

D → How does your solution delivers value? How can you protect it form competitors?

Problem vs. Need

WHAT ABOUT MY TECHNOLOGY?

Customers don't care about your technology

They are trying to solve:

PROBLEM

Accounting
Word Processing

NEED

Entertainment
Communication

2. Customer Segments



Guidelines to be followed

1. Who is the customer?
2. What is the "customer pain"?
3. What is the solution (the product of the start-up)?
4. Does it relieve the "pain" totally or partially? (Does it satisfy the need completely?)
5. Is the product of the start-up better than the current solution?
6. Why? Key aspects (value, what are its advantages?)

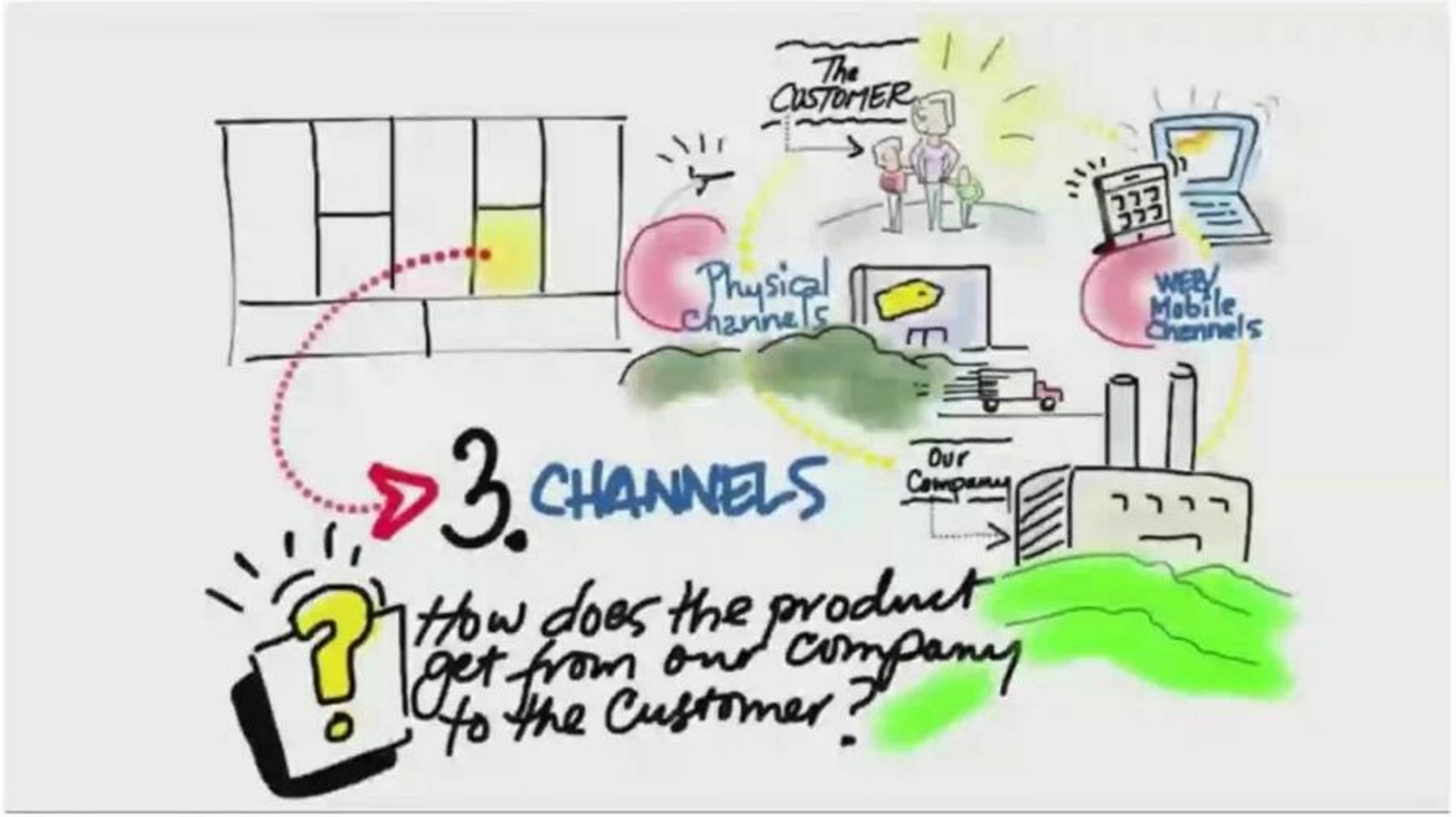
Think about the Channels



What are the channels you want to use to reach your customer? Define inbound channels that lead customers to your offer like SEO, white papers, blogs, social media – and outbound channels like ads, calls, fairs and conventions. **BE CREATIVE!**

D → Who are the key players/technologies to reach your customers? How do you engage with them/it?

3. Channels (physical – virtual)



Channels – Virtual / Physical



4. Customer relationships



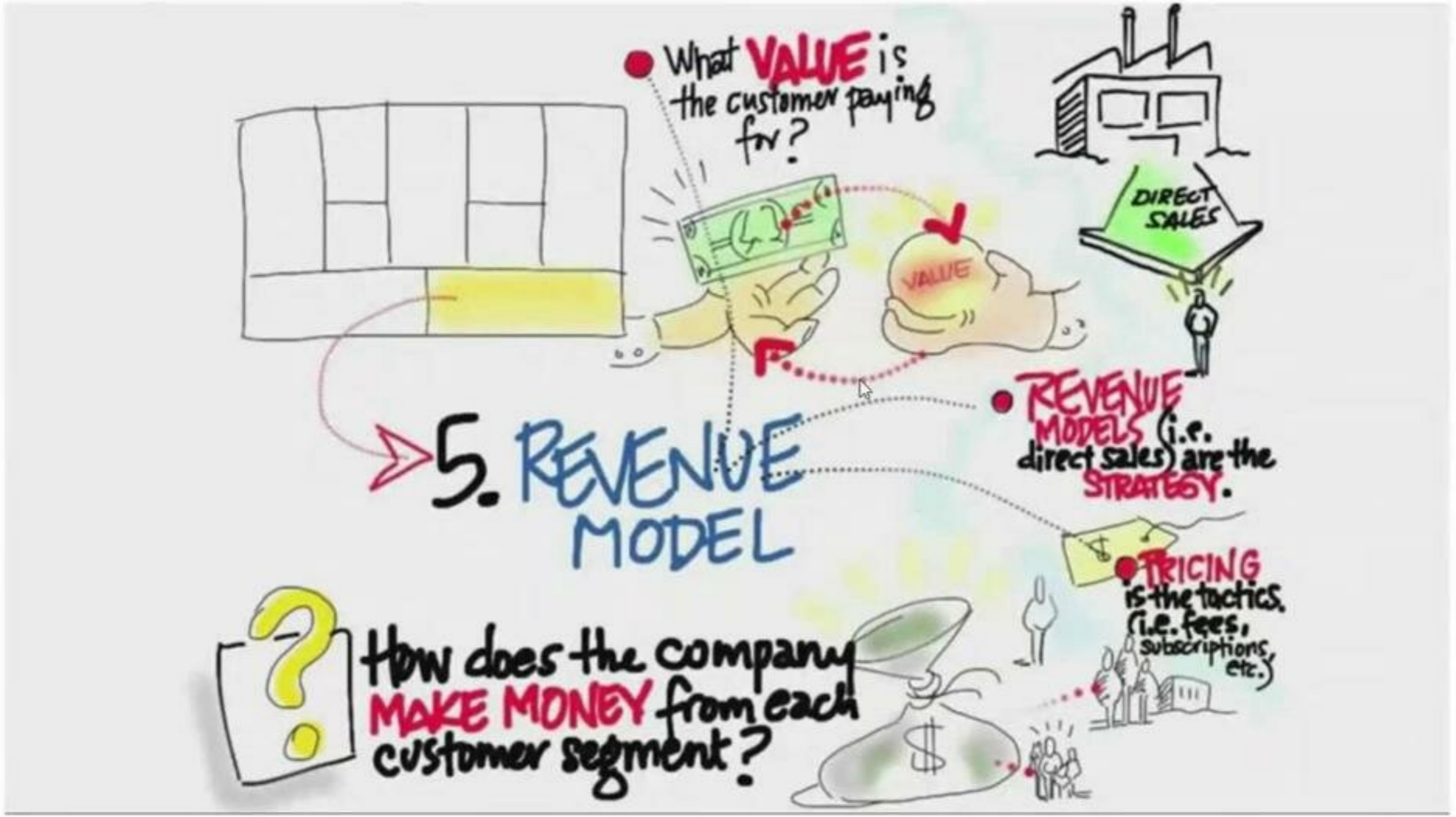
Customer archetypes (persona)

CUSTOMER ARCHETYPES DRIVE
GET-KEEP-GROW

- What's their role?
- Who are they?
- How do they buy?
- What matters?



5. Revenue Model



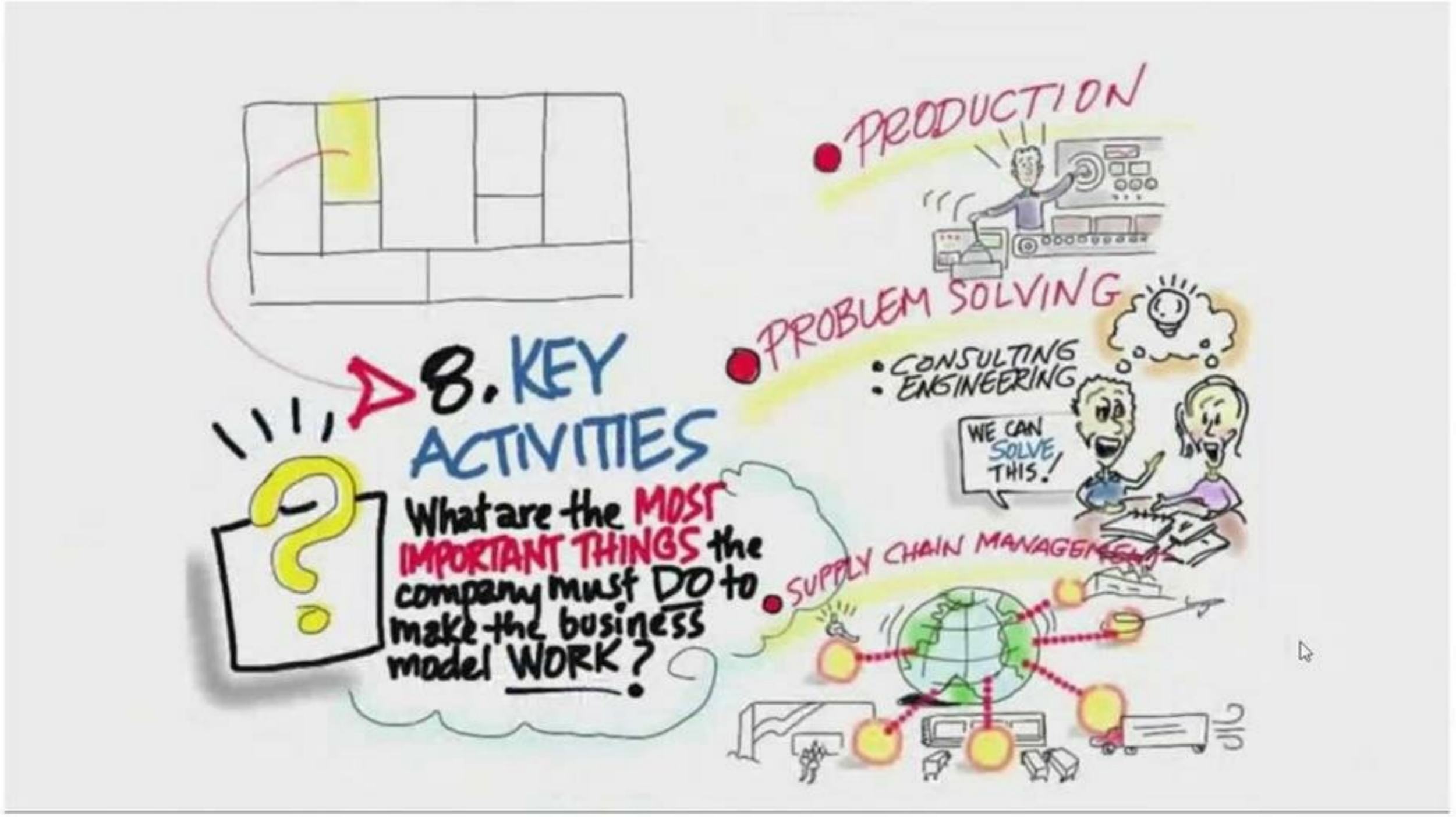
6. Key Resources



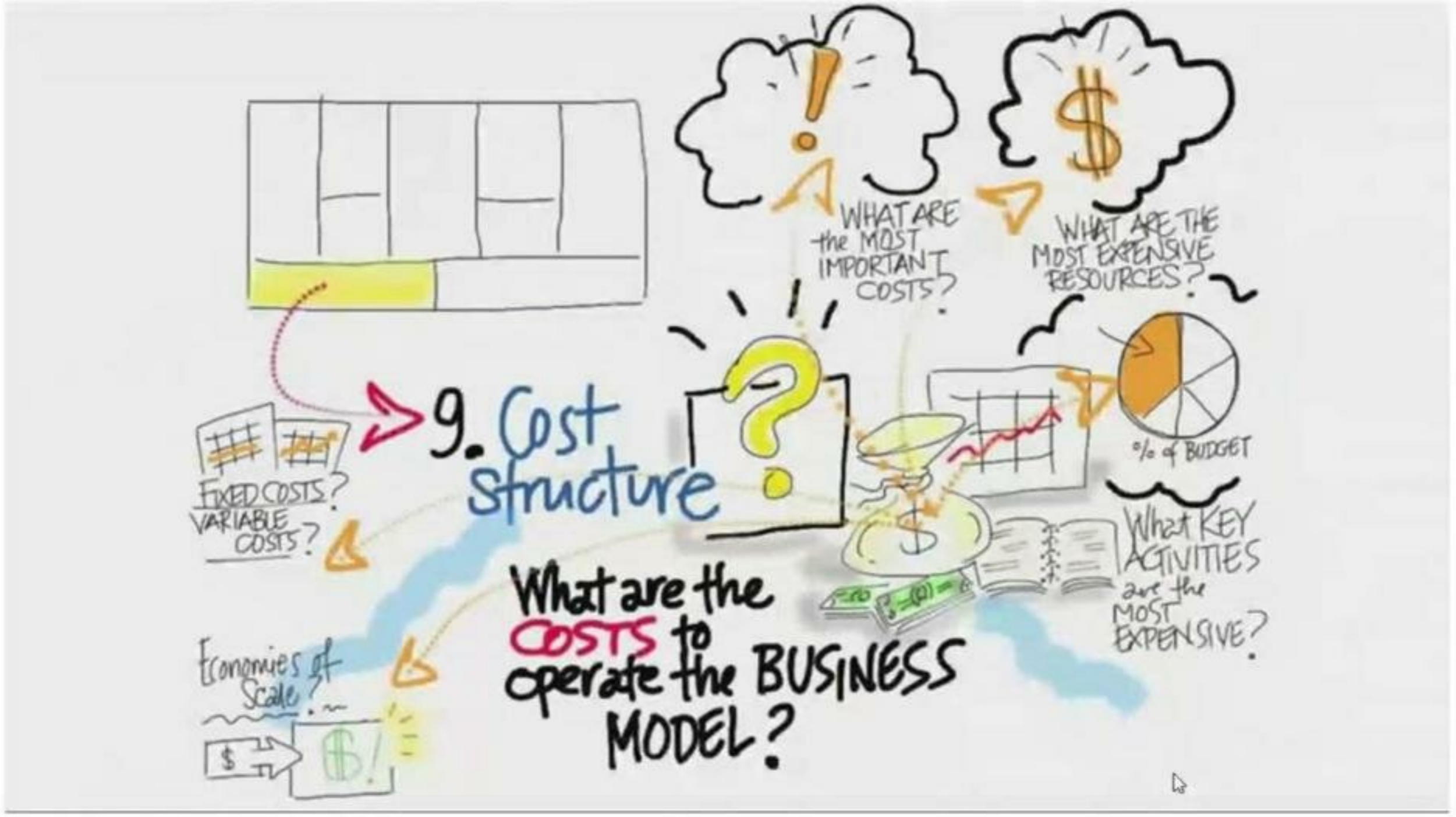
7. Key Partners and Suppliers



8. Key Activities



9. Cost Structure



Costs

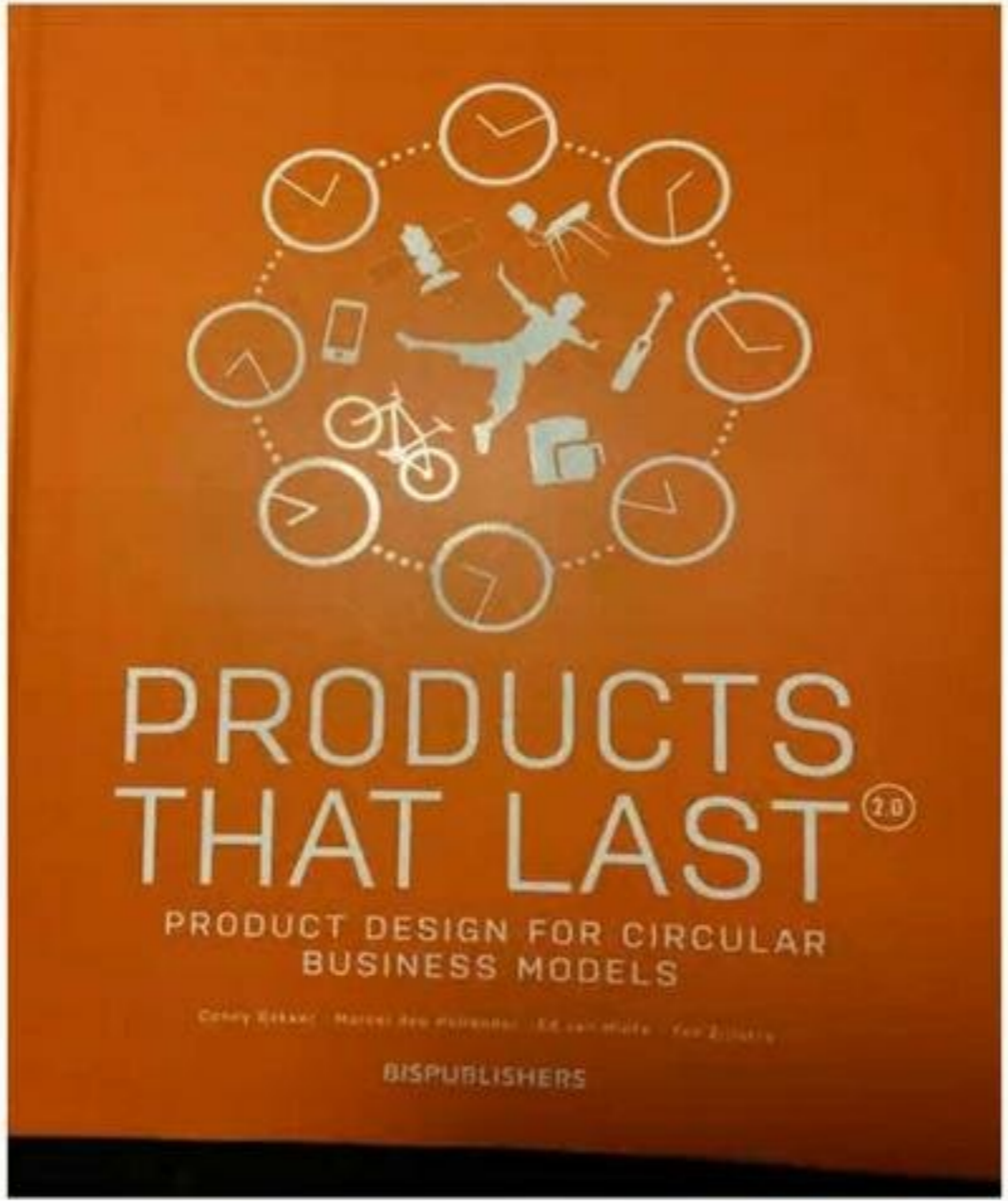
COST STRUCTURE
List your fixed and variable costs



List the most important costs for your offer.
This might influence the pricing.

How are costs defined in your solution? Do you also incorporate social and environmental costs? How do they interact with economic costs?

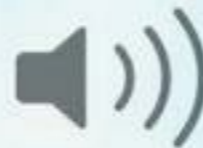
How modular / scalable is your solution in terms of costs? Is the investment required too specific? How are your costs related to the expected obsolescence of the technology employed?



Circular Business

A Deep dive into organisational, legal & financial aspects of circular business

December 6th 2020
Aglaia Fischer
Project manager @ Circle Economy
& PhD Candidate WUR BMO



|| app.gotomeeting.com deelt je scherm.

Delen stoppen

Verbergen

Circular Business

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Deien stoppen

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Circular Business

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ABOUT CIRCLE ECONOMY



LIFE

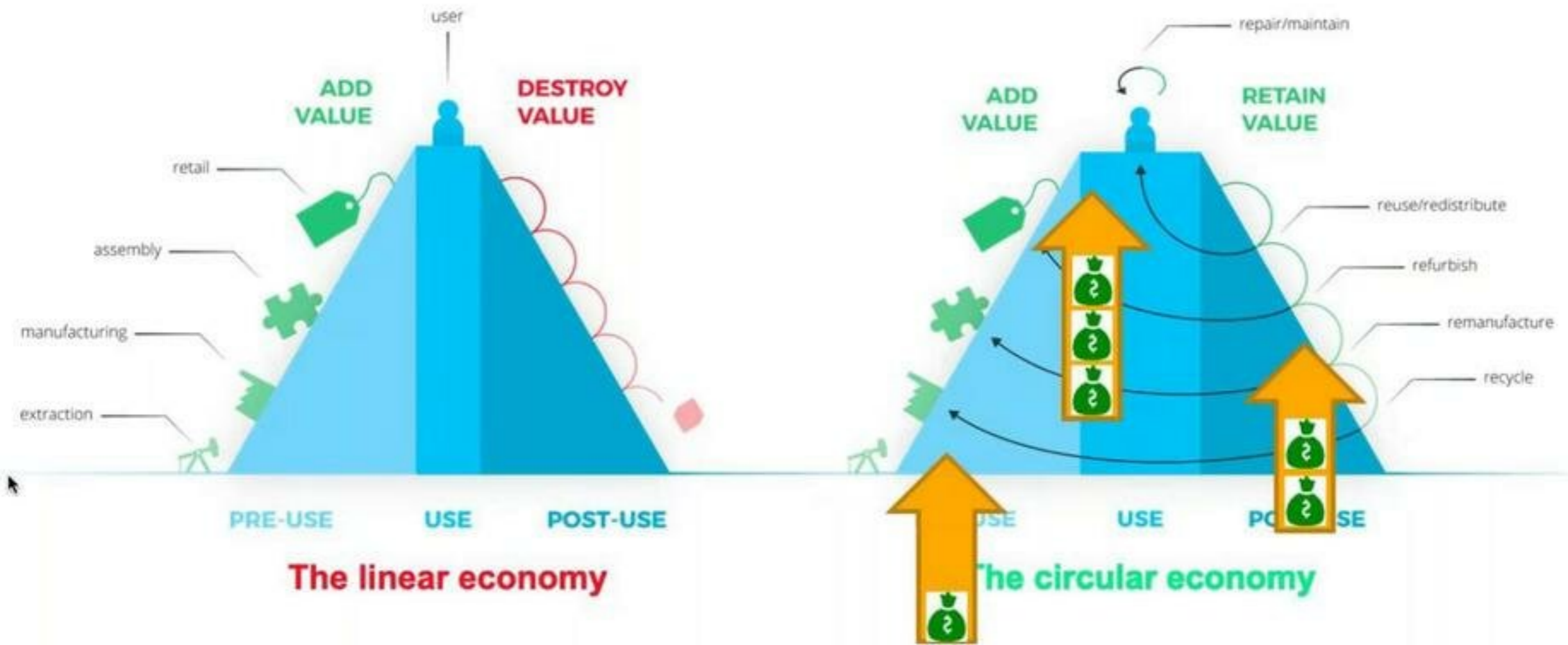
LIFE

OUR MISSION IS TO ACCELERATE THE PRACTICAL AND SCALABLE IMPLEMENTATION OF THE CIRCULAR ECONOMY

AGENDA

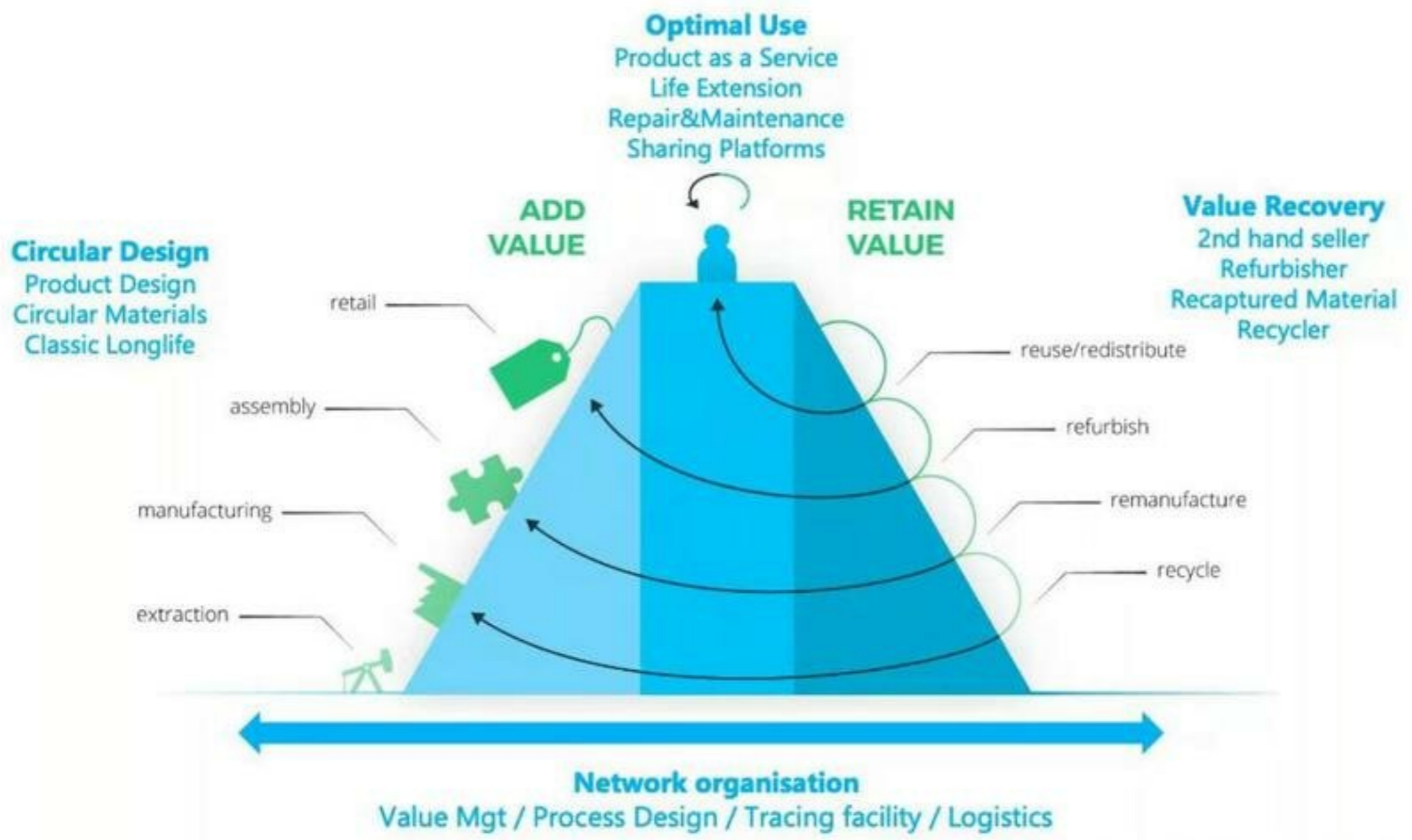
1. Circular economy – a business rationale
2. Three cases
 1. Fairphone-as-a-Service
 2. Facades-as-a-Service
 3. Valorising residual resources
3. External costs and benefits
4. Discussion

CE BUSINESS RATIONALE - THE VALUE HILL



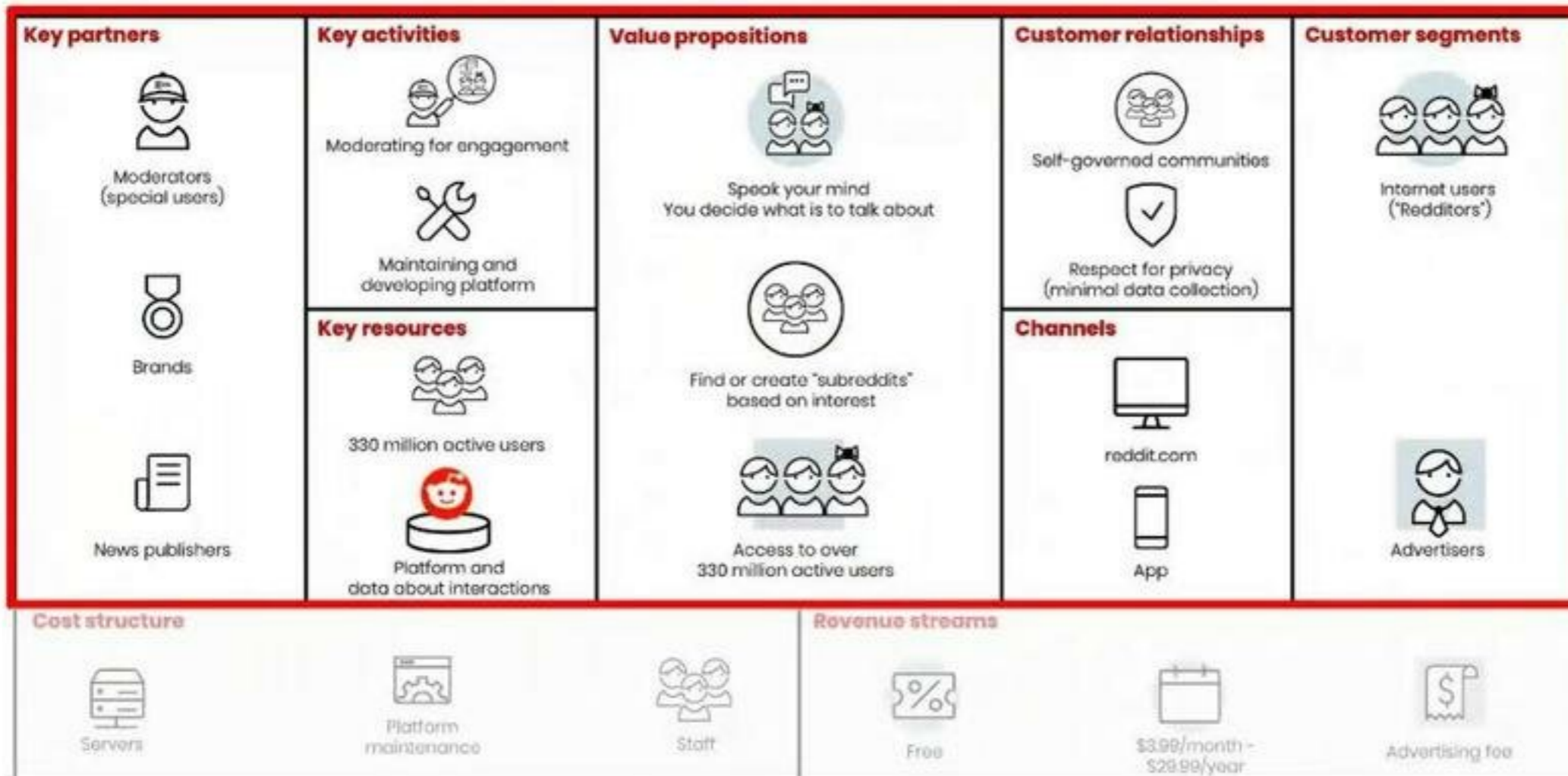
The Value Hill. Adapted from Achterberg, Hinfelaar & Bocken. (2016)

THE VALUE HILL: 4 CATEGORIES OF CIRCULAR STRATEGIES



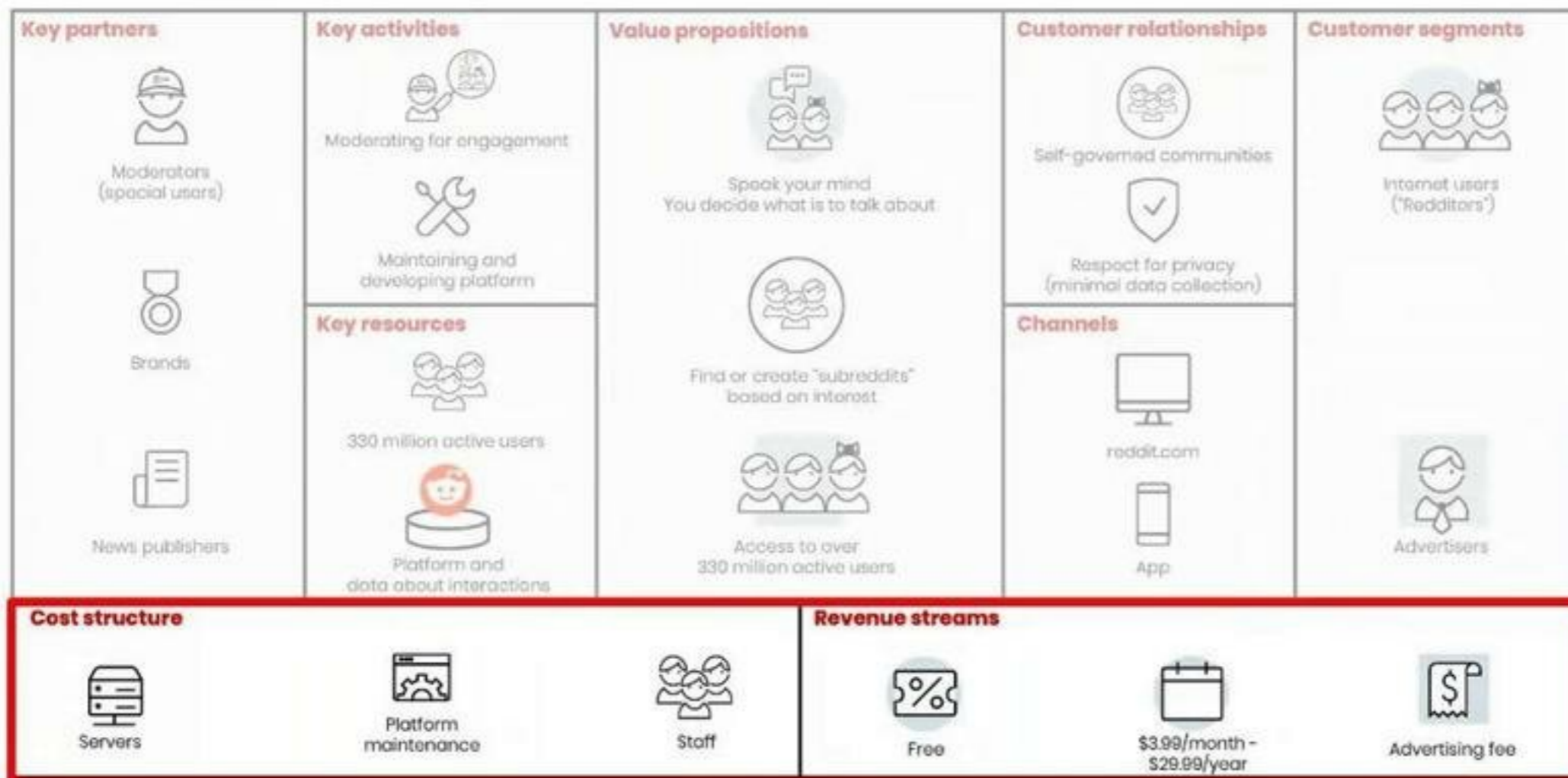
The Value Hill. Adapted from Achterberg, et al. (2016)

BUSINESS MODEL VERSUS REVENUE MODEL



Business model:
Description on how to create, deliver and maintain value

BUSINESS MODEL VERSUS REVENUE MODEL



Revenue model:
Description of the costs and revenue part of a business model

THREE CASES

Case 1- Fairphone-as-a-Service

Goal: To create a financially viable FaaS business case.

Specs of the business case

- Modular design
- Self repair
- (Reverse) logistics for modules
- Software updates > 5 year
- Social aspects: Sourcing conflict-free materials (Congo) & worker welfare fund (China)
- Intended launching customer = institutional investor
- Community of Practice (precompetitive environment)
- Format – workshops and deep dives (6 months)
- Circular Service Contract template (Allen & Overy)



Findings

- Modularity is key (Value chain collaboration & coordination, granular asset management, asset tracking)
- Power of the contract (from selling assets to generating cash flows with an asset, arranged in a contract)
- Balance sheet extension (assets no longer sold – does not fit in current financial KPIs)

THE CIRCULAR PHONE

Legal, operational and financial solutions to unlock the potential of the 'Fairphone-as-a-Service' model



With the support of the Community of Practice:

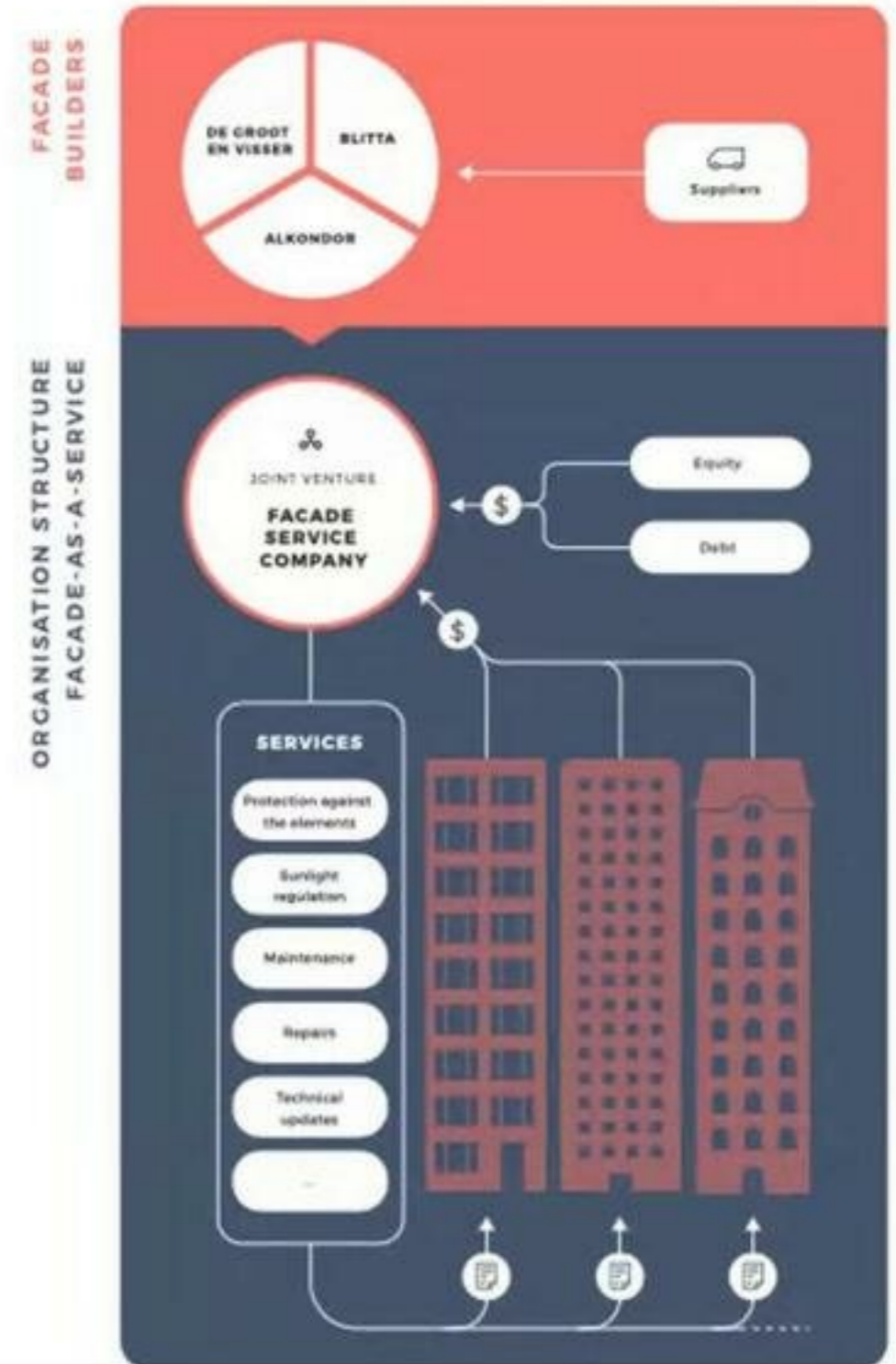


Case 2 – Facades-as-a-Service

Goal: To enable a financeable FaaS pilot

Specs of the business case

- Collaboration of 3 facade builders
- Joint Venture for Facades-as-a-Service
- Modular design facades + upgradeability
- Technology integration (sun protection, climate control)
- Pilot project: Tower J @ Bajeskwartier Amsterdam
- Contract templates by Allen & Overy



Findings

- Built Environment → accession (object becomes part of building)
- Right of superficies (+ establish right of mortgage) *versus* combining rental and service agreement (bypasses the accession issue)
- Risk models not able to make adequate calculations for rental and service agreement
- Balance sheet growth & financial ratios interpretations remains issue
- Lack of (mature) markets → challenge of valuing secondary and residual resources

THE CIRCULAR FACADE

Building a sustainable financial reality with
Facades-as-a-Service



INVESTNL



A white paper of Coalition Circular Accounting

Case 3 – Valorising residual resources

Goal: Adequately valorise residual resources

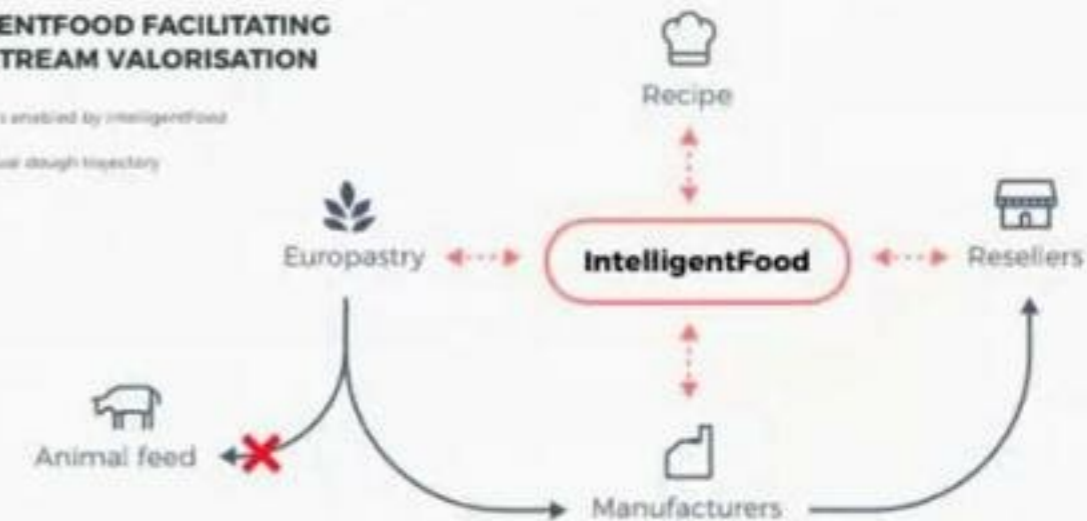
Specs of the business case

- IntelligentFood = start up with aim to 'reduce food waste'
- IntelligentFood is a platform for creating innovative food products from residual food resources (e.g. trimming edges, by-products)
- Cooperative with membership platform 'Agnes'. All members have current account balance, profit is distributed accordingly
- Example case = making cookies from residual dough
- Value of the residual dough was unclear

INTELLIGENTFOOD FACILITATING WASTE STREAM VALORISATION

---> actors enabled by intelligentFood

→ residual dough trajectory



Findings

- Cooperatives good organisation structure for cooperation and aligning incentives (vertical integration)
- Valuing dough: market value versus contingent asset
 - Market value = low, but can be accounted for on balance sheet
 - Contingent asset = can turn out high, but cannot be accounted for on the balance sheet (only in the notes)
- What gets valued gets managed
 - Need to rethink accounting standards
 - Need for impact measurement & integrated reporting

VALORISING RESIDUAL RESOURCES

Mitigating food waste - how cooperatives can boost the circular economy



INVESTNL



A white paper of Coalition Circular Accounting

EXTERNAL COSTS AND BENEFITS

COSTS (LINEAR)

- CO2 emissions
- Resource depletion
- Pollution (toxic substances)
- Health hazards (endocrine disruptors, carcinogens etc)

Think about: 'Linear risk' (stranded assets)

BENEFITS (CIRCULAR)

- Mitigate climate change (lower CO2 levels)
- Ecosystem services
- Enhancing biodiversity
- Social benefits

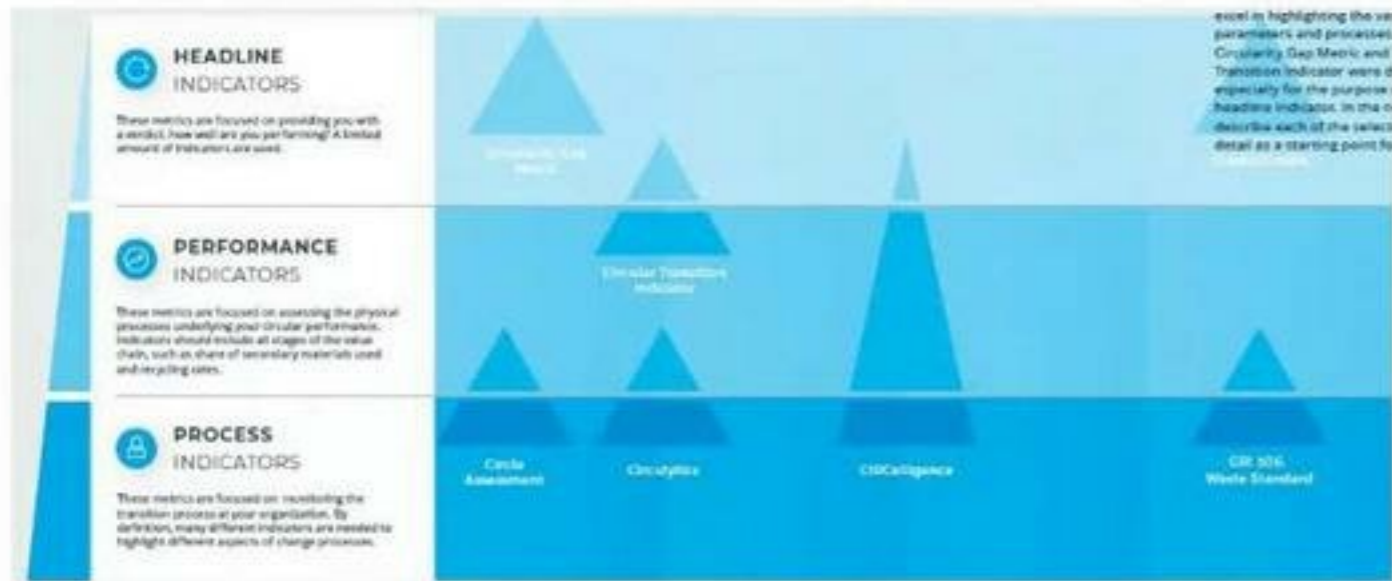
Think about: How to take these into account?



CIRCULAR METRICS

A **metric** is a method we employ to understand change over time across a number of dimensions.

- Currently multiple metrics under development
- The *landscape of circular metrics*



<https://www.circle-economy.com/resources/circular-metrics-for-business>

- Circular Transition Indicators (WBCSD & KPMG) provide a promising metric

<https://www.wbcsd.org/Programs/Circular-Economy/Factor-10/Metrics-Measurement/Resources/Circular-Transition-Indicators-V1.0-Metrics-for-business-by-business>

October 2020

CIRCULAR METRICS FOR BUSINESS

Finding opportunities in the circular economy



Conclusion & Discussion

- Circular thinking → from assets fold to services and contracts
- New value propositions, around re-use, re-furbishing, re-cycling, value chain collaboration, Product-as-a-Service
- CE takes into account the long term
- Lack of track record & lack of contracts → transition costs (and free rider effects)
- Need for rethinking financial KPIs (solvency, liquidity, profitability)
- What gets valued, gets managed – Need for circular metrics, impact measurement & financial reporting for the circular economy

The current financial accounting conventions and standards are not able to reflect the added sustainability and societal value of circular businesses.

(key take away of CCA report in press)

THANK YOU

aglaia.fischer@wur.nl
aglaia@circle-economy.com

- 1 Financial Planning for Start ups
- 2 What is a Startup? A business idea that is being developed into a business model.
- 3 3 Issues
- 4 Overall Financial Attractiveness of the Venture
- 5 Financial attractiveness of the venture



Financial Planning for Start ups



Violeta Sfouri

Academic Director, PG Programmes,
Department of Business Administration
& Economics

Κάντε κλικ για να προσθέσετε σημειώσεις



Financial Planning for Start ups

Violeta Sfouri

Academic Director, PG Programmes,
Department of Business Administration
& Economics

Financial Planning for Startups [Λειτουργία συμβατότητας] - PowerPoint



The
University
Of
Sheffield.

International Faculty
CITY College.



Financial Planning for Start ups



Violeta Sfouri

**Academic Director, PG Programmes,
Department of Business Administration
& Economics**

? What is a **STARTUP?**

A **TEMPORARY** organization...



Designed to **SEARCH...**
For a **REPEATABLE**
and **SCALABLE...**
BUSINESS MODEL.



Overall Financial Attractiveness of the Venture



- The amount of capital invested
- The ROI timeframe
- The risks
- The alternatives for investing (opportunity cost)
- The alternatives for your time and effort

Financial attractiveness of the venture



7

Financial attractiveness of the venture

- Steady and rapid growth in sales during the first 5 to 7 years in a clearly defined market niche.
- High percentage of recurring revenue—meaning that once a firm wins a client, the client will provide recurring sources of revenue.
- Ability to forecast income and expenses with a reasonable degree of certainty.
- Internally generated funds to finance and sustain growth.
- Availability of an exit opportunity for investors to convert equity to cash.

Many Challenges



Financial Objectives of a Firm

- Profitability

- Is the ability to earn a profit.

- Many start-ups are not profitable during their first one to three years.
 - However, a firm must become profitable to remain viable and provide a return to its owners.

- Liquidity

- Is a company's ability to meet its short-term financial obligations.

- Even if a firm is profitable, it is often a challenge to keep enough money in the bank to meet its routine obligations in a timely manner.

Critical questions

Financial Challenges of Start-ups



Financial Challenges of Start-ups

- Lack of history to assess risk
- Lack of (industry) benchmark
- Lack of short-term profit potential
- Lack of liquidity
- Lack of financial credibility
- Potential misallocation of financial sources!!!!
- Operational lock-in

Critical questions

- How much initial capital is needed?
- Sufficient capital is required to support the company until it turns profitable ?
- How long can the new business endure initial losses?
- How long will it take to make the business profitable?
- What kind of profit margin will eventually result from the product or service?
- What resources are available for financial support?
- How can the revenue and financial model be presented to investors for their involvement in the business?

Budgeted (Proforma) Financial Statements

A well-developed set of pro forma financial statements helps a firm create realistic budgets, build financial plans, and manage its finances **in a proactive rather than a reactive manner.**

Should be closely aligned with the business model.

Back and forth between financial plan and business model canvas.

Table: Start-up capital requirements

Start-up Expenses

Expense 1	\$0
Expense 2	\$0
Expense 3	\$0
Expense 4	\$0
Expense 5	\$0
Expense 6	\$0
Total Start-up Expenses	\$0

Start-up Assets

Cash	\$0
Other Current Assets (Inventory)	\$0
Long-term Assets	\$0
Total Assets	\$0
Total Capital Requirements	\$0

Balance Sheet

- WC Position
- Capital Asset Position
- Capital Structure (Sources of Capital)

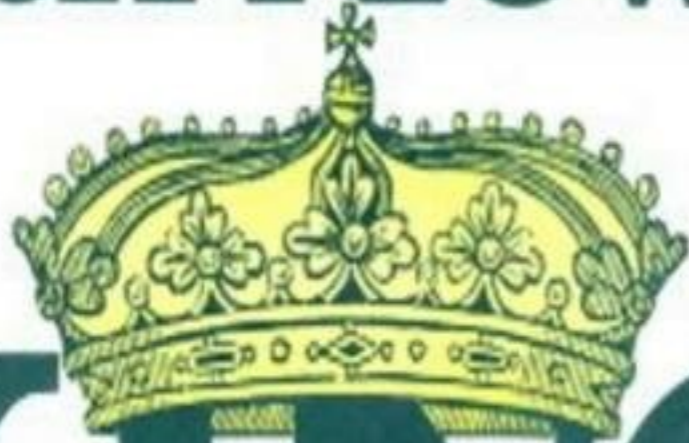
Pro Forma Balance Sheet:

Current Assets		Current Liabilities
Fixed Assets		Long-term Debt
<u>Intangible Assets</u>		<u>Equity</u>
Total Assets	=	T. Liabilities + Equity

The Balance Sheet

Non-cash Assets from Start-up table	\$0
Cash Requirements from Start-up table	
Additional Cash ?????	\$0
A/ Receivable	
Total Assets	\$0
Liabilities and Partners' Capital	
Liabilities	
Current Borrowing	\$0
Trade Payables	\$0
Other Current Liabilities	\$0
Long-term Liabilities (unlikely!!!)	
Total Liabilities	\$0
Partners' Equity	
Additional Investment Requirement	\$0
Total Equity	\$0
Total Liabilities & Part. Capital	\$0

CASH FLOW IS



KING

COMPLIMENTS OF LEASING NEWS, INC.





BASED ON ANALYSIS OF 101 STARTUP POSTMORTEMS

Top 20 Reasons Startups Fail

NO MARKET NEED



42%

RAN OUT OF CASH



29%

NOT THE RIGHT TEAM



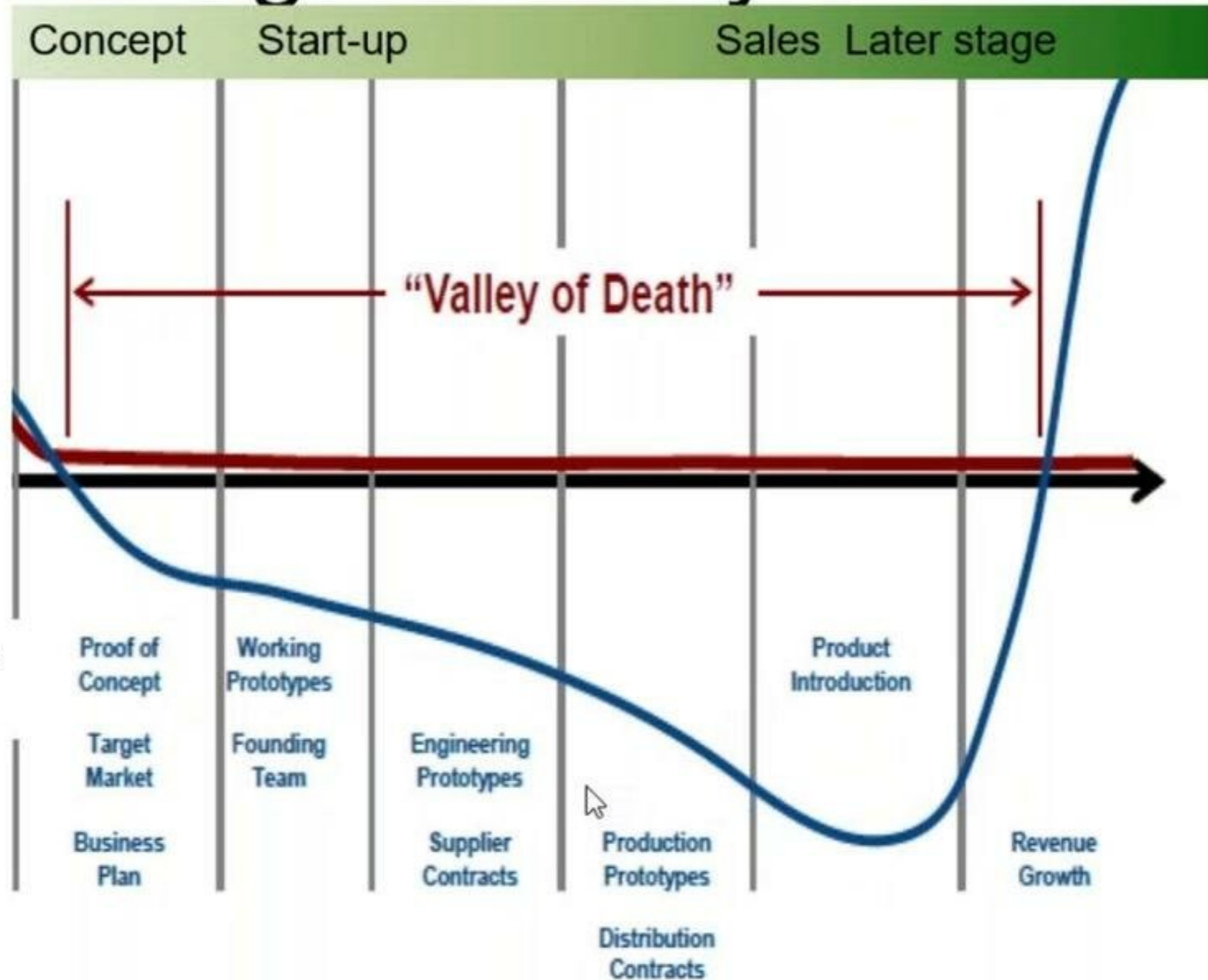
23%

339 Startup Failure Post-Mortems

<https://www.cbinsights.com/research/startup-failure-post-mortem/>



Surviving the valley of death



Stage of venture development

Managing the cash in a start up

Bootstrapping Methods

Buying used instead of new equipment.

Coordinate purchases with other businesses.

Leasing equipment instead of buying.

Obtaining payments in advance from customers.

Minimizing personal expenses.

Avoiding unnecessary Expenses.

Buying items cheaply but prudently via options such as eBay.

Sharing office space or employees with other Businesses.

Hiring interns.

Managing the cash in a start up

- Cash is always tight in the start up phase
 - Initial start up capital is limited so rarely have lots of surplus cash
 - Launch delayed
 - Unexpected costs
 - Suppliers won't give credit
- How can the cash be stretched out
 - Defer salaries – founders work for free
 - Try and get things for free – use your network
 - Credit from suppliers
 - Find a way of generating revenue quickly – proof of concept, test customers, discounts for early adoption or early payment.

Prepare a Forecast of Cash Flow

- Month to month projection of receipts and disbursements(payments) activity.
- 1. Receipts from Sales. The detail from sales, the payment terms the company extends its customers, and the company's collection history
- 2. Other Receipts. Other receipts include bank loans, equity investments, tax refunds or any other inflows of cash
- 3. Disbursements from Expenses. The detail from expenses and the payment terms.
- (Excl. Depreciation)
- 4. Other Disbursements. This includes capital equipment acquisitions and payment of debt.
-

Cash receipts	\$0	
Cash receipts from sales	\$0	
Other cash receipts	\$0	
Total cash receipts		
Cash payments:		
To suppliers	\$0	
For operating expenses Excluding depreciation	\$0	
Other cash payments:		
Loan payments	\$0	
Acquisition of assets	\$0	
Start up cash expenses		
Net cash (positive /negative)	\$0	
Beginning cash	\$ 0	
Ending cash of the period		

Cash Management during a crisis



Cash Management during a crisis

- Plan weekly or even a daily cash flow
- Prepare a list of cash preservation measures
 - Ensure tight inventory control
- Ensure rapid cash collection and manage all receivables i.e. Bad debt % ,review credit policy
- Renegotiate/ extend payment terms with suppliers
- Review and track liquidity of key customers
 - Track customer behavior and implement client retention measures to preserve loyalty.

Income Statement (Profit & Loss)

- A typical income statement should include:
 - Revenue (also called sales), followed by
 - Cost of sales” or “cost of goods sold” (COGS).
- A services firm, may not have COGS. Instead you may have Cost of Services.
- $\text{Revenue} - \text{COGS or CoS} = \text{Gross profit}$
- $\text{Gross Margin} - \text{Operating Expenses} = \text{Operating Profit (EBIT)}$

Income Statement

Pro Forma Income Statement

Revenue

- Cost of Goods Sold

Gross Profit Margin

- Operating Expenses

Net Income Before Interest and Taxes

- Interest

- Taxes

Net Income (Loss)

Income Statement

Sales	\$0
Cost of Goods Sold (CoGS)	\$0
Gross Profit	
Operating expenses :	
Selling, Marketing & Distrib.	\$0
General. % Admin.(G&A)	\$0
Total operating expenses	\$0
Operating profit(EBIT)	\$0
Other revenue& expenses	
Net profit B/T	\$0
Income tax rate%	\$0
Net profit A/T	\$0

What Costs does a business typically incur

- Office costs - rent, rates, electricity, gas, cleaning, security, coffee, postage etc
- Marketing
- Professional Fees eg Accountancy , Tax, Payroll Legal
- Insurances
- Employee salaries
- Initial Capital Expenditure - computers , office furniture

Software/ other intellectual Property

- Development Staff - Biggest cost
- Patent fees and legal costs
- Computer hardware/software

Web Business

- Web site design/maintenance - in house or outsource
- Hosting
- Domain registration
- Office Space
- Employees
- Fulfilment costs – postage, storage
- Customer relationship management

Critical Questions

- Does the company have a sense of how much of that market is obtainable?
- Are potential unit sales reasonable?
- Are sales prices reasonable? Is there any evidence to back them up?
- Are projected costs complete and reasonable?

How Many Will You Sell?

- What was the Market size and estimate of market share?,
 - Translate into the anticipated number of customers (as in 10% of a million-person market=100,000 customers)
- How many can your channel sell?
- How much will the channel cost?
- How many customer activations?
 - Revenue? Churn/Attrition rate? customers/?
- How much will it cost to acquire a customer?
 - How many units will they buy from each of these efforts?

The Challenge of Crossing the Chasm



What to Avoid in Financials

- Unreasonably high profit margins
- Revenue growing while all costs remain flat-line
- Ignoring timing impact of acquiring assets and incurring costs before revenue generation.
- Experiment with reasonable growth rates
- Must stack up to a reasonable share of reasonable market
- Treat revenue model, key resources, and cost model as areas of testable hypotheses
- Identify key data, test, and measure

The Behavior of Costs

- **Variable costs**
 - Vary with volume or operating activity
- **Fixed costs**
 - Remain fixed as volume changes
- **Mixed costs**
 - Exhibit characteristics of both variable and fixed costs

Contribution Income Statement

Sales	\$0
-------	-----

Variable Costs	\$0
----------------	-----

Contribution Margin	\$0
---------------------	-----

Fixed Costs:	\$0
--------------	-----

Operating profit	\$0
------------------	-----

Finding the Breakeven Point

Sales – Variable Costs – Fixed Costs = \$0

$$S - VC - FC = \$0$$

Using Contribution Margin to Determine the Breakeven Point

- Contribution margin (CM)
 - Is the amount that remains after all variable costs are subtracted from sales

$$S - VC = CM$$

- A product line's contribution margin represents its net contribution to paying off fixed costs and earning a profit
- Profit is what remains after fixed costs are paid and subtracted from contribution margin

$$CM - FC = P$$

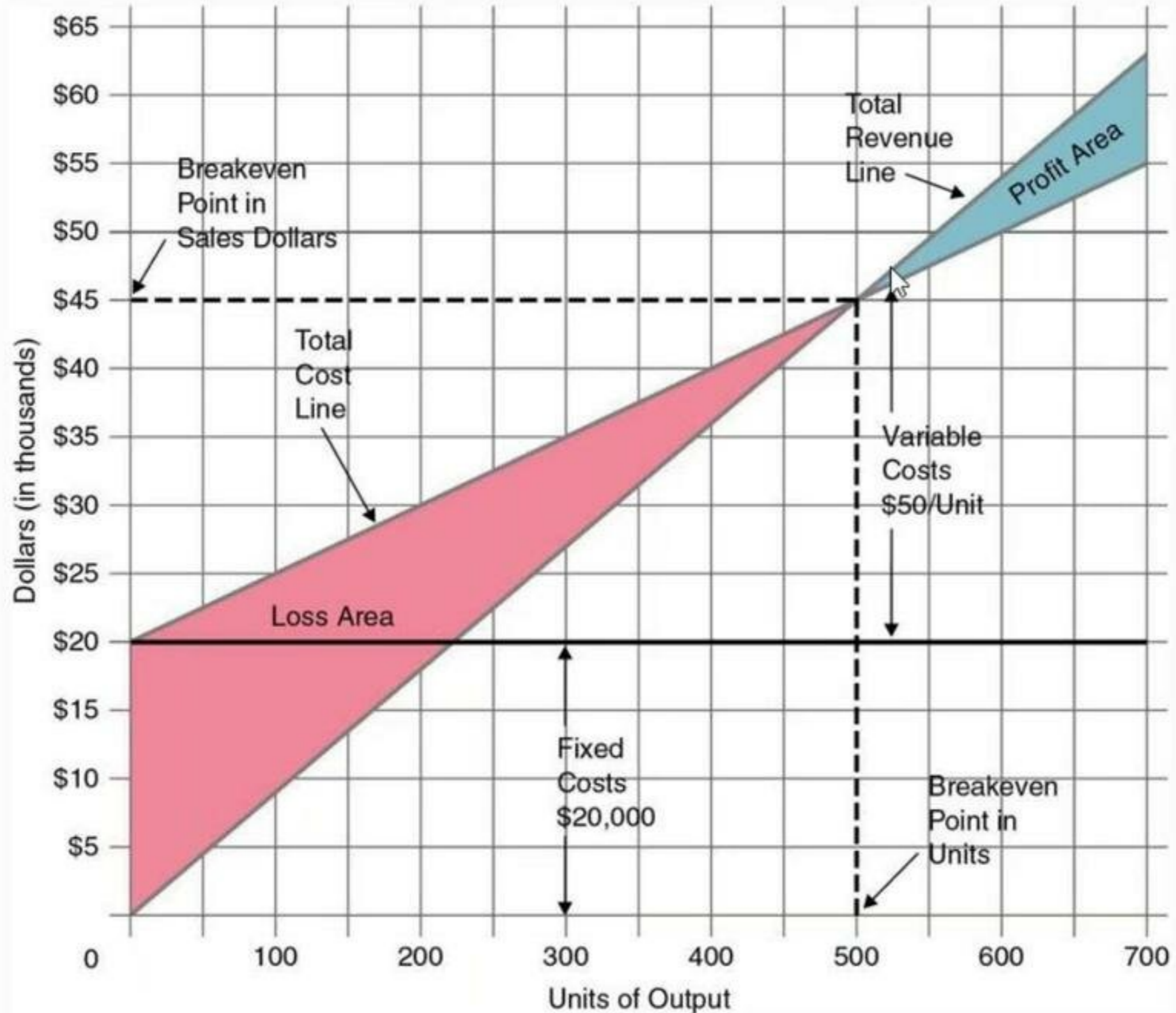
Break–Even point

- Can be expressed as the point where
- Contribution margin minus total fixed costs equals zero
- Contribution margin equals fixed costs

$$(\text{CM per Unit} \times \text{BE Units}) - \text{FC} = \$0$$

$$\text{BE Units} = \frac{\text{FC}}{\text{CM per Unit}}$$

Graphic Breakeven Analysis: Dakota Products, Inc.





"The numbers aren't working."

ASSESSING YOUR BUSINESS MODEL

SWITCHING COSTS

HOW EASY OR HARD IS IT FOR YOUR CUSTOMER
TO SWITCH TO ANOTHER COMPANY?

RECURRING REVENUES

IS EVERY SALES A NEW EFFORT (TRANSACTIONAL)
OR WILL IT RESULT IN FOLLOW-UP REVENUES AND
PURCHASES?

EARN BEFORE YOU SPEND

ARE YOU EARNING MONEY BEFORE YOU ARE
SPENDING IT (E.G. FOR PRODUCTION, PLATFORMS
ETC.

ASSESSING YOUR BUSINESS MODEL

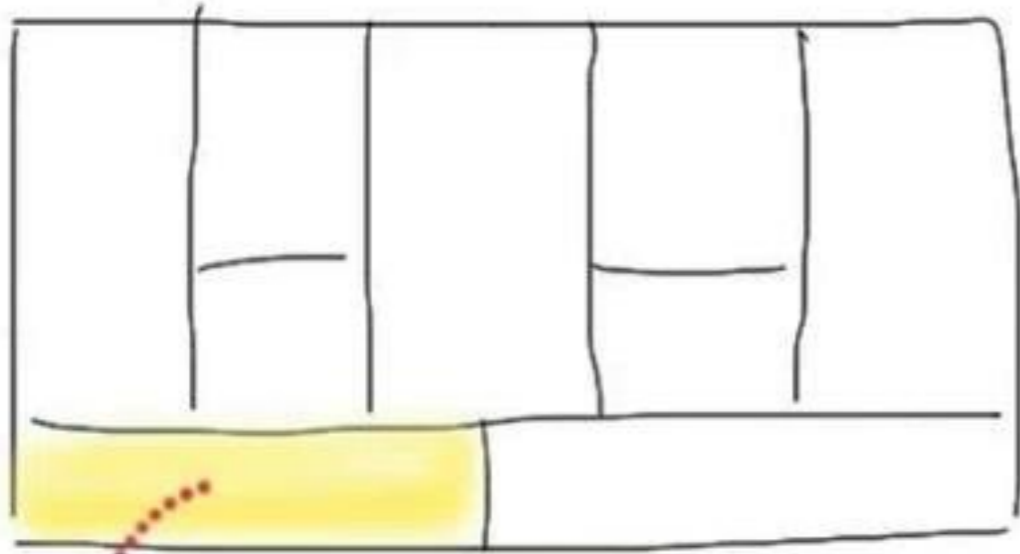
COST STRUCTURE

IS YOUR COST STRUCTURE
SUBSTANTIALLY DIFFERENT AND
BETTER THAN THAT OF
COMPETITORS?

GETTING OTHERS TO DO THE WORK
HOW MUCH DOES YOUR BUSINESS
MODEL GET CUSTOMERS OR THIRD
PARTIES TO CREATE VALUE FOR YOU?

Creating a new business is challenging...

- You have to get the customer and market right
- You have to get the product right
- You have to get the revenue model right
- You have to get the cost structure right
- You have to get customer acquisition right
- You have to get the team right
- You have to get your timing right



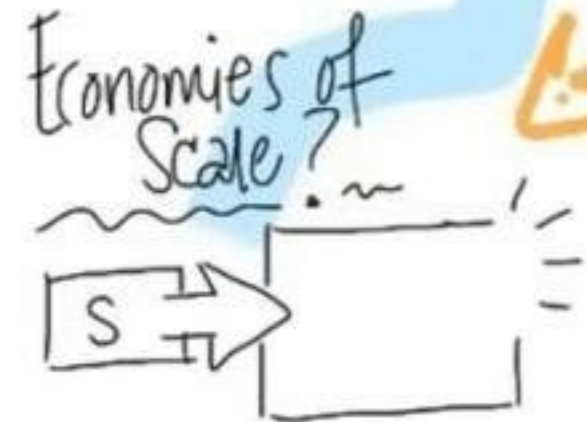
9. Cost Structure

© 2012 Steve Blank



What KEY ACTIVITIES are the MOST EXPENSIVE?

What are the **COSTS** to operate the **BUSINESS MODEL**?



Business model Cost Structures:

- Cost Driven
- minimizing costs wherever possible
- Value-driven
 - Premium Value Propositions and a high degree of personalized service

Cost Structure

- Is the business more – cost driven or value driven?
- How are the costs configured?
- What are the fixed costs (salaries, rents, utilities)?
- What are the variable costs?
- Where could we benefit from economies of scale?
- Which key resources and key activities cost most?
- Where are the critical cost elements in this model?

9. Cost Structure-

- Cost Structure Characteristics:

Fixed costs

- minimizing costs wherever possible

Variable costs

- Premium Value Propositions and a high degree of personalized service

Economies of scale

- average cost per unit to fall as output rises

Economy of Scope

- Channels for different products and services may support multiple products.

Common approaches to pricing



Common approaches to pricing

Cost based

- Cost + markup
- Typically not a strategic way to price
- Driven by internal economics and not customer insight

Value based

- Based on buyer's perception of value (e.g. time saved, new efficiency created, etc.)
- Customers don't necessarily feel that they want to pay this way

Pricing Choices (2)

Pricing Choices (2)

- ***Portfolio pricing.*** Mix of high markups and some with low, depending on competition, lock-in, value delivered, and loyal customers
- ***“Razor/razor blade” model:*** part of the product is free or inexpensive; yet it pulls through repeat, highly profitable purchases on an ongoing basis
- ***Subscription:*** while now thought of a software strategy, the “Book of the Month Club” pioneered this for physical products
- ***Leasing:*** lowers the entry cost for customers. Provides constant earnings over a period of years

Pricing Choices (1)

- ***Cost-based pricing:*** based on a multiple of actual product cost. Typically priced for maximum revenue/profit versus volume
- ***Value pricing:*** based on the value delivered by the product rather than the cost itself
- ***Competitive pricing:*** positions the product vs. others in its competitive set, typically in existing markets
- ***Volume pricing:*** designed to encourage multiple purchases or users

Competition as an influence



Competition as an influence

Nature of Market

- Pure competition
- Oligopoloy
- Monopoloy

How they will react?

- What is their product?
- What are their costs and prices?
- “What pricing will make them feel the worst?”

Metrics Versus Accounting

The **Search** for the Business Model

The *Execution* of the Business Model



Startup Metrics

- Customer Acquisition Cost
- Customer Lifetime Value
- Recurring revenue
- Monthly burn rate
- etc.

Traditional Accounting

- Balance Sheet
- Cash Flow Statement
- Income Statement