DTiCEQT

Digital Technology
Imagination
Creativity and
Entrepreneurship
for a High
Quality Teaching

Undertaking with CPS methodology

Teachers training updated

Co-funded by the
Erasmus+ Programme
of the European Union

Project coordinator

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Shacklewell Primary School | United Kingdom

Westcountry Schools Trust | United Kingdom

Course contents:

1. Proposal of CPS.
2. Why is it important to talk about undertaking?
3. CPS for running a business.
4. Creative Problem Solving as a management tool.
5. What should the teacher know?
6. The general process for undertaking.

#1.

Proposal of CPS

1. CPS approach

Some questions to focus the CPS approach at each school.

1 Ages of the students?

2 Time constraint?

3 Academic obligations?

Students and teachers

1. CPS proposal. As a workshop (or series of workshops)

1. Explain the general undertaking process and the CPS methodology to students.
2. Present the topic they are going to work on.
3. Divide students into groups.
4. Let each group work on the problem with the defined methodology, going through every step, asking them to write down their conclusions.
5. At the end of the session, each group will present their main results from each phase, and these will be discussed among all groups (each group will focus on the different or more original results in relation to those already presented).
6. Among all the groups, the best of the solutions presented will be selected by consensus.

1. CPS proposal. Workshop approach

Shopping basket [#1]

1. Chose a basic but complete shopping list.
2. Divide students into groups.
3. Let each group look for prices for the products (can be done online or by going to actual shops). They should look for the cheaper version and the most expensive version of each product.
4. They should try to find out what explains the price difference by several means (own research, interviews with adults in their households…).
5. Each group will present their results, and these will be discussed among all groups. If possible, it should be discussed between international teams, to see the differences in prices for the same product in different countries, and they should try to find out why the differences.
6. They can make their virtual supermarket using VR tools, with the conclusions of their work.

Steps:

1. Define a shopping basket that is healthy (research aspects related to nutrition).
2. Research on the origin of the products and the carbon footprint of their distribution (production process and logistics).
3. Create a virtual supermarket reflecting the information collected and highlighting local products.
4. Finally choose:
   - o The healthiest.
   - o The most attainable.
   - o The one with the lowest carbon footprint.
   - o The one preferred overall.

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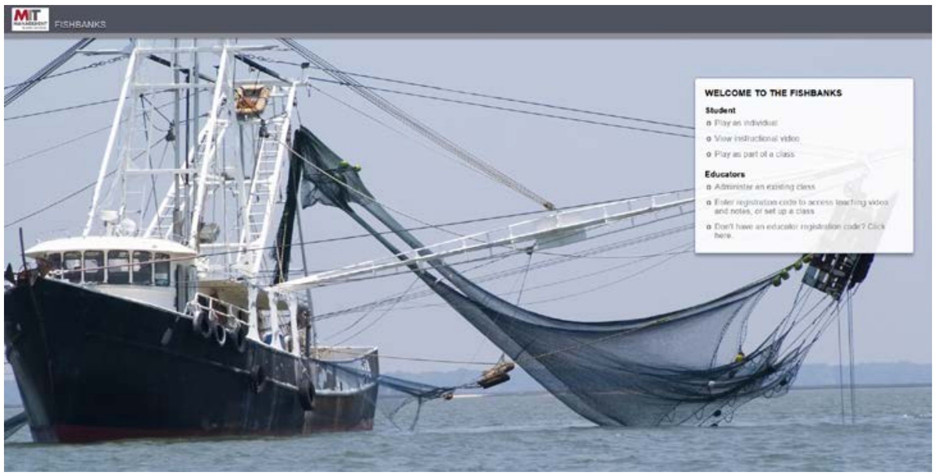
1. CPS proposal. Workshop approach

Fishbanks [#2|**GO!**]



Requires registration, which is free for educational centers

Steps:

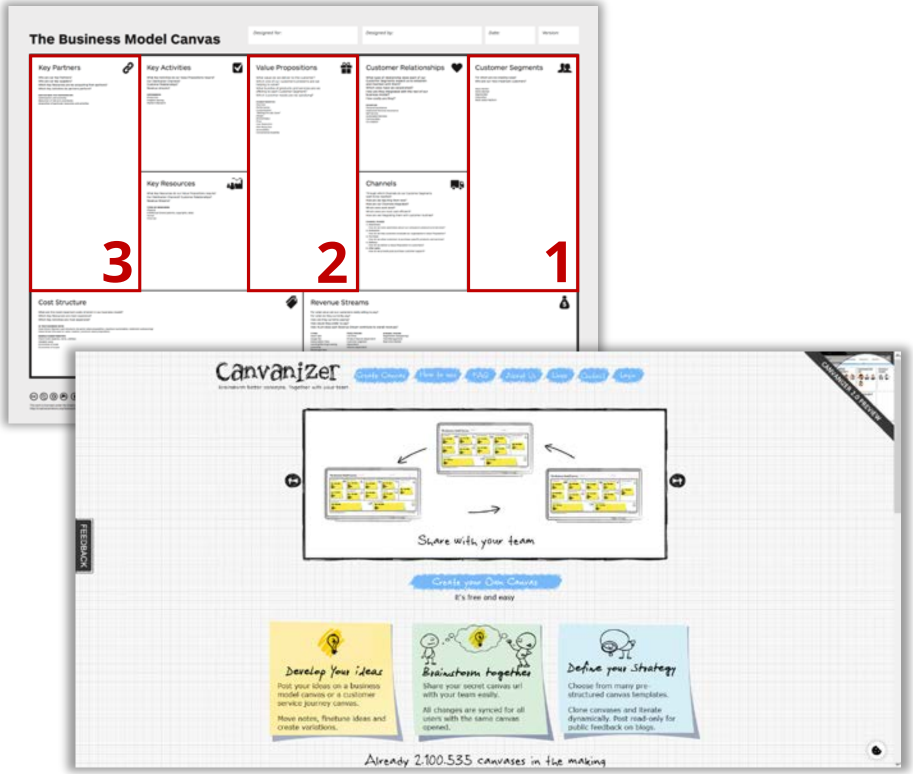
1. Ask teams to organize their fleets to maximize profits using the Fishbanks simulator.
2. At the end of the game, discuss the results obtained and why.
3. Carry out a new campaign using what was learned in the previous one.
4. Compare the results and draw conclusions.

It is highly recommended that a previous simulation is carried out by the teachers, in order to get more confidence with the tool.

Check the instructional video on the simulator page.

1. CPS proposal. Workshop approach

Business Model Canvas [#3 | GO!]



Steps:

1. Explain the questions that must be answered in each section of the canvas and the order to cover it.
2. Give students the possibility to decide the activity they want to make the canvas about.*
3. Introduce the Canvanizer application so they can build their business model.
4. Once they complete their proposal, each group will exchange its canvas with other team (in pairs) and will try to improve it.
5. At the end, the groups that have exchanged Canvas meet to discuss their assessments.

* Consider the possibility of reusing the work in a previous CPS to develop possible business ideas from it (for example, on archaeology, robotics or podcasts).

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1. CPS proposal. As a project [#4]

1. Explain the undertaking process and the CPS methodology to students.

2. Divide them into groups.

3. Each group must create a company following the methodology of the undertaking process, facing the different challenges that arise in each stage using CPS, **until they produce and sell their products**. General criteria of interest to the curriculum can be defined by the teacher to define the activities of the companies (based on sustainability, recycling, circular economy ...).

4. Each work session will focus on a specific aspect of the undertaking process, and the session will begin with a brief theoretical explanation on that aspect, followed by group work.

5. When reaching a project milestone, each group will present the main results from its work, and these will be discussed among all groups to try to identify improvements.


GAME
OVER
INSERT COIN
PLAY
QUIT

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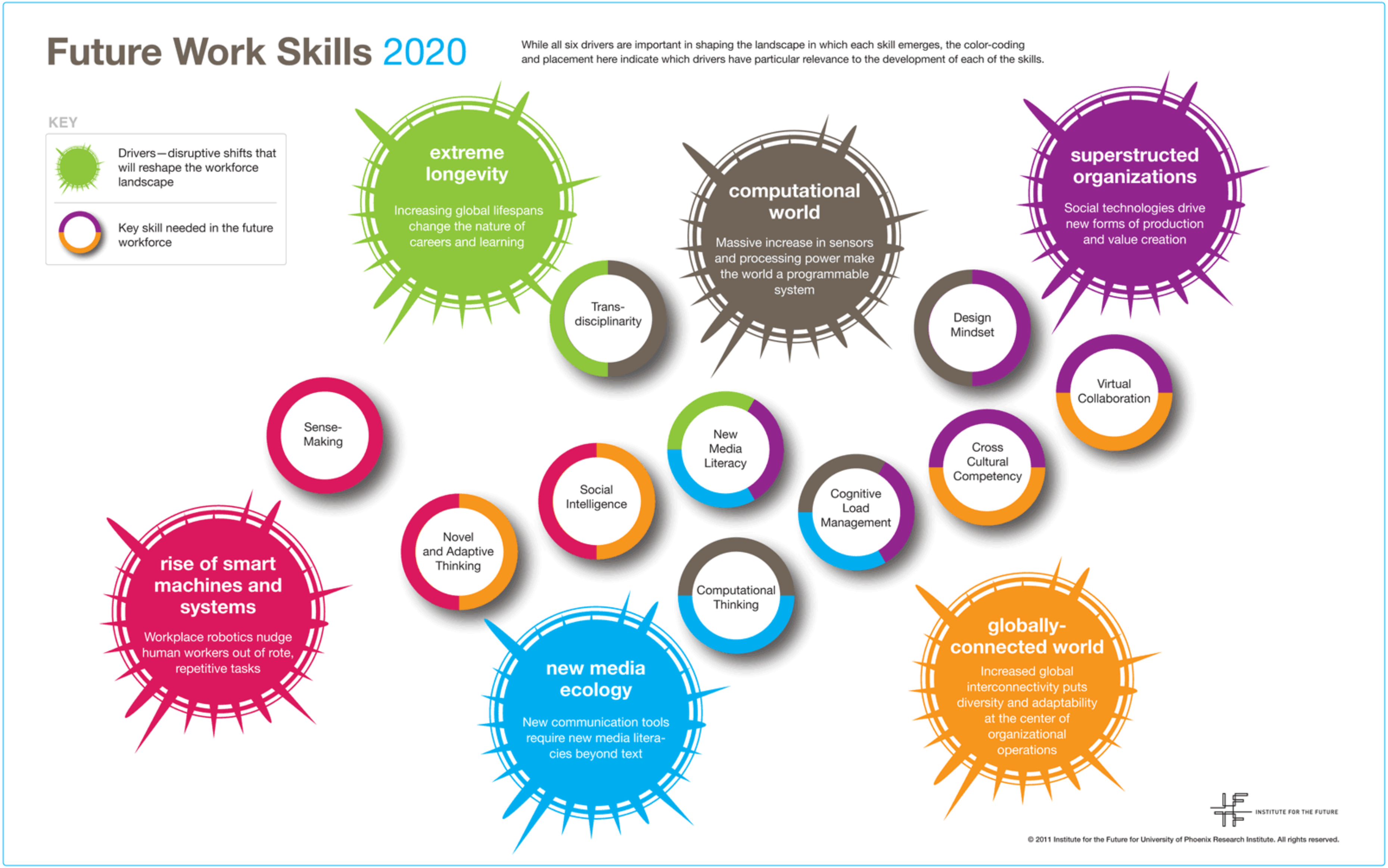
#2.

Why is it important to talk about undertaking and economics to the students?

2. Why is it important to talk about undertaking?

- We need new enterprising people.
- Allows students to see things "from the other side“.
- To understand the limitations of resources and the importance of their sustainable management.
- To get more responsible and aware consumers.
- To understand the ability of companies to be drivers of change with their decisions.
- Greater proximity of the theoretical knowledge to the real world.
- And ... because it is in our DNA to promote entrepreneurship ;-)


Future Work Skills 2020
While all six drivers are important in shaping the landscape in which each skill emerges, the color-coding and placement here indicate which drivers have particular relevance to the development of each of the skills.
KEY
Drivers—disruptive shifts that will reshape the workforce landscape
Key skill needed in the future workforce
extreme longevity
Increasing global lifespans change the nature of careers and learning
computational world
Massive increase in sensors and processing power make the world a programmable system
superstructed organizations
Social technologies drive new forms of production and value creation
Trans-disciplinarity
Design Mindset
Virtual Collaboration
Sense-Making
New Media Literacy
Social Intelligence
Cognitive Load Management
Cross Cultural Competency
Novel and Adaptive Thinking
Computational Thinking
rise of smart machines and systems
Workplace robotics nudge human workers out of rote, repetitive tasks
new media ecology
New communication tools require new media litera-cies beyond text
globally-connected world
Increased global interconnectivity puts diversity and adaptability at the center of organizational operations
INSTITUTE FOR THE FUTURE
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#3.

CPS for running a business.
Problems and challenges

3. The problems of running a business. The growth of the company

- Make the right decisions to balance available resources with needs. To grow we can:
  - → Sell more to customers we already have.
  - → Sell to more customers.
  - → A combination of both.
- And for that, we can:
  - → Grow on new products.
  - → Grow in new markets.
  - → Grow in new territories.
  - → Grow into new customer groups.

+ PROS & **- CONS**

3. The problems of running a business. The evolution of customers

What it is new today, tomorrow it is obsolete.

What surprises us today, tomorrow we will take it for granted.

What satisfies us today, bores us tomorrow.

- How do the expectations and needs of our target customers evolve?
- What are our competencies doing to respond to the changes?
- What can we do to respond to these changes, consistent with our identity?
- Can we maintain our competitive advantage?
- How should the company evolve its offer?
- How can the company maintain a balance between its available resources and new needs?

3. The problems of running a business. The competition

- How does the competition react to changes in the market?
- How does the competition react to our decisions?
- Have old competitors left the market? Why?
- Have new competitors emerged?
- What new needs or expectations of our clients do they satisfy?
- Is our competitive advantage at risk?
- Is our position in the target customer group at risk?

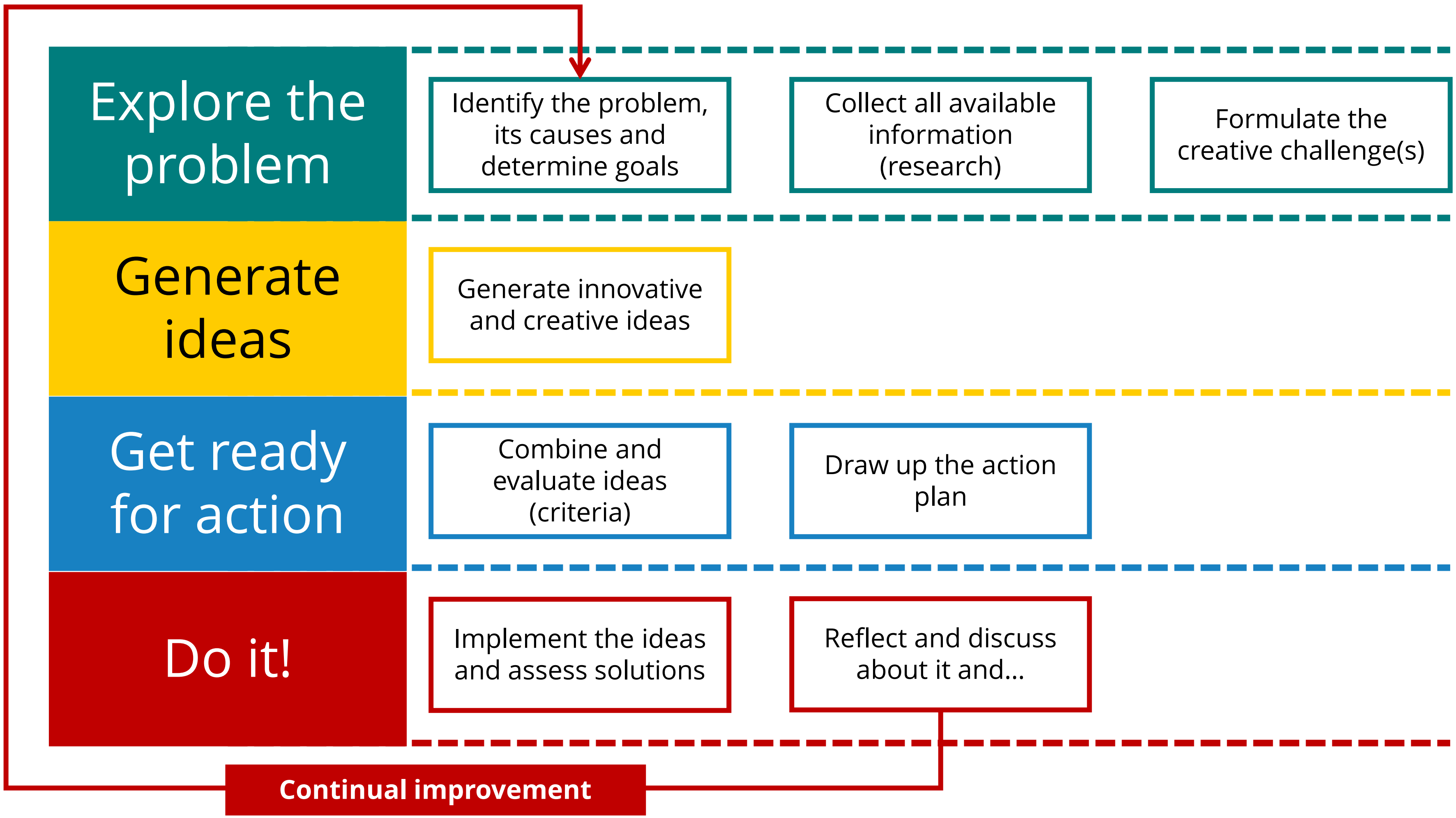
3. The problems of running a business. Changes in the scenario

- Have new legal frameworks emerged (or are them foreseeable) that will hinder or impede our activity? Or that turn out to be an opportunity?
- Have new social movements or trends emerged (or are emerging) that pose a risk to our business? Or could they be an opportunity?
- Has an event occurred that has changed or could change the consumption habits of our target customers? In which way?
- Have new technologies emerged that affect our products or services, or the way we deliver them or engage with target customers? Are new profiles required in the business to deal with these technological changes?

#4.

Creative Problem Solving as a management tool

4. Creative Problem Solving as a management tool. CPS fundamentals



#5.

What should the teacher know?
Basic economy tools and concepts we are going to using

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5. Basic economy tools and concepts. "Undertaking" mindset

Source: Youtube

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Source: Youtube

5. Basic economy tools and concepts. Marketing mix: product

- Know your business.
- Identify opportunities.
- Identify target customers (needs + expectations)
- Define the product + services.
- Plan the differentiation.
- Develop the business plan.
- Assess feasibility.

5. Basic economy tools and concepts. Marketing mix: price

- Number of monetary units the consumers must pay for each unit of product that the company sells in the market, as a counterpart to the value that the consumer perceives when achieving a certain level of satisfaction with the company's offer.

Setting the price right:

- Which is the cost per unit produced? (dead point).
  - → Materials + Manufacturing + Associated services + Personal + Investments.
- Is there competition? How much are they charging? (market price – customer trust).
- Do we offer a special value?
  - → Differentiation.
  - → Emotional factors.

5. Basic economy tools and concepts. Marketing mix: promotion

- Better, talk about communication.
- It is not enough with being good, you must seem so.
- Know your customers base (needs + expectations).
- The purchase decision is based on quality (management concept).
- Quality is based on perception.
- What the customer does not know, it does not exist.
- We need to know the opinion of the customers.
- Two-way communication is key.

5. Basic economy tools and concepts. Marketing mix: placement

The place the business wants to occupy in the perception of real and potential customers: the business needs to develop its competitive edge.

- For what qualities do we want to be recognized?
- What value do we add?
- What does our competition do?
- How can we differentiate ourselves from the rest?
- Why would the potential customers prefer us?

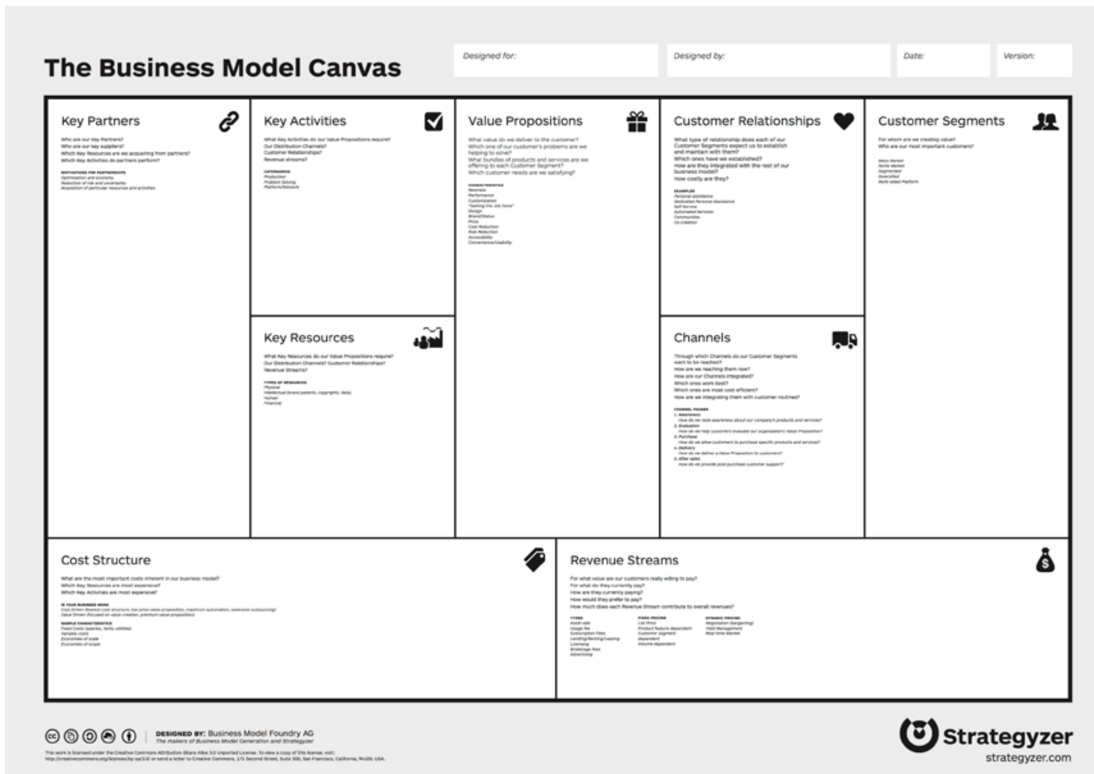
5. Basic economy tools and concepts. Business model: competition

- Identify the competition.
- Identify favorite attribute combinations in the market.
- Determine our competitor positions.
- Find out the product relevant attributes for the customers’ base.
- Identify the ideal position for the market.
- Select our own position (based on differentiation, feasibility and profitability).

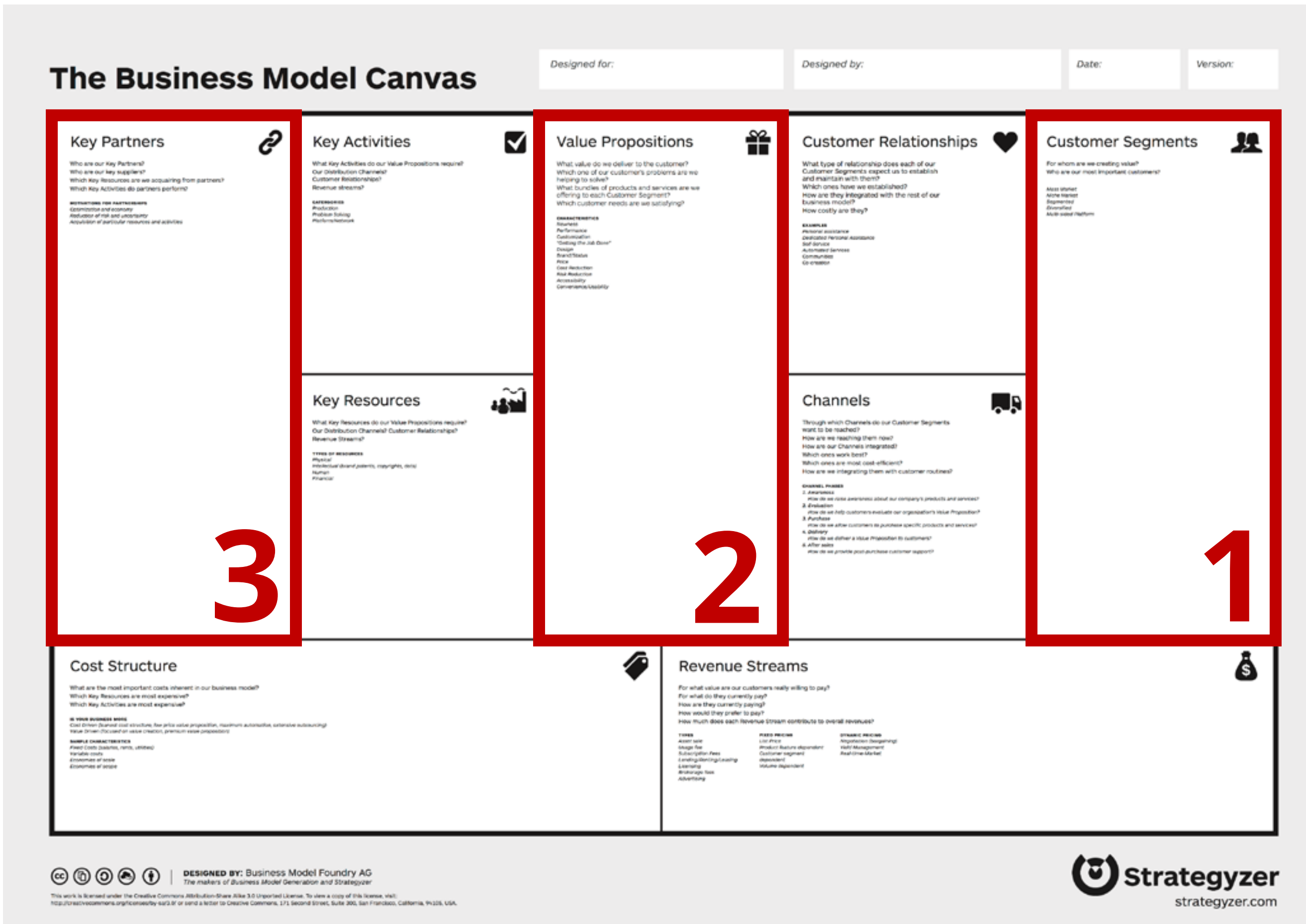
5. Basic economy tools and concepts. Business Model Canvas

"If you don't know where you are going, any road will get you there"

Lewis Carroll - Alice's Adventures in Wonderland



5. Basic economy tools and concepts. Business Model Canvas



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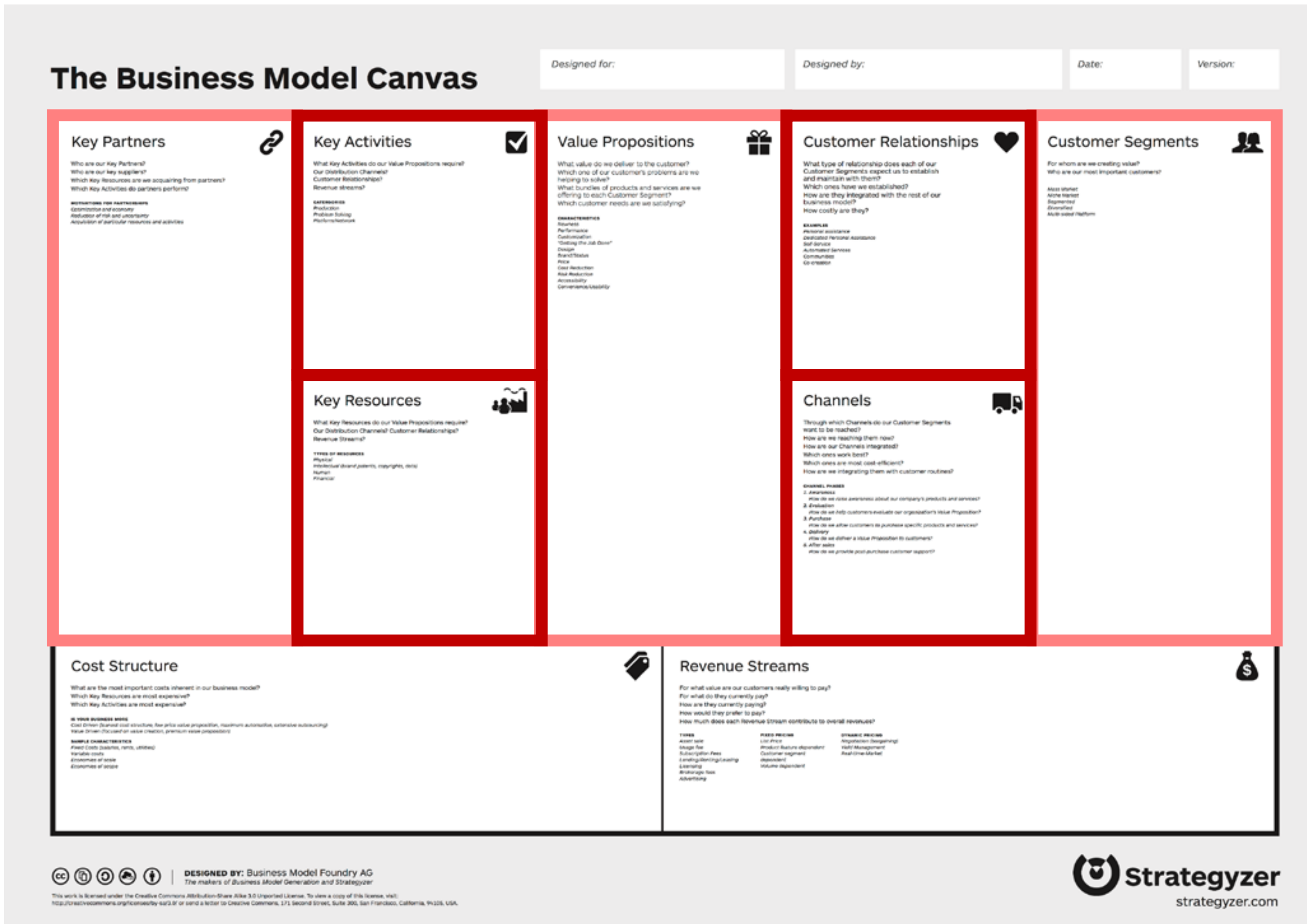

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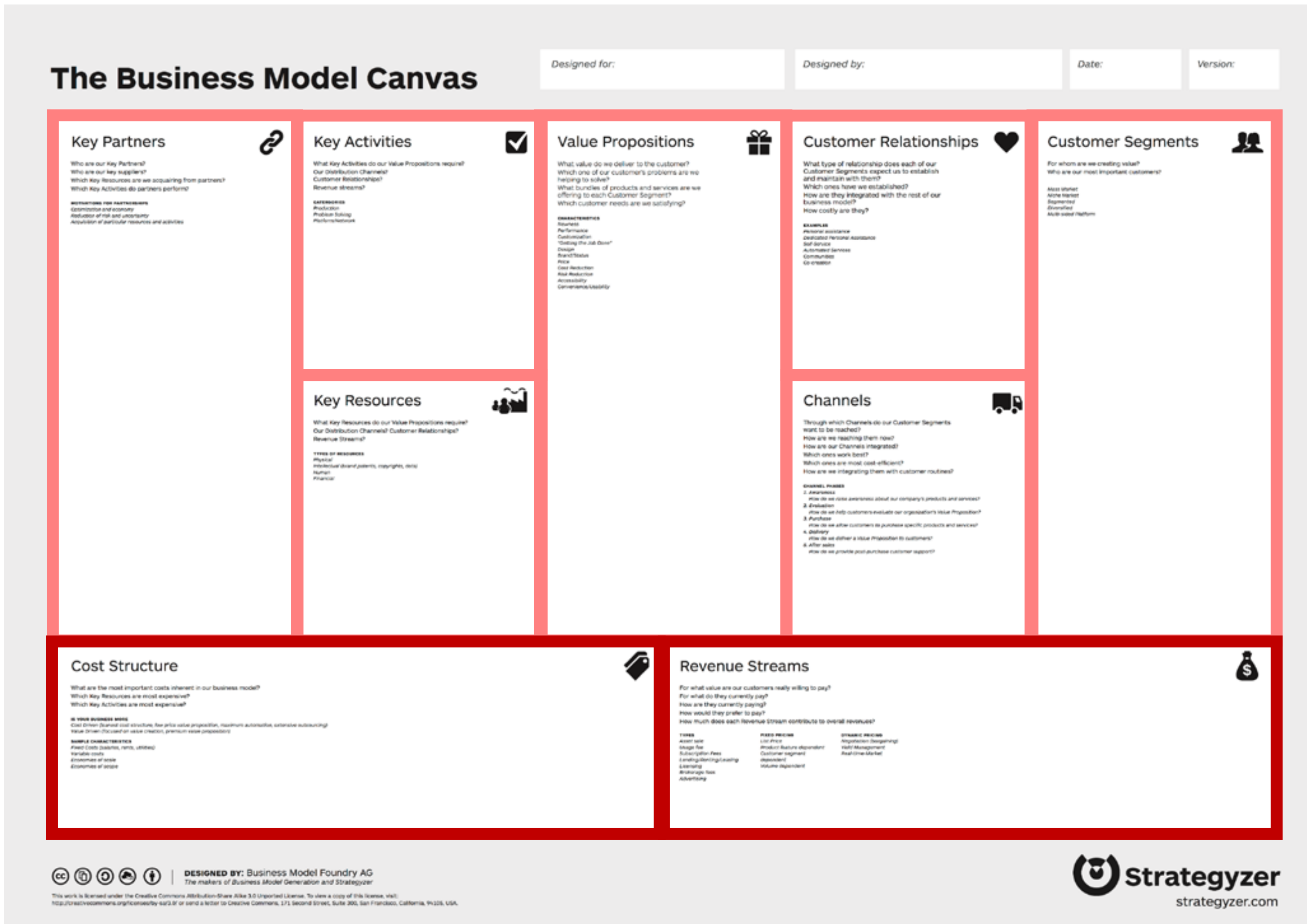
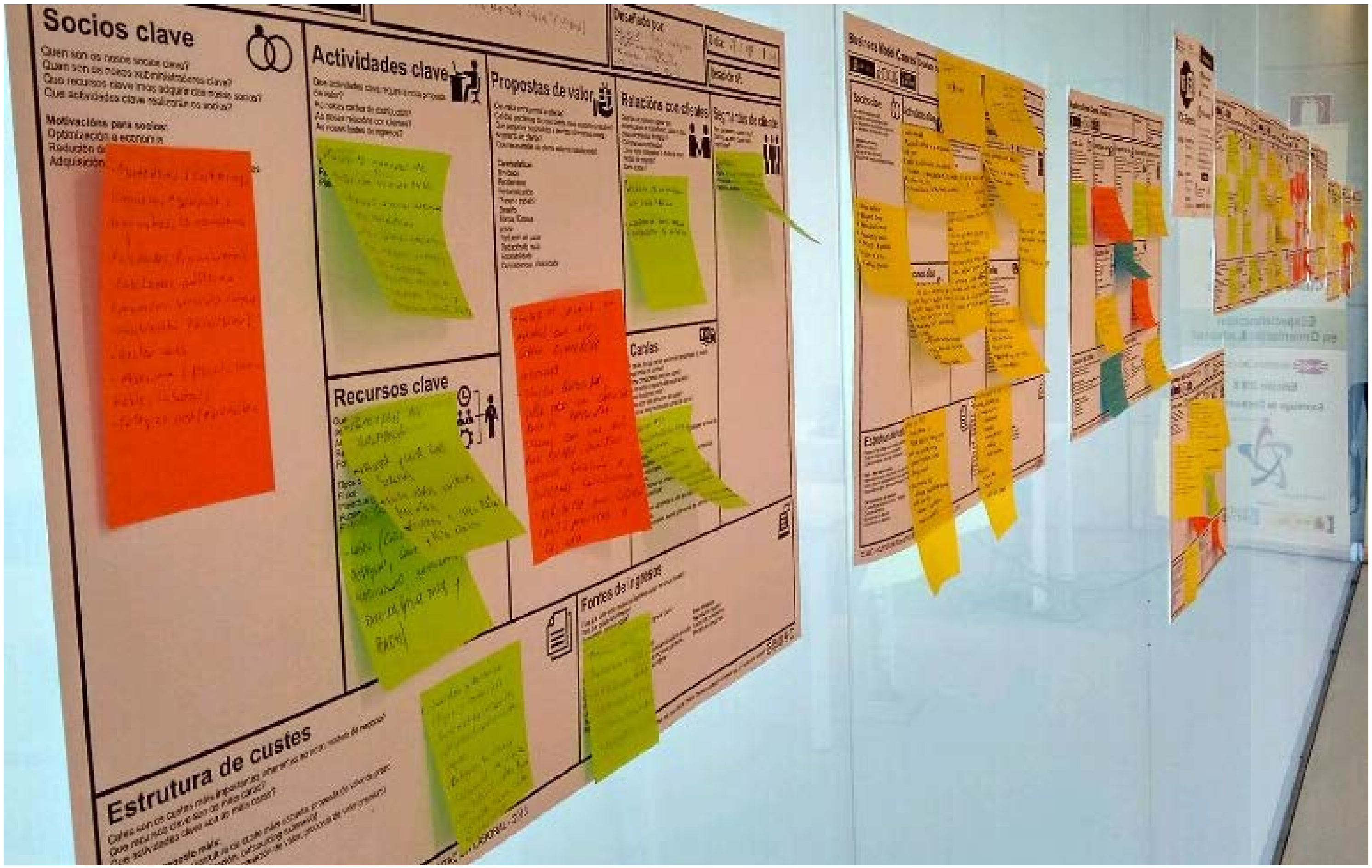


5. Basic economy tools and concepts. Business Model Canvas



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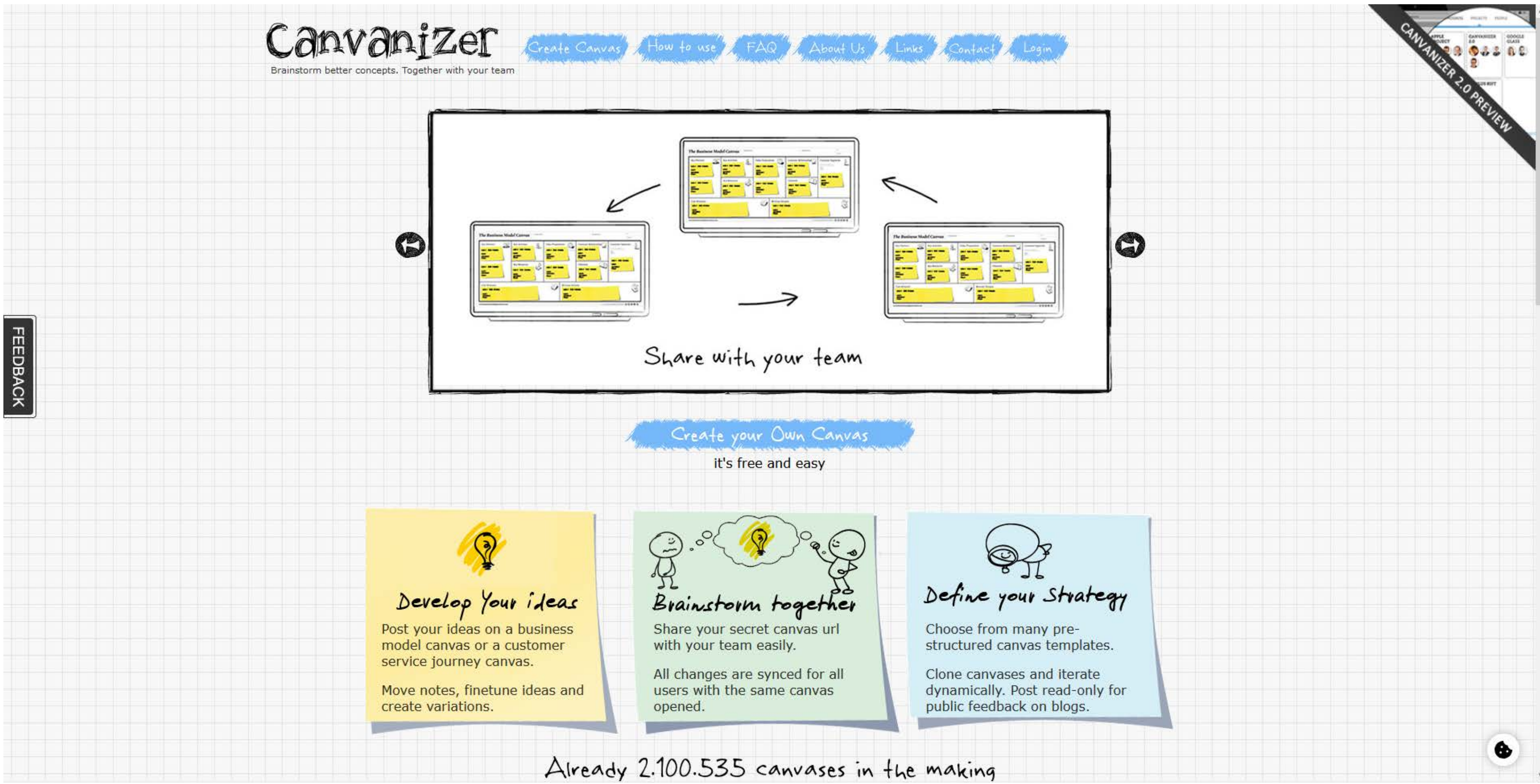
5. Basic economy tools and concepts. Canvanizer [GO!]

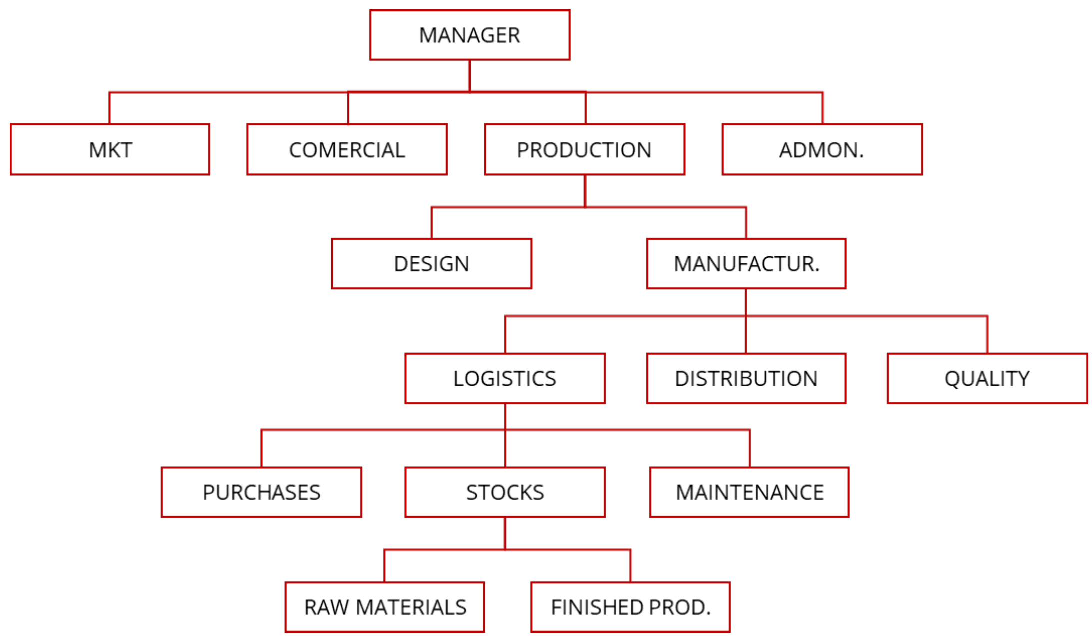


5. Basic economy tools and concepts. Corporate identity

- Better if it is clearly referred to the product / service.
- Be consistent with the position the company sought.
- Unique (at least, different from what is known).
- Simple (easy to remember, interpret and reproduce).
- Careful using the colors.
- Adaptable (sizes, supports, applications).
- Modern appearance, but not “fashionable” (as it must last).

5. Basic economy tools and concepts. Organization chart

- The organization must be adequate to achieve the desired results.
- Identify where the value lies/is created.
- Balance needs and the available resources.
- Define responsibilities and functions.
- Communique them.



5. Basic economy tools and concepts. Diversification

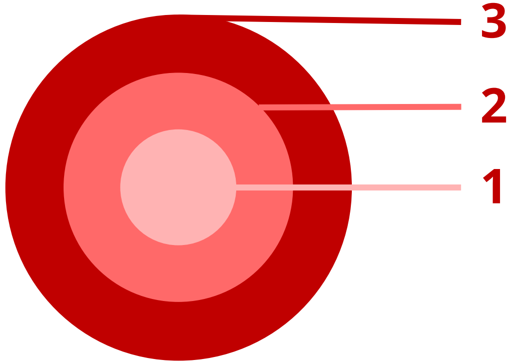
- Expand the offer of products and services of the company:
- Adding new related activities.
  - → Vertical forward
  - → Vertical backwards
  - → Horizontal
- Adding completely new activities.

5. Basic economy tools and concepts. Corporate Social Responsibility

Green Paper "Promoting a European Framework for CSR":

"Integration, by companies, of social and environmental concerns in their business operations and their interactions with their stakeholders on a voluntary basis".

- o Volunteer.
- o Integrated.
- o Social and Ambiental concerns.
- o Stakeholders.



Some tools for the CSR

- o CSR statements and policies
- o Self-assessment tools
- o Social balance
- o Codes of conduct
- o CSR strategies
- o Sustainability reports and memories
- o Integrated Management Systems

#6.

The general process for undertaking

6. The general process for undertaking. What does it mean to undertake?

- Motivation vs necessity.
- Entrepreneurial attitude.
- A business opportunity.
- Draw a plan.
- Set limits (red lines).
- Find the right people.

6. The general process for undertaking. An overview

Business Plan

First ideas assessment

Students are asked to think about what they would like the company to do

Business opportunities

Students are asked to find a way to turn these ideas into products and services that can be sold in the market.

Business model

The best business opportunities in the eyes of the students are selected, and a business model is developed using the Canvas methodology

Organization and policies

According to the results of the Canvas, the structure of the company, its statutes and the operating policies are defined

Start up and improvement

Prototypes or samples are developed, communication supports are created (website, social networks ...) and the operations begins

6. The general process for undertaking. Idea vs business opportunity

- Can it be materialized and sold?
- Is there anyone willing to pay for it?
- Are there enough potential customers in our market?
- Will we have competitors?
- What are we going to do differently from them?
- How are we going to reach customers?

6. The general process for undertaking. The business model (value)

- Focused on clearly defined target customers.
- Identify characteristics that matter to them (significant).
- Know what the competition offers.
- Define the value in terms that the customer understands.
- Build the competitive edge.
- Establish channels to communicate value.
- Open communication channels with customers.

6. The general process for undertaking. Complete the business plan

The business model is just a static first approach. Before starting, a more detailed and dynamic analysis in required:

- Market analysis (market volume, consumers, suppliers, competitors...).
- Business plan (market segmentation, products offer, prices, advertising and communication...).
- Organization (facilities, production equipment, layout...).
- Human resources plan (job profiles, training, experience, categories, salary...).
- Legal aspects (company creation procedures, relations between shareholders, taxes...).
- Economic and financial analysis (estimate of income, estimate of expenses, sources of financing...).
- Conclusion on feasibility.

6. The general process for undertaking. Starting up

- Balancing available resources with needs.
- Forecast financing and cash needs.
- Follow the plan outlined.
- Communique.
- Built identity, relationships and competitive edge.
- Respect the limits set.
- Measure and improve.

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