Entrepreneurial Opportunity Identification and Exploitation

Ph.D. Class ENG-632

Lecturer: Dr. Sharon Tal, Technion, Israel

Teaching Assistant: Enrico Bergamini

Fall Term 2021

Hi, I am Sharon

Helping startups identify, evaluate and prioritize market opportunities	
Lecturer on strategy and marketing for high-tech start-ups	
Co-founder and former executive director of the Technion Entrepreneurship Center	
Vast experience in marketing and strategic consulting	

Entrepreneurship is all about identifying innovative opportunities and bringing them to the market…

What would you recommend this founder to do?

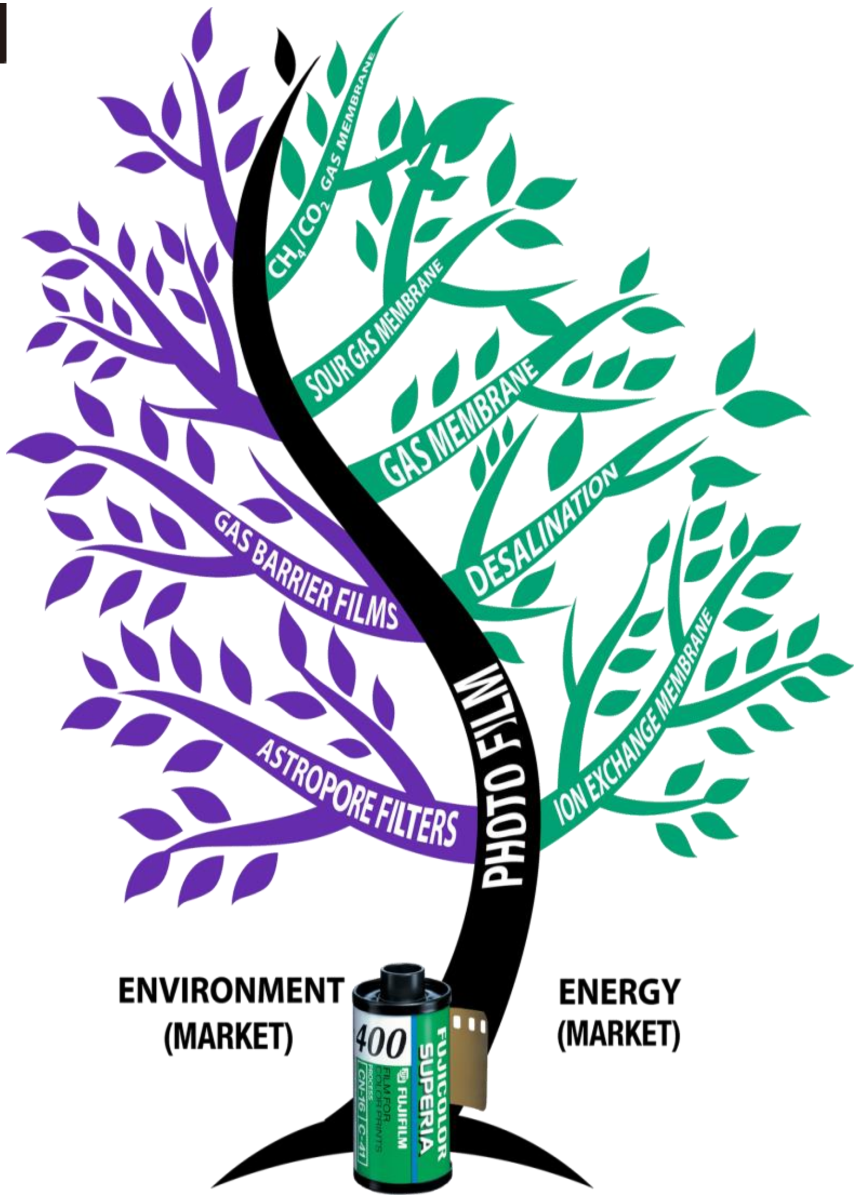
What did we learn from hundreds of startups facing this question?

- Which market to focus on is often a real dilemma
- No structured process or handy tools
- Lots of insights on common mistakes and key considerations for success

FUJIFILM
Value from Innovation

Key question not only for start-ups

and not only for general purpose technologies

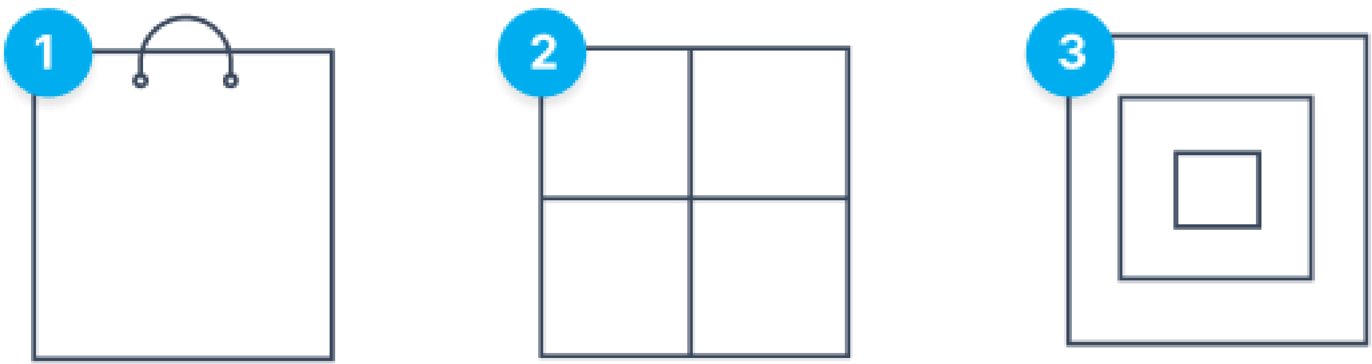


Expert in coatings, membranes, and organic compounds.

ource: http://www.fujifilm.com/innovation/stories/highly-functional-materials/

The Market Opportunity Navigator

Understand your opportunity space and find the best market for your innovation



IDENTIFY
Market opportunities for your business

EVALUATE
and compare options systematically

PRIORITIZE
opportunities for a clear strategic focus


FT PUBLISHING
FINANCIAL TIMES
WHERE TO PLAY
3 STEPS FOR DISCOVERING YOUR MOST VALUABLE MARKET OPPORTUNITIES
Marc Gruber and Sharon Tal
'Enjoy discovering highly practical worksheets, maps and dartboards of tremendous interest to better identify, evaluate and strategise market opportunities.'
Alex Osterwalder and Yves Pigneur, authors of the bestseller Business Model Generation
2
1
1
High
Mid
Low
Mid
OPPORTUNITY SET
Use Worksheet 2 to evaluat
market opportunity, and pl

The people behind the Navigator

Dr. Sharon Tal **Prof. Marc Gruber**

About this course

Course objectives

(1) Develop a theoretical understanding of the process of market opportunity identification and evaluation in the context of new technologies

(2) Acquire a practical tool -the Market Opportunity Navigator- for identifying, evaluating and prioritizing market opportunities, and apply this know-how to support EPFL inventors in their early stage commercialization efforts

(3) Get acquainted with other well known business tools (such as the Business Model Canvas and Lean Start-up Methodology) and how they add value to the process of opportunity identification and evaluation.

Course Overview

Block 1: Nov 1, 1, 1 (14:15- 19:00)

Work on evaluation of market opportunities

Block 2: Nov 23,24,25,30 (14:00- 17:30)

Work on final report

Course Program- Block 1

Monday, Nov 1

- Course Overview
- The challenges of linking technologies to markets
- The Market Opportunity Navigator –overview
- Technology presentations by EPFL inventors
- Brainstorming session & team formation

Course Program- Block 1

Tuesday, Nov 2

- Opportunity identification: de-linking and re-linking (Worksheet 1)
- Group work on Worksheet 1 (with founders)
- Understanding customers needs: the Value Proposition Canvas
- Conducting customers interviews

Course Program- Block 1

Wednesday, Nov 3

- Group presentation and discussion: Worksheet 1 and Market Opportunity Set
- Evaluating market opportunities: Potential and Challenge (Worksheet 2)
- The Attractiveness Map

Course Program- Block 2

Tuesday, Nov 23

- Course re-cap
- Teams presentations: Worksheet 2 and the attractiveness map+ preferred market opportunity

Course Program- Block 2

Wednesday, Nov 24

- The challenge of balancing focus and flexibility
- Agile focus strategy (worksheet 3)
- Group work on Worksheet 3

Course Program- Block 2

Thursday, Nov 25

- The Navigator in concert with the Business Model Canvas, the Value Proposition Canvas, and the Lean Startup Method
- Guest lecture
- Group work on final presentation+ coaching session

Course Program- Block 2

Tuesday, Nov 30

- Guest lecturer: the Entrepreneurship & Innovation ecosystem at EPFL (Prof Gruber)
- Final presentations: the Primary Market Opportunity and Agile Focus strategy
- The on-going use of the Navigator
- Main takeaways and course wrap-up

Assignments and Grading

This is a 2 ECTS course:

	Due date	Grading
Individual classroom participation		20%
Mid term presentation the Attractiveness map	Nov 23	15%
Final presentation: the Agile Focus Strategy	Nov 30	15%
Final report	Dec 10	50%

You will need to achieve 80% of the grade to pass the course

Reading

The recommended reading for each session is available on the course website. Please come to class prepared.

Class attendance and active participation are crucial to obtain the value this class is offering!

Other supporting materials:

The book: ‘Where to Play’
(now also available in French / German)

The on-line course on edX:
Find the right market for your innovation

One sentence:
“One thing I hope to get out of this course is…”

Expectations- what I hope to achieve

- Understand the main questions/ considerations for choosing ‘where to play’
- Add an important tool to your toolbox- for your use whenever you need prioritize opportunities and set a strategy
- Gain hands-on experience, bring real value to founders
- Learn from each other, challenge your colleagues
- Have fun

We are here to help you

Important contact details:

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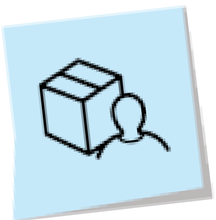
Enrico Bergamini (TA):
enrico.bergamini@epfl.ch

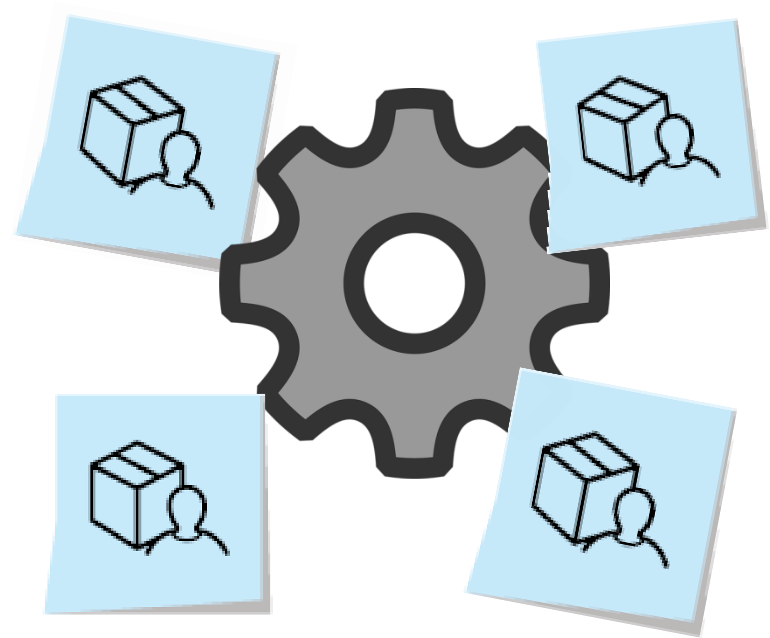
Let the fun begin

Linking technologies to markets



Any application of your technology, for a specific set of customers, is one *market opportunity* for your firm

Any technology,
or a set of abilities,
can generate multiple
market opportunities



Market opportunity choice-
a profound decision

1) Shapes your chances of success

2) Shapes the DNA of your venture

The case of 3D Printers

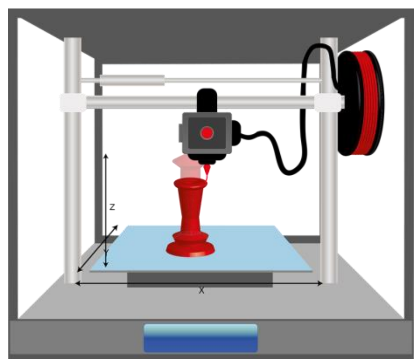
Shane (2000): Case study research on one MIT invention (3D printing)

Drug delivery system

Machine for concept models

Surgical models

Ceramic filters for power generation



Artificial bones

Ceramic molds for casting metal parts

Architectural models

Sculpture from photographs

Source: Prior Knowledge and the Discovery of Entrepreneurial Opportunities/ Shane

The case of 3D Printers (cont)

✓ Each entrepreneur identified one single market opportunity, and was not aware of the others

✓ Opportunity identification was based on entrepreneurs‘ prior knowledge on customers and markets => recognition rather than search

Source: Prior Knowledge and the Discovery of Entrepreneurial Opportunities/ Shane

Generating a set of market opportunities

Gruber, MacMillan & Thompson (2008),
A study of over 80 technology start-ups found two main insights:

1. Serial entrepreneurs have learned to generate a choice set of market opportunities before deciding which opportunity to pursue initially.

2. Entrepreneurs can derive key performance benefits from the identification of a market opportunity choice set.

Look before you leap!

Source: Look Before You Leap: Market Opportunity Identification in Emerging Technology Firms/ Gruber, MacMillan & Thompson

The case of 3D Printers (cont)

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Source: Prior Knowledge and the Discovery of Entrepreneurial Opportunities/ Shane

Recognition or active search?

5 discovery skills distinguish the most creative executives and entrepreneurs (Dyer, Gregerson & Christensen, 2009):

- ✓ Associating
- ✓ Questioning
- ✓ Observing
- ✓ Experimenting
- ✓ Networking

Discovery skills can be cultivated!

Source: The Innovator's DNA / Dyer, Gregerson & Christensen

But…
the difficulty lies not only in the discovery

choosing where to focus is also a very difficult decision

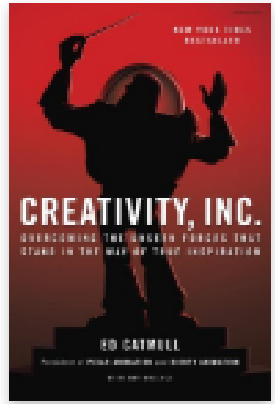
"The entrepreneur's dilemma: focus, focus, focus - but on WHAT? "

David Roth, Forbes Magazine

The hardest thing when you think about focusing. You think focusing is about saying "Yes". No. Focusing is about saying "No".

Steve Jobs, Apple co-founder

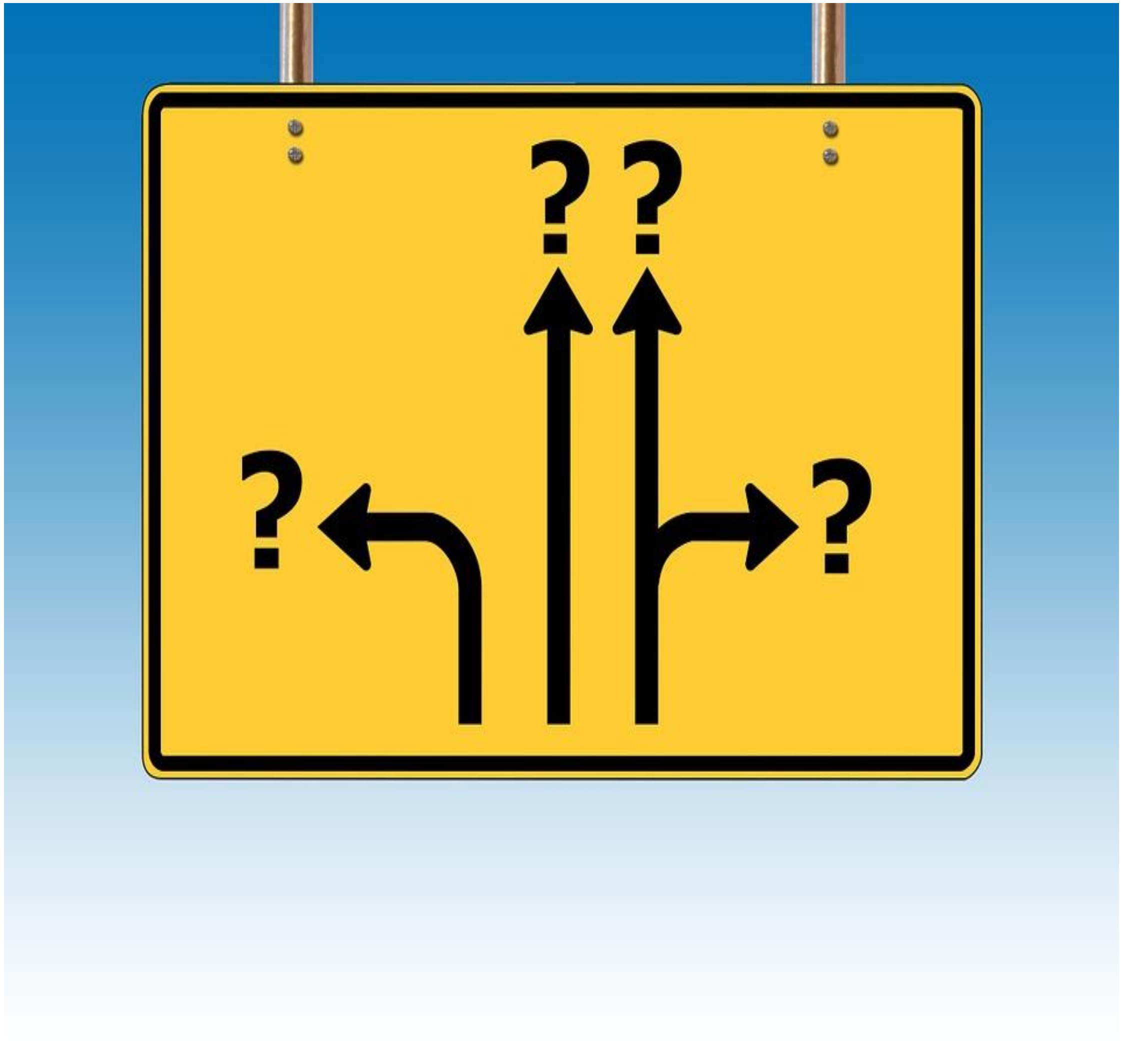
Focus, focus, focus – but on what?



"“Focus, focus, focus!” (This last one was a particular favorite piece of nonadvice. When people hear it, they nod their heads in agreement as if a great truth has been presented, not realizing that they’ve been diverted from addressing the far harder problem: deciding what it is that they should be focusing on. There is nothing in this advice that gives you any idea how to figure out where the focus should be, or how to apply your energy to it. It ends up being advice that doesn’t mean anything.)"

— from "Creativity, Inc.: Overcoming the Unseen Forces That Stand in the Way of True Inspiration"

So…what can go wrong?



I. Focusing on the wrong market opportunity

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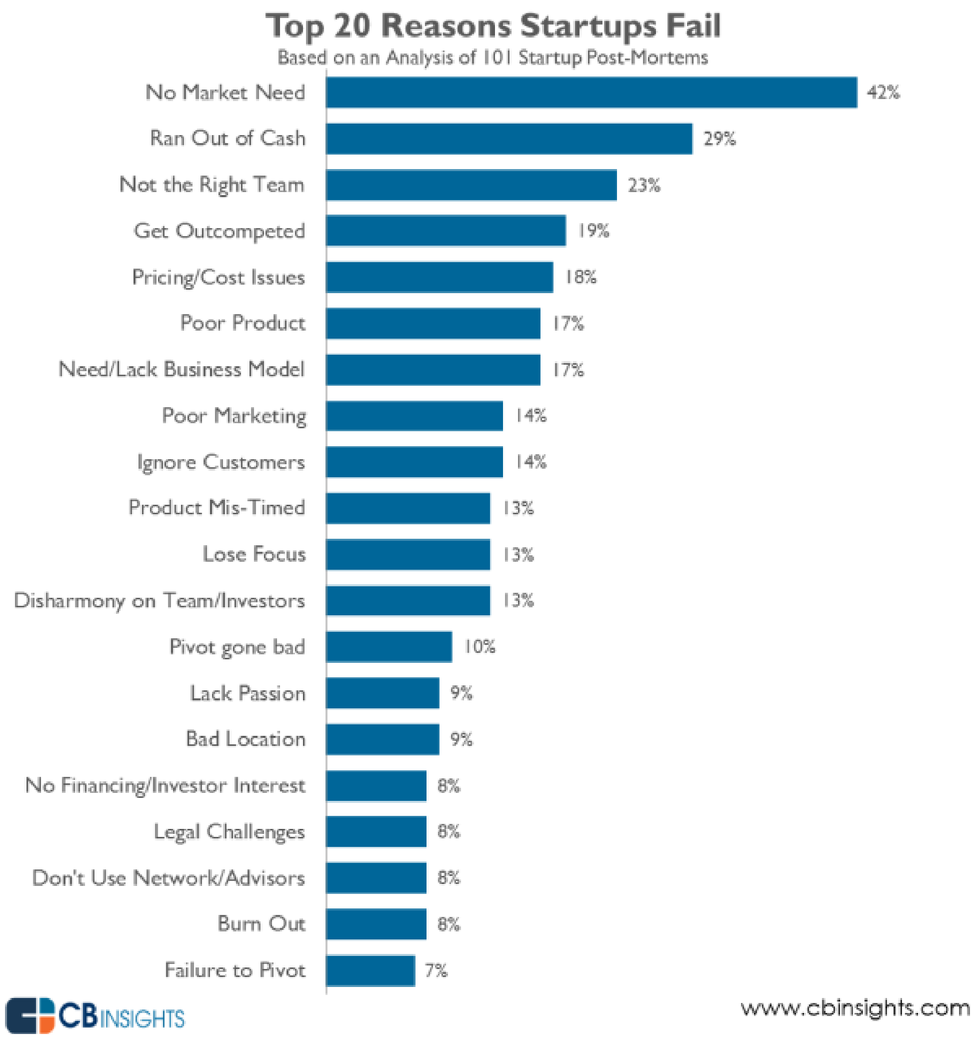
Analyzing 101 startup failure post-mortems:

Not targeting a "market need"

was the number one reason for failure in a notable 42% of cases



I. Focusing on the wrong market opportunity

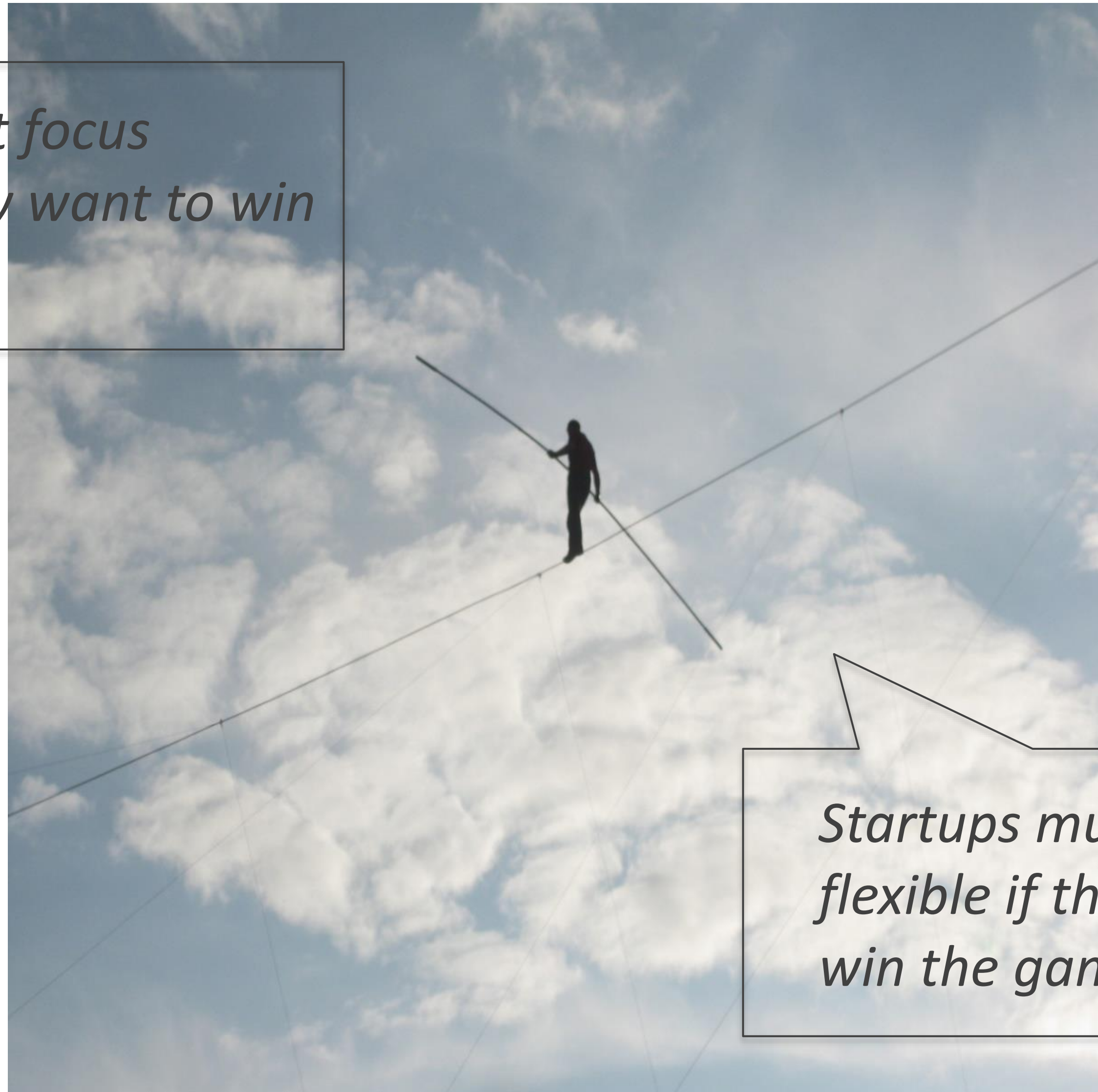
Some common mistakes of startups:

- They see only one market opportunity, and fail to discover more promising ones

- They choose their market opportunity based on an incomplete set of considerations

II. Improper balance between focus and flexibility

Startups must focus sharply if they want to win the game



Startups must stay flexible if they want to win the game

Market Pivots in Start-ups

Source: Tal/Gruber/de Haan, 2016

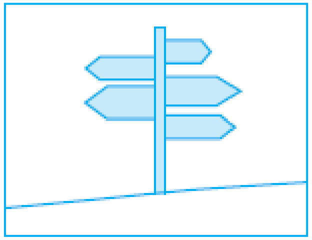
II. Improper balance between focus and flexibility

Some common mistakes of startups:

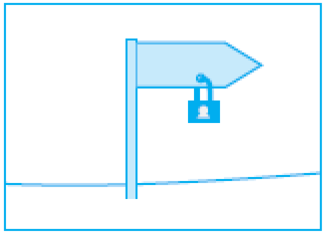
- They develop their capabilities too narrowly and fail to maintain their agility

- They don't know which market opportunities to put aside and spread their limited resources too thinly

So... how can you make sure that:



You are running in the right direction?



You are not locking yourself into one specific direction?

Setting your market opportunity strategy

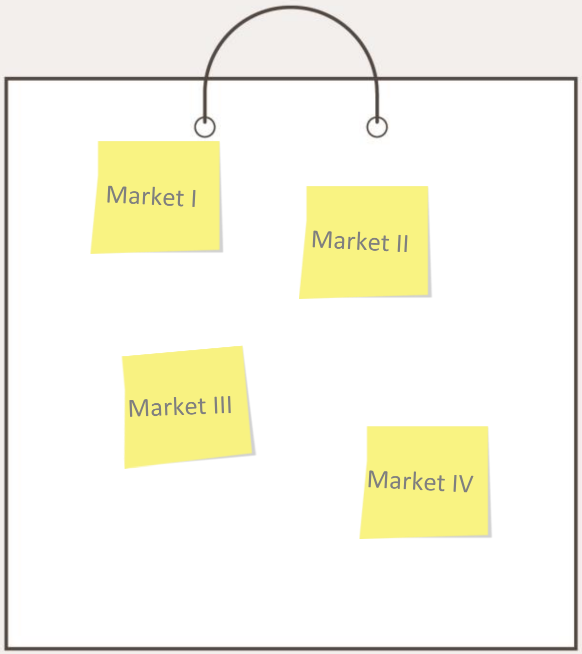
Setting a promising market opportunity strategy - at any stage of the venture- requires deep understanding of three questions:

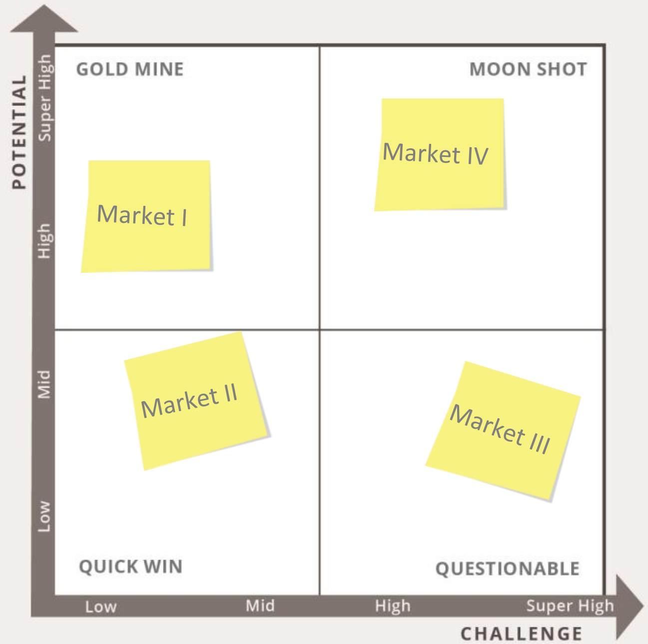
I	Which market opportunities exist for us?
II	What are the most attractive market opportunities for us?
III	What market opportunities should we focus on and how?

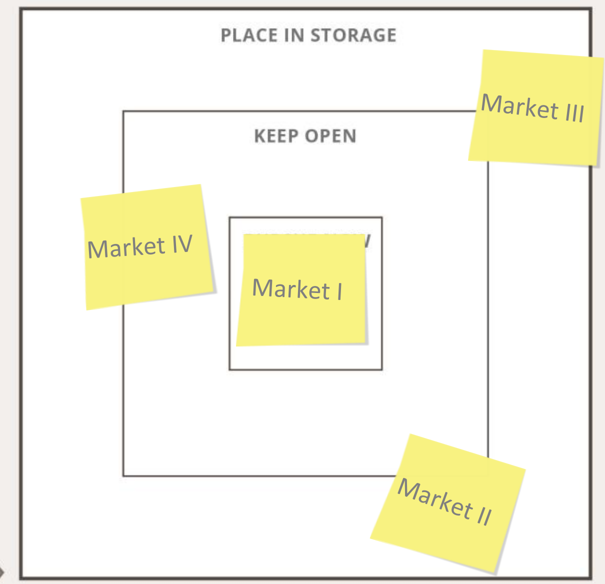
THE MARKET OPPORTUNITY NAVIGATOR

NAME

DATE







MARKET OPPORTUNITY SET

1 Use Worksheet 1 to identify potential market opportunities, and place them in the set

ATTRACTIVENESS MAP

2 Use Worksheet 2 to evaluate the atractiveness of each market opportunity, and place each one on the map

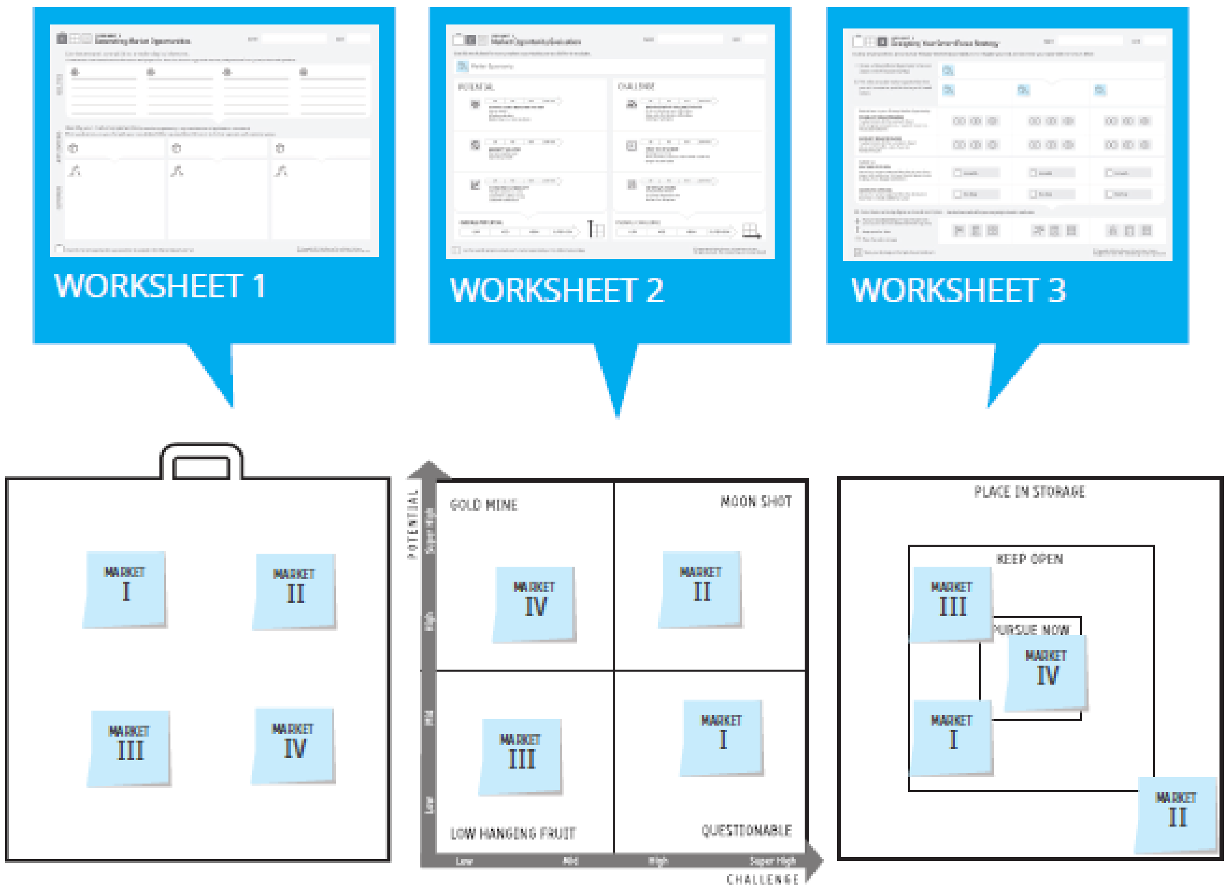
AGILE FOCUS DARTBOARD

3 Use Worksheet 3 to design your Agile Focus strategy, and mark it on the dartboard

market opportunity = any combination of application + customer

Use sticky-notes™ to represent each market opportunity

3 Dedicated worksheets guide you through the process



MARKET OPPORTUNITY SET

ATTRACTIVENESS MAP

AGILE FOCUS DARTBOARD

Manage your Venture in the Face of Uncertainty

The Agile Focus Strategy allows you to balance focus and flexibility. It will influences the way you:

- Develop your technology
- File your patents
- Recruit your employees
- Choose your stakeholders
- Build your company culture
- Pick your brand name
- Design your marketing materials

Increase your chances to win

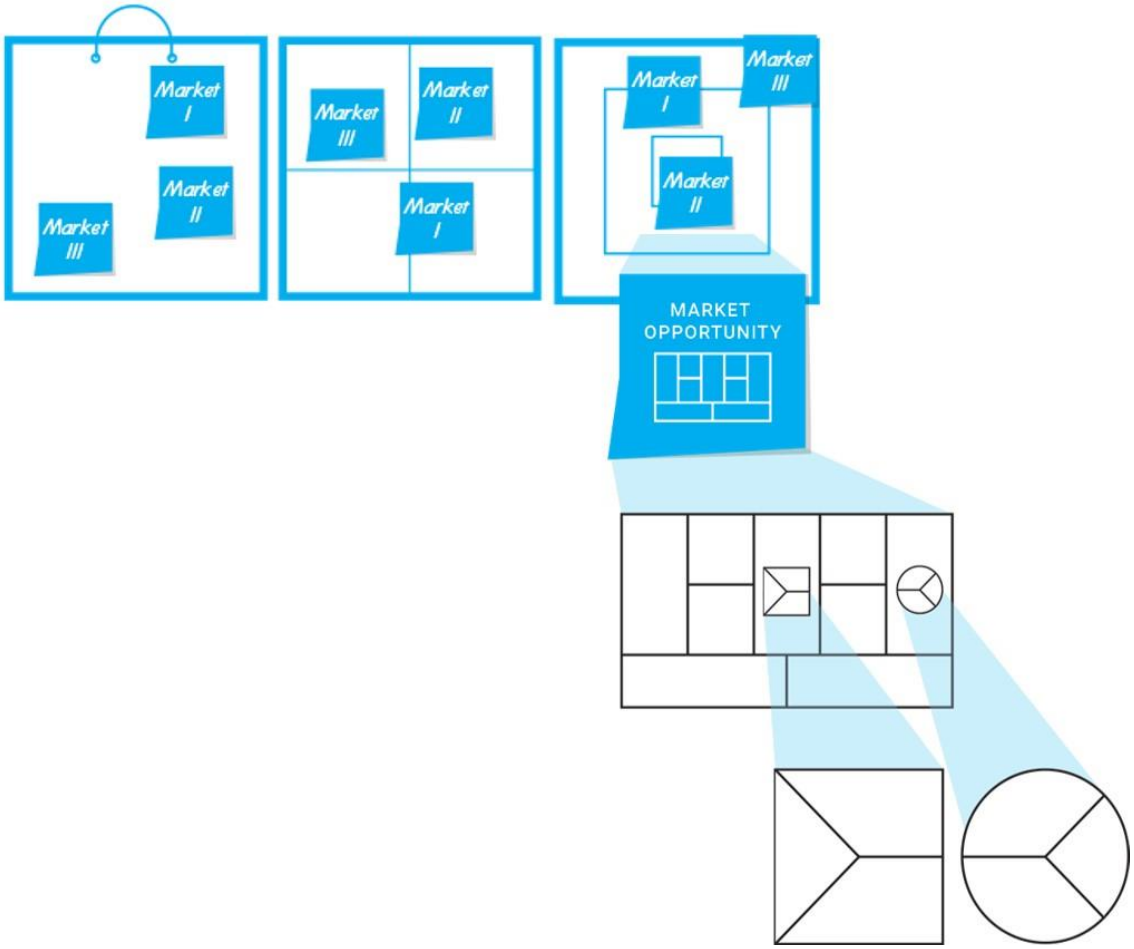
The 3 steps of the Market Opportunity Navigator will ...

SUPPORT YOUR DECISION-MAKING
Make an informed decision for enhancing your value creation potential

PROVIDE A SHARED LANGUAGE
Communicate, share and debate with your team members and stakeholders

OFFER GUIDANCE OVER TIME
Trace back, track and update your decision over time

Complementing other well known business tools



‘Where to Play’ before ‘How to Play’

"Stop playing target market roulette: A new addition to the Lean toolset"

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Entrepreneurship is a Calling

How to Stop Playing "Target Market Roulette": A new addition to the Lean toolset

Posted on May 7, 2019 by steveblank

Modern entrepreneurship began at the turn of this century with the observation that startups aren't smaller versions of large companies – large companies at their core execute known business models, while startups search for scalable business models. Lean Methodology consists of three tools designed for entrepreneurs building new ventures:

- The Business Model Canvas – to write down all the hypotheses about a new business;
- Customer Development – a process for testing those hypotheses outside the building;
- Agile Engineering – to rapidly build minimal viable products to test product/market fit.

These tools tell you *how* to rapidly find product/market fit inside a market, and how to pivot when your hypotheses are incorrect. However, they don't help you figure out

contact: info@kandsranch.com

@sgblank

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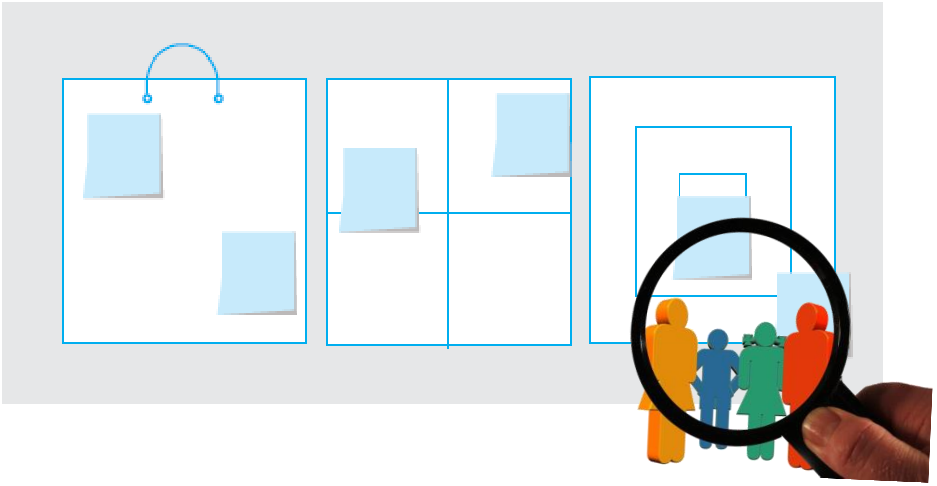
Suitable for different situations

Applying the Market Opportunity Navigator can be beneficial in different cases and for different users:

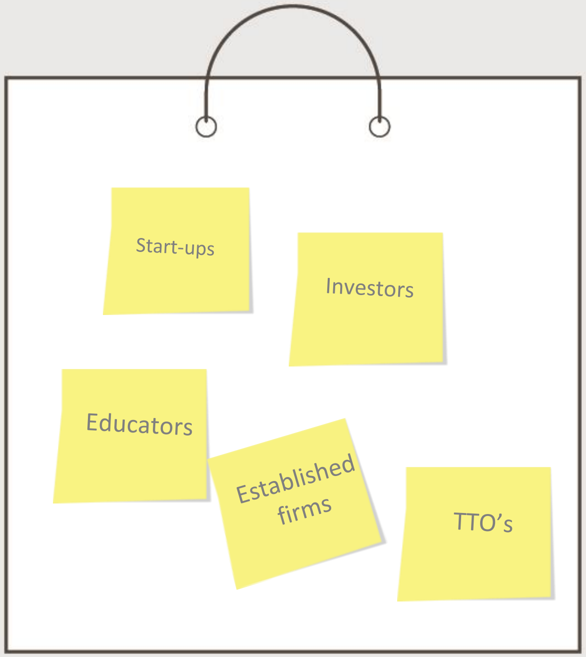
- ✓ Technology push and market pull
- ✓ Initial market choice and overtime
- ✓ Startups and established firms

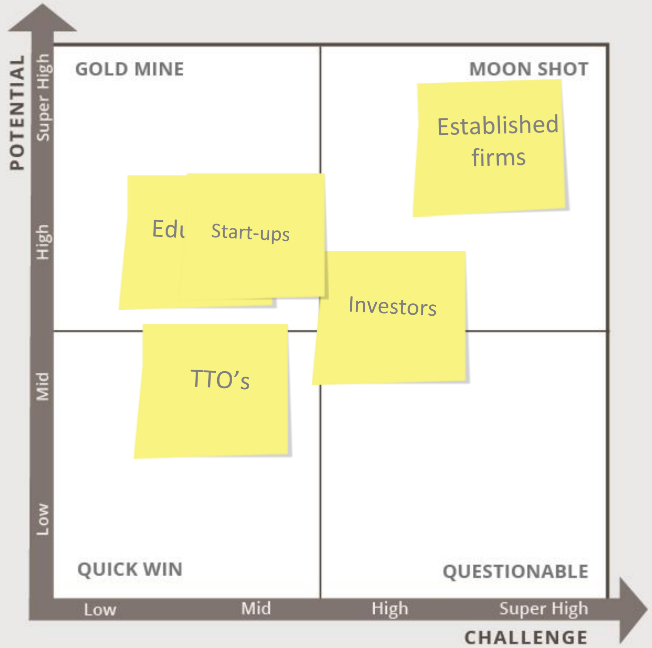


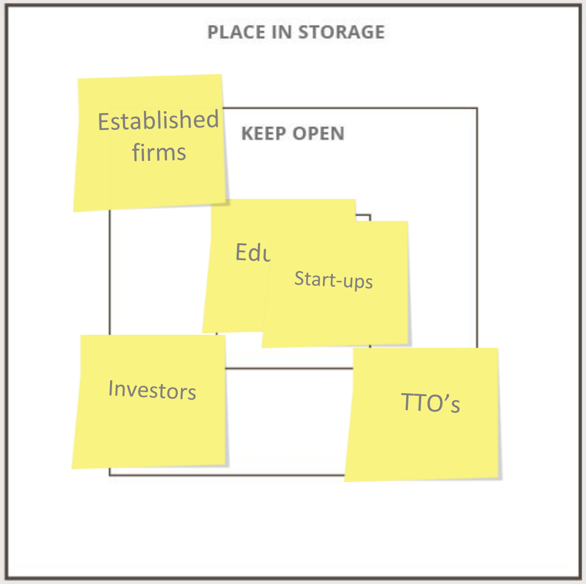
THE MARKET OPPORTUNITY NAVIGATOR

NAME: *Market Opportunity Navigator*

DATE: *2016*







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Presentations of Inventions

16:30- 16:50 VeeOS (Andrei)

16:50- 17:10 CassioP (Antoine)

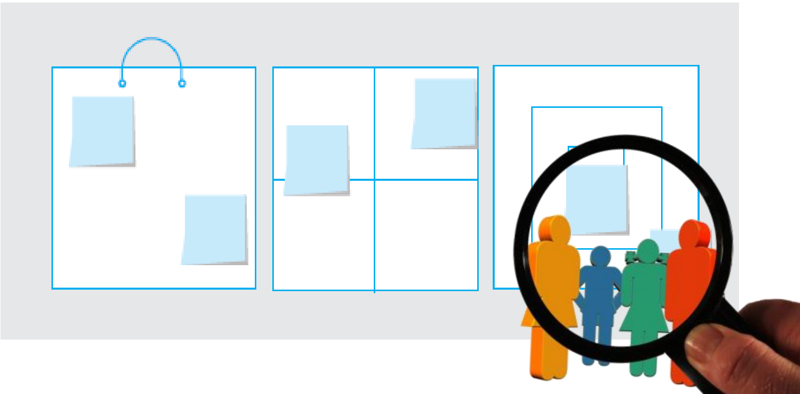
17:10-17:20 Break

17:20- 17:40 NanoDecoder (Nathan & Zhidian)

17:40- 18:00 Solaxer (Maxime & Anna)

18:00- 18:10 Break

18:10- 18:30 Predikon (Victor)



What is your preferred project?

- ✓ Fill out this google form with your top 3 options
- ✓ You can also mention peer students that you would like to form a team with
- ✓ Tomorrow we will start working in teams

https://forms.gle/rCUF4P21m3msyxwx5