On High-Tech Entrepreneurship

- Ideation, Validation & Execution

Onur Aydogan

CESP 2019

CERN Entrepreneurship Student Programme

Week 1

Talk at CERN

Week 3

Check-in with teams via Skype

Week 5

Demo Day

Jury

Prologue

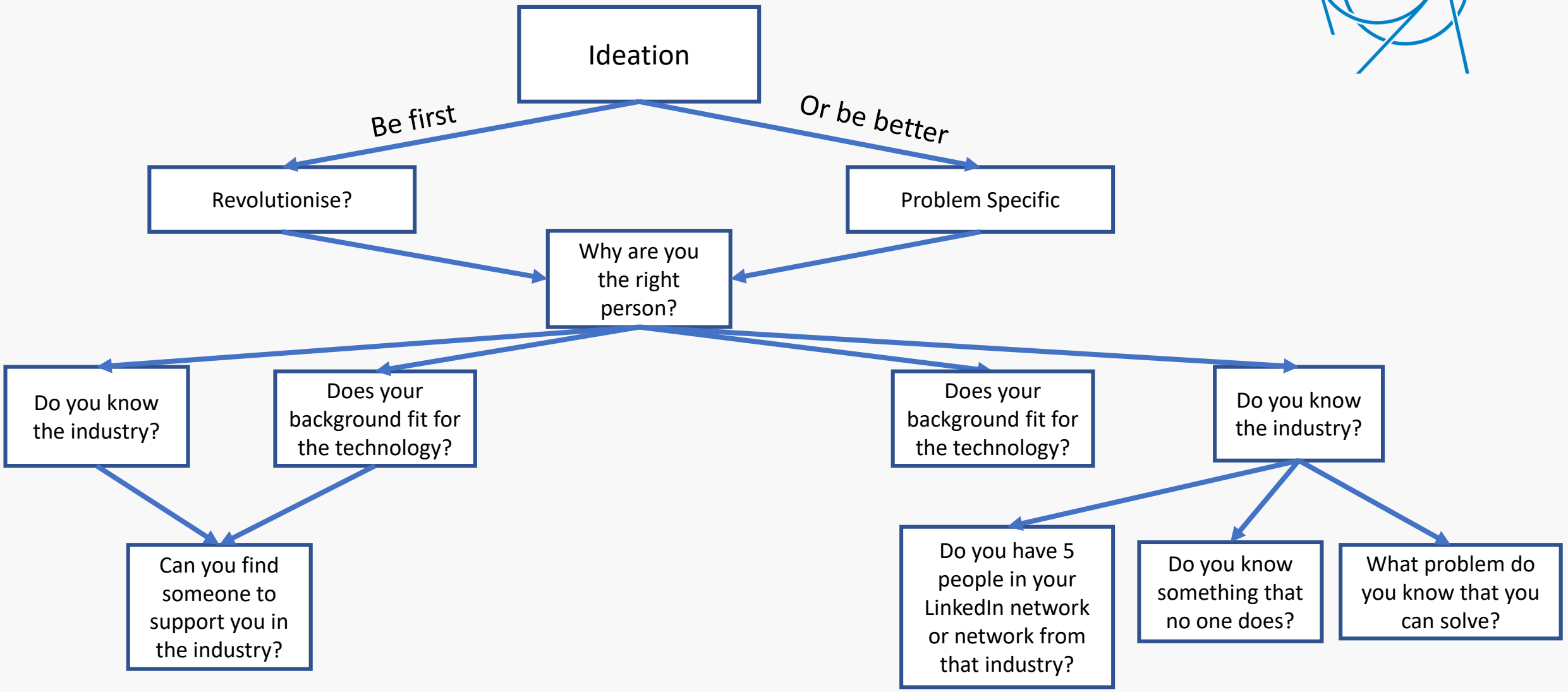
Entrepreneurship is hard but high-tech entrepreneurship is even harder

Often involves high-risk, delicate and sophisticated technology applied in the real world.

Unstoppable force meets an immovable object.

Ideation

Who are you?


Ideation
Be first
Or be better
Revolutionise?
Problem Specific
Why are you the right person?
Do you know the industry?
Does your background fit for the technology?
Does your background fit for the technology?
Do you know the industry?
Can you find someone to support you in the industry?
Do you have 5 people in your LinkedIn network or network from that industry?
Do you know something that no one does?
What problem do you know that you can solve?

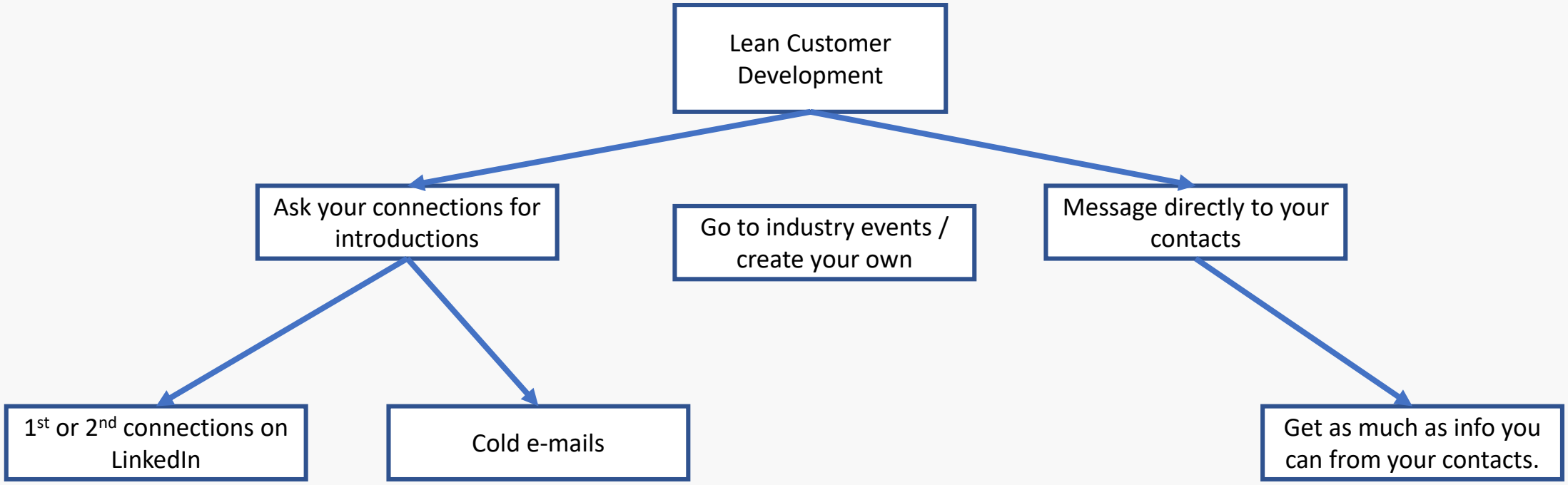
Check for the competition

There is a gap in the market but is there a market in the gap?

Find your niche

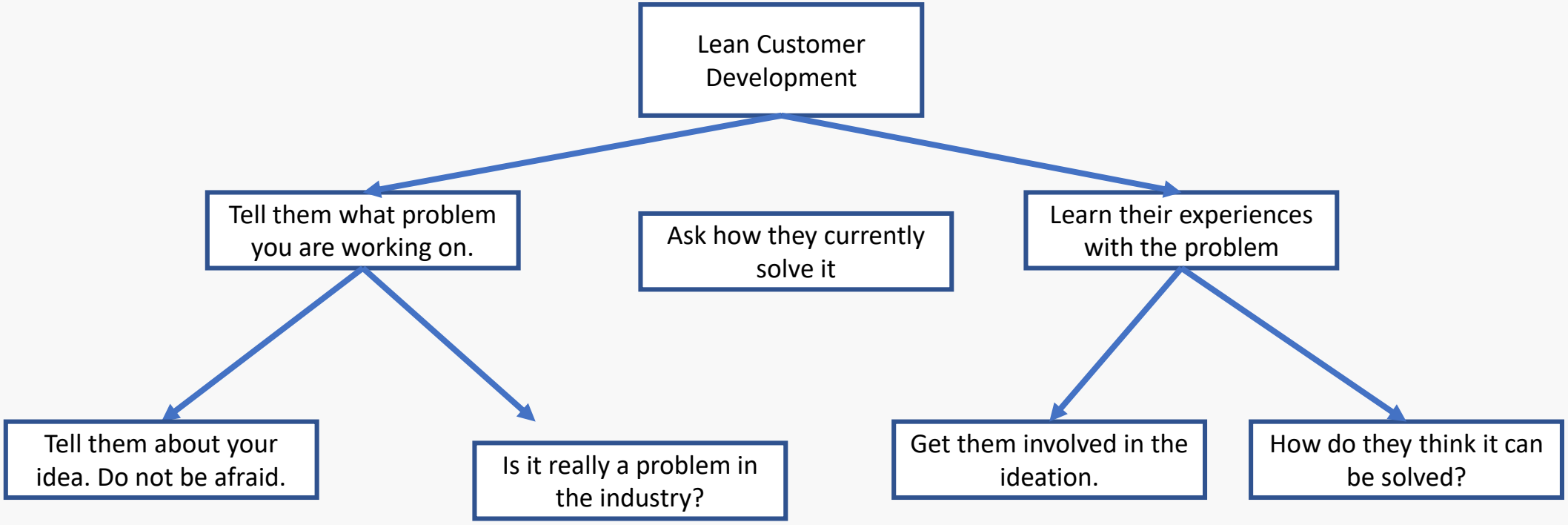
Start talking to Potential Customers

Lean Customer Development

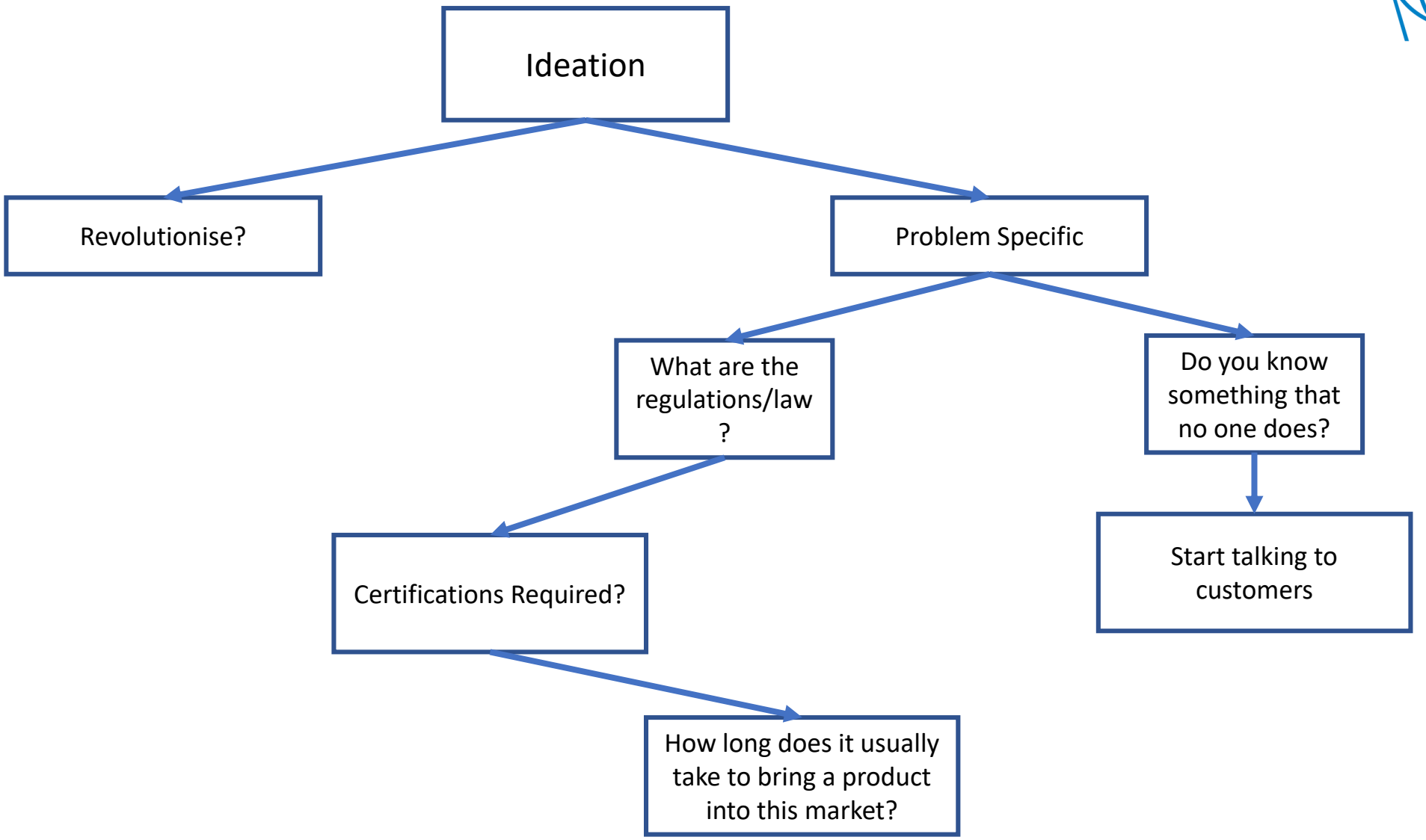

Lean Customer Development
Ask your connections for introductions
Go to industry events / create your own
Message directly to your contacts
1st or 2nd connections on LinkedIn
Cold e-mails
Get as much as info you can from your contacts.

Developing your product with potential customers

Goal is to try to understand if there is a need in the industry



Certifications Required?


Ideation
Revolutionise?
Problem Specific
What are the regulations/law ?
Do you know something that no one does?
Certifications Required?
Start talking to customers
How long does it usually take to bring a product into this market?

Why would a senior industry expert talk to an entrepreneur?

Achilles’ Heel

We all like to talk about ourselves.

Everyone likes to sound smart.

And we all by nature like to help one another.

Flatter the person you are talking to

Do not be a salesperson

Be the young entrepreneur who seeks to make a change.

Ask for help. There is no shame in it.

Remember you are a student seeking to learn.

Show them you are trying to learn

Do not try to sell anything at this early stage.

Gain Knowledge – this is your most valuable profit in the next 5 weeks

Remember, get them involved – make them part of your journey.

More lessons on lean customer development

Do not write long e-mails

Not too short, not too long – to the point.

Know who you are reaching out to

Know what you need from this person

Add some credibility to yourself

Tell them the problem you are working on

Ask for a minimal request for time

Something like this:

Hello, my name is _____ and I am _____.

I am currently part of CERN Entrepreneurship Student Programme at CERN in Geneva, Switzerland. I am looking into learning more about _____.

It would be highly valuable for me to hear/learn from your experience and knowledge in the field and ask your opinion on a few subjects.

If I may, may I ask for a quick phone call please?

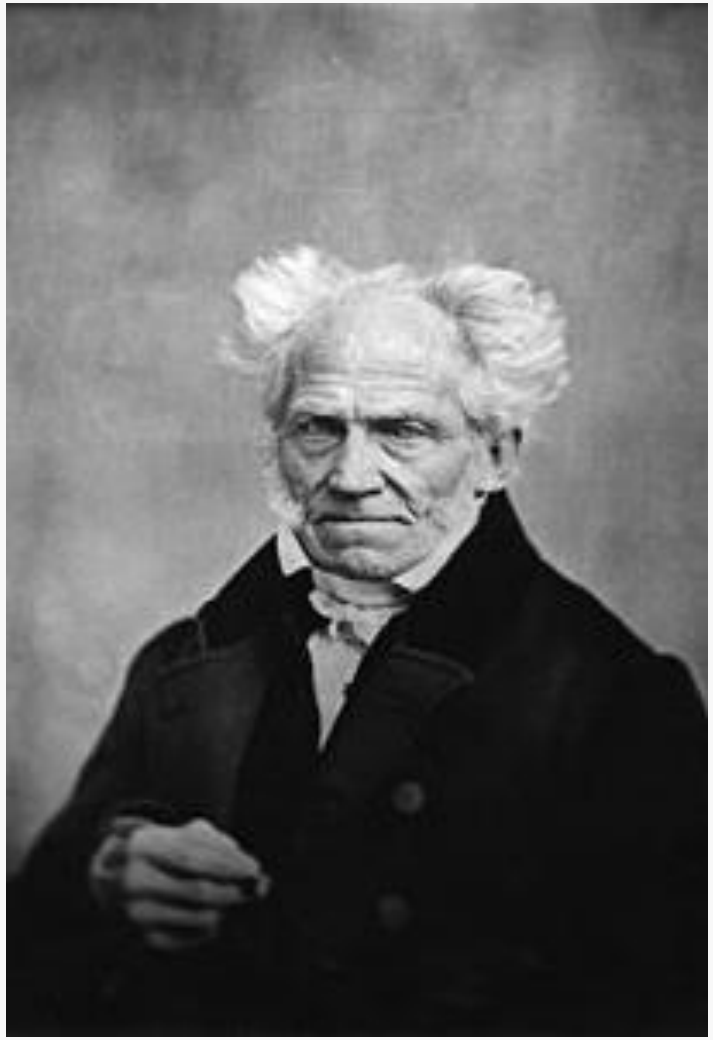
Thank you.

All the Best/Kind Regards.

During your call.

- Ask them what the current problem in the industry?
- How do they solve it currently?
- Ask how they think it can be solved?
- Include them in your ideation.
- People will be willing to even help more if you include them and show them that their ideas are appreciated.
- Always thank them and show them you appreciate their time.
- Ask them about the competition.
- How much are they paying for the current solution?
- How much they think your solution would worth?

- Talk to more experts in the field.



“The task is not so much to see what no one has yet seen, but to think what nobody yet has thought about that which everybody sees.” - Arthur Schopenhauer.

Innovation can mean doing something completely new but it can also mean making a new combination of things that already exist.

Morphological Box (Zwicky Box)

Hold high opinion of a recognised leader/organisation

Include their work in your own work

Adopt new rising trends

Hold opposite beliefs in each hand.

You found the **IDEA**.

Validated with the commercial experts that you are working on a real problem in an industry.

Or you are revolutionising and found a new gap in the market where you can be first.

You are excited and enthusiastic.

- “Science is the great antidote to the poison of enthusiasm and superstition.”

Validation

Validation

- Check your science. Most of the high-technologies are quite good at laboratories and experimentation. But in real world, there might be risks that can easily be overseen.

- Check your science and technology and see how the real world application can work.

- You are perhaps one of the best people in your relative field but none of us is smarter than all of us.

- Find the right experts in the area. Talk to them and ask them the right questions.

- Get them as advisers if you can.

Validation

- Talk to experts in the field.
- Research the articles in the field.
- Find the state-of-the-art of your field.
- Talk to potential customers.

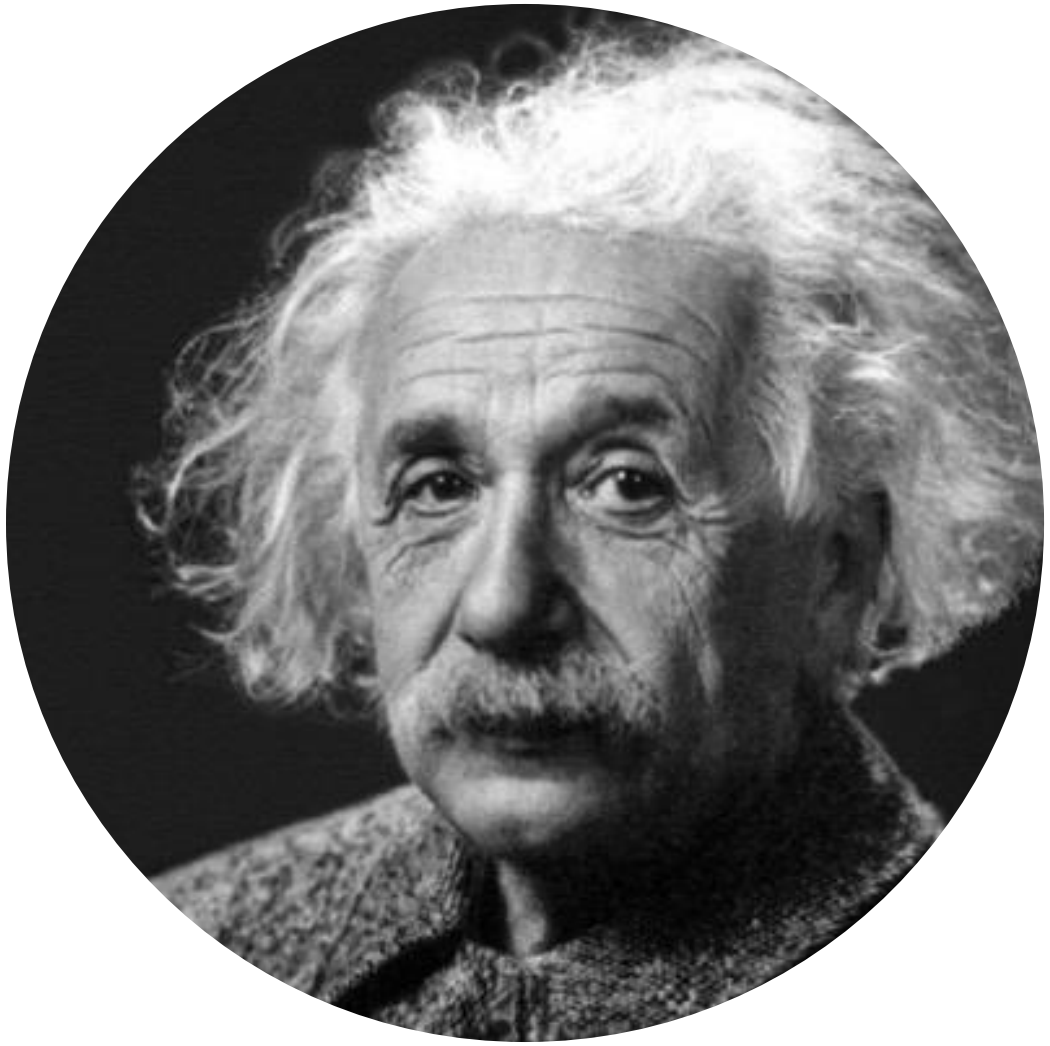
Validation

- Why now?

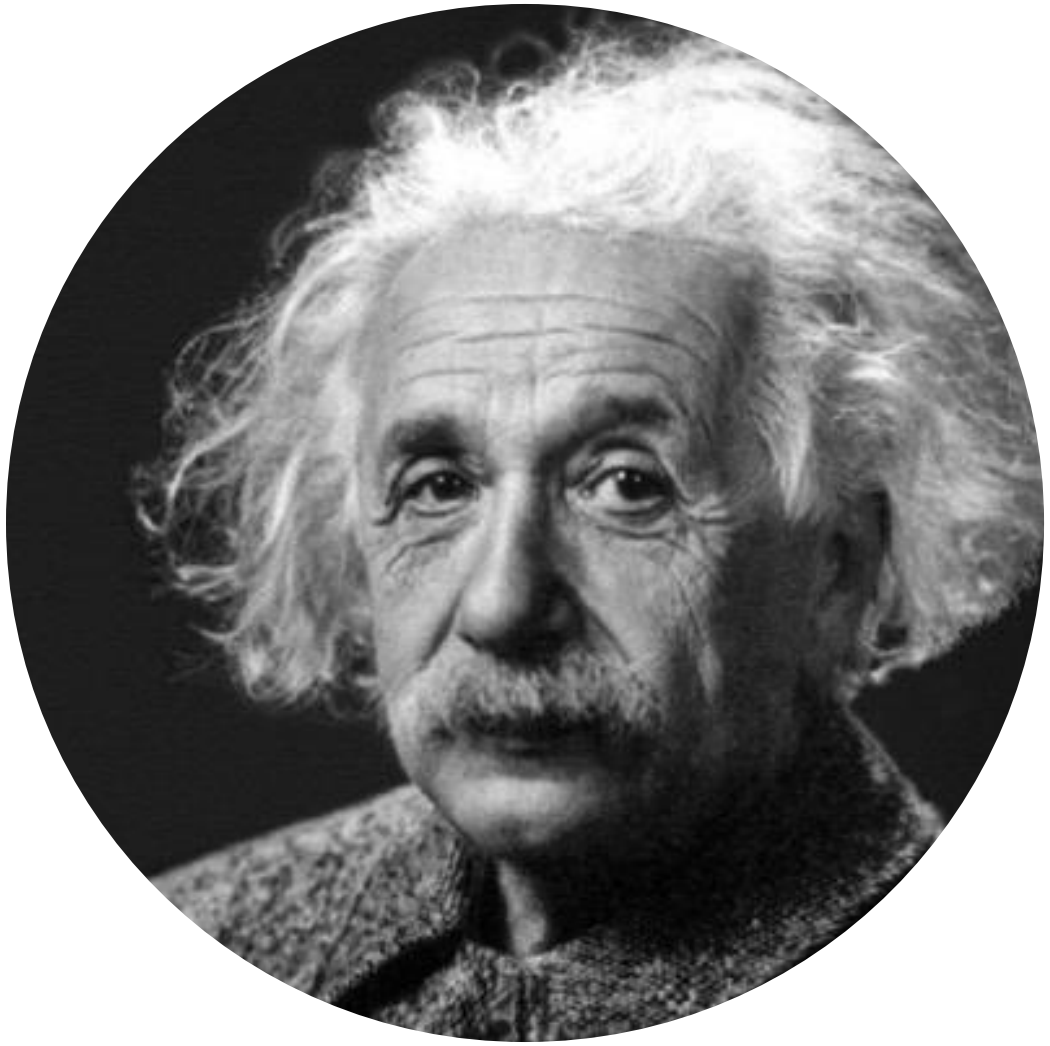
- Why no one has built what you are building before?

Execution

- No area of science is a closed book containing all the answers.
- High-tech entrepreneur walks hand-to-hand with science.
- Some ideas can be wrong and can be abandoned. That’s the way science always works.



- "**Imagination** is more important than knowledge. For knowledge is limited, whereas **imagination** embraces the entire world, stimulating progress, giving birth to evolution."



“There is not the slightest indication that nuclear energy will ever be obtainable. It would mean that the atom would have to be shattered at will. “ Albert Einstein 1934.

Validation

- Listen to experts’ advice but do not always do what they exactly tell you to do.
- Take advice not always opinions.

You now have checked the science with experts. Validated with customers. – What’s next?

Rosetta Stone


What is the Rosetta Stone?

Write yours

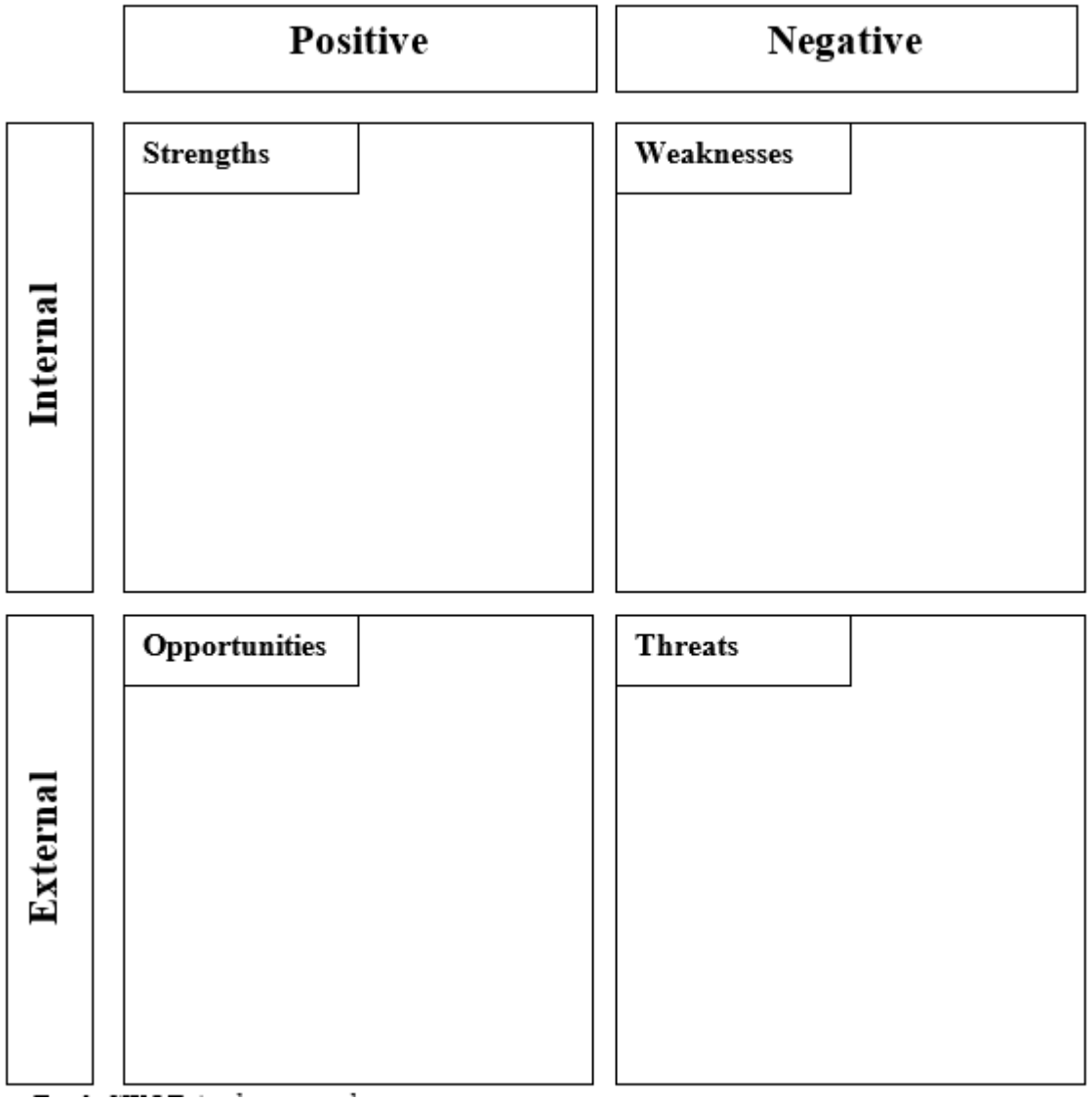
SWOT Analysis

- Strengths

- Weaknesses

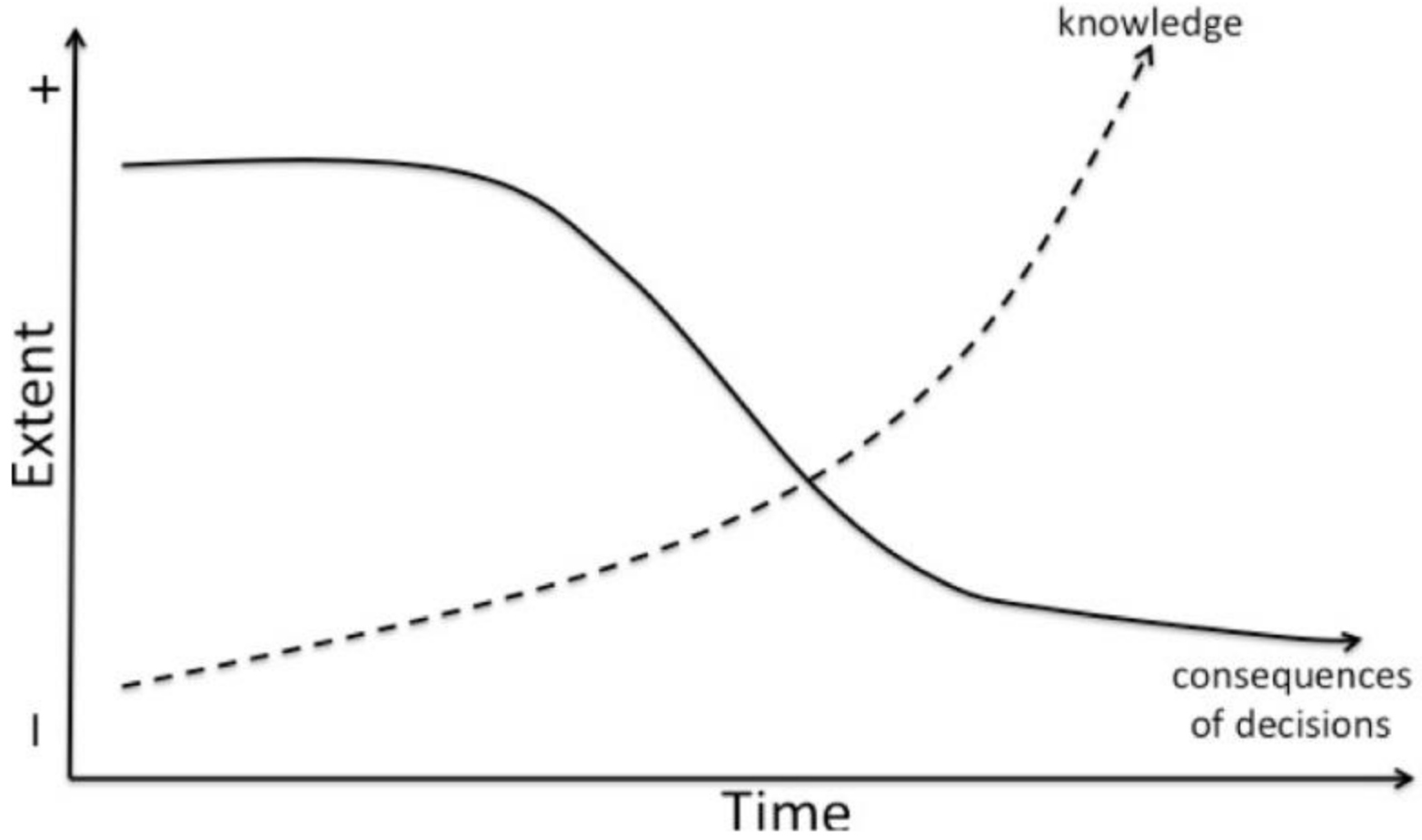
- Opportunities

- Threats



Execution

Consequences Model



Try and work with Universities

If you do not have a prototype, built your prototype with them.

If you have a prototype, have them as advisors.

Get Letters of Support if you can from your advisers and supporters.

Digest your decisions.

Not always consistent but definite

Things can change as you gain new information.

Attention to detail, the beauty is usually there – but do not get lost in your thoughts.

During execution, make prompt decisions – get the job done.

Your opinion can change as you gain new knowledge – do not be hard on yourself.

Do not be afraid of a pivot if necessary.

Passion, hard-work and most importantly determination.

Avoid VCs as long as you can – look for grants, government, university funding.

Remember to keep your customers in the loop – update them, perhaps they will help you with trials.

Decentralised, flexible R&D Strategy