

Creating and capturing value from innovative tech

Ph.D. Class ENG-642

Dr. Sharon Tal

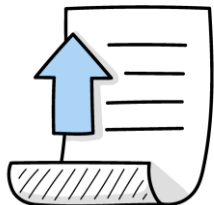
sharon@wheretoplay.co

Session 3

Fall Term 2025

Today's agenda

- Share & learn: 1-2 presentations of interview takeaways, Q&A
- Evaluating the attractiveness of your opportunity: Potential and Challenge (Worksheet 2 of the Market Opportunity Navigator)
- Using AI to support your market research
- Assessing the social/ environmental impact of your opportunity
- Team work on Worksheet 2



Deliverables: The filled Worksheet 2 for one opportunity (or more)

Share & learn

- What are your value proposition assumptions?
- Who did you interview to validate these assumptions?
- How would you phrase your value proposition?
- What did you learn from this process? What surprised you?
- Any questions/ challenges?

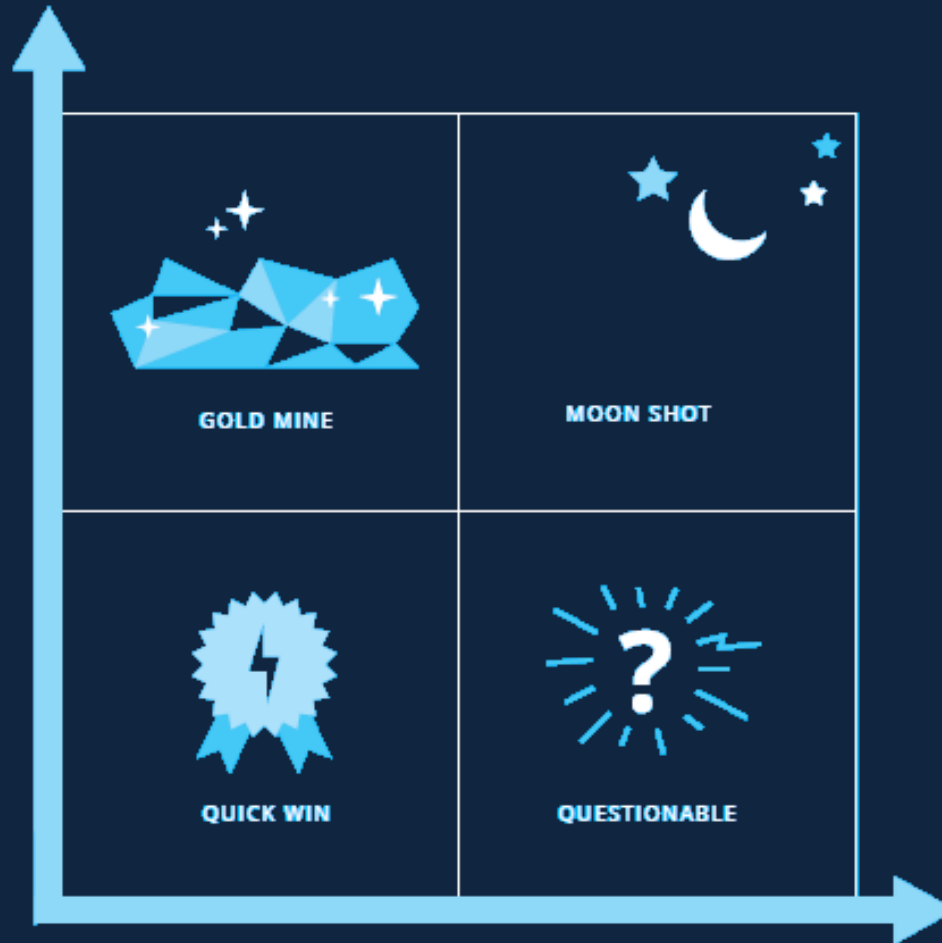


The main takeaways from this exercise

- Significant value proposition is a key condition for a business opportunity
- The only way to understand customers needs is to talk with them
- Its an art and a science: the learning curve is huge
- Its an iterative process!

Step 2:

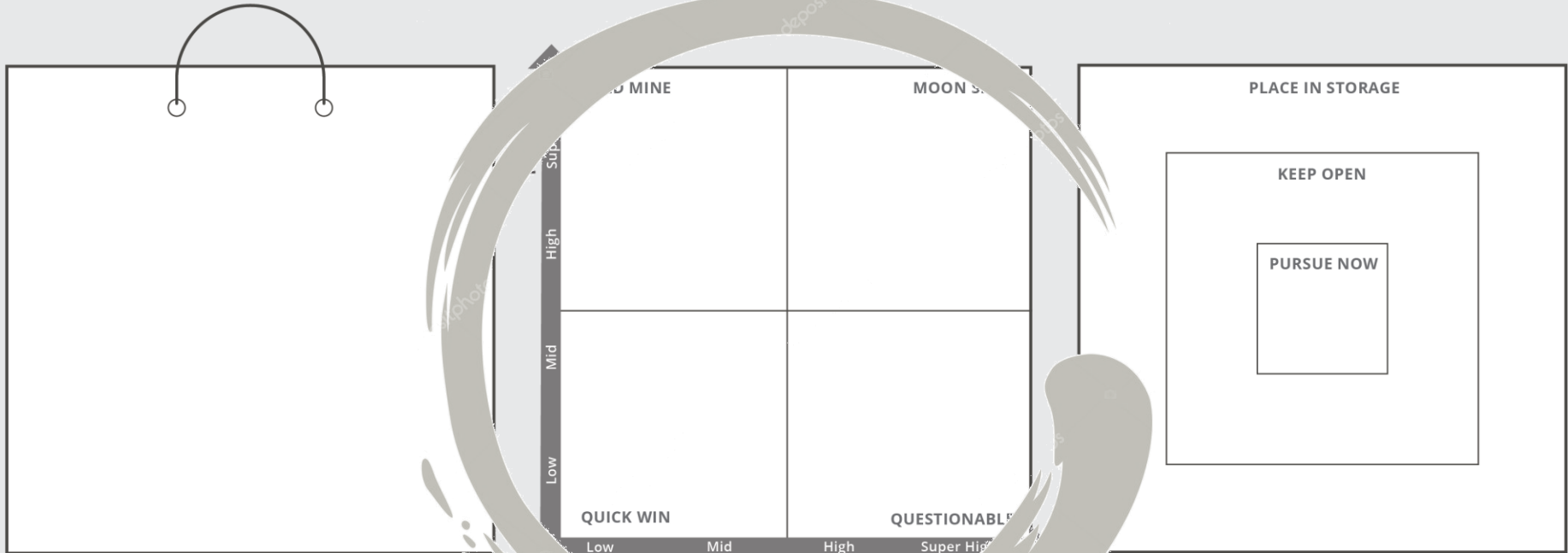
Evaluating the attractiveness of your opportunities



THE MARKET OPPORTUNITY NAVIGATOR

NAME

DATE



MARKET OPPORTUNITY SET

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

ACTIVITVENESS MAP

- 2 Use Worksheet 2 to identify each market opportunity 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

How attractive is your opportunity?

- ✓ Who are your customers?
- ✓ What is their need / job to be done?
- ✓ How do they currently solve it?
- ✓ How would your solution solve it?
- ✓ How is your solution better (in measurable outcomes)?

Is there a compelling reason to buy?

But... there are more considerations to look at...

What is an attractive opportunity?

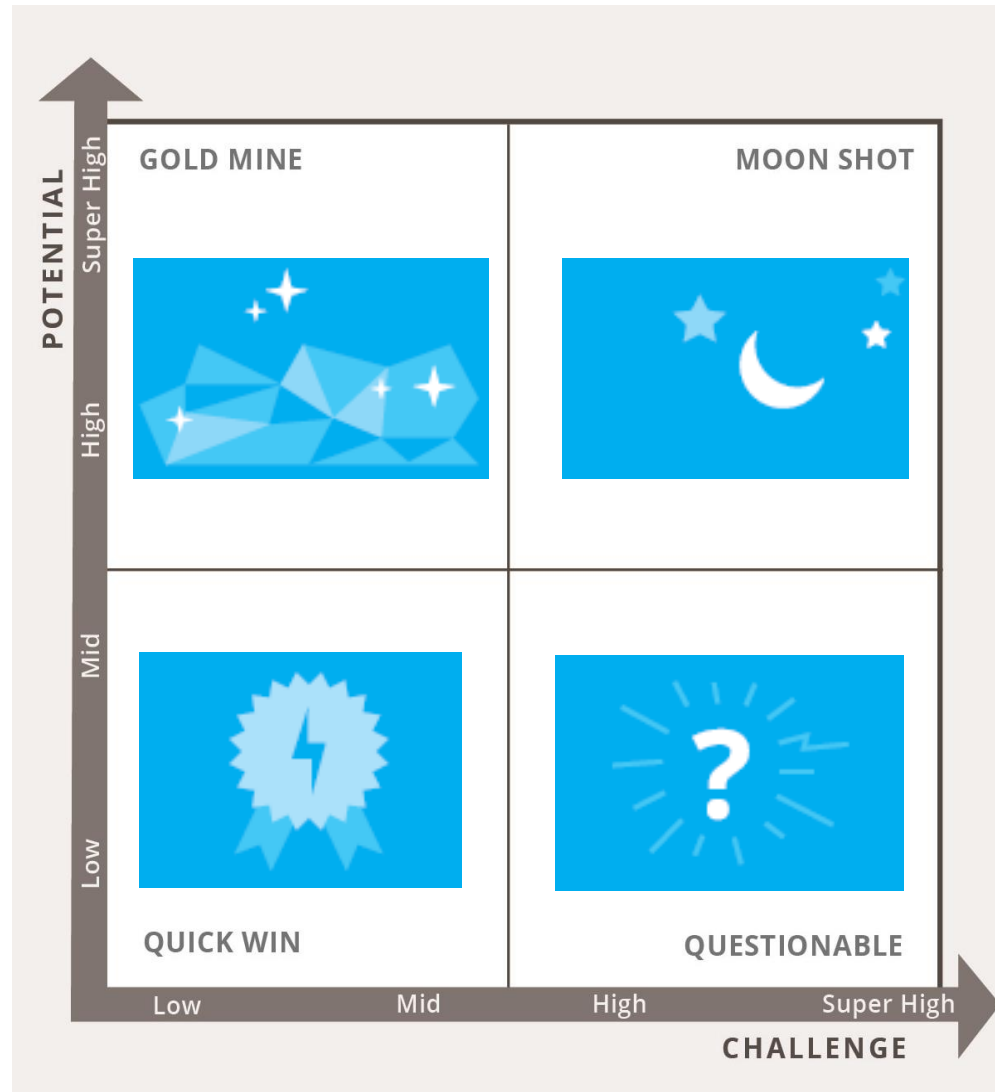


The potential



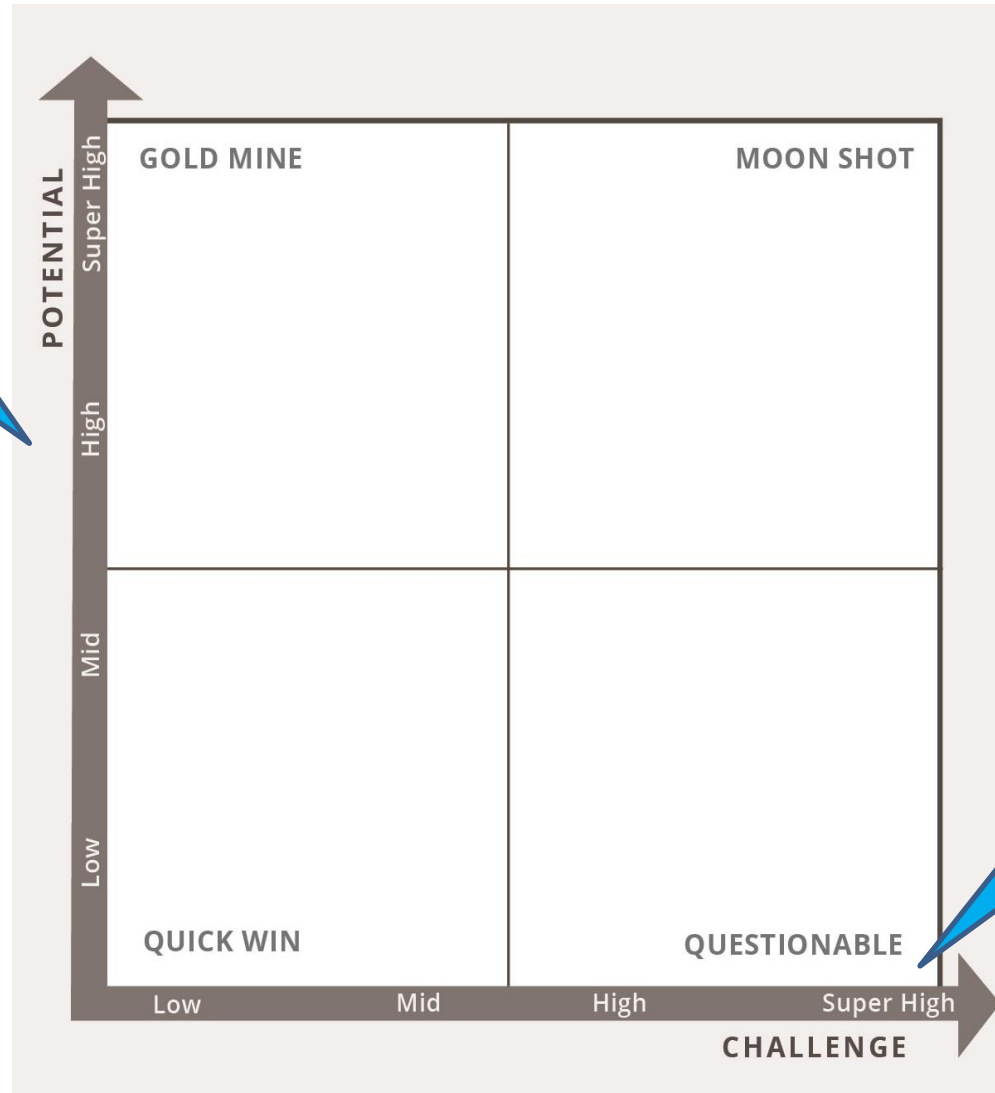
The challenge

The Attractiveness Map



What type of opportunities do you have?

What shapes the potential of an opportunity?



What shapes the challenge of an opportunity?

Use this worksheet for every market opportunity you would like to evaluate.



Market Opportunity:

POTENTIAL



COMPELLING REASON TO BUY

- Unmet need
- Effective solution
- Better than current solutions



MARKET VOLUME

- Current market size
- Expected growth



ECONOMIC VIABILITY

- Margins (value vs. cost)
- Customers' ability to pay
- Customer stickiness

OVERALL POTENTIAL

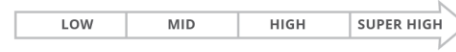


CHALLENGE



IMPLEMENTATION OBSTACLES

- Product development difficulties
- Sales and distribution difficulties
- Funding challenges



TIME TO REVENUE

- Development time
- Time between product and market readiness
- Length of sale cycle



EXTERNAL RISKS

- Competitive threat
- 3rd party dependencies
- Barriers to adoption

OVERALL CHALLENGE



Potential for value creation

#1

Compelling Reason to Buy

Will someone really want our offer and be willing to pay for it?

?

Is there a real unmet need?

?

Can we provide an effective solution to this need?

?

Can we address it better than current solutions?

Potential for value creation

#1

Compelling Reason to Buy



Desk research is not enough...



You have to get out of the building!

Potential for value creation

#2

Market volume

How big is this market, now and in the near future?

?

What is the size of the current market?

?

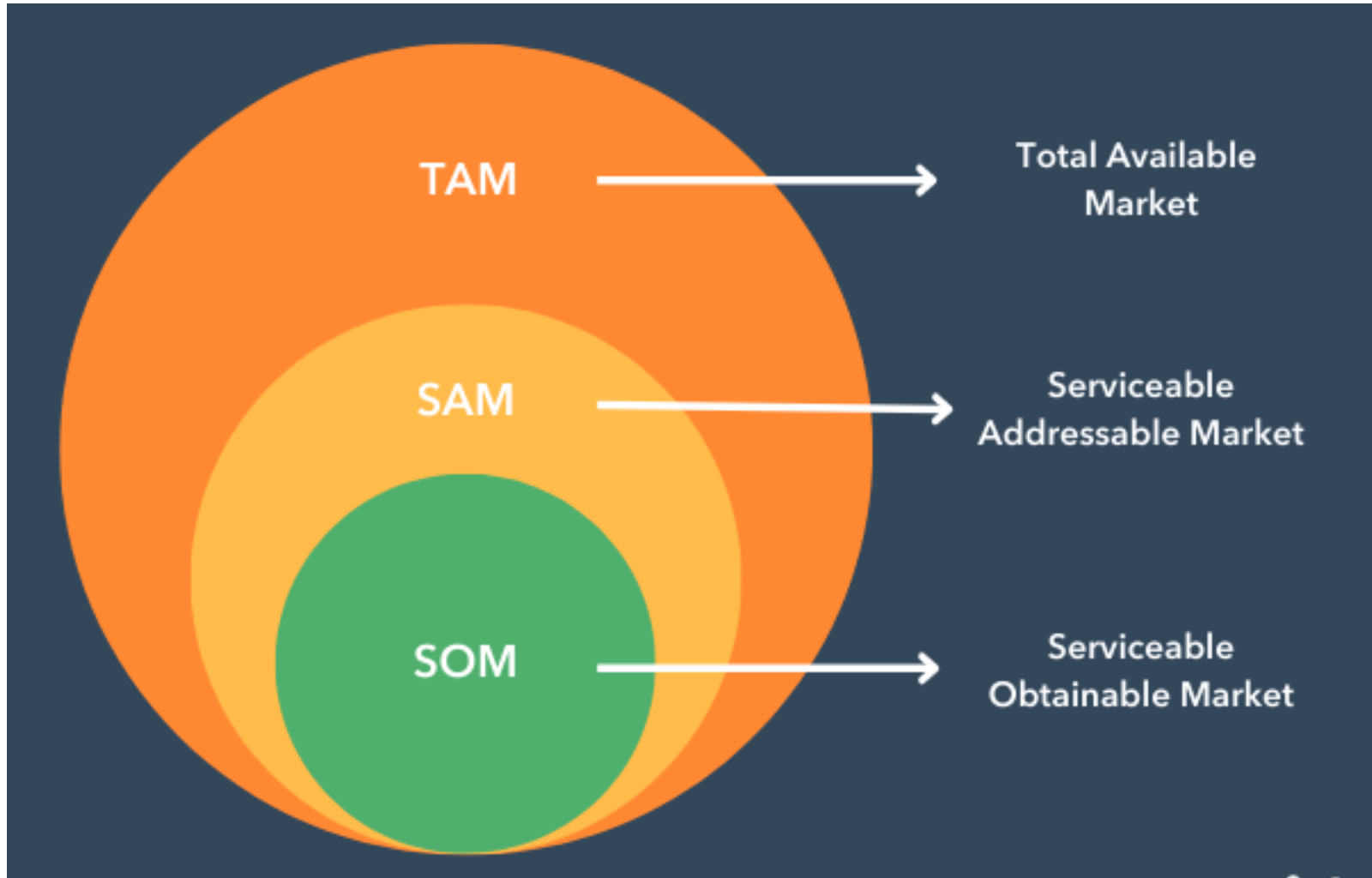
How much is it expected to grow over time?

Market size

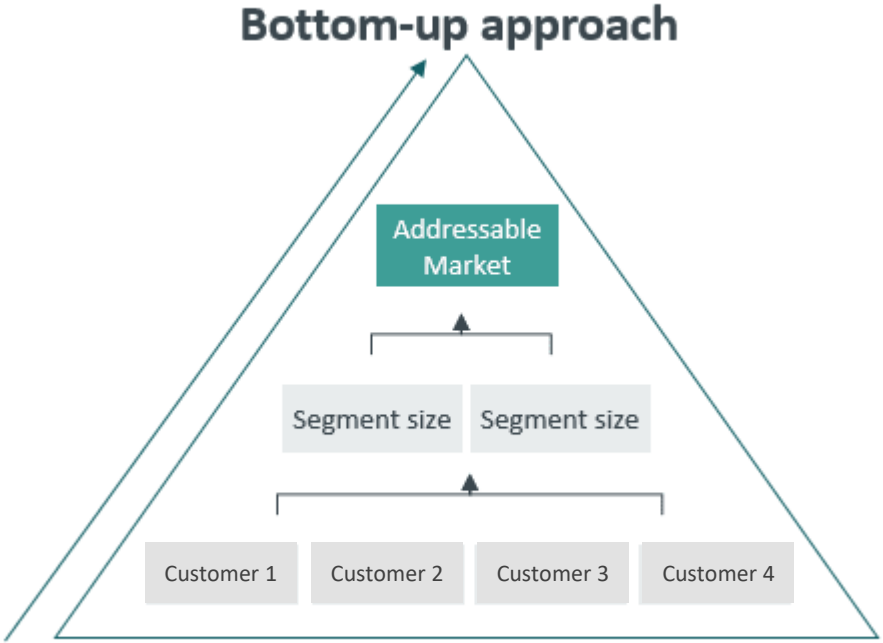


The amount of annual revenue, expressed in dollars per year, your business would earn if you achieved 100% market share.

Valuable framework for assessing market size



Top-down and bottom-up approach for market sizing



Potential for value creation

#3

Economic viability

Is it worthwhile from a business perspective to pursue this market?

?

Do you have sizeable margins?

?

Are the customers well-funded enough to pay the price?

?

How sticky will customers be?

Example: Lets go back to Flyability



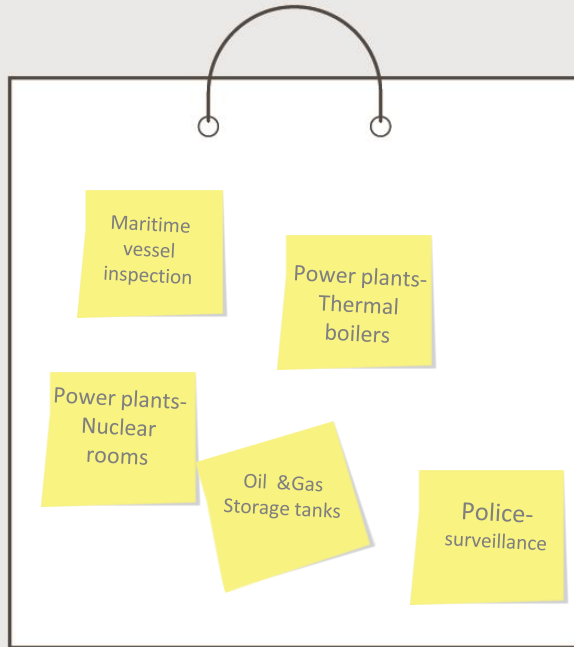
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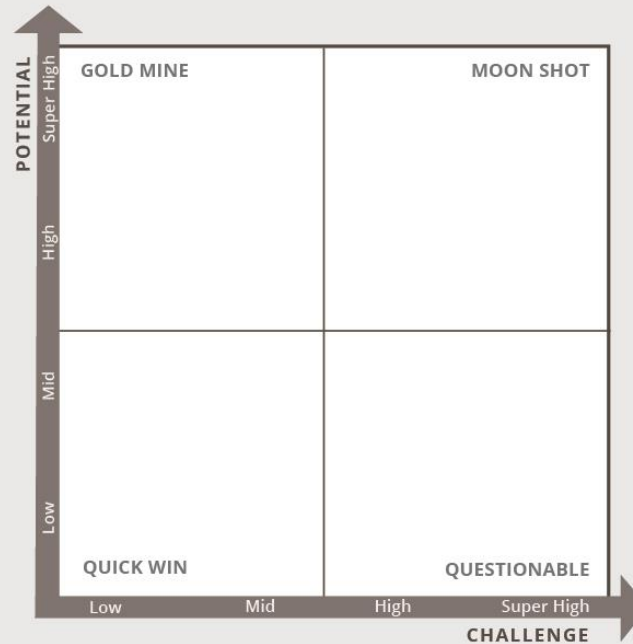
FlyAbility

2015



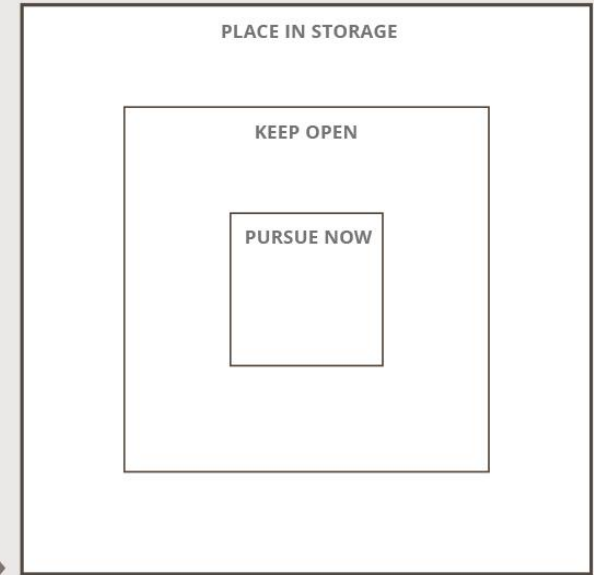
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EVALUATE MARKET OPPORTUNITY ATTRACTIVENESS

Use this worksheet for every market opportunity you would like to evaluate.



Market Opportunity: Inspection of thermal boilers in power plants

POTENTIAL



COMPELLING REASON TO BUY

Unmet need
Effective solution
Better than current solutions



MARKET VOLUME

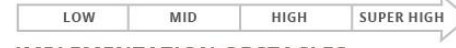
Current market size
Expected growth



ECONOMIC VIABILITY

Margins (value vs. cost)
Customers' ability to pay
Customer stickiness

CHALLENGE



IMPLEMENTATION OBSTACLES

Product development difficulties
Sales and distribution difficulties
Funding challenges



TIME TO REVENUE

Development time
Time between product and market readiness
Length of sale cycle



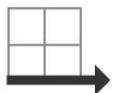
EXTERNAL RISKS

Competitive threat
3rd party dependencies
Barriers to adoption

OVERALL POTENTIAL



OVERALL CHALLENGE



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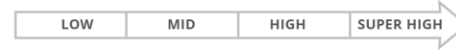


CHALLENGE



IMPLEMENTATION OBSTACLES

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TIME TO REVENUE

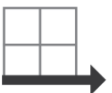
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OVERALL CHALLENGE



Challenge in capturing value

#1

Implementation obstacles

How difficult will it be for you to create and deliver your offer?

?

How difficult will it be for you to develop the product?

?

How difficult will it be for you to access the market?

?

How challenging will it be for you to raise funding for this option?

Challenge in capturing value

#2

Time to revenues

How long will it take until you can generate cash flow through sales?

- ? What is the estimated time for development?
- ? Will we need to wait until the market is ready for our offer?
- ? How long is the sale cycle expected to be?

Challenge in capturing value

#3

External risks

What obstacles in your business environment can stand in your way?

?

How threatened are you by competition?

?

How dependent are you on other companies or players?

?

How susceptible are you to adoption barriers?

Competitive threat



Consider the extent to which you have competitive advantage vis-à-vis competing firms. The greater that advantage is, the better your competitive situation.

Consider direct and indirect competition

DIRECT

The companies that sell the same thing as you to the same people

INDIRECT

The companies that offer a different service but could potentially satisfy the same need

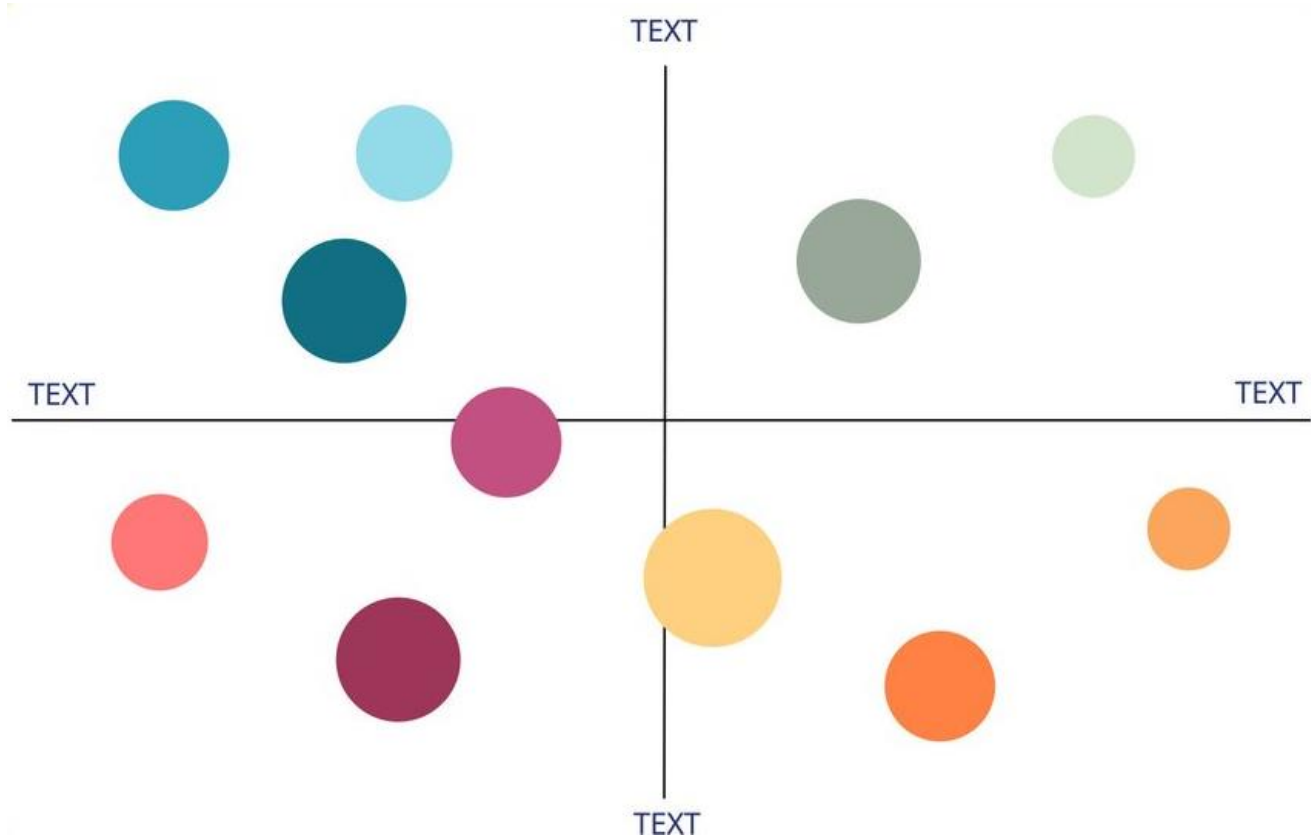
Valuable framework for summarizing your competitive advantage

1. Competitive table

	Competitor 1	Competitor 2	Competitor 3	Our offering
Feature 1	✓	✓	✓	✓
Feature 2	✓	✗	✓	✓
Feature 3	✗	✓	✓	✓
Feature 4	✓	✗	✗	✓
Feature 5	✓	✓	✓	✗
Feature 6	✗	✓	✓	✗

Valuable framework for summarizing your competitive advantage

2. Perceptual mapping



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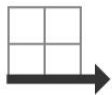
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OVERALL CHALLENGE



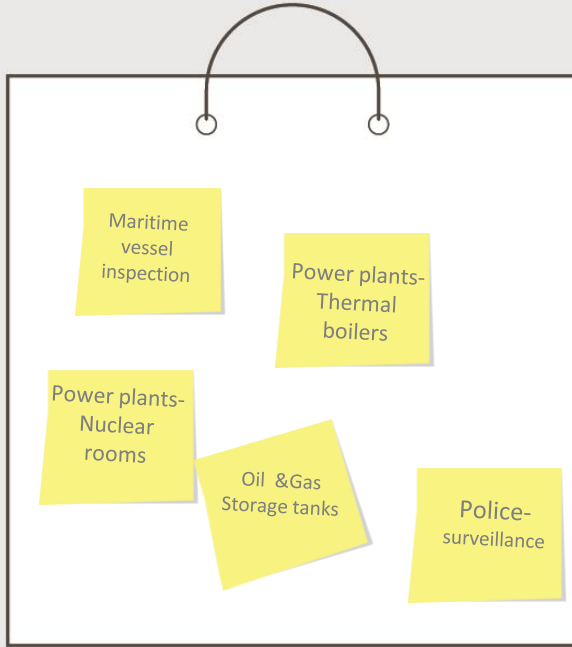
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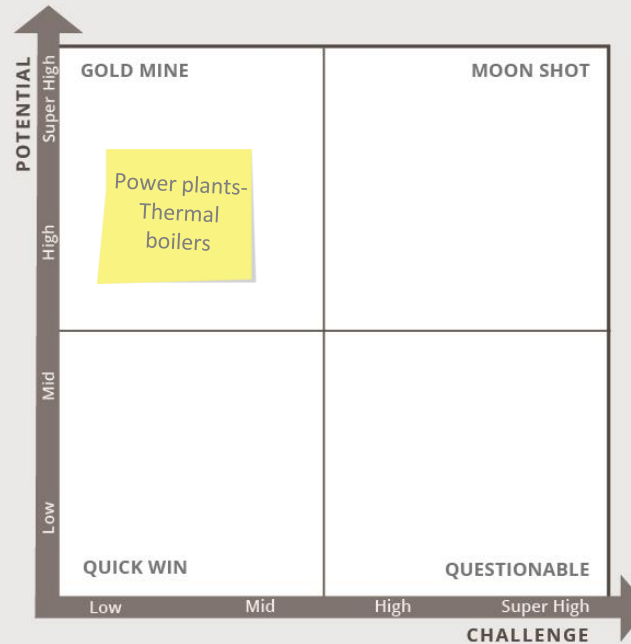
FlyAbility

2015



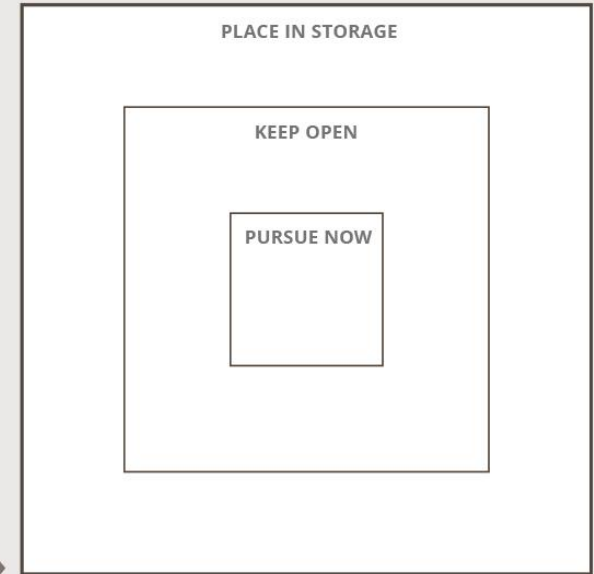
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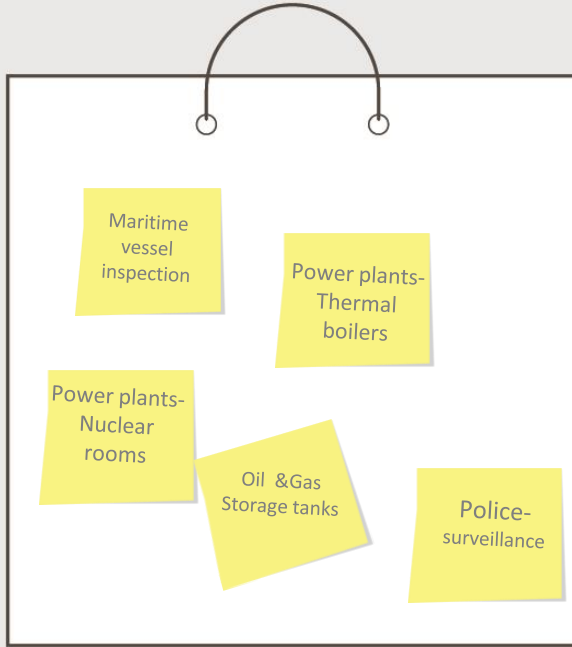
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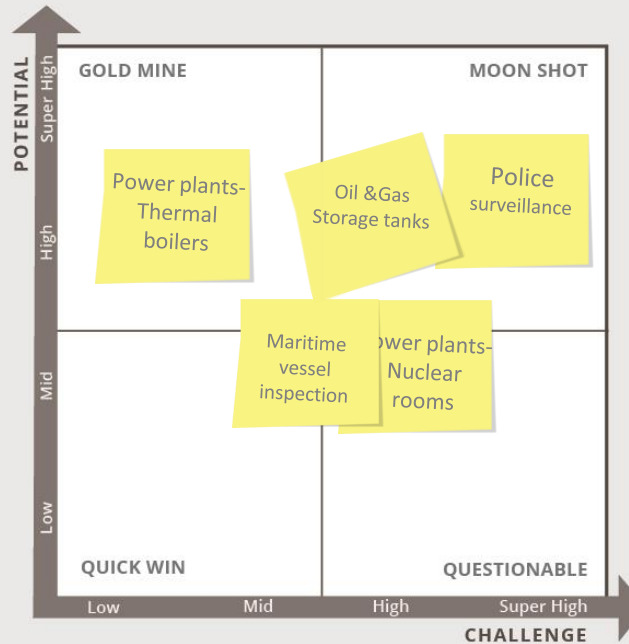
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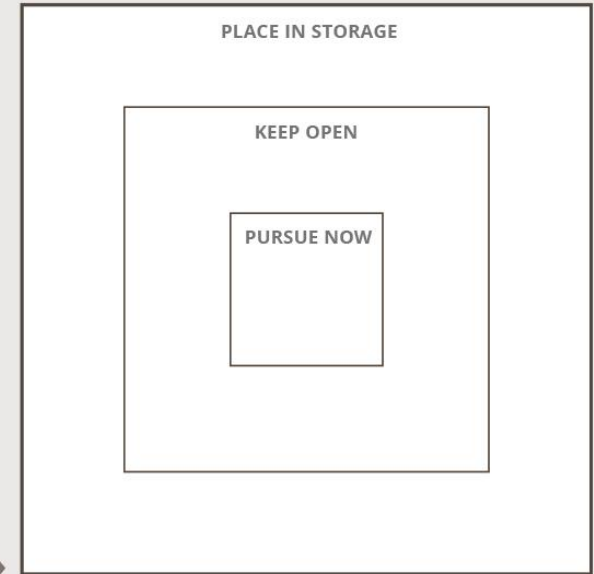
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This is not hard science

$$K_{eq} = \frac{[H_2O]}{[H_2]^2 [O_2]}$$

$$\log_a\left(\frac{1}{x}\right) = -\log_a x$$

$$x^2 + a$$

$$v = \omega r$$

$$E_k = \frac{1}{2}mv^2$$

$$Q = mc\Delta T$$

$$F = \frac{G m_1 m_2}{r^2}$$

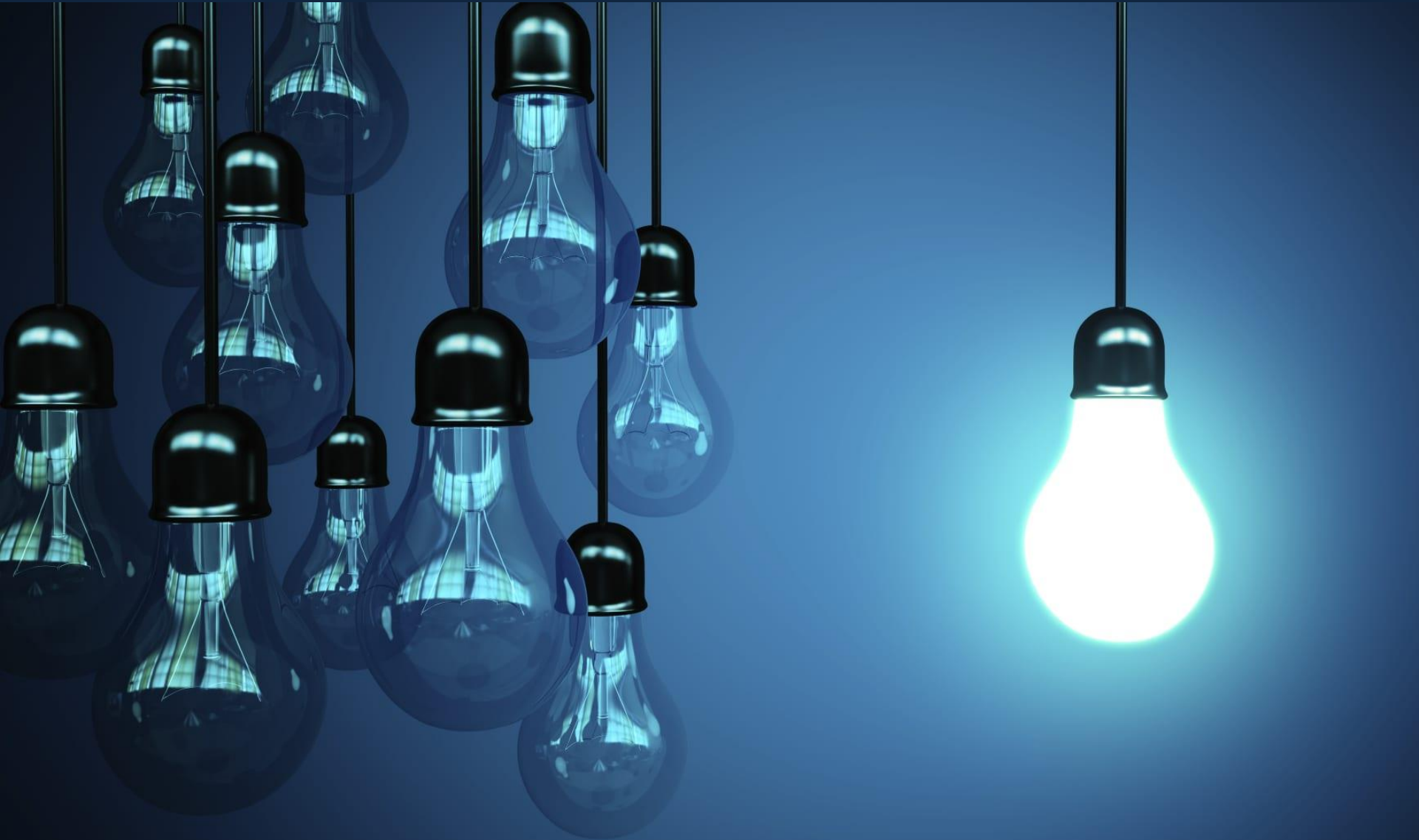
$$\sin^2 + \cos^2 = 1$$

$$\Delta P = \rho g \Delta h$$



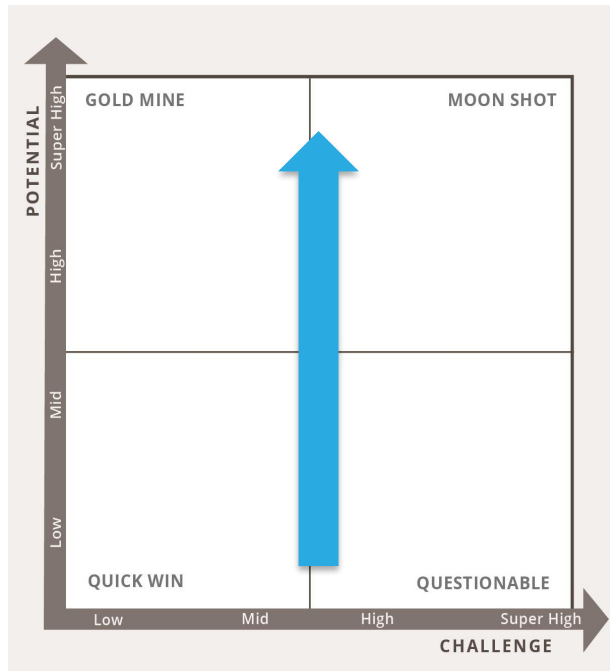
Remember that the overall goal is not scoring- in itself, but understanding the main upsides and downsides of your options!

Assess a single project, or
apply on multiple projects to compare and prioritize



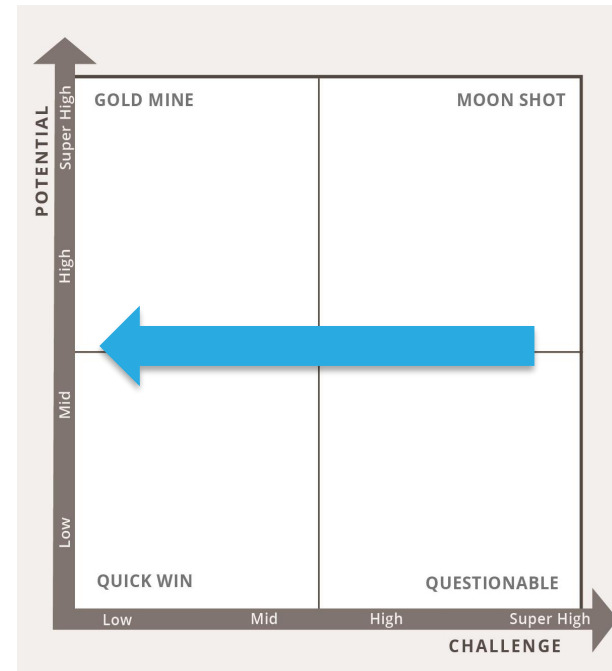
Re-shape opportunities to make them more attractive

Increasing the Potential



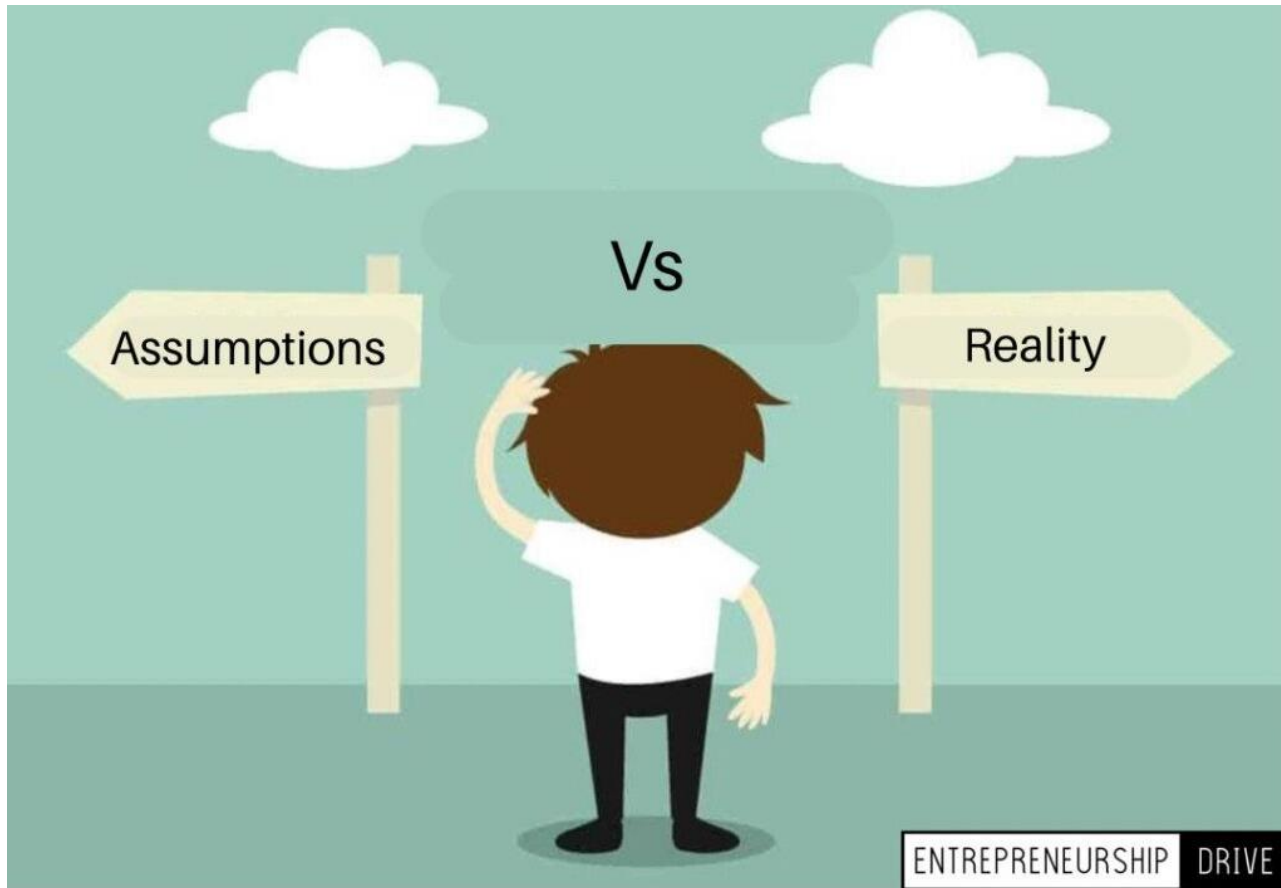
For example - try to increase demand by re-segmenting your market

Decreasing the Challenge



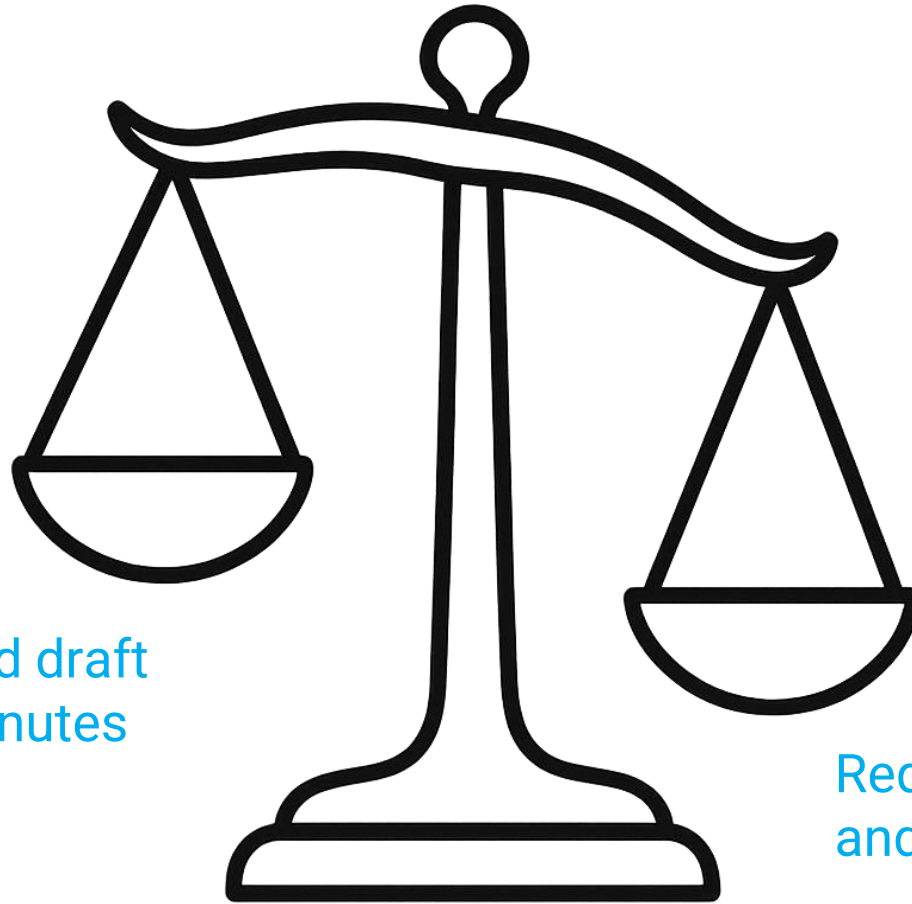
For example - try to decrease your risks through strategic partnerships

There is also value in a quick & dirty evaluation



Understand your assumptions, build a plan to validate them

Boosting your research with generative AI



Generate solid draft
insights in minutes

Requires critical eye
and fact-checking

Use AI for sensemaking, not decision-making

Using AI carefully

#1

Cross-Check Sources:

Always verify the credibility of the data (Double check, ask for references, ask for further explanations or other sources)

#2

Be Specific in Queries:

Detailed, targeted prompts yield more accurate results.

Lay out your objectives and the role of the chatbot.

Challenge with further questions or ask the chatbot to ask you questions

#3

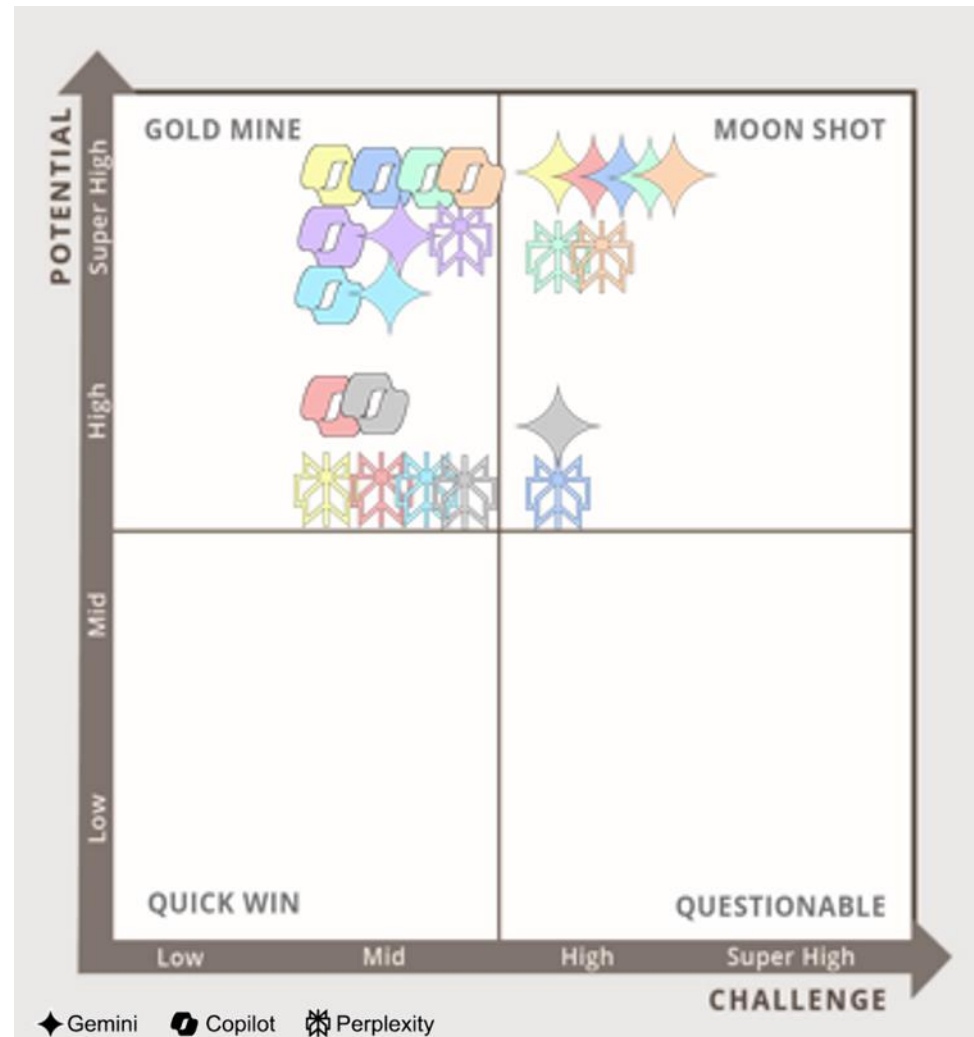
Combine Insights:

Use different tools to build a well-rounded, evidence-backed analysis.

Ask GPT to integrate data from different sources

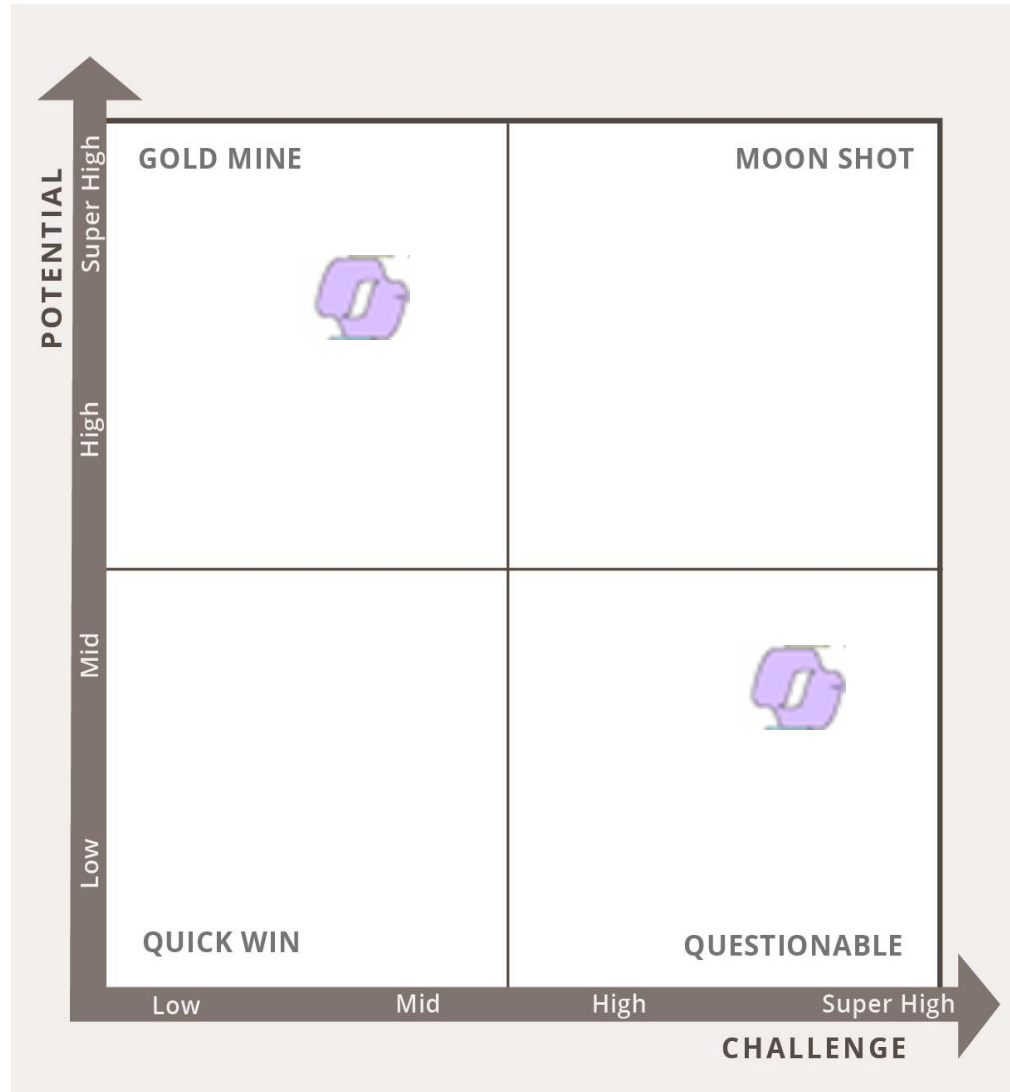
Be ware: The pleasing effect of AI

Example based on ADAMetrix -
discourse analysis and
moderation platform.
A spinoff from the Hebrew
University of Jerusalem



A Small Prompt Change, a Big Result Shift

“Make this analysis while addressing why the product may not be attractive.”



More details in this blog post

Introducing the AI Workbook

Ready-made prompts

#1 Deep Research: Gathering Market Intelligence (per market opportunity)

#2 Scoring a Market Opportunity

#3 Relative Scoring: Calibrating Across Your Market Opportunity Set

Just copy, insert the relevant input & run (recommended: use a text editor)

Open a new chat for every market opportunity

Developed and tested primarily with ChatGPT Plus (but works well with other leading AI chatbots)

Introducing the AI Workbook

#1 Deep Research:

Gathering Market Intelligence for a market opportunity

For every market opportunity in your set, this prompt will help you gather and synthesize information for a comprehensive market intelligence. It will provide resources and insights relevant to each of the 6 factors in Worksheet 2.



Recommended tool: ChatGPT-5 Deep Research



Required input: Description of the market opportunity + your core competencies

Once the Deep Research report is ready, download and save it (as a PDF)

Introducing the AI Workbook

#2 Scoring a Market Opportunity

Once the deep research for a specific market opportunity is done, this follow-up prompt will provide recommendations on the scoring of each factor in Worksheet 2. The overall potential and overall challenge scoring will not be provided by the chat, set them manually based on your critical judgment.



Recommended tool: ChatGPT-5 Extended Thinking



Required input: none (a follow-up on the Deep Research report created with Prompt#1)

Introducing the AI Workbook

#3 Relative Scoring:

Calibrating Across Your Market Opportunity Set

After assessing and scoring each market opportunity in your set, this prompt will help you see the bigger picture and calibrate your evaluation in a relative manner.



Recommended tool: ChatGPT-5 Extended Thinking



Required input: Your scoring for each market opportunity in your set + the research report created in Prompt#1 (saved as PDF)

Questions?



Now its your turn

Apply Worksheet 2 for your market opportunities:

- ✓ How do you currently assess the overall potential of the opportunity?
List the key assumptions that led you to this evaluation
- ✓ How do you currently assess the overall challenge of the opportunity?
List the key assumptions that led you to this evaluation
- ✓ Use the AI Workbook to help you in this task
- ✓ Position the opportunity on the Attractiveness Map



Deliverables:

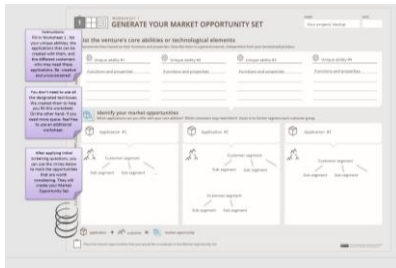
- ✓ Upload the filled Worksheet 2 on Moodle (under Session 3)
- ✓ Be ready to present it in tomorrow's Share & Learn session



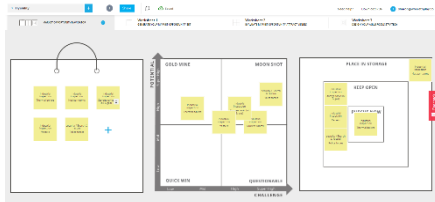
Work in any format you prefer



Download the worksheets:
(available on Moodle)



Use the PPT template
(available on Moodle)



Sign up to the free web-app:
<https://app.wheretoplay.co>

Where to Impact:

Adaptation for double-bottom-line ventures



Double-bottom-line ventures



**FINANCIAL
PROFITS**



**+ POSITIVE
SOCIAL IMPACT**

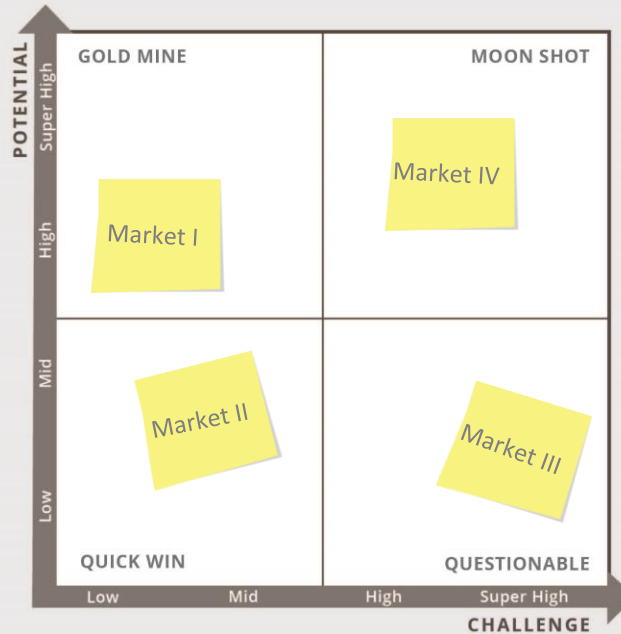
Need to add impact into the set of considerations!

Adding impact into the set of considerations



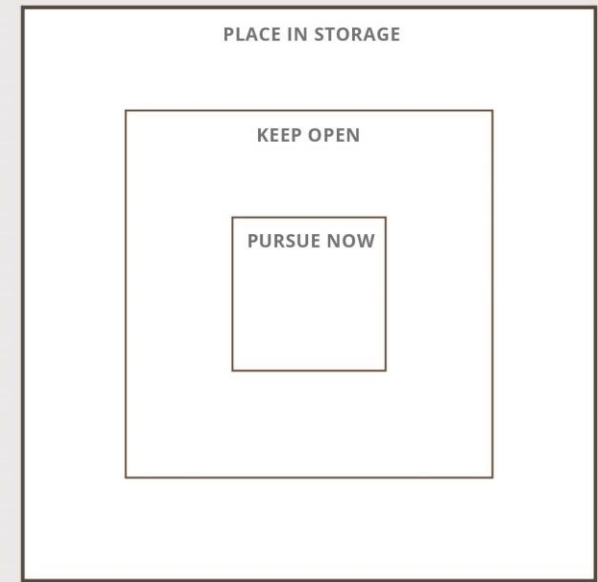
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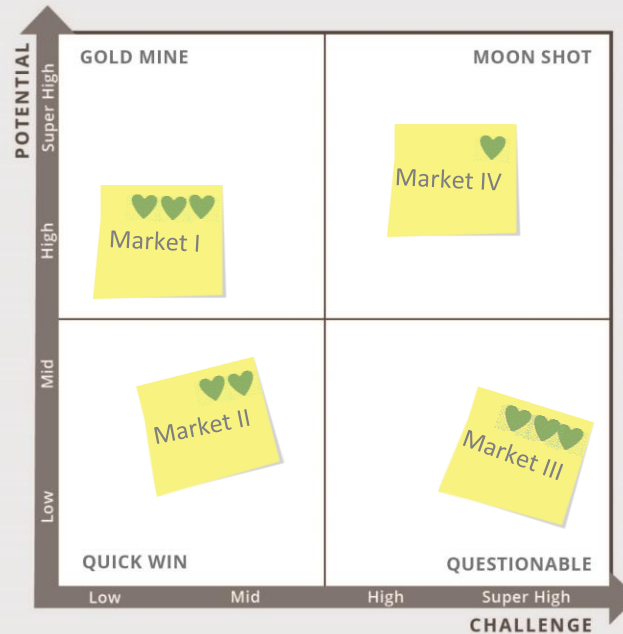
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Adding impact into the set of considerations

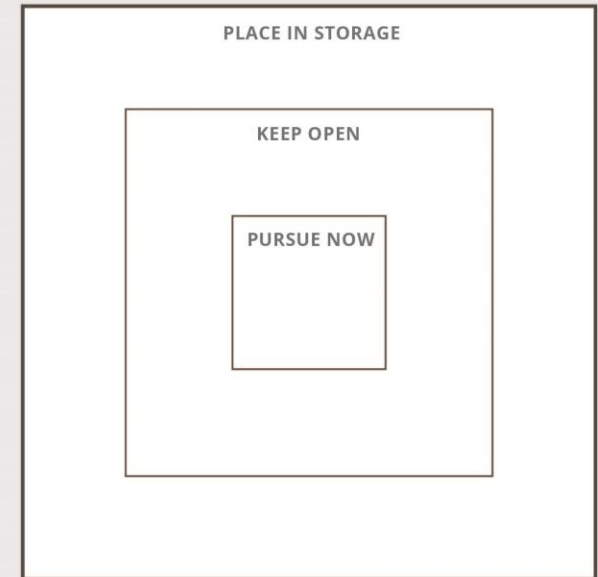


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A new worksheet
estimating social/
environmental impact



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Confront a frequent trade-off




Maximize
financial
returns



Expand social/
environmental
impact

Step 1: Adding beneficiaries to the opportunity definition

For double bottom-line businesses:

 application +  customer +  beneficiaries

=



market opportunity

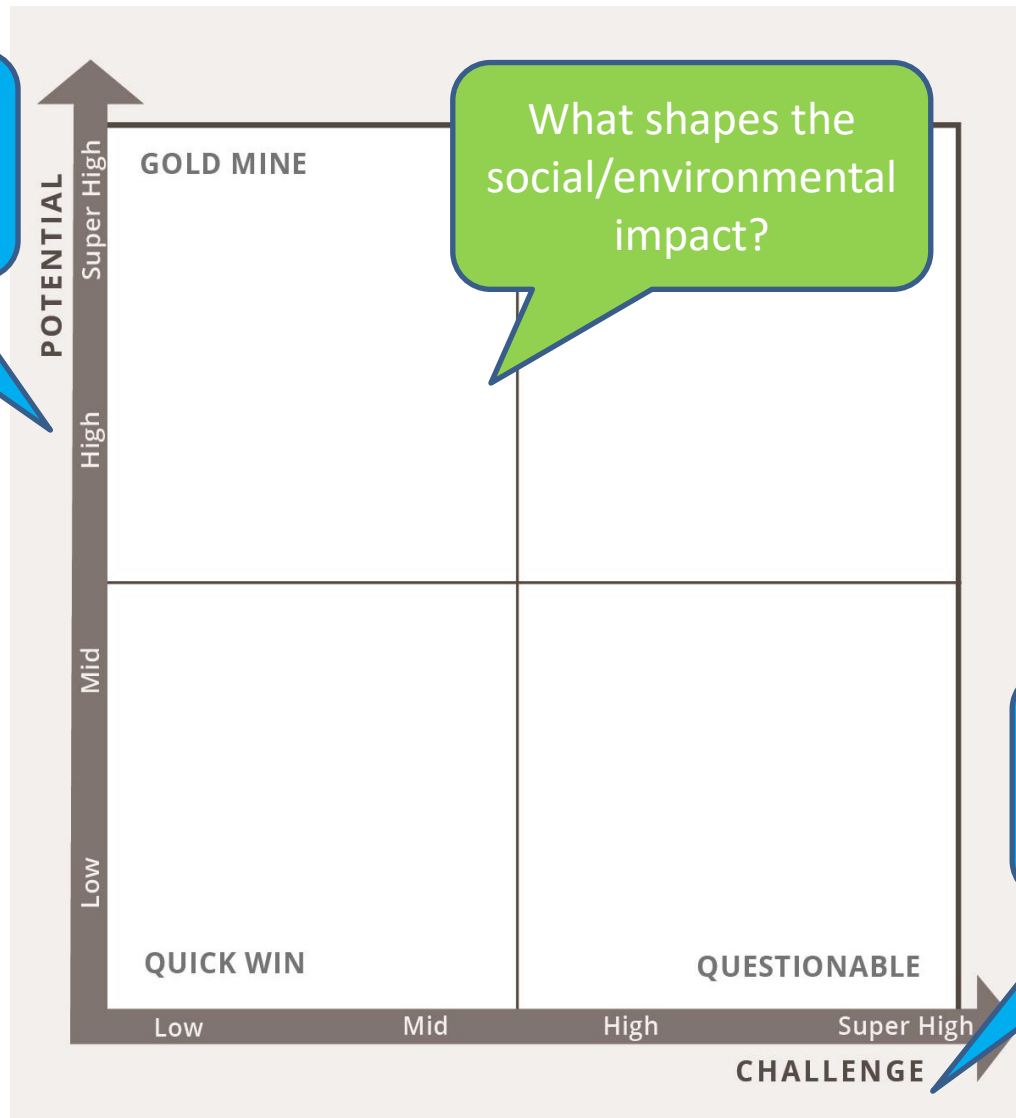
Adding beneficiaries to the opportunity definition

Beneficiaries could be:

- ✓ Your paying customers (affordable product to the poor)
- ✓ The end users (medical device)
- ✓ Other members in the value chain (employees, suppliers)
- ✓ Others unrelated to the value creation model (Tom Shoes)
- ✓ The planet (clean energy system)

Step 2: What is an attractive market opportunity?

What shapes the potential of an opportunity?



What shapes the social/environmental impact?

What shapes the challenge of an opportunity?

Use this worksheet for every market opportunity you would like to evaluate.



Market Opportunity:

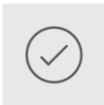
SOCIAL/ENVIRONMENTAL IMPACT



PROBLEM SEVERITY

Unresolved social/environmental concern
Significant detrimental consequences
Extent of the problem (affected people/areas)

LOW	MID	HIGH	SUPER HIGH
-----	-----	------	------------



PERTINENT SOLUTION

Effective & efficient (simple, reliable, self-sufficient)
Better than existing alternatives
Avoids secondary harm/negative effects

LOW	MID	HIGH	SUPER HIGH
-----	-----	------	------------



IMPACT REACH

Ease of measuring and reporting impact
Enduring effect
Possibility to scale solution

LOW	MID	HIGH	SUPER HIGH
-----	-----	------	------------

OVERALL IMPACT

♥	♥ ♥	♥ ♥ ♥	♥ ♥ ♥ ♥
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Mark the overall impact rating on the relevant sticky-note in the Attractiveness Map

Social/environmental impact

#1

Problem severity

Are you trying to address an important and painful problem for these beneficiaries?

?

Is this an unresolved social/environmental concern?

?

Does it bear significant detrimental consequences?

?

How big is this problem (affected people/ areas)

Supporting resources:

Sustainable Development Goals (UN); Global risk report (World Economic Forum)

#2

Pertinent solution

Is your solution well suited to address the social/environmental challenge and to be adopted by your beneficiaries?

?

How effective and efficient is it? (simple, reliable, self-sufficient)

?

Is it better than existing solutions?

?

Does it avoid secondary harm/ negative effects?

Social/environmental impact

#3

Impact reach

Can you achieve a broad & long-lasting impact?

?

How easy will it be to measure and report impact?

?

Will it have a long term, enduring effect?

?

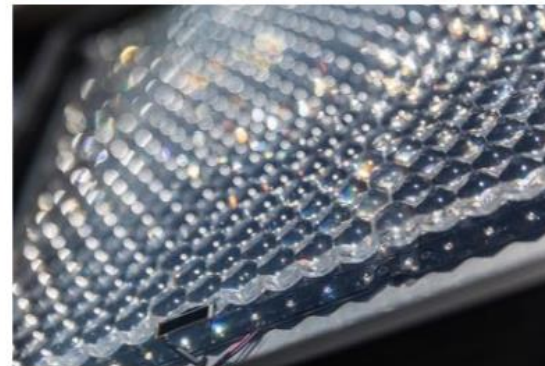
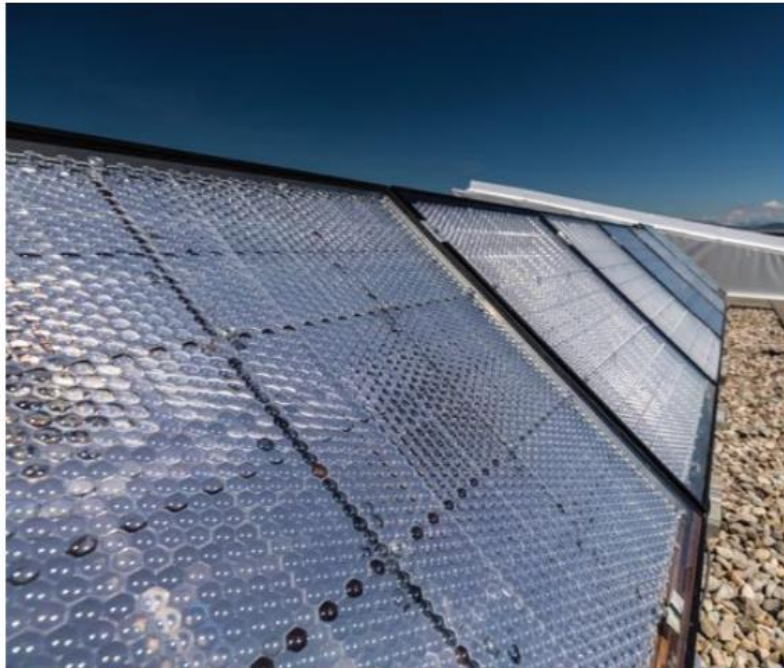
How scalable is your solution?

Supporting resources for measuring actual impact: [SDG Indicators](#), [Impact Measurement Project](#)

Putting it all together: example

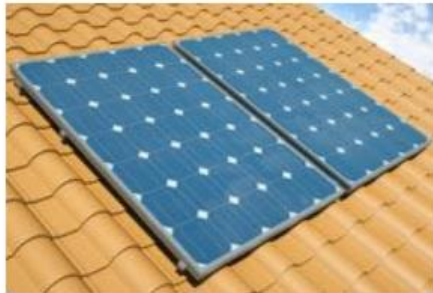


Translucent solar panels with record efficiency



Combining the best of flat PV and CPV

CONVENTIONAL PV



- SIMPLE & RELIABLE
- ROOFTOP & UTILITY
- HARVEST DIFFUSE LIGHT
- LOW EFFICIENCY ($\approx 20\%$)

CONCENTRATED PV



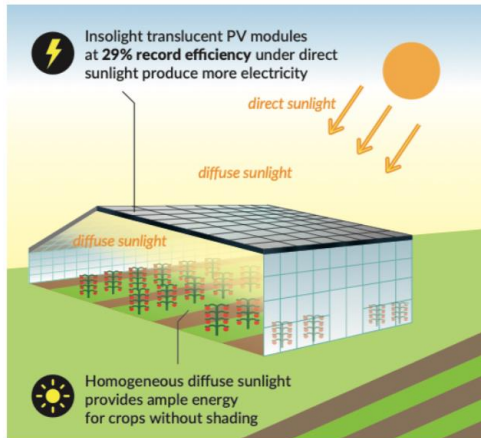
- COMPLEXITY
- UTILITY-SCALE ONLY
- NO DIFFUSE LIGHT
- HIGH EFFICIENCY ($>30\%$)

INSOLIGHT

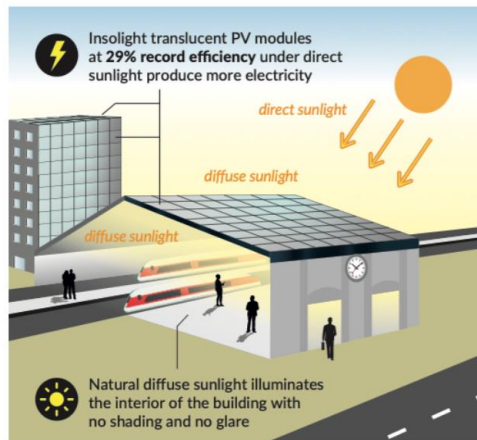


- INTEGRATED TRACKING
- ROOFTOP & UTILITY
- HARVEST DIFFUSE LIGHT
- HIGH EFFICIENCY ($>30\%$)

Examining 3 market opportunities



Agrivoltaic



Building Integrated Photovoltaic



Roof top PV

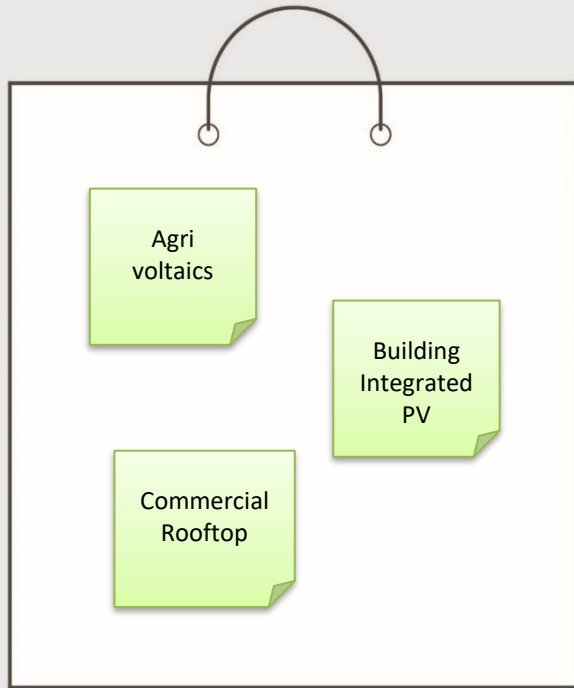
THE MARKET OPPORTUNITY NAVIGATOR

NAME

Insolight

DATE

11/19



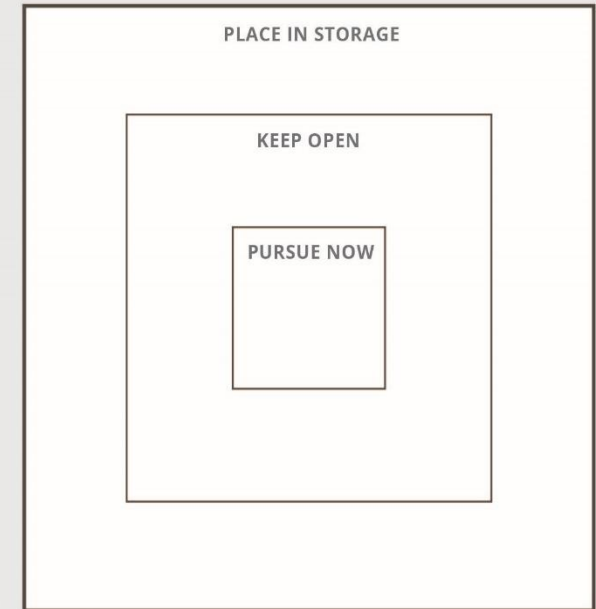
MARKET OPPORTUNITY SET

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



ATTRACTIVENESS MAP

- 2 Use Worksheet 2 to evaluate the attractiveness 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

Use this worksheet for every market opportunity you would like to evaluate.

Market Opportunity: AgriVoltaic (Western Europe & US)

POTENTIAL



COMPELLING REASON TO BUY

- Unmet need
- Effective solution
- Better than current solutions



MARKET VOLUME

- Current market size
- Expected growth



ECONOMIC VIABILITY

- Margins (value vs. cost)
- Customers' ability to pay
- Customer stickiness

CHALLENGE



IMPLEMENTATION OBSTACLES

- Product development difficulties
- Sales and distribution difficulties
- Funding challenges



TIME TO REVENUE

- Development time
- Time between product and market readiness
- Length of sale cycle



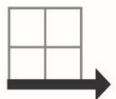
EXTERNAL RISKS

- Competitive threat
- 3rd party dependencies
- Barriers to adoption

OVERALL POTENTIAL



OVERALL CHALLENGE



Use the overall ratings to situate each market opportunity on the Attractiveness Map.

Use this worksheet for every market opportunity you would like to evaluate.

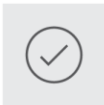
Market Opportunity: AgriVoltaic (Western Europe & US)

SOCIAL/ENVIRONMENTAL IMPACT



PROBLEM SEVERITY

Unresolved social/environmental concern
Significant detrimental consequences
Extent of the problem (affected people/areas)



PERTINENT SOLUTION

Effective & efficient (simple, reliable, self-sufficient)
Better than existing alternatives
Avoids secondary harm/negative effects

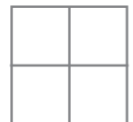


IMPACT REACH

Ease of measuring and reporting impact
Enduring effect
Possibility to scale solution



OVERALL IMPACT



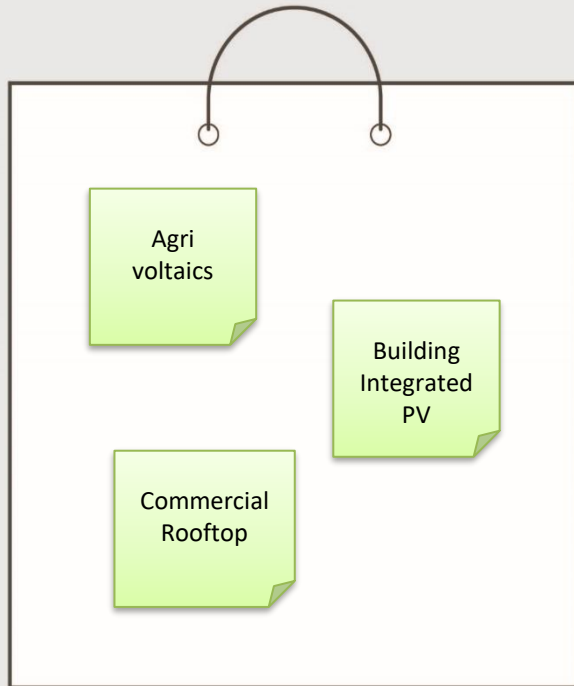
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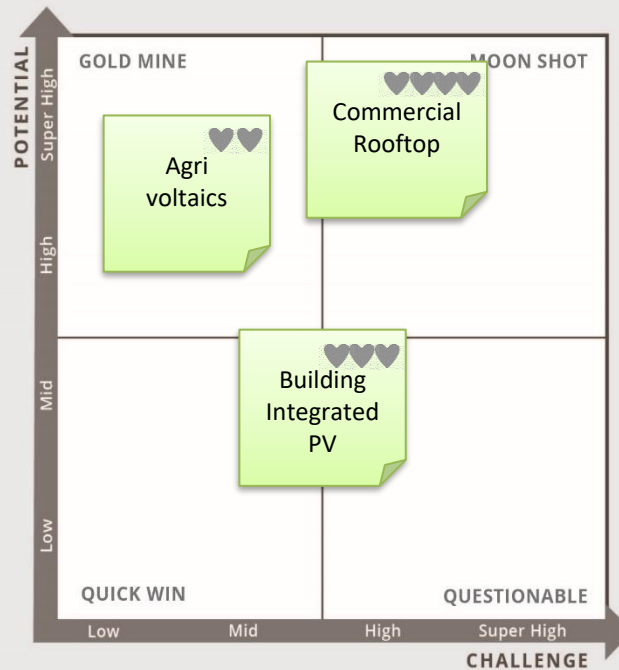
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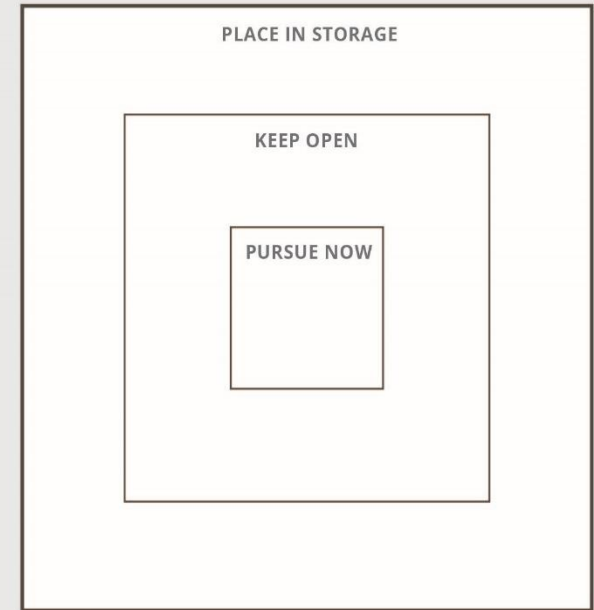
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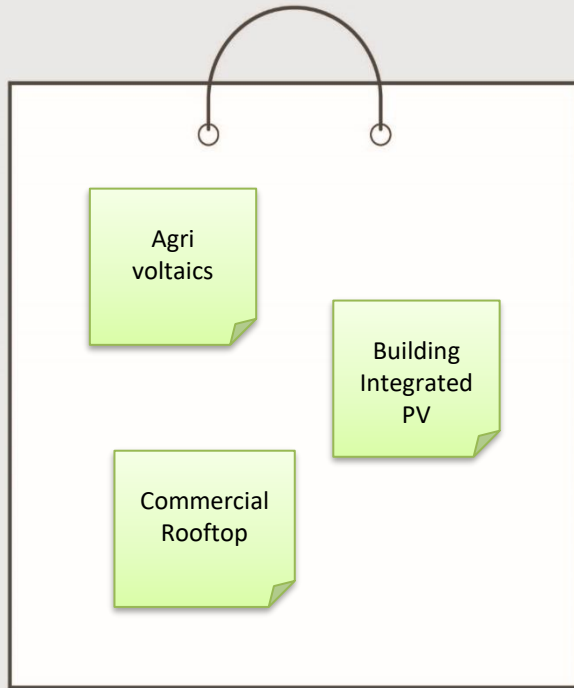
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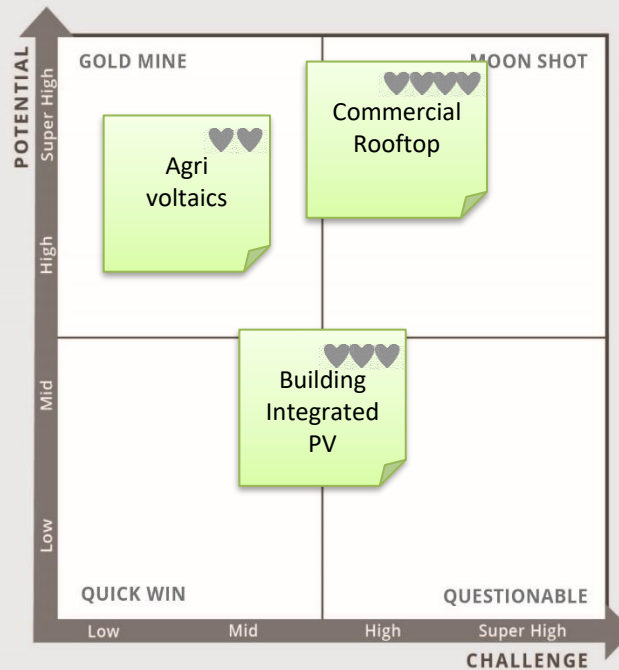
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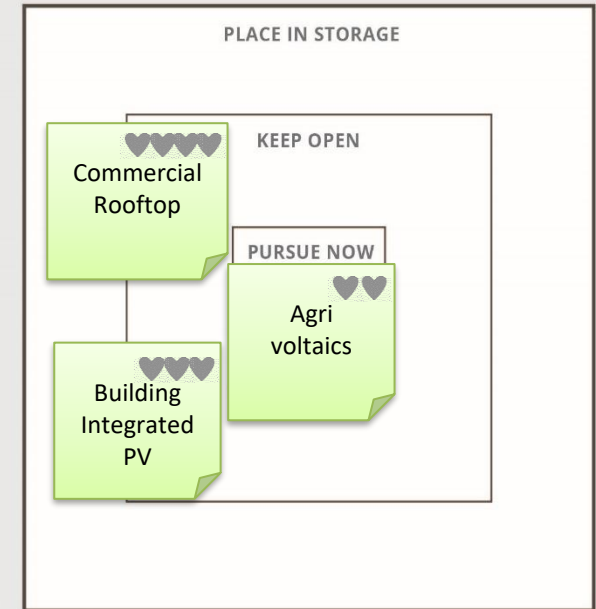
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Takeaways for social ventures

- ✓ There are many frameworks for measuring the actual impact of social initiatives, but none to estimate the impact beforehand
- ✓ In double-bottom-line ventures, choosing where to play often means choosing what comes first: financial gains or social gains. The Navigator helps managers to realize the tradeoff and confront it
- ✓ Non-for-profit ventures can apply Worksheet 2B as a stand-alone, or map different social initiatives on a revised Attractiveness Map

Questions?



Now its your turn

If relevant-

try to assess the social/ environmental impact of your opportunities

