Creating and capturing value from innovative tech

Ph.D. Class ENG-642

Dr. Sharon Tal

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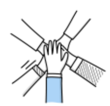
Session 3

Fall Term 2024

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)
- Assessing the social/ environmental impact of your opportunity 
- Team work on Worksheet 2 

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

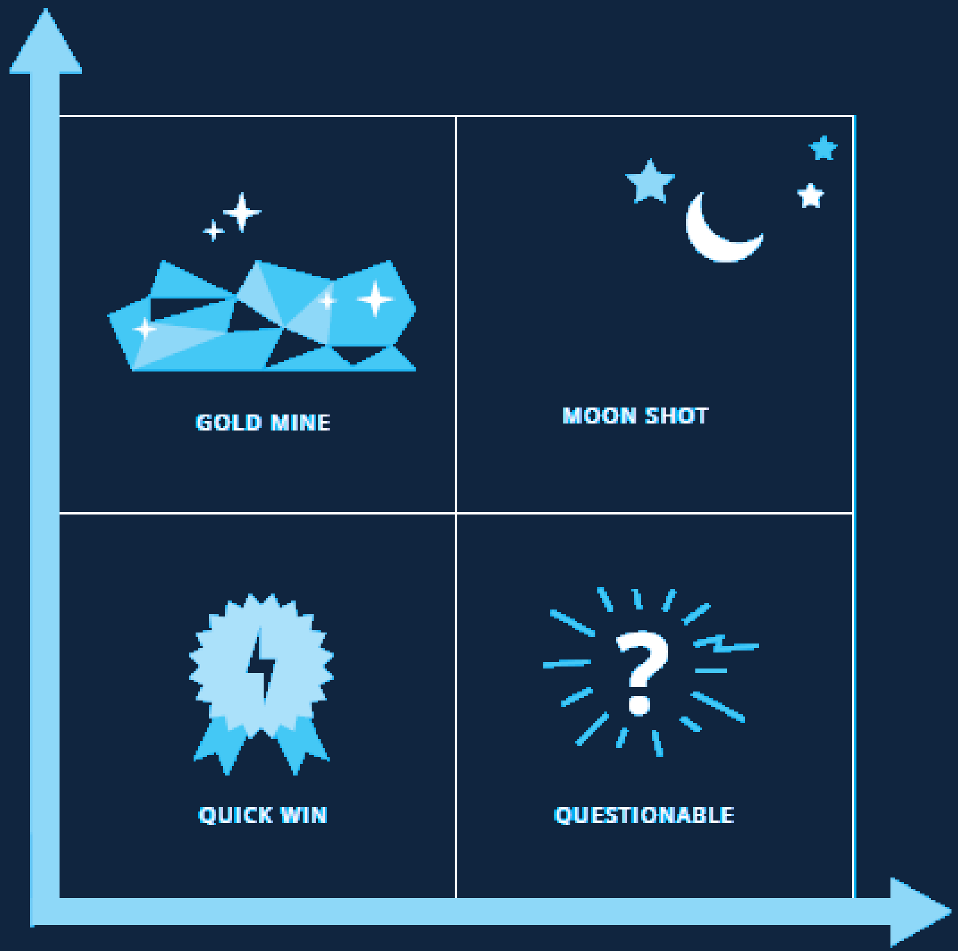
Share & learn

- 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!

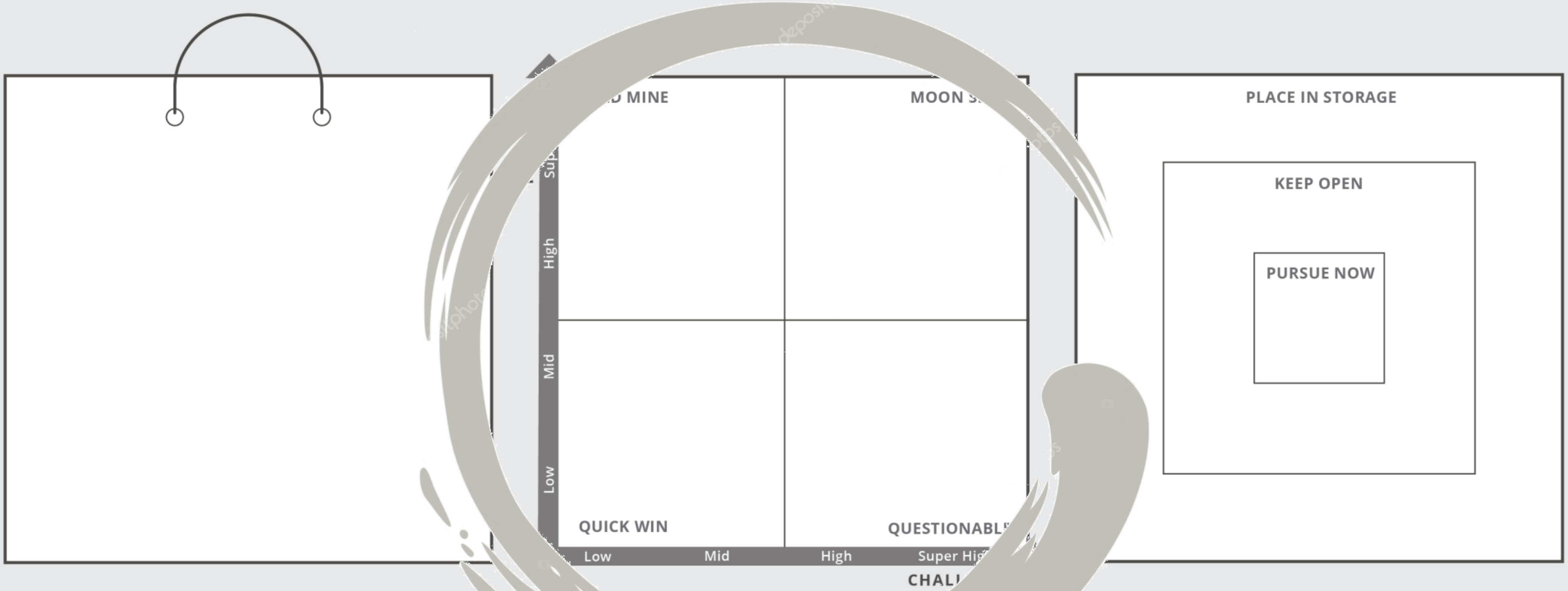
Step 2:
Evaluating the attractiveness of your opportunities



THE MARKET OPPORTUNITY NAVIGATOR

NAME

DATE



MARKET OPPORTUNITY SET

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

A[illegible]TIVENESS MAP

2 [illegible] each mark[illegible] [illegible] 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?

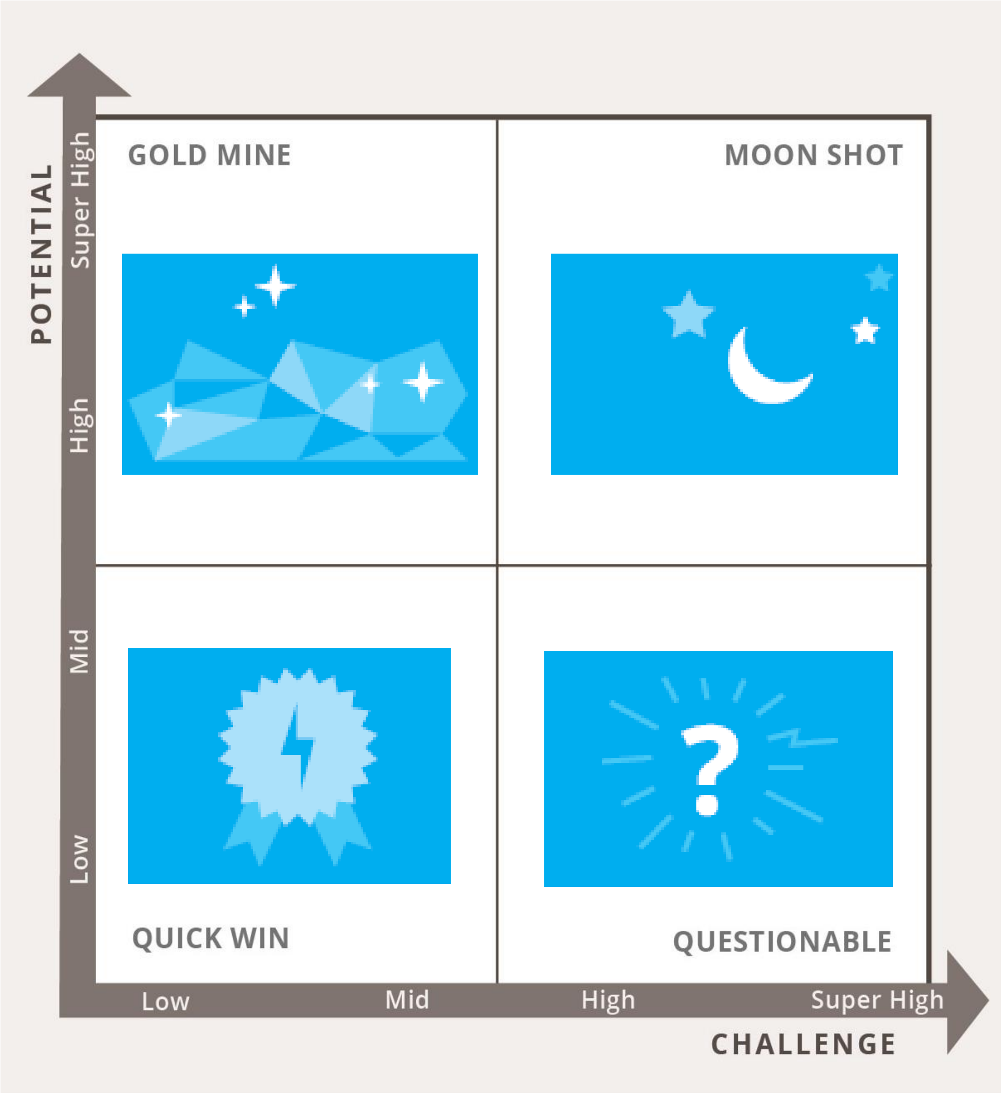
But… there are more considerations to look at…

What is an attractive opportunity?

Image from: https://www.inc.com/jeffrey-phillips/shape-your-business-to-maximize-customer-experience.html

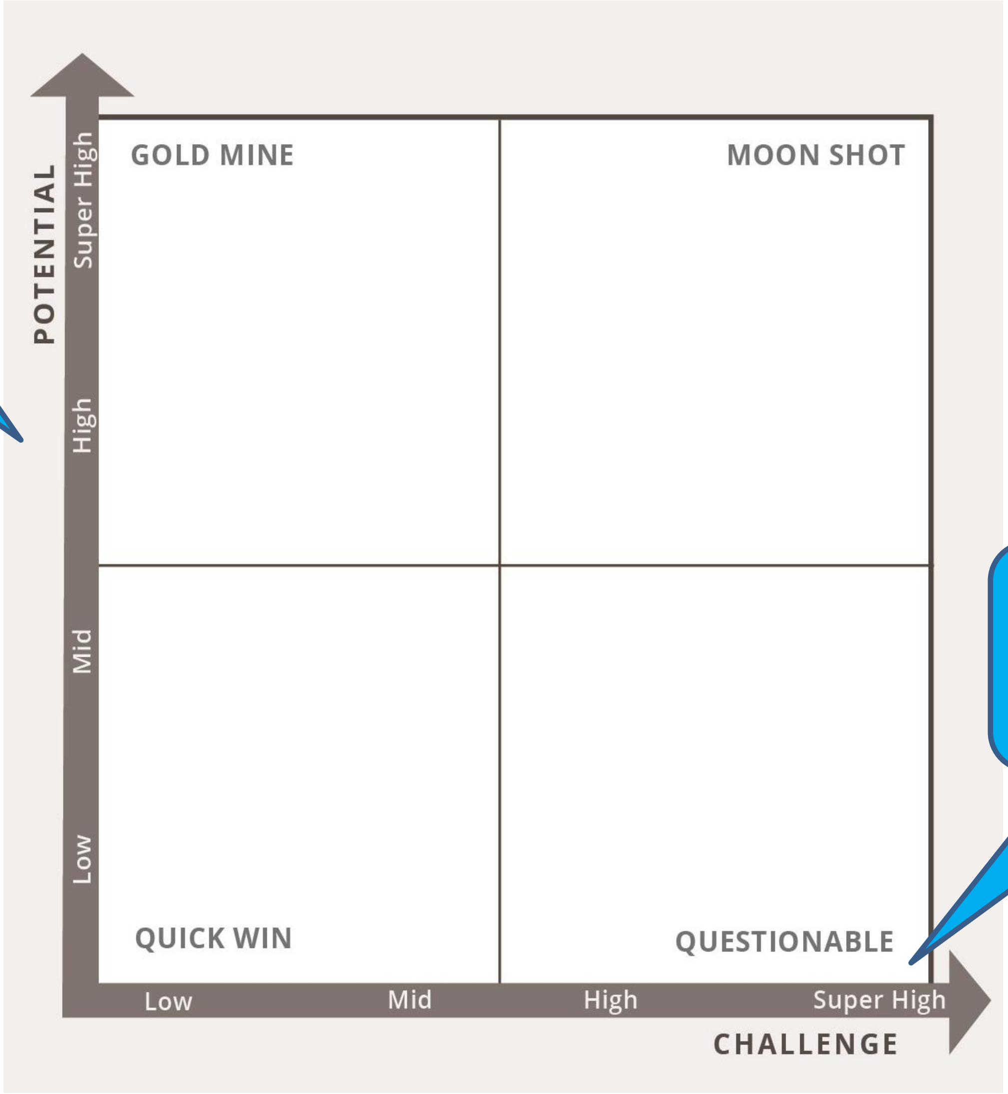

The potential
The challenge

The Attractiveness Map



What type of opportunities do you have?

What shapes the potential of an opportunity?



What shapes the challenge of an opportunity?

WORKSHEET 2

EVALUATE MARKET OPPORTUNITY ATTRACTIVENESS

NAME

DATE

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

Market Opportunity:

POTENTIAL

LOW | MID | HIGH | SUPER HIGH

COMPELLING REASON TO BUY

Unmet need
Effective solution
Better than current solutions

LOW | MID | HIGH | SUPER HIGH

MARKET VOLUME

Current market size
Expected growth

LOW | MID | HIGH | SUPER HIGH

ECONOMIC VIABILITY

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

OVERALL POTENTIAL

LOW | MID | HIGH | SUPER HIGH

CHALLENGE

LOW | MID | HIGH | SUPER HIGH

IMPLEMENTATION OBSTACLES

Product development difficulties
Sales and distribution difficulties
Funding challenges

LOW | MID | HIGH | SUPER HIGH

TIME TO REVENUE

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

LOW | MID | HIGH | SUPER HIGH

EXTERNAL RISKS

Competitive threat
3rd party dependencies
Barriers to adoption

OVERALL CHALLENGE

LOW | MID | HIGH | SUPER HIGH

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

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.

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?

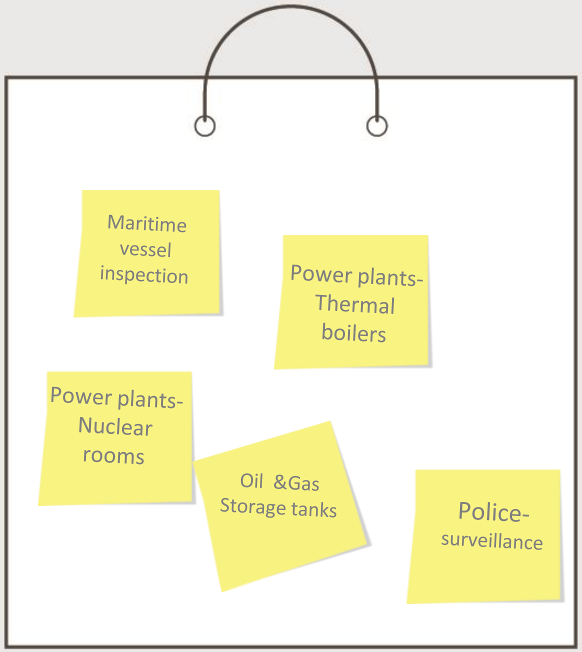
Example: Lets go back to Flyability

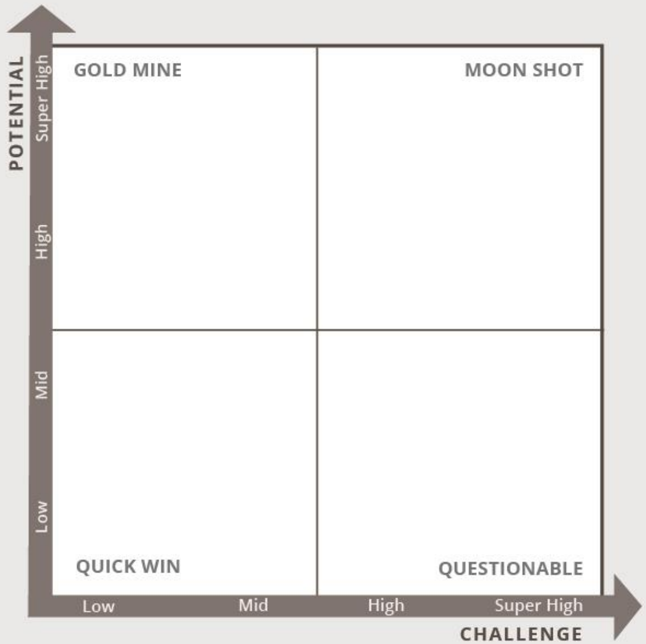
FLYABILITY

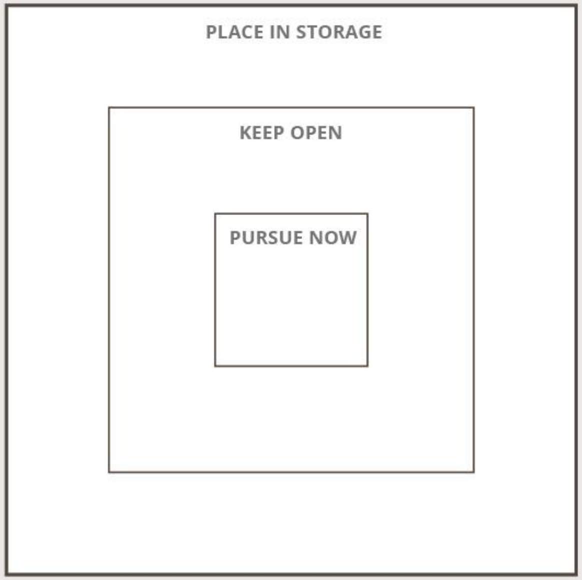
THE MARKET OPPORTUNITY NAVIGATOR

NAME: FlyAbility

DATE: 2015







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WORKSHEET 2

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

LOW | MID | HIGH | SUPER HIGH

COMPELLING REASON TO BUY
Unmet need
Effective solution
Better than current solutions

LOW | MID | HIGH | SUPER HIGH

MARKET VOLUME
Current market size
Expected growth

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ECONOMIC VIABILITY
Margins (value vs. cost)
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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?

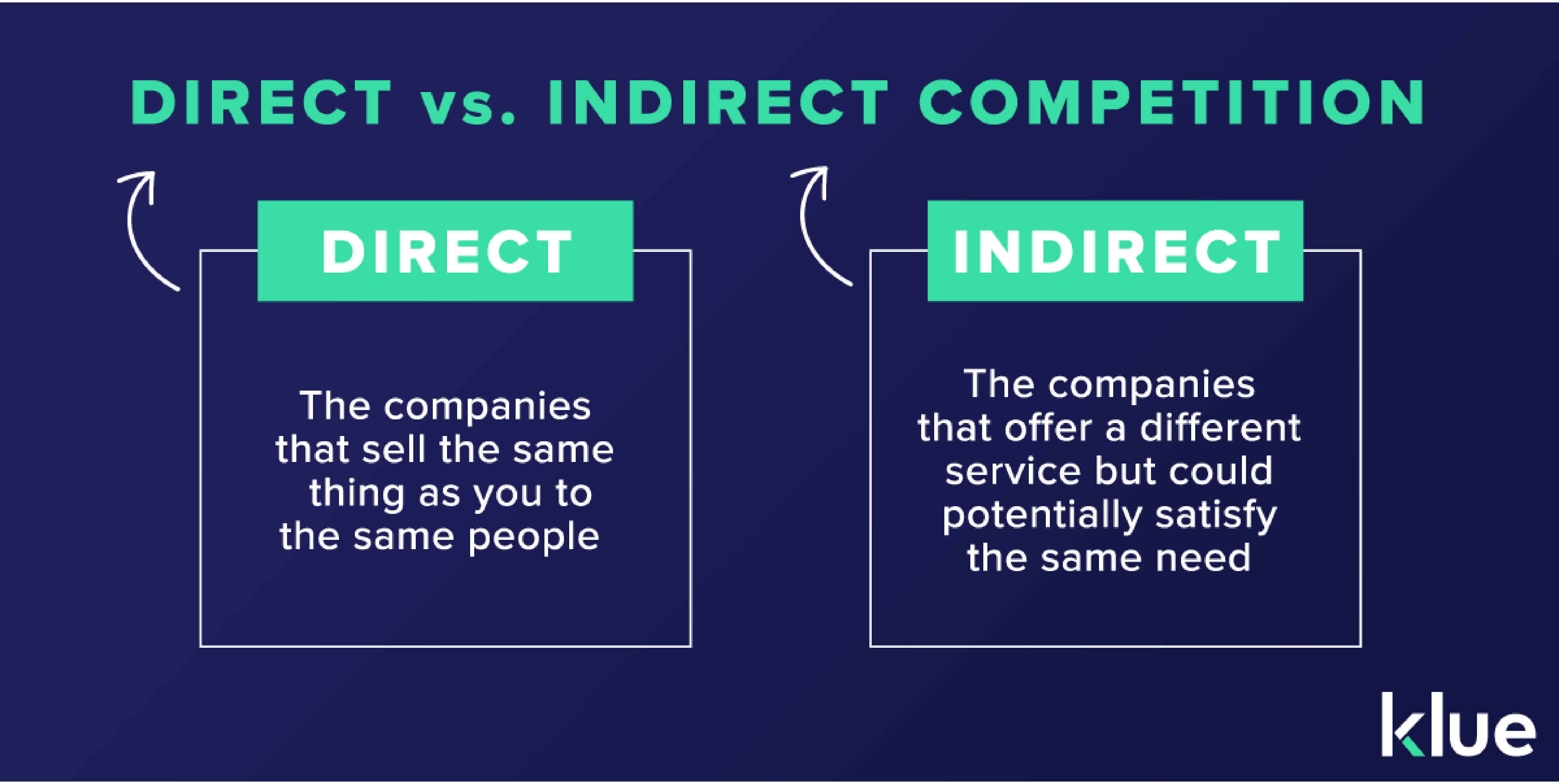
- ? How threatened are you by competition?
- ? How dependent are you on other companies or players?
- ? How susceptive are you to adoption barriers?

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.

Image from: https://www.tennessean.com/story/money//73106034/sisylana-emos-emti-notitiepmoc-deirrow/2015/09/30

Consider direct and indirect competition



https://klue.com/blog/gathering-competitive-intelligence

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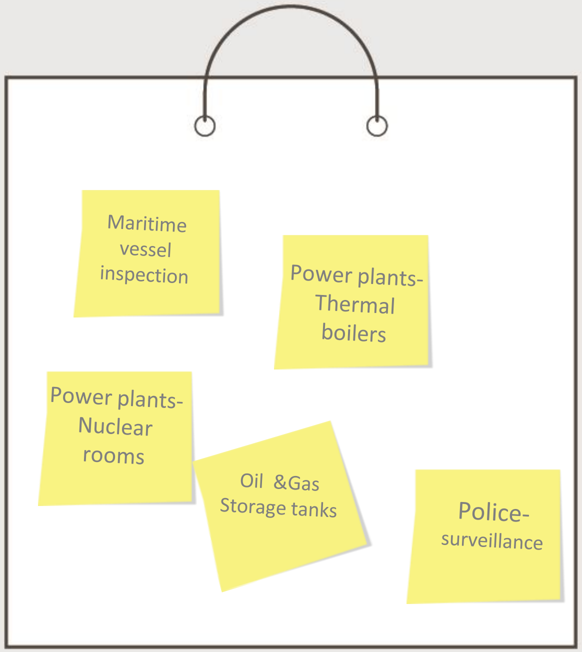

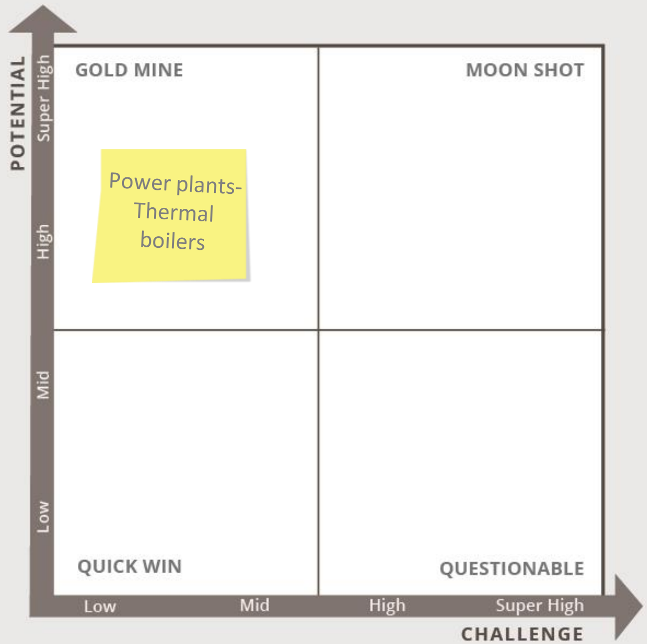

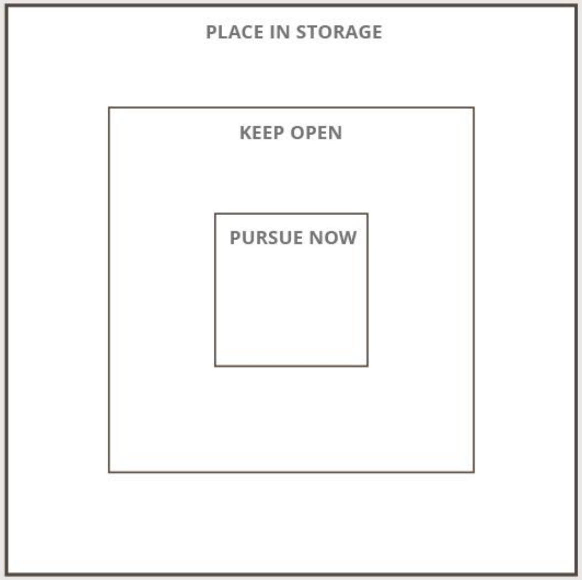

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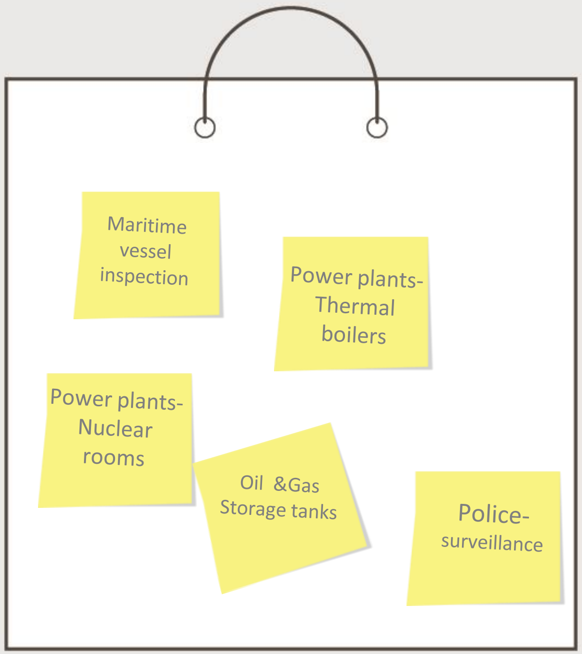

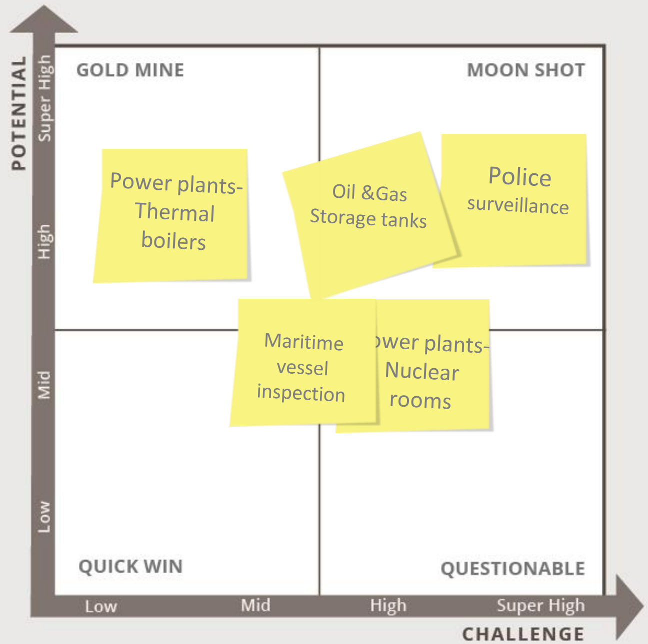

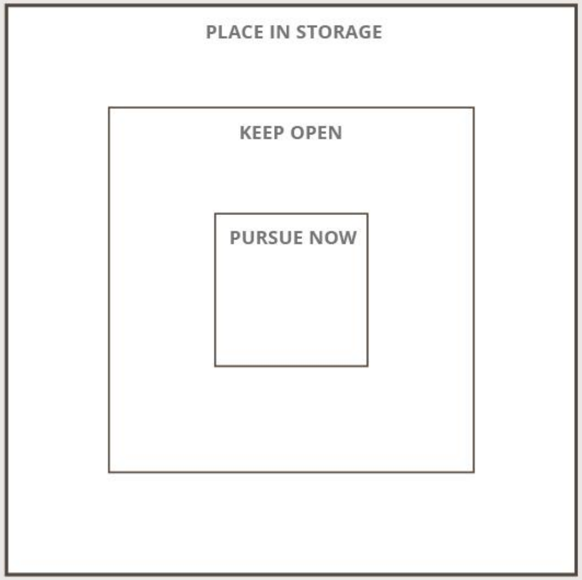

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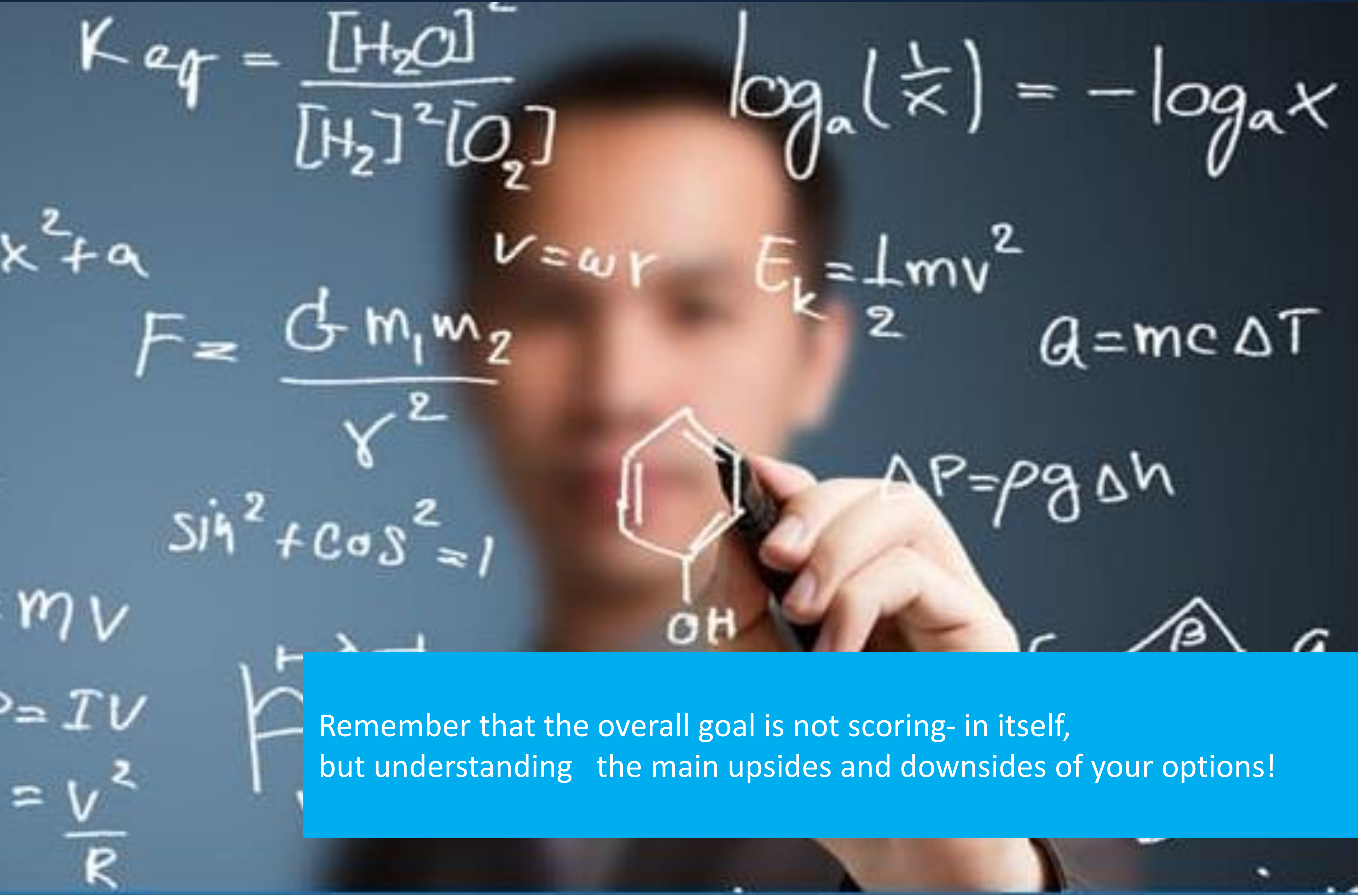
This is not hard science



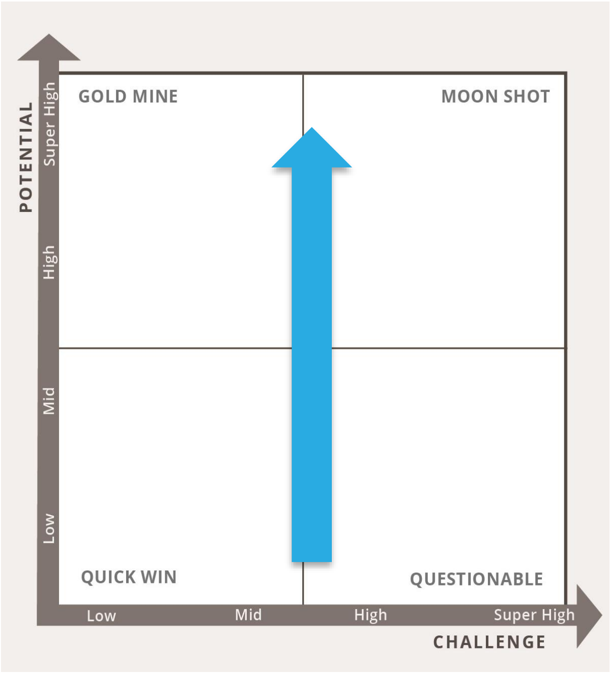
Remember that the overall goal is not scoring- in itself,
but understanding the main upsides and downsides of your options!

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

Image from: https://smallbusinessbonfire.com/identify-innovative-ideas

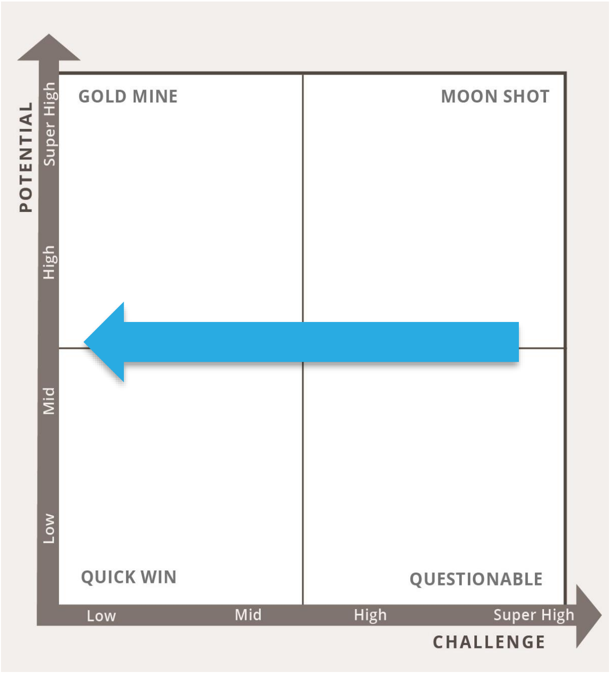
Re-shape opportunities to make them more attractive

Increasing the Potential



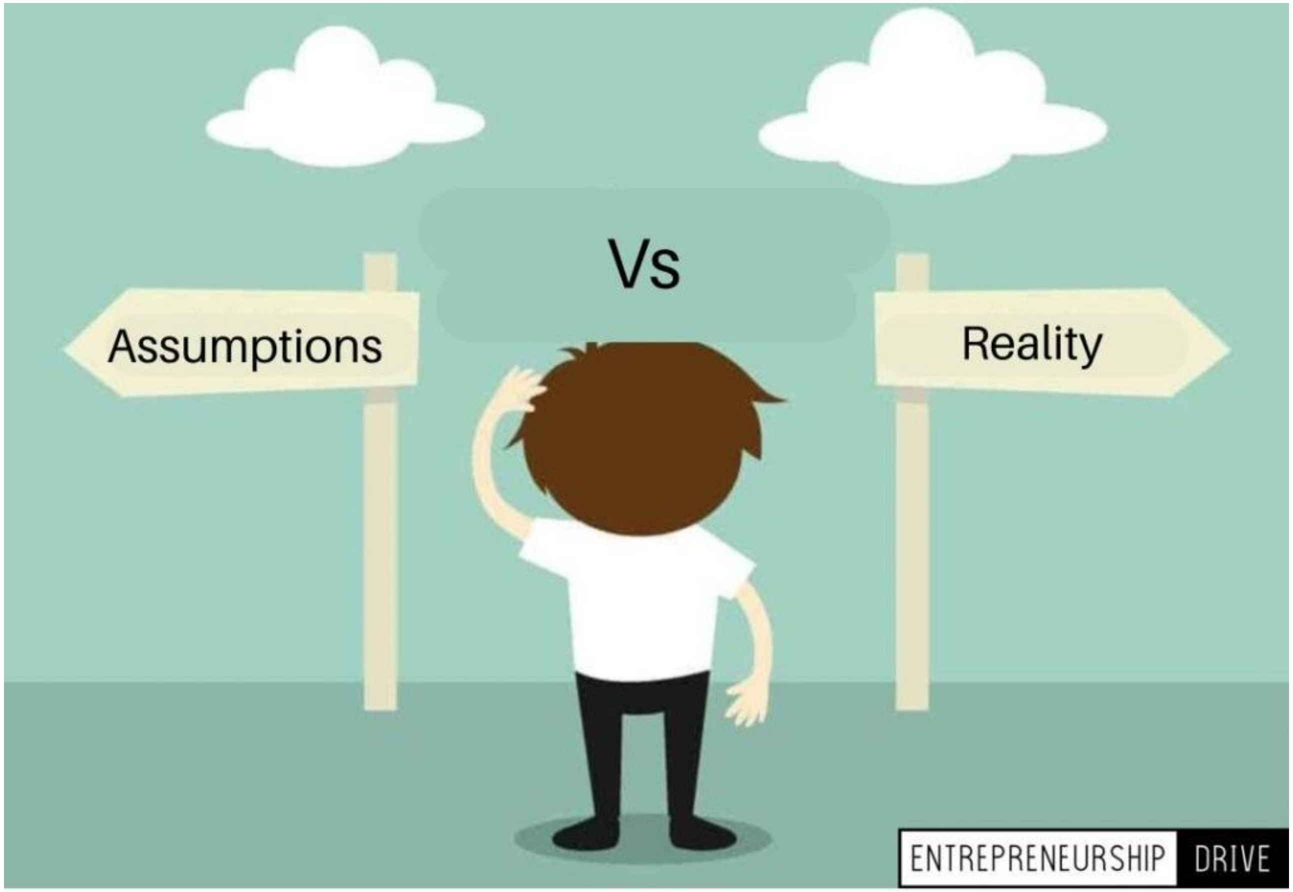
For example - try to increase demand by re-segmenting your market

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

Questions?

Now its your turn

Apply Worksheet 2 for at least one market opportunity:

- ✓ How do you currently assess the overall potential of this opportunity?

  List the key assumptions that led you to this evaluation

- ✓ How do you currently assess the overall challenge of this opportunity?

  List the key assumptions that led you to this evaluation

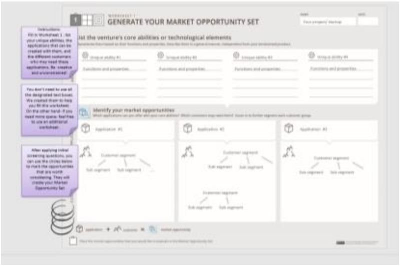
- ✓ Position the opportunity on the Attractiveness Map

Deliverables:

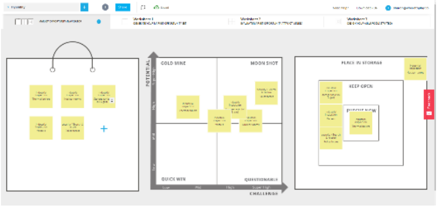
- ✓ Upload the filled Worksheet 2 on Moodle (under Session 3)
- ✓ Be ready to present it in tomorrow’s Share & Learn session

Work in any format you prefer

Download the worksheets:
(available on Moodle)



Use the PPT template
(available on Moodle)



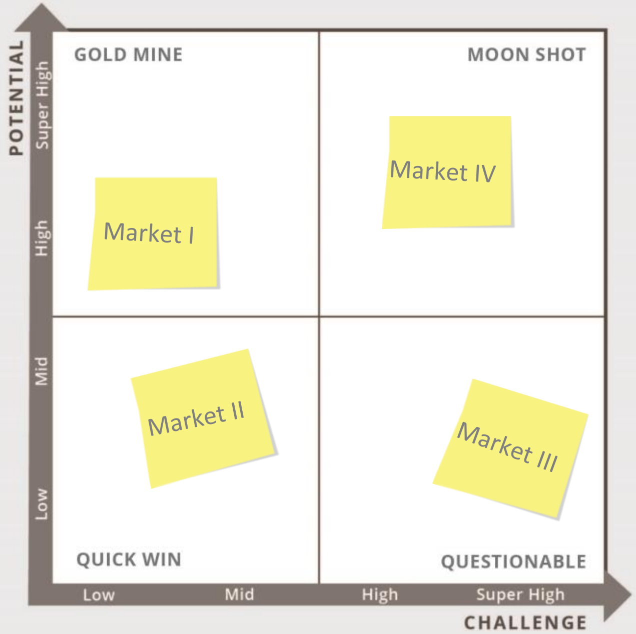
Sign up to the free web-app:
https://app.wheretoplay.co

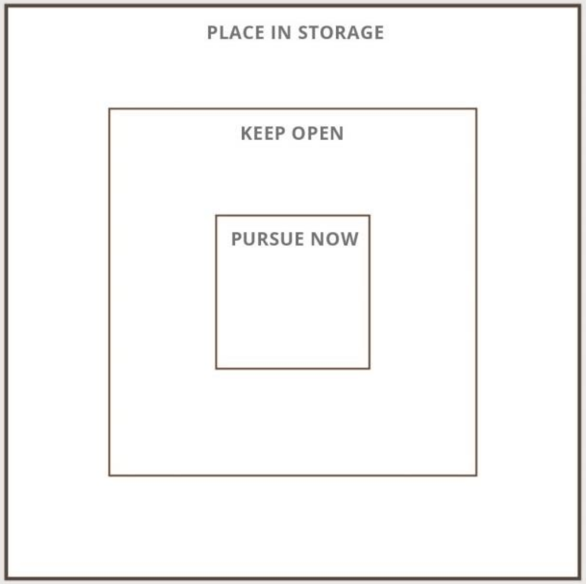
Where to Impact:
Adaptation for double-bottom-line ventures

Double-bottom-line ventures

Need to add impact into the set of considerations!

Adding impact into the set of considerations





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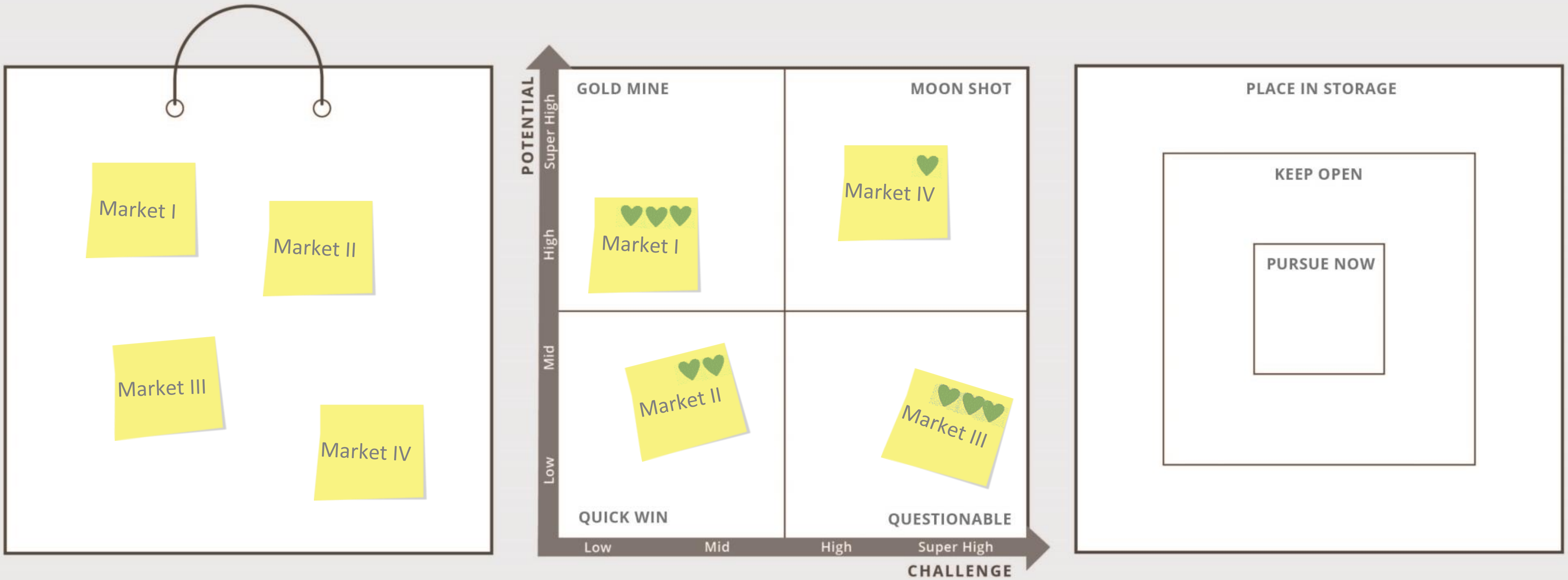
Adding impact into the set of considerations



MARKET OPPORTUNITY SET

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A new worksheet estimating social/ environmental impact

AGILE FOCUS DARTBOARD

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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

=

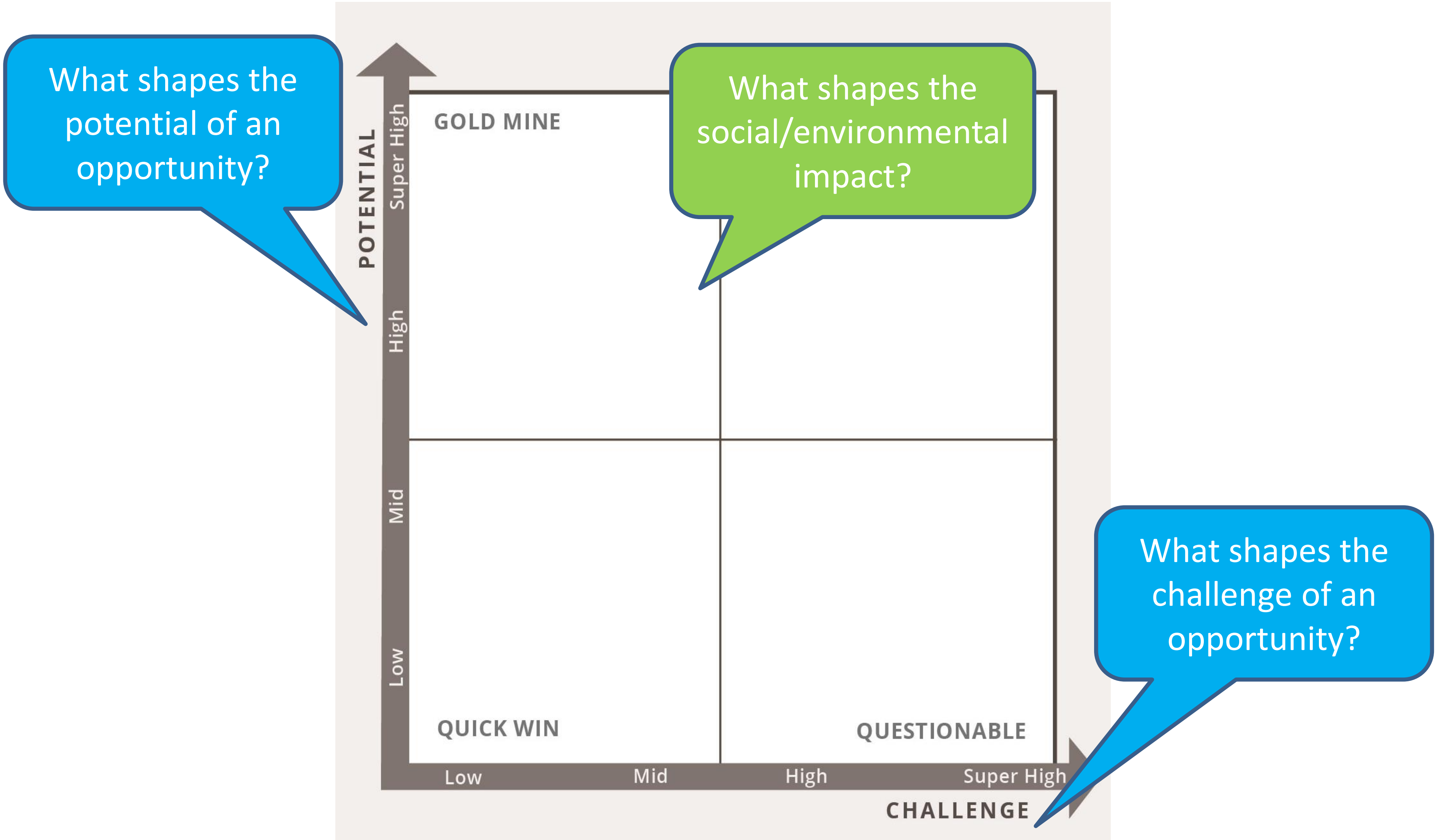
market opportunity

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?



WORKSHEET 2B

EVALUATE MARKET OPPORTUNITY ATTRACTIVENESS

NAME

DATE

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

♥	♥ ♥	♥ ♥ ♥	♥ ♥ ♥ ♥

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)

Social/environmental impact

#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?

Supporting resources: Theory of Change; Life Cycle Assessment

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

Supporting resources for estimating social/ environmental impact

- ✓ UN Sustainable Development Goals
- ✓ World Economic Forum Global Risk Report
- ✓ Theory of Change
- ✓ Life Cycle Assessment
- ✓ Impact Measurement Project

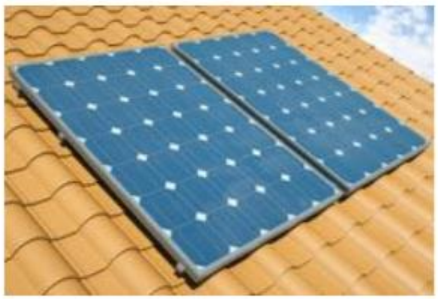
Putting it all together: example

insolight

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 (≈20%)

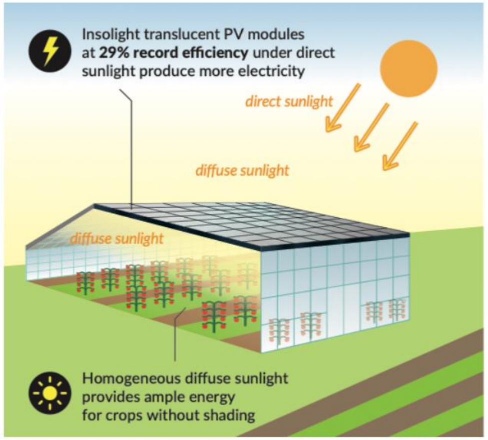
CONCENTRATED PV

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

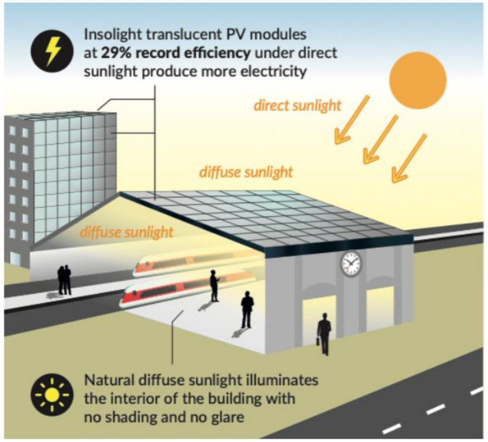
INSOLIGHT

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

Examining 3 market opportunities



Agrivoltaic



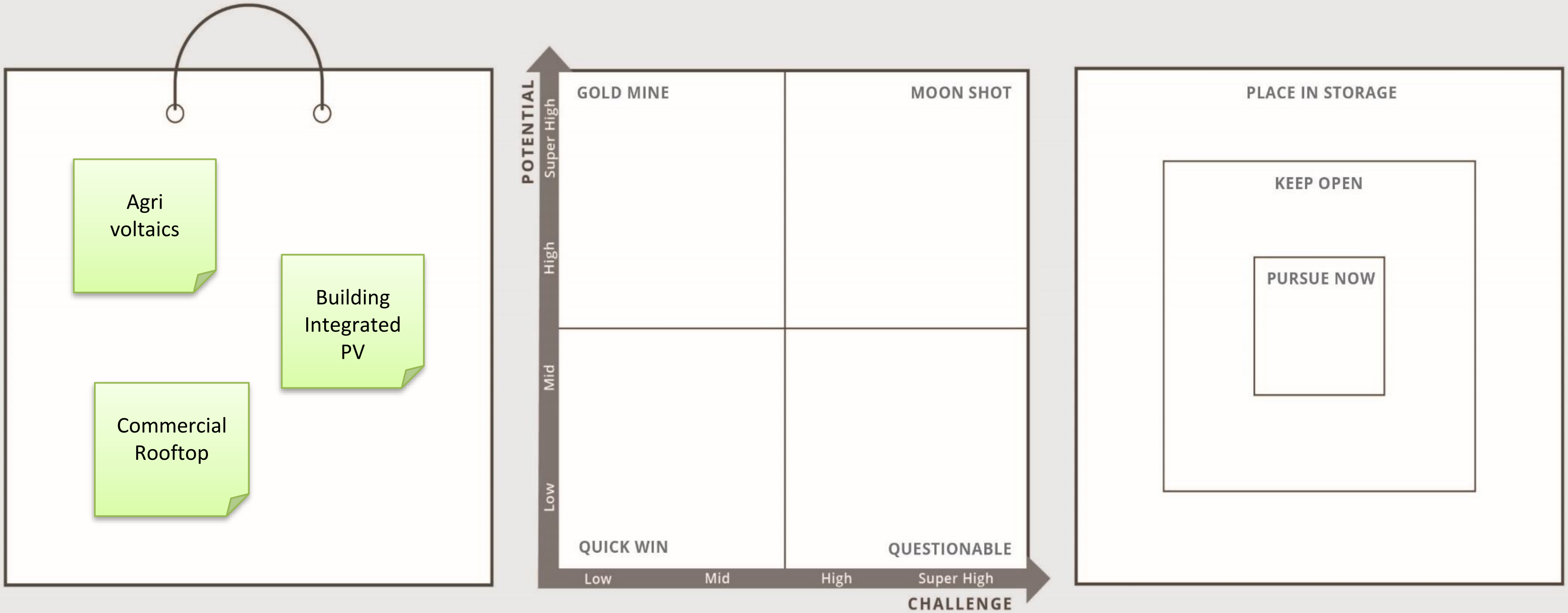
Building Integrated Photovoltaic

Roof top PV

THE MARKET OPPORTUNITY NAVIGATOR

NAME: Insolight

DATE: 11/19



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WORKSHEET 2

EVALUATE MARKET OPPORTUNITY ATTRACTIVENESS

NAME: Insolight

DATE: 11/19

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Market Opportunity: AgriVoltaic (Western Europe & US)

POTENTIAL

LOW	MID	HIGH	SUPER HIGH

COMPELLING REASON TO BUY
Unmet need
Effective solution
Better than current solutions

LOW	MID	HIGH	SUPER HIGH

MARKET VOLUME
Current market size
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Competitive threat
3rd party dependencies
Barriers to adoption

OVERALL POTENTIAL

LOW	MID	HIGH	SUPER HIGH

OVERALL CHALLENGE

LOW	MID	HIGH	SUPER HIGH

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EVALUATE MARKET OPPORTUNITY ATTRACTIVENESS

NAME: Insolight

DATE: 11/19

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)

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

♥ | ♥♥ | ♥♥♥ | ♥♥♥♥

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

THE MARKET OPPORTUNITY NAVIGATOR

NAME: Insolight

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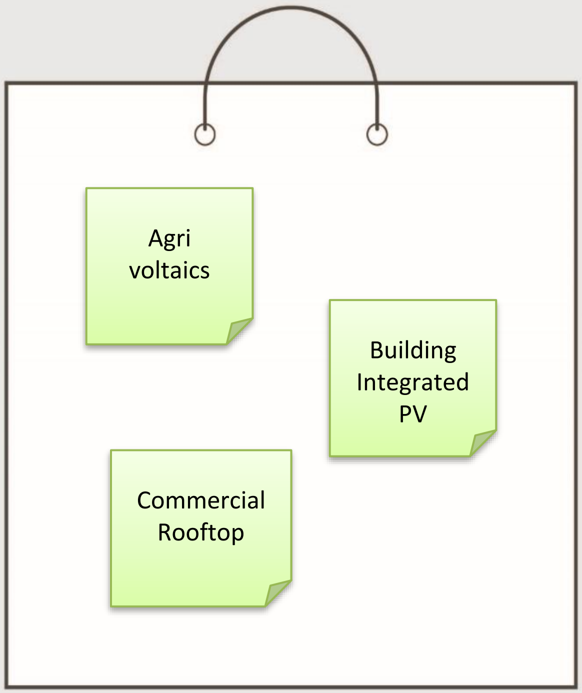

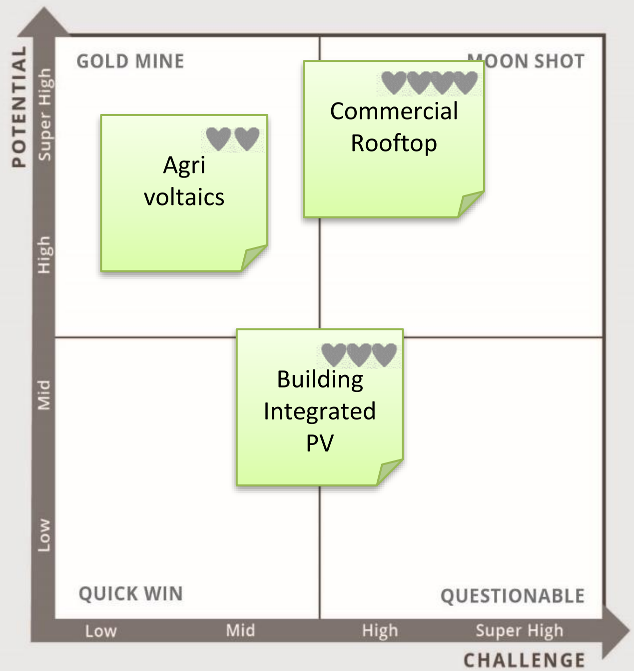

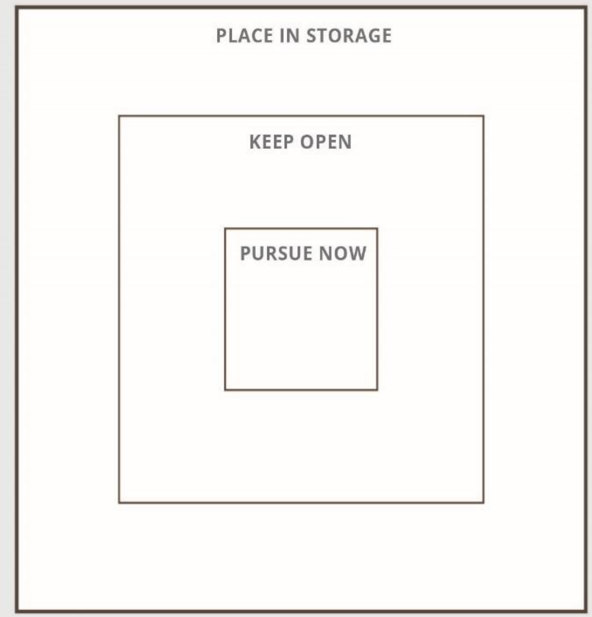

MARKET OPPORTUNITY SET

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

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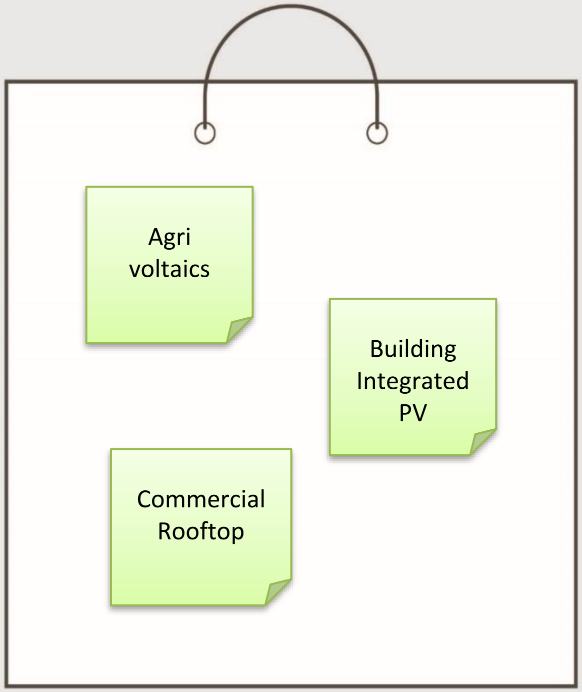

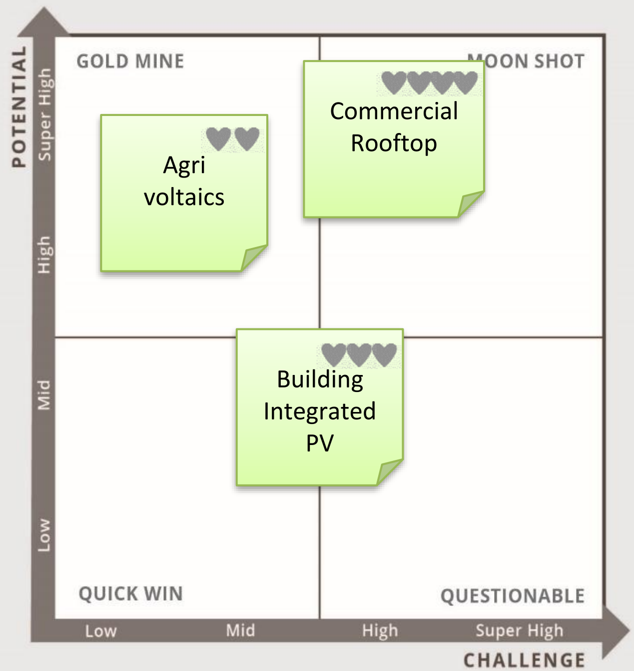

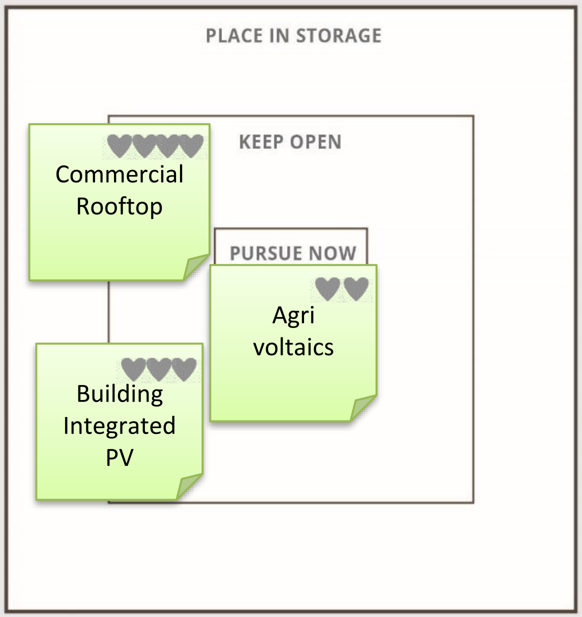

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Takeaways for social ventures

- ✓ 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

Apply Worksheet 2 for at least one market opportunity:

- ✓ How do you currently assess the overall potential of this opportunity?

  List the key assumptions that led you to this evaluation

- ✓ How do you currently assess the overall challenge of this opportunity?

  List the key assumptions that led you to this evaluation

- ✓ Position the opportunity on the Attractiveness Map

- ✓ If relevant- try to assess the social/ environmental impact of this opportunity

Deliverables:

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