



ENTREPRENEURSHIP SKILLS FOR SCIENCE COMMUNICATORS

Dr Aaron M Jensen
Trinity College Dublin

TODAY AGENDA



- Introductions – 8 minutes
- Intro to entrepreneurship – 5 minutes



- Bringing ideas to existence – 8 minutes
- Intro to entrepreneurship – 5 minutes



MY BACKGROUND

- Degrees in psychology, marketing & communication and social science of innovation
 - PhD, Entrepreneurship
- Current role:
 - Research Fellow in Science Education at Trinity College Dublin (UK), where I manage research for European Commission projects in science communication and informal learning.
- Research specialism:
 - Methods of evaluating impact in informal learning and public engagement, includes research methods (quantitative and qualitative)



Trinity
College
Dublin

The University of Dublin



Qualia Analytics

Technology-Enhanced Research Solutions

IMI

Institute for
Methods
Innovation



THE UNIVERSITY
of EDINBURGH

INTRODUCTIONS

What's your
Name?

What comes to
mind when you
think of
'entrepreneur'?



ENTREPRENEURSHIP: WHAT ARE WE TALKING ABOUT?



FAMOUS ENTREPRENEURS



Walt Disney



Henry Ford



Coco Chanel



Sam Walton



Elon Musk



Richard Branson



Steve Jobs



Bill Gates



Arianna Huffington



Sergey Brin



Larry Page



Jeff Bezos



Sheryl Sandberg



Mark Zuckerberg



Sara Blakely



J. K. Rowling

COUNTER-BALANCE MEDIA HYPE

General public and popular media are focused on entrepreneurs and companies who:

Only 'become successful' **after** attracting large investment or sales

Only 'fail' **after** large negative economic and financial, social, personal, emotional effects are seen

Success stories of entrepreneurs are portrayed as legends and entrepreneurship as a mythical occurrence.

Media often follow hype and fail to dispel myths about entrepreneurs or promote entrepreneurial process.

LEARNING FROM SUCCESS

Strong tendency to focus on successful organisations

- Tendency to look at **outcomes**, rather than **‘process of becoming’**

Problematic Patterns

- Entrepreneurs likely *overly* optimistic about value of opportunities
- Victims of detrimental cognitive biases

Nature of entrepreneurship

- Given inherent uncertainty in new venture creation
- Entrepreneurs themselves become 'bearers' of risk

Special Abilities?

- Possible explanation: Higher tolerance for risk and uncertainty, leads to persist when others might not.

Key Characteristics

- Recognition that overcoming setbacks appear to be bedrock component of entrepreneurship

POINTS OF AWARENESS

PROCESS OF BECOMING

Conclusion:

- Entrepreneurs are those who bring (new) ideas, innovations and solutions to a marketplace

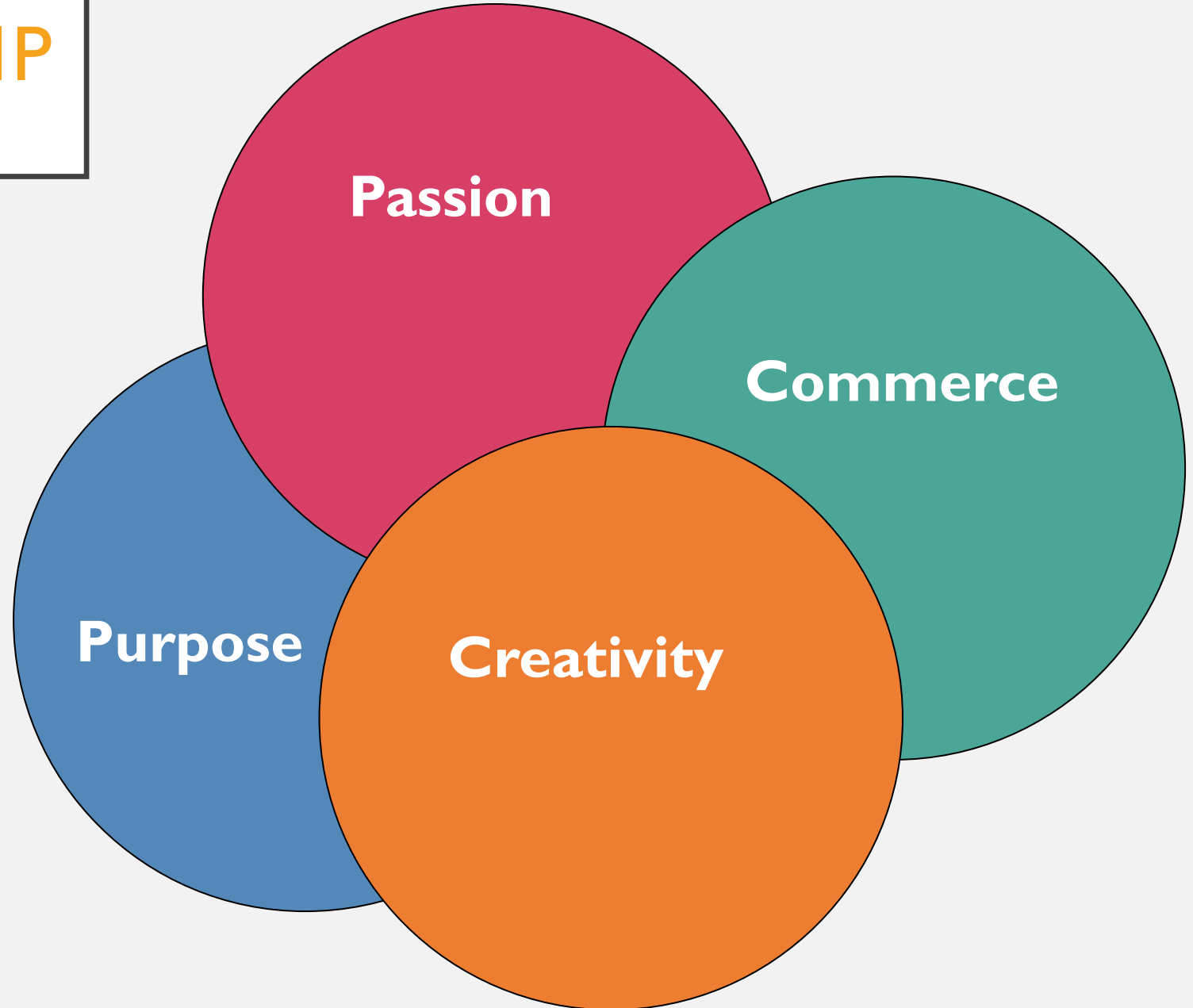
Regardless of stage:

- If they are acting on an intention, they are an entrepreneur... even when early stage (nascent)

WHAT ARE YOUR CONCERNS

- How do I build a financially sustainable future as a science communicator?
 - Short-term contracts
 - How do I get clients? How do I expand?
 - Stress of being a precarious position

ENTREPRENEURSHIP





ENTREPRENEURSHIP: DIRECTION FOR YOUR ENERGY

- Being dissatisfied with how things work
- Unhappiness can promote action
- Dissatisfaction can be about making a future that you'd like to bring about
- Gap between where we are now and where we'd like to be.

Entrepreneurship can give direction to your energy.



ENTREPRENEURSHIP: NAVIGATING EXISTING STRUCTURES

“THE THINGS WE FEAR MOST IN ORGANIZATIONS – FLUCTUATIONS, DISTURBANCES, IMBALANCES – ARE THE PRIMARY SOURCES OF CREATIVITY.”

Margaret J Wheatly

NAVIGATING EXISTING STRUCTURES

Dealing with the current world

- Environmental, cultural, institutional and social factors

Referred to as “Macro conditions”

- Particular configurations
 - Living conditions
 - Competition
 - Changes in technology
 - Marketplace preferences
 - Life cycles of industry

Common view

- Beyond an entrepreneur’s ability to influence



Entrepreneur is between structure and agency

Impacts direct influence : Larger (macro) factors with *less*, smaller (micro) factors *more*



Macro level structure: environmental, cultural and social

Barriers and triggers to action

Demands that can 'push' or 'pull' an entrepreneur



“Macro” factors are often emphasised by economists

This is reflected in research with entrepreneurial activity and consideration for marketplace behaviour or '**demand side**' factors

NAVIGATING EXISTING STRUCTURES

PROCESS OF CREATIVE DESTRUCTION



Capacity of an innovation to influence established systems



Nature of change and competing ideas

INNOVATION TYPES

Innovation Types

- Technology
- Process
- Business Model
- Positioning

Categories

- Disruption
- Competitor
- General Innovation

DISCUSSION



BETWEEN STRUCTURE AND AGENCY: RISK, UNCERTAINTY AND ACTION IN ENTREPRENEURSHIP



Uncertainty

Takes place within a highly uncertain business environments.



Lack of Foresight

Conditions affect decision-making, ability to make plans. Not usually possible to foresee accurately outcomes.



Lack of control

Creators of their own destinies but at mercy of structural factors beyond control



ENTREPRENEURSHIP: HOW IDEAS COMES INTO EXISTENCE

Entrepreneur Roles

Dreamer

Envision the world not as it is, but as the way it can or could be.

Thinker

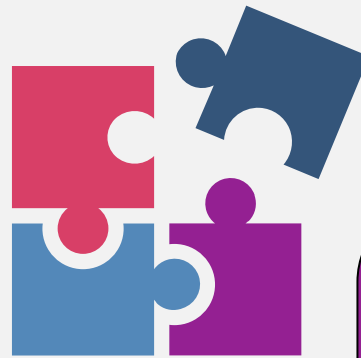
Manifest your Dream, how you bring your dream to reality

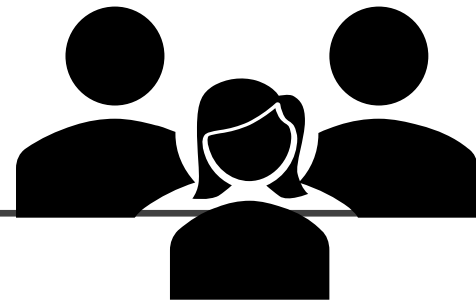
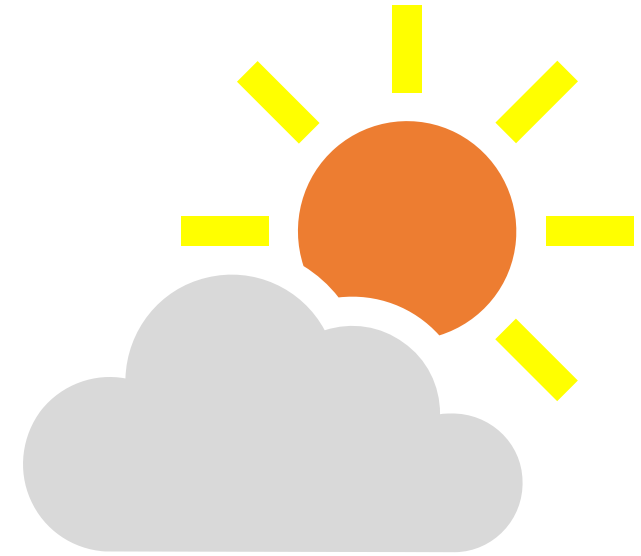
Storyteller

Sharing ideas and excitement with others.

Leader

Responsibility for moving dream forward in reality.





DREAMERS

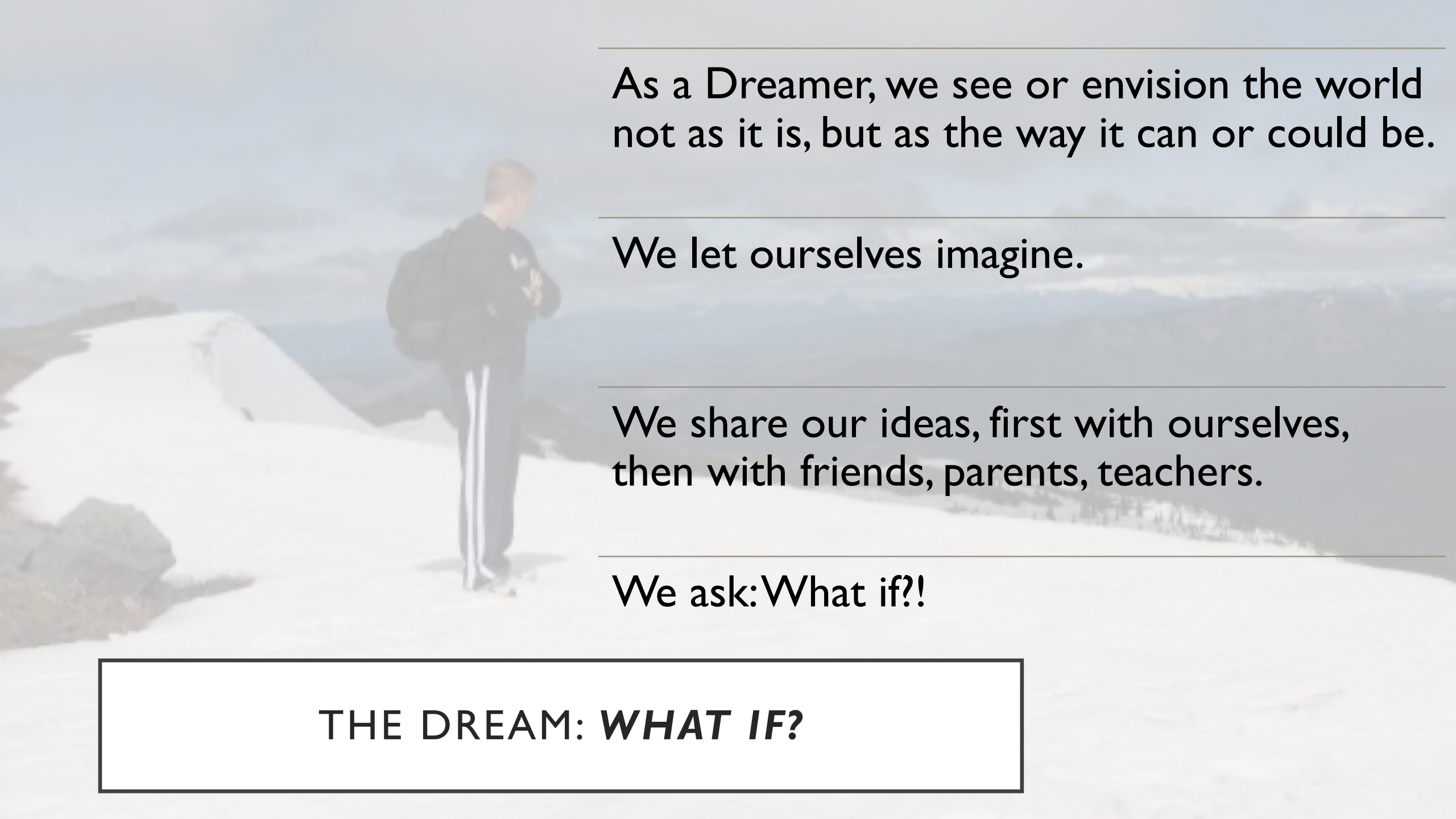
“THE FUTURE BELONGS TO THOSE
WHO BELIEVE IN THE BEAUTY OF
THEIR DREAMS.”

Eleanor Roosevelt

THE DREAMER & ENTREPRENEUR

This side of you, The Dreamer, is absolutely essential.

This is, we might say, part of the “personality” or “heart” of an entrepreneur, whether new or experienced.



As a Dreamer, we see or envision the world not as it is, but as the way it can or could be.

We let ourselves imagine.

We share our ideas, first with ourselves, then with friends, parents, teachers.

We ask: What if?!

THE DREAM: ***WHAT IF?***

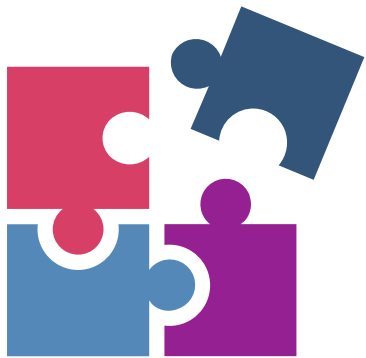
DREAMERS: IDEA GENERATION

Consider up to three issues that you've observed / experienced. These issues or problems make the world:

- Frustrating
- Inefficient
- Wasteful

Fixing these might help the world become:

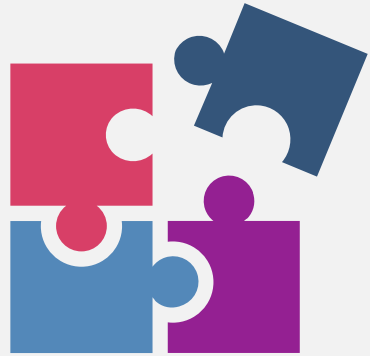
- Beautiful
- Compassionate
- Efficient
- Smooth
- Organised
- Diverse
- Exciting
- Fair



ACTIVITY

ACTIVITY

1. Form groups



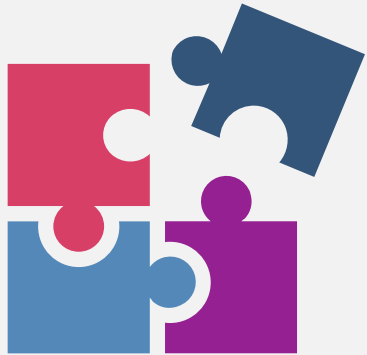
At least 3

2. Share
your ideas.

3. Pick one
issue.

**Which one would you choose if
you can only solve one?**

ACTIVITY



Maybe one issue you've all observed / experienced: Once this issue has been solved, how does the world look different?

Observe: *Are you more interested (or passionate) in your ideas or another idea?*

DREAMERS: IDENTIFYING PROBLEMS

Considering issues that you've observed/experienced, either personally, through your colleagues, or with other people in the world.

These might be:

- Problems
- Frustrations
- Inefficiency
- Wastefulness

This might make you, or people you love, feel:

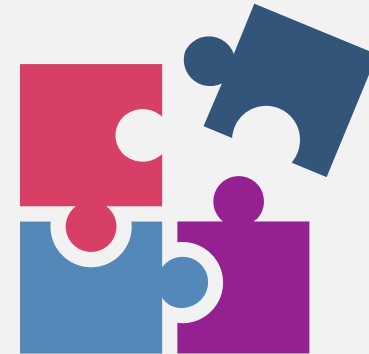
- Ignored
- Depressed
- Unpleasant
- Lonely
- Uncomfortable

That make the world Less....

- Beautiful
- Caring
- Compassionate
- Efficient
- Smooth
- Organised
- Diverse

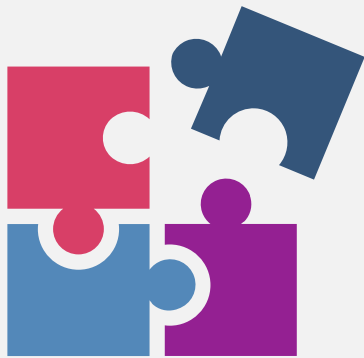
More:

- Wasteful
- Cold
- Unpleasant
- Careless
- Homogenous



DREAMERS: IDEA GENERATION

Your ideas
matter to
the world



- How you ***feel*** about an issue:
 - Frustrations / problems / inefficiency / waste that should be removed from the world to make it better / more enjoyable or beautiful
 - Or, what you find beautiful already and feel needs to be more widely available.
- Something you've experienced...
 - This can be something you feel close to or connected to with.
 - Maybe someone you know has also experienced this...
- Once you become aware of many issues, it might become difficult to pick just one issue.
- Imagine how your life, lives of people you care about, the world could be different.
- Remember that you have a limited amount of time.



THE THINKERS

THE THINKER

- The Thinker puts structure to Dream and shapes it into business
- **Main goal:** Making the Dream becomes a reality
- This is what conversation sounds like between a dreamer and thinker:
 - Dreamer: “I have this idea. It’s *impossible* though.”
 - Thinker: “What if it were possible? *What then?*”

CREATIVE PROBLEM SOLVING

Every problem is an opportunity for a creative solution

You control your attitude to the problem

Problems with no right answers, open-ended* solutions

$$? + ? = 10$$

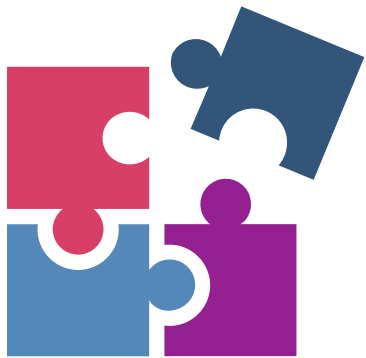
The bigger the problem, the bigger the opportunity

Look for problems

***Open-ended:** Having no predetermined limit or boundary

ACTIVITY: RE-FORM INTO GROUPS

- Using same/similar topics from last discussion
- Adjust/refine overall ideas
- Extend "What ifs"
 - Orient to people outside of your group
 - Audiences / Beneficiaries / Funders
- Formulate around curiosities/questions that you can't answer within your group

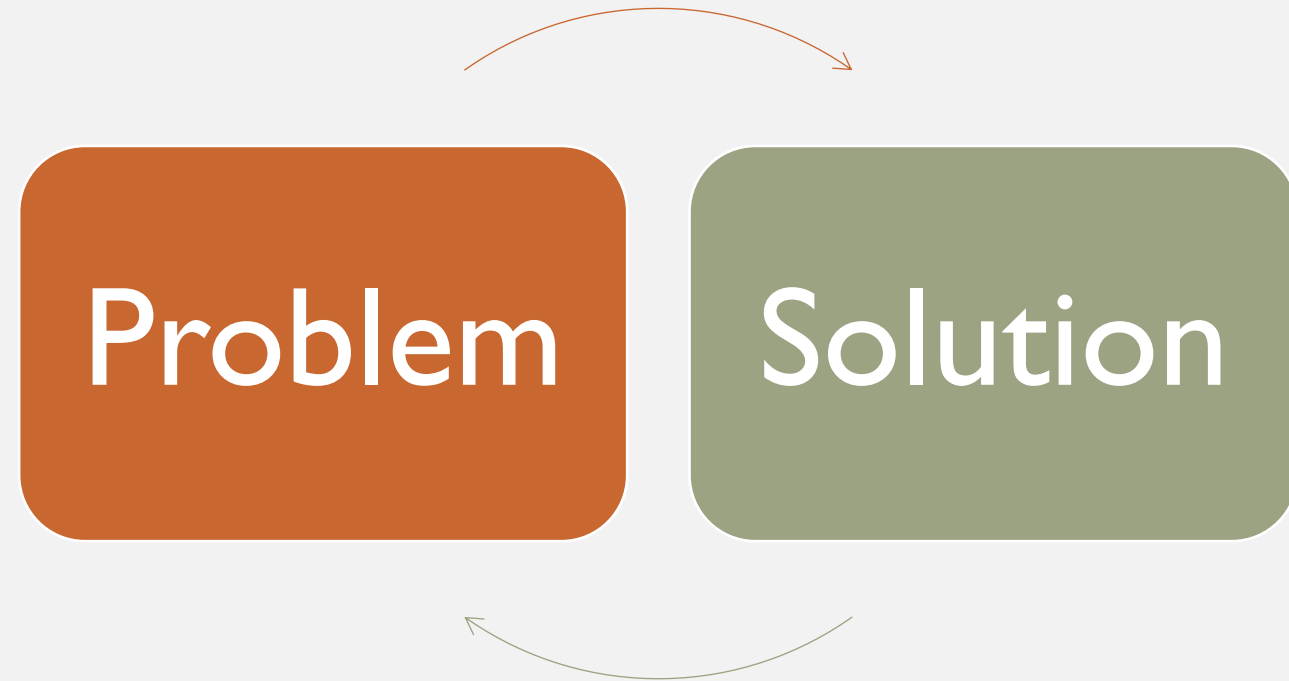


ACTIVITY

THE THINKER

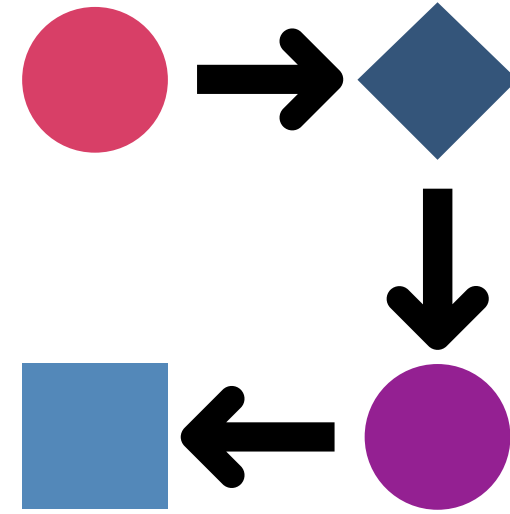
Let's consider

- The balance between optimism and pessimism
 - Importance of going back and forth between problems and solutions to refine thinking
- Level of uncertainty about whether your idea would work
- Changes in your tolerance for the uncertainty as you work through problems/solutions



THE THINKER: NOTICE CONNECTIONS

- Narrow down to real problems
- Connect the dots between problems and opportunities
- Be brave enough to question the *status quo*
 - Question
 - existing state of affairs
 - what you do
 - control you have
 - ethics
- Aim to solve real problems



**“Stop pondering,
start prototyping”**

ALLOW YOURSELF TO TRY THINGS OUT, SEE WHAT WORKS THAT YOU DIDN'T EXPECT TO WORK, GIVE YOUR EYES NEW THINGS TO LOOK AT IN YOUR OWN WORK.

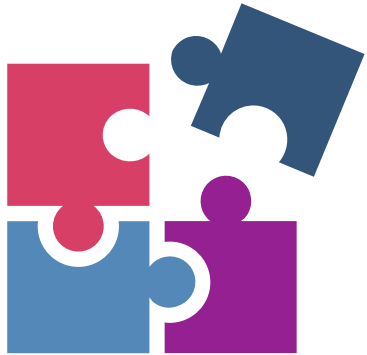
JAMES CLEAR, 2017 – ENTREPRENEUR, WRITER, ATHLETE



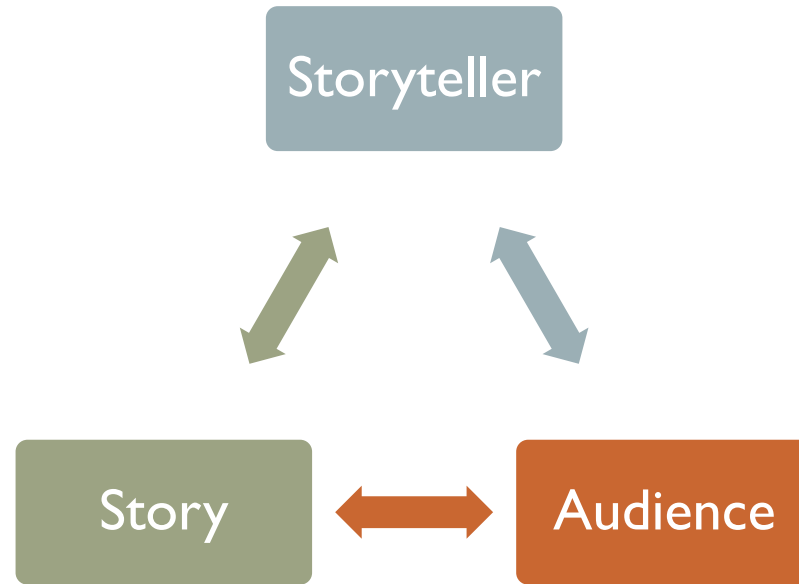
THE STORYTELLERS

THE STORYTELLER: SHARE THE DREAM

- Helps the Dreamer and Thinker find their voice.
- Knows that encouragement and excitement can help the dream have a chance to become reality.
 - Shares dream
 - Helps to educate
 - Invokes excitement
 - Visualise possibilities



ACTIVITY



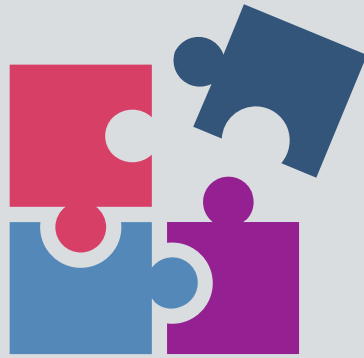
STORYTELLING

STORYTELLER: SHARING YOUR IDEAS

**Your ideas
matter to the
world.
Share them.**

- **Feelings** about the issue:
 - Frustrations / problems / inefficiency / waste that should be removed from the world to make it better / more enjoyable or beautiful
 - What you find beautiful already and feel needs to be more widely available.
- **Experiences...**
 - This can be something you feel close to or connected to with.
 - Maybe someone you know has also experienced this...
- Process for how you came to this one issue.
- **Help others imagine** how their lives, lives of people they care about, and the world could be different.
- **Help them see urgency to act** because of a limited time.

PRODUCTS AND SERVICES
MARKETING



ACTIVITY

CHALLENGES FOR SERVICES

Defining and
improving quality

Ensuring the
delivery of
consistent quality

Responsiveness

Communicating and
maintaining a
consistent image

Accommodating
fluctuating demand

Motivating and
sustaining employee
commitment

Setting prices

Finding a balance
between
standardisation
versus
personalisation

Providing something
tangible ...
photographs,
certificate



WHAT IS SOCIAL MARKETING?

SOCIAL MARKETING FOR SCIENCE COMMUNICATORS

Considered as
marketing of
solutions to social
problems

Promoting
behavioural/
attitude change

Many early definitions,
often suggest application
of commercial marketing

- Early concepts transposed
commercial concepts

Improve
**personal and
societal welfare**

KEY CONCEPTS: COMMERCIAL AND SOCIAL MARKETING COMPARISONS

Discussion of value exchanges

Commercial marketing: Activities coordinated towards financial objectives

Social Marketing: Activities coordinated towards non-financial objectives


Non-financial objectives requires a different focus

e.g., Creation of profit

E.g., changing the science interests of teenagers

APPLICATION: NON-FINANCIAL OBJECTIVES

Commercial principles applied to non-financial objectives can be problematic



Core characteristics of social marketer:

- Striving for non-financial goals
 - Engage in voluntary relationships
- 

Many nonprofits appear perpetually to find that demand always outstrips their capacity to supply



“Products” are more complex: ideas, behaviour change, solution to health problem

PRINCIPLES OF SOCIAL MARKETING

Focus on behaviour or attitudes
that lead to behaviour

Can be applied in these instances:

Recognition that behaviour change
is voluntary – consumer decides
whether to partake in the change

Beneficiaries of a social programme
are individuals, groups, or society as
a whole.

Acceptance of a new behaviour

Rejections of an undesirable
behaviour

Modify current behaviour

Abandon an old behaviour

VARIED DEMAND

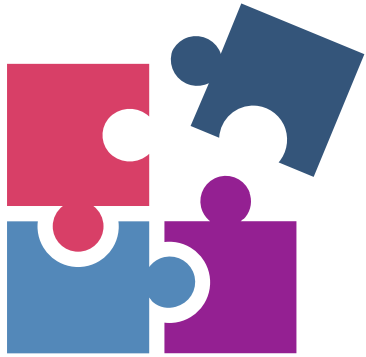
Often uncover
new demands or
deal with
negative demand

People will resist
change to
existing
behaviour or
they're may be no
demand

Others may not
perceive the need

Sometimes need
to generate the
need for social
behaviour

- E.g., generating the
need to stop
smoking



ACTIVITY

TRANSLATING BETWEEN SOCIAL- COMMERCIAL MARKETING



Social proposition—instead of products;



Costs of involvement—instead of price



Accessibility—instead of place



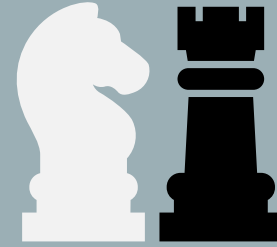
Social communication—instead of promotion



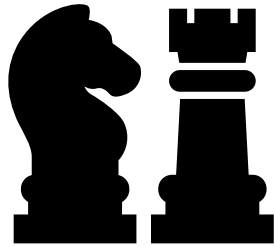
Interaction—instead of exchange



Competition framed in terms of competing ideas, and the need to win the battle for attention and acceptance to secure behaviour adoption.



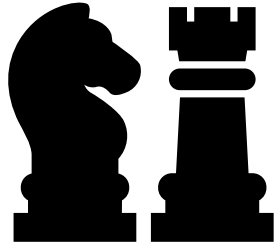
ENTREPRENEURSHIP: COMPETITION AND STRATEGY



COMPETITION AND ENTREPRENEURSHIP

Competition is
inherent in
entrepreneurship

Entrepreneurship
is inherent in the
competitive
process



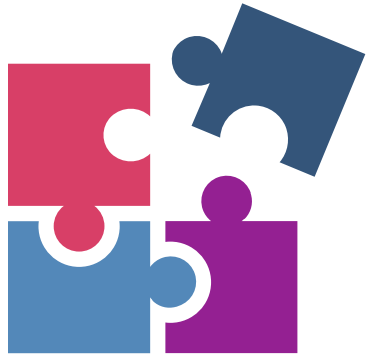
COMPETITIVE PRESSURE AND OPPORTUNITIES

Difficult to
ignore

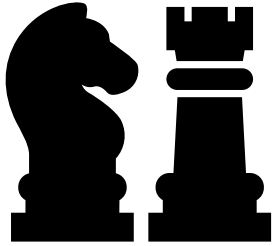
- Opportunities can be grabbed by other entrepreneurs
- Competitive pressure is constant

Assuming
freedom in
the market
to buy and
sell

- Entrepreneurship is open to anyone
- Resources may be owned



ACTIVITY



COOPERATION IN ENTREPRENEURSHIP



Move away from standard business competition



Let's talk about cooperation



Recognition that some problems are too large to solve alone

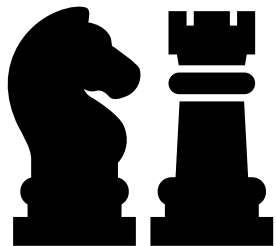
Stay focused on bigger issues



Most opportunities can support many 'players in the field'



COOPERATION IN ENTREPRENEURSHIP



Key for gaining
support for your
ideas

Reframe
competition
against
problems

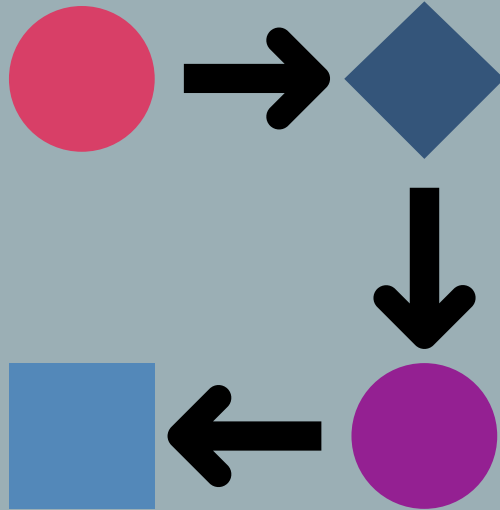


Finding common and shared
interests



Initiating
collaboration

asking for
directions
sharing ideas

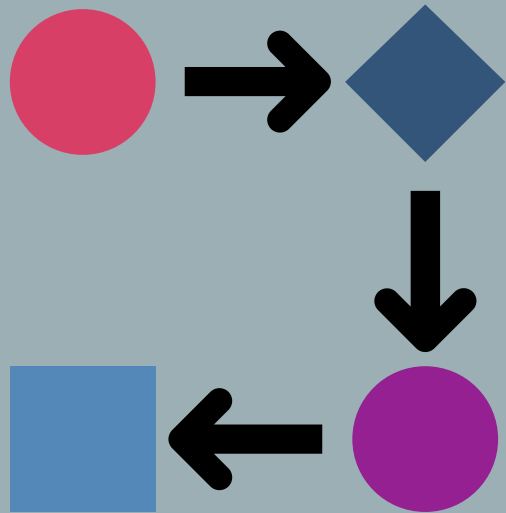


PROJECT MANAGEMENT OVERVIEW

WHAT IS A PROJECT?

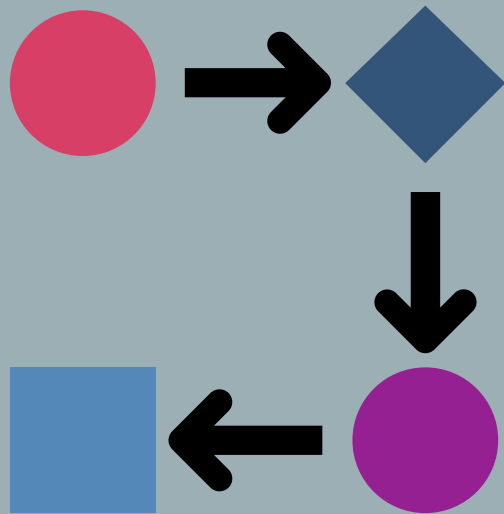
Discussion

WHAT IS A PROJECT?



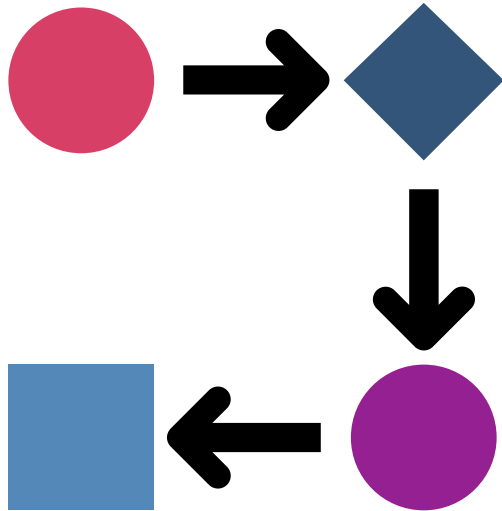
- Response to issues that cannot be addressed with normal work expectations
- Not limited by number of people involved
- The duration can be 10 days, a few weeks or few years

WHAT IS A PROJECT?



- **Projects:** Temporary and Unique
 - **Temporary:** Beginning and end (Life cycle – type of process)
 - **Unique:** Distinguishing characteristics
- **Progressively Elaborated**
 - **Progressive:** Proceeding steps; incremental progress
 - **Elaborated:** Worked out with care and detail; developed thoroughly

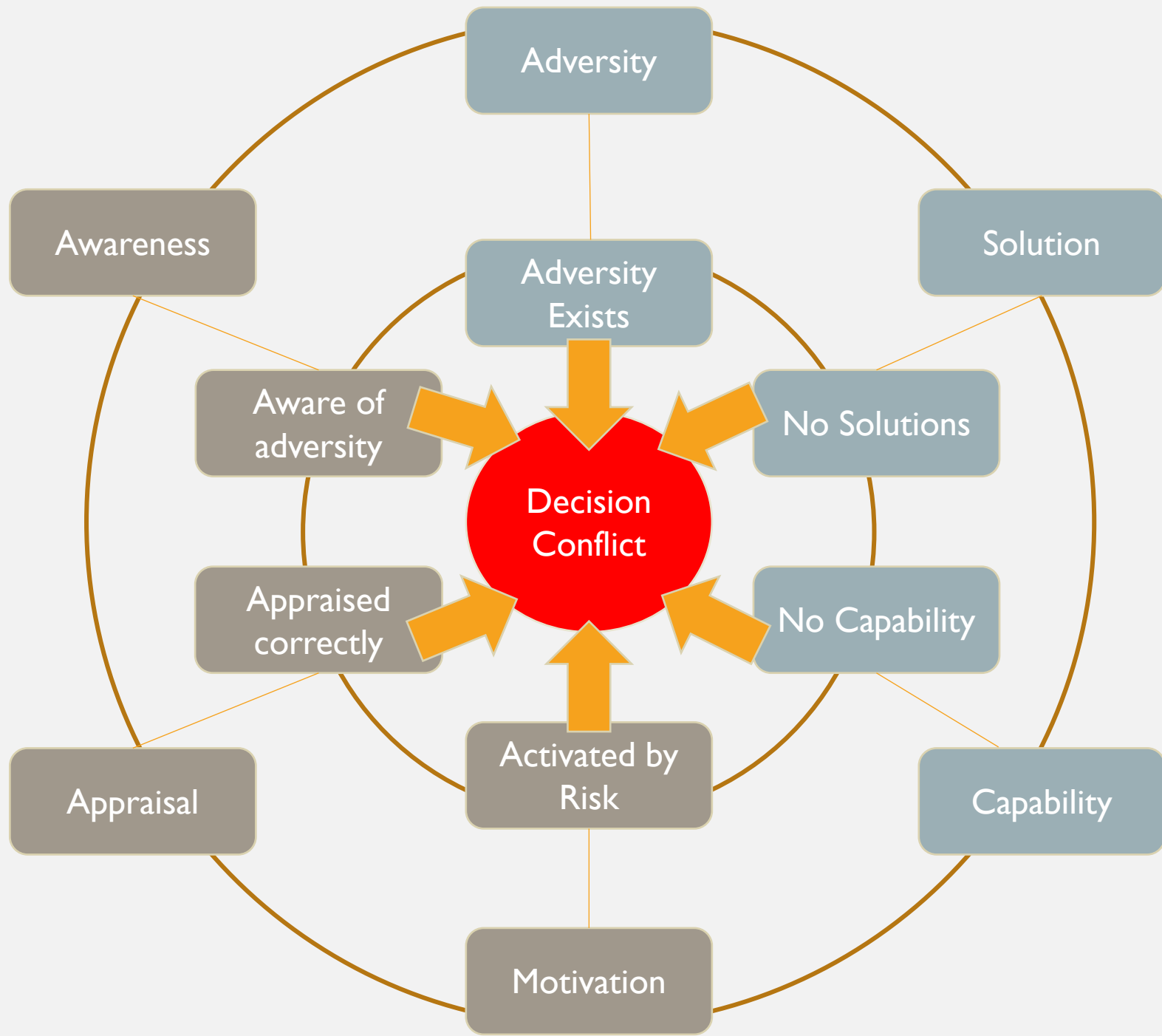
WHAT IS PROJECT MANAGEMENT?



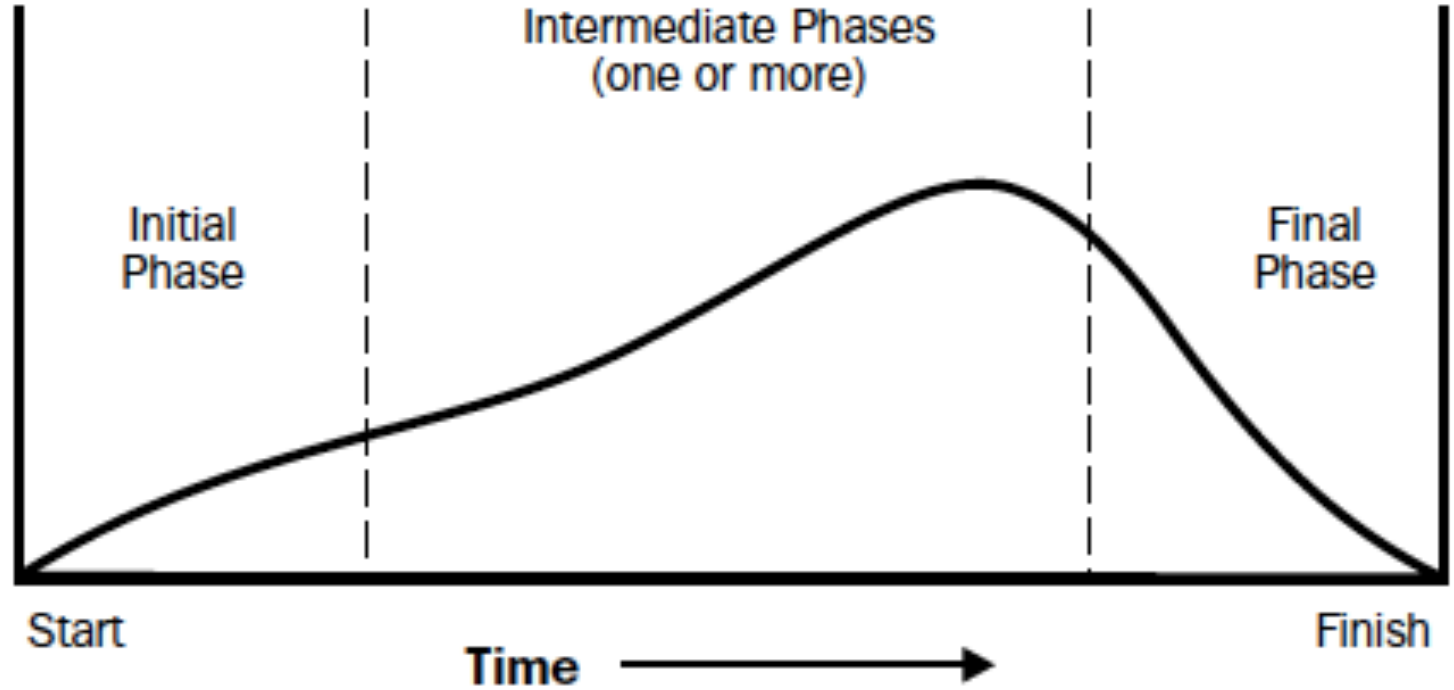
- Application of knowledge, skills and techniques to meet project requirements
- Coping with competing demands
 - Objectives
 - Requirements
 - Constraints
 - Uncertainties

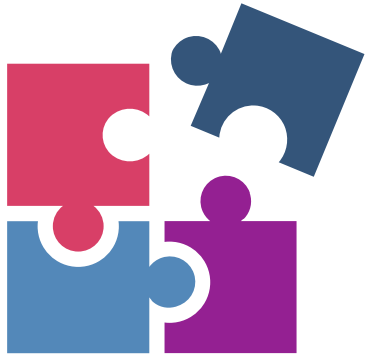
COMPETING
DEMANDS





PROJECT PHASES





ACTIVITY

CREATIVE PROBLEM SOLVING

FINDING

PLANNING

1

Mess

2

Problem

3

Idea

4

Solution

5

Action

BASIC “STEPS”

MAKING IMPROVEMENTS WITH NEW INFORMATION



Start with Feedback



Broaden our networks
and connect with others



Ask for help and
directions

REVISING DECISIONS



Over time, a series of changes in decisions make up a market process



Initially set in motion by ignorance of a market



Systematic changes take place as we gain new information



Need to test plans and decisions within a market

Expect limited knowledge.

Expect competing demands.

Expect uncertainty in all stages.

WHAT TO EXPECT

ENTREPRENEURIAL TOOL KIT



Not about providing one “tool”, but about a range of tools for a range of possible circumstances / challenges.

It’s normal that tools may not be useful immediately.



Understand outcomes from using tools should be *effectiveness* in achieving goals.



This will allow you, when venturing, to recognise circumstances and a set of tools that may provide you with the “right” response to the circumstance.