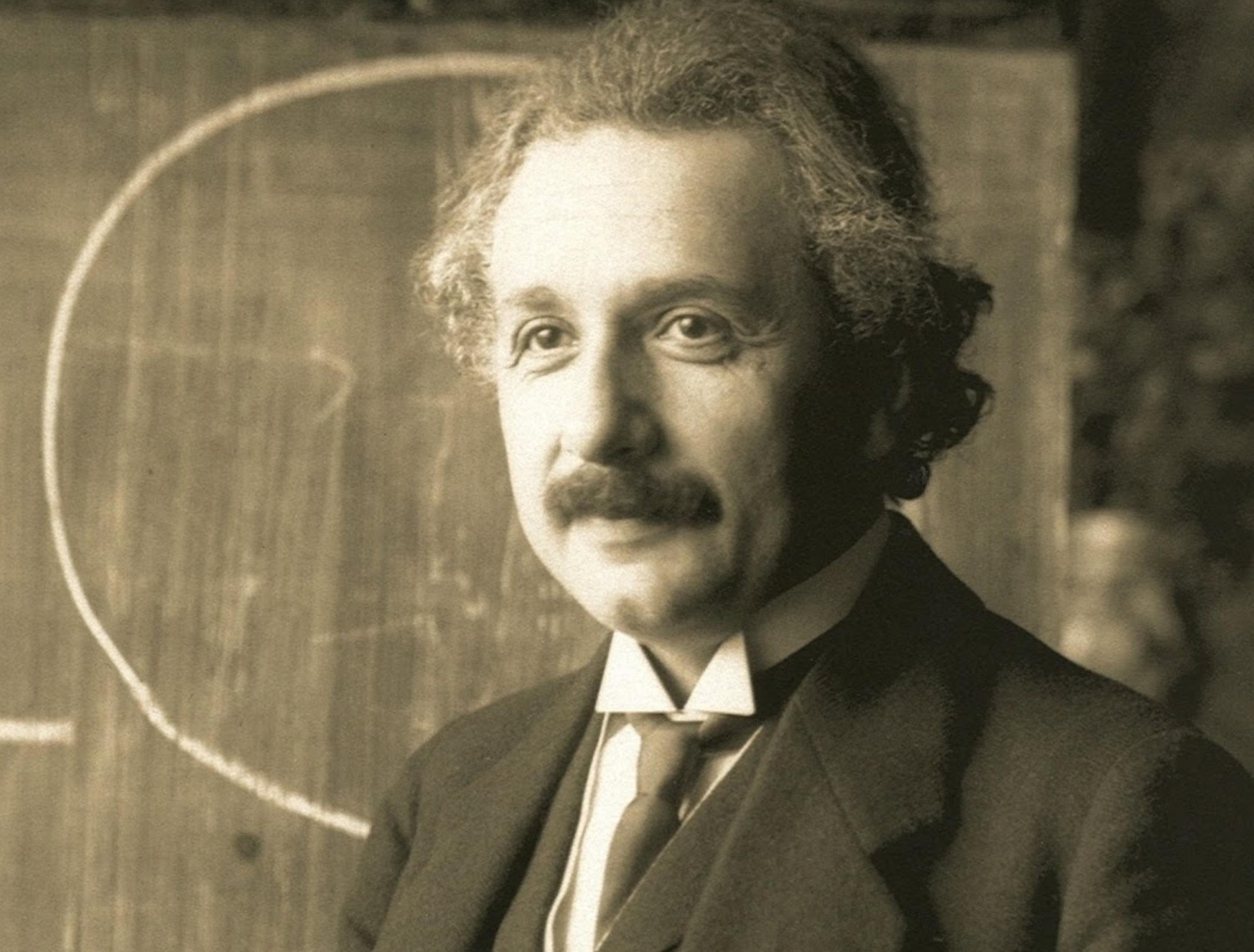


KANBAN GLOBAL SUMMIT | AUG. 24, 2022 | MATTHEW PHILIP

NO (LAB) JACKET REQUIRED

Designing Experiments for Organizational Learning

K.



TODAY'S AGENDA

Time	Activity
8:45am	Introductions
	Experiment-Thinking Activities
	Improvement Kata
	Identifying Experiments
	Experiment Canvases
	Connecting Experiments to Strategy
12pm	Lunch

* 10-minute break approximately every hour

WHO'S TALKING ABOUT EXPERIMENTS?

IMPROVE COLLABORATIVELY, EVOLVE **EXPERIMENTALLY**.

Kanban Method

EXPERIMENT AND LEARN RAPIDLY.

Modern Agile

Lean Startup

PIVOTING A STRUCTURED COURSE CORRECTION DESIGNED TO TEST ... **HYPOTHESIS** ABOUT THE PRODUCT, STRATEGY, AND ENGINE OF GROWTH.

EACH FEATURE INCLUDES A BENEFIT **HYPOTHESIS**.

SAFe

IN COMPLEX ENVIRONMENTS, YOU CAN'T FOLLOW RECIPES OR CONDUCT DETAILED ANALYSIS TO UNDERSTAND THE SITUATION. RATHER, YOU MUST **EXPERIMENT (PROBE)**.

Cynefin

DevOps

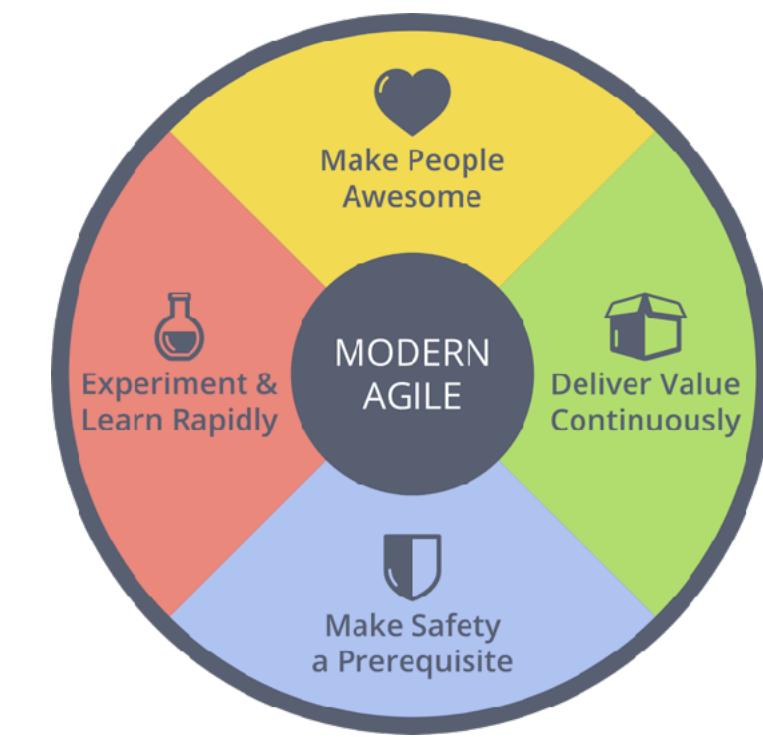
...A CULTURE THAT FOSTERS ... **CONTINUAL EXPERIMENTATION, TAKING RISKS AND LEARNING FROM FAILURE...**

PLAN, DO, CHECK (STUDY), ACT

Deming

SCALE EXPERIMENTING-LEARNING-ADAPTING-EVOLVING GUIDED BY COMPLEXITY, LEAN AND AGILE.

Generative Scaling



**BUT IN SPITE OF THE LIP SERVICE THAT IS PAID TO...
‘LEARNING FROM FAILURE,’ TODAY’S ORGANIZATIONS,
PROCESSES, AND MANAGEMENT OF INNOVATION
OFTEN IMPEDE EXPERIMENTATION.**

— STEFAN THOMKE, **EXPERIMENTATION MATTERS: UNLOCKING THE POTENTIAL OF NEW TECHNOLOGIES**

YOU KEEP USING THAT WORD



I DO NOT THINK IT MEANS WHAT YOU THINK IT MEANS

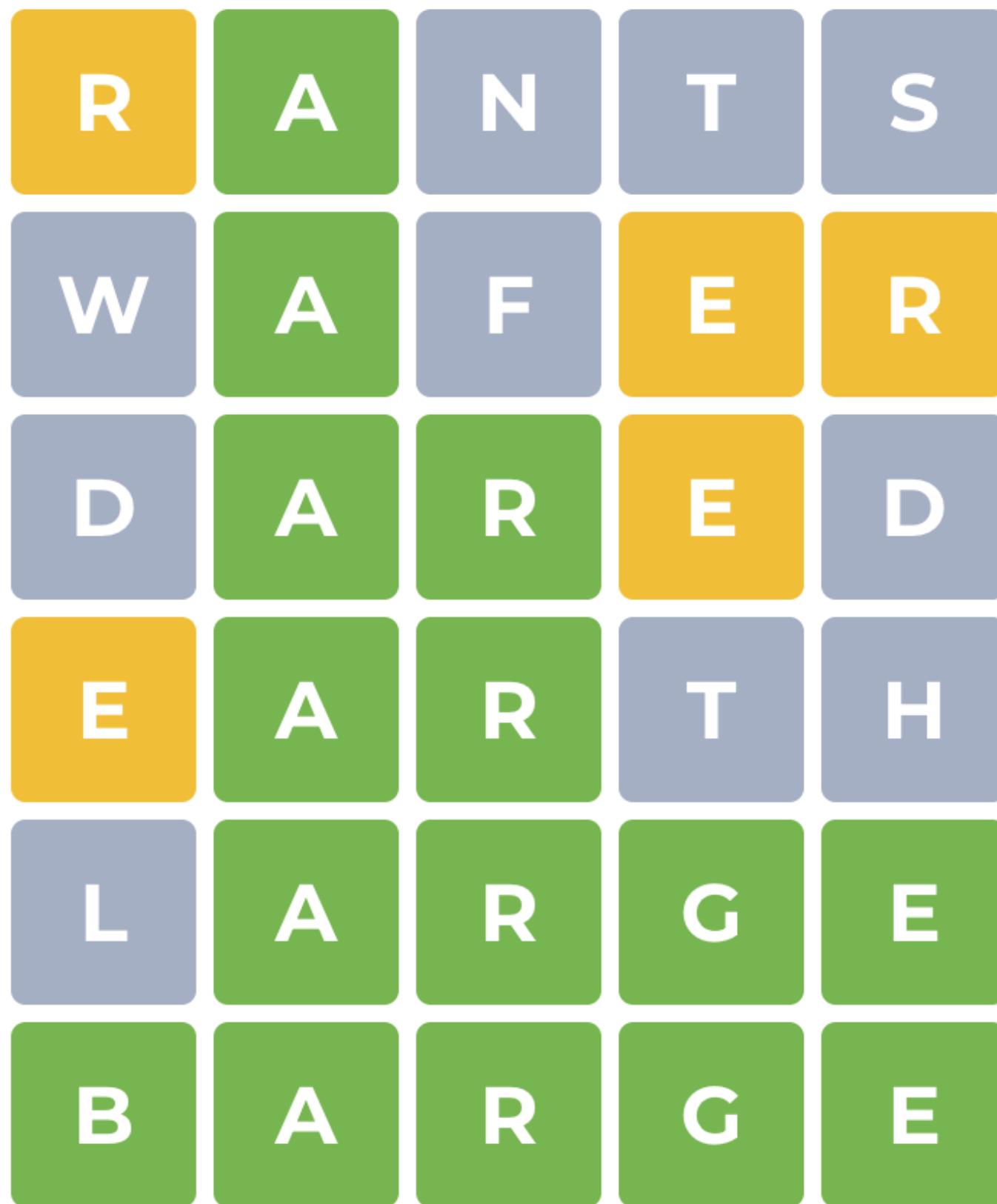
**WHAT IS AN EXPERIMENT MINDSET?
WHAT IS SCIENTIFIC METHOD?**

WHAT IS AN EXPERIMENT MINDSET? SCIENTIFIC THINKING?

Scientific thinking is a skill – a habit – that empowers us to better navigate complexity:

1. *Acknowledging* that our comprehension is always incomplete and possibly wrong.
2. *Assuming* that answers will be found by test rather than just deliberation. (You make predictions and test them with experiments.)
3. *Appreciating* that differences between a prediction and what actually happens can be a useful source of learning and adjustment.

WARMUP: WORDLE



You Won! 🏆



WHAT DID WE LEARN?

**WHAT HAPPENED IN THAT GAME?
HOW DID YOU APPROACH SOLVING IT?
ANYTHING UNEXPECTED HAPPEN?**

ELEUSIS EXPEDITIOUS: A GAME ABOUT HYPOTHESES

OBJECT

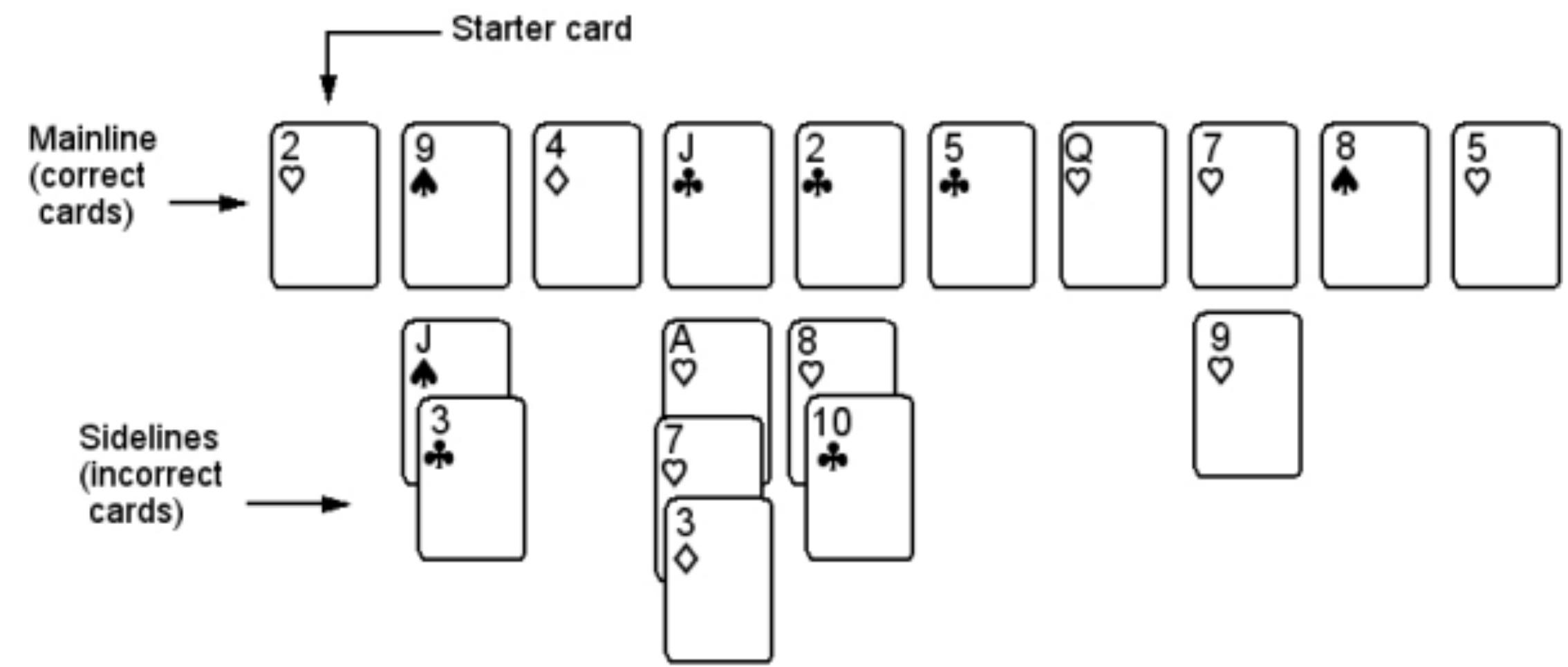
- Each round, one player is chosen as the oracle, who has a secret rule for which the cards must be played. (The oracle does not play any cards.)
 - For example: *Each card has to be a different color from the card before it.*
- Other players lay down cards to discover the pattern. If a player lays down a card correctly, he or she can try to guess the rule.



— Based on Eleusis Express, which itself is a modification of Robert Abbott's game Eleusis

GAMEPLAY

- The oracle places the pile of cards face down, turns over the top card, and puts it on the table.
- The player to the left of the oracle goes first, then the play continues clockwise.
- A player turns the top card from the deck and lays it on the table. He or she asserts whether it follows the rule or not, and the oracle accepts or rejects:
 - If the card follows the rule, the card is placed horizontally to the right of the last card on the mainline.
 - If the card does *not* follow the rule, the card is placed below the last correct card (it either starts a new sideline or it adds to a sideline).
- Whenever a player makes a correct assertion, he or she can guess aloud the rule.
- All cards are played to a central layout that grows as the round progresses.
- The round ends when a player guesses the rule.
- Ace is 1 (odd), jack is 11 (odd), queen is 12 (even), and king is 13 (odd)



WHAT DID WE LEARN?

**HOW DID IT FEEL TO BE WRONG? RIGHT?
WHAT IF WE MAPPED THE RESULTS OF OUR LEARNING?**

SCIENTIFIC METHOD AND ELEUSIS EXPEDITIOUS

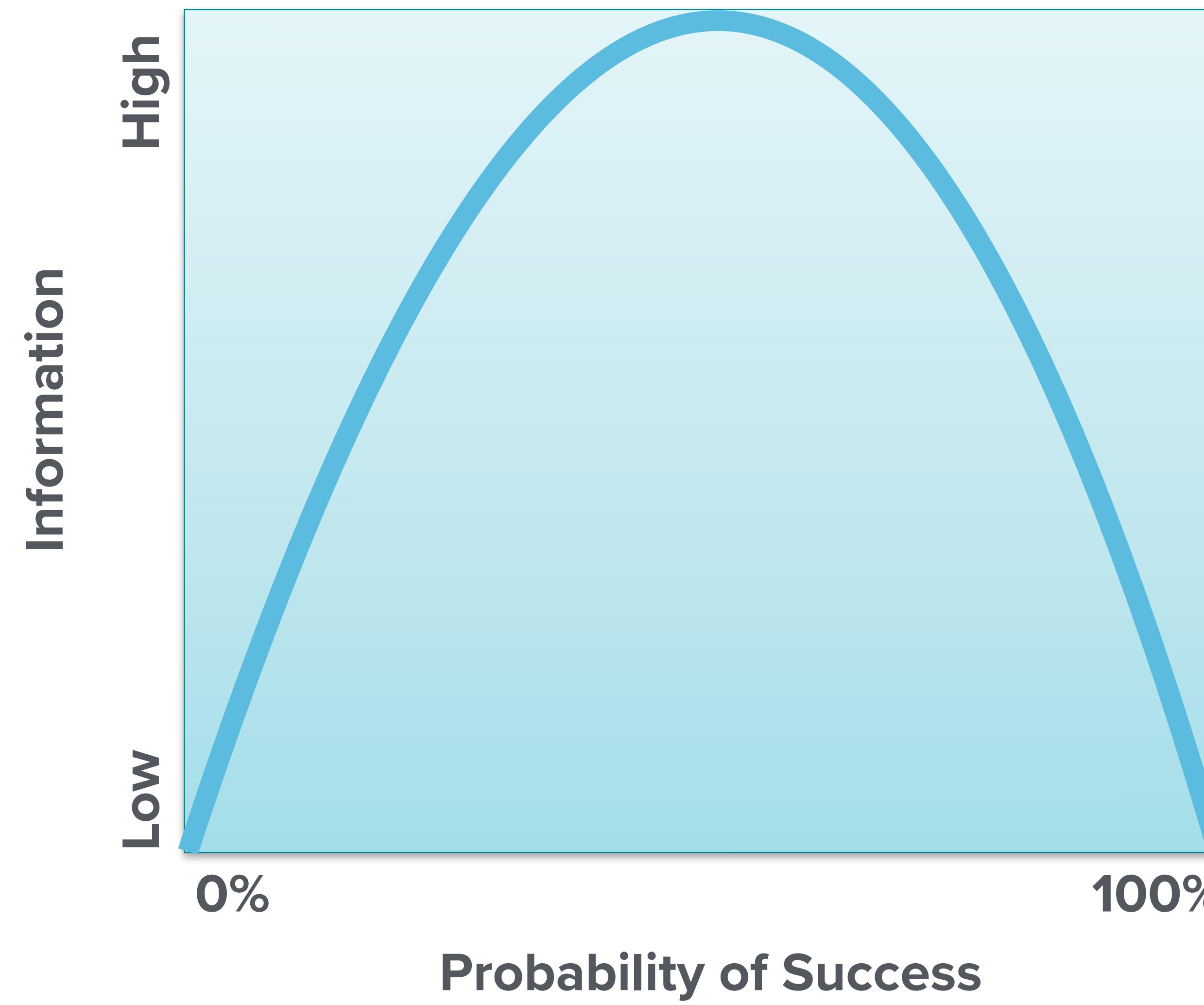
Define a question	“What is the rule?”
Gather information and resources (observe)	“This card apparently follows the rule, this other one doesn’t.”
Form an explanatory hypothesis	“The rule is only number cards.”
Test hypothesis by experimenting (replicating)	“Numbers 1-10 would follow rule, face cards would not.”
Analyze the data	“2 and 6 followed the rule, but 5 did not.”
Interpret and form new hypothesis	“The rule is only even numbers.”
Share results and learnings	

A black and white photograph of the Grateful Dead band members. From left to right, they are: Phil Lesh (bassist), Bob Weir (guitarist), Jerry Garcia (lead singer/guitarist), Mickey Hart (drummer), and Bill Kreutzmann (percussionist). They are all smiling and looking towards the camera. The background is a brick wall.

**“WELL I AIN’T OFTEN RIGHT,
BUT I’VE NEVER BEEN WRONG.”**

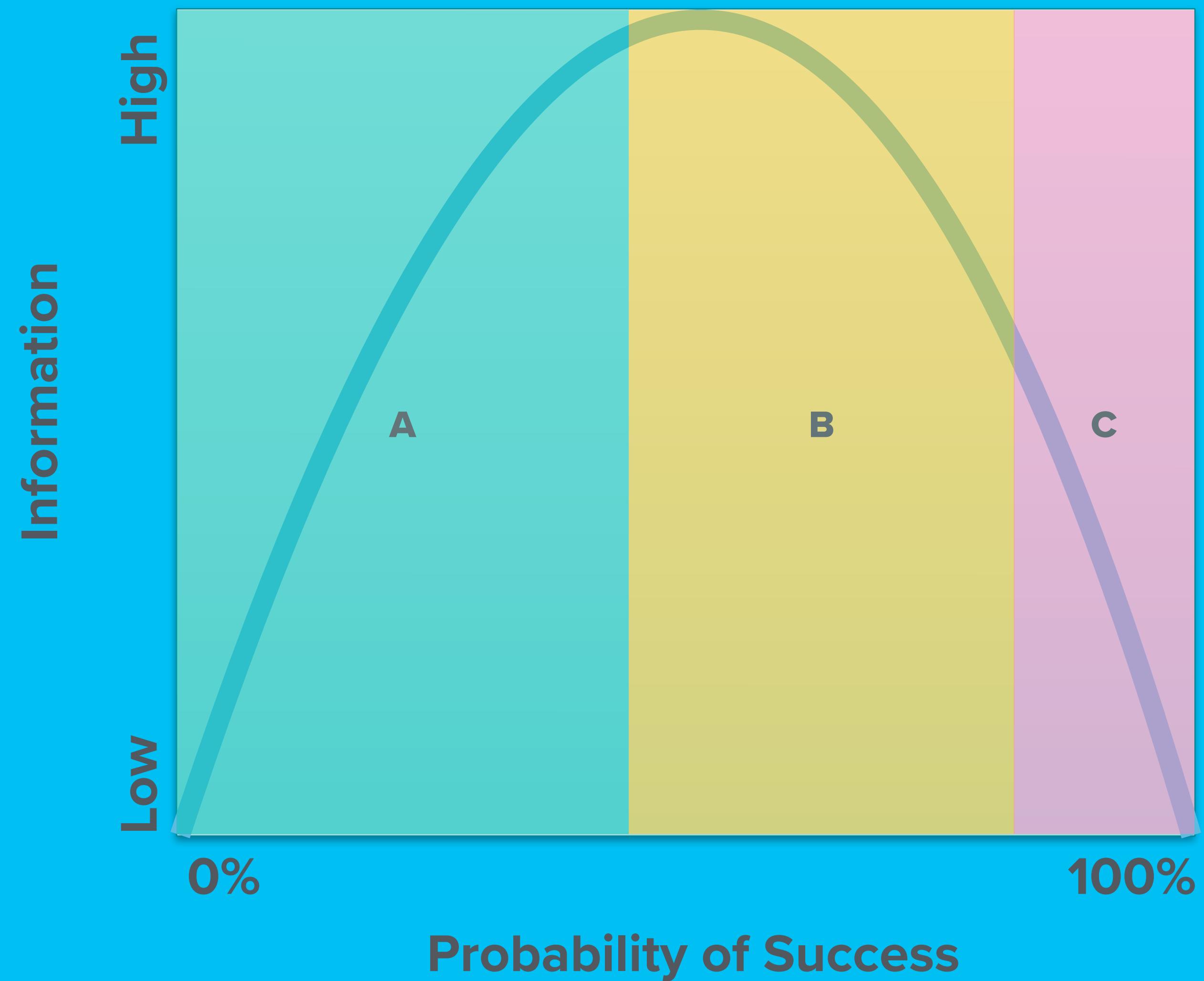
GRATEFUL DEAD

INFORMATION THEORY



THINKING IN BETS

- Belief -> bet -> [Set of outcomes]
- Belief -> bet ->
 - outcome A (probability of likelihood %)
 - outcome B (probability of likelihood %)
 - outcome C (probability of likelihood %)



**TRUNCATE UNPRODUCTIVE PATHS
QUICKLY.**

DON REINERTSEN

REINERTSEN'S FRONT-LOADED LOTTERY OPTION

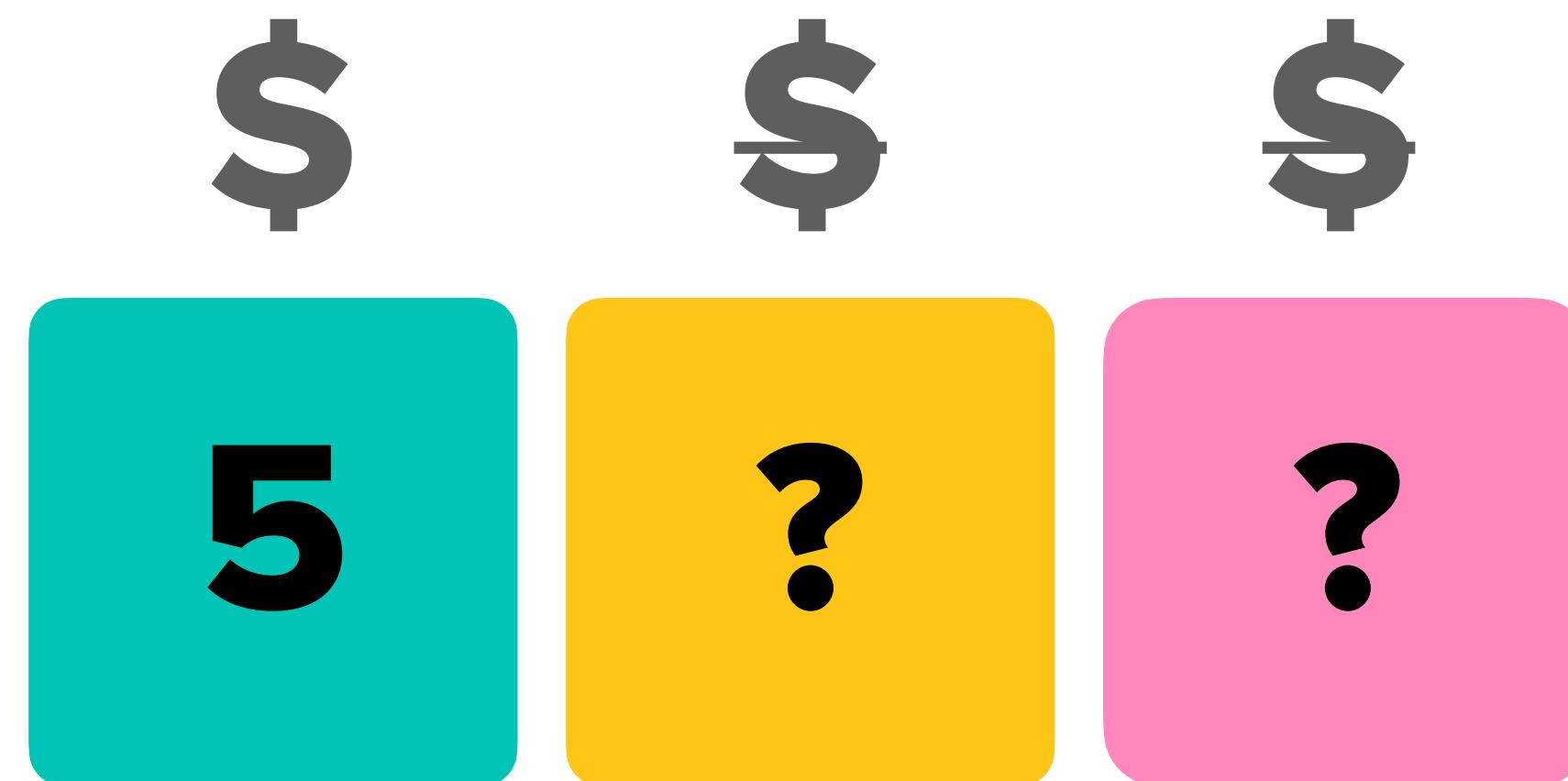
OPTION 1

Pay \$3 to select all three digits at once



OPTION 2

Pay \$1 for the first digit, find out if it is correct, then choose if you wish to pay \$1 for the second digit, and then choose if you wish to pay \$1 for the third digit.



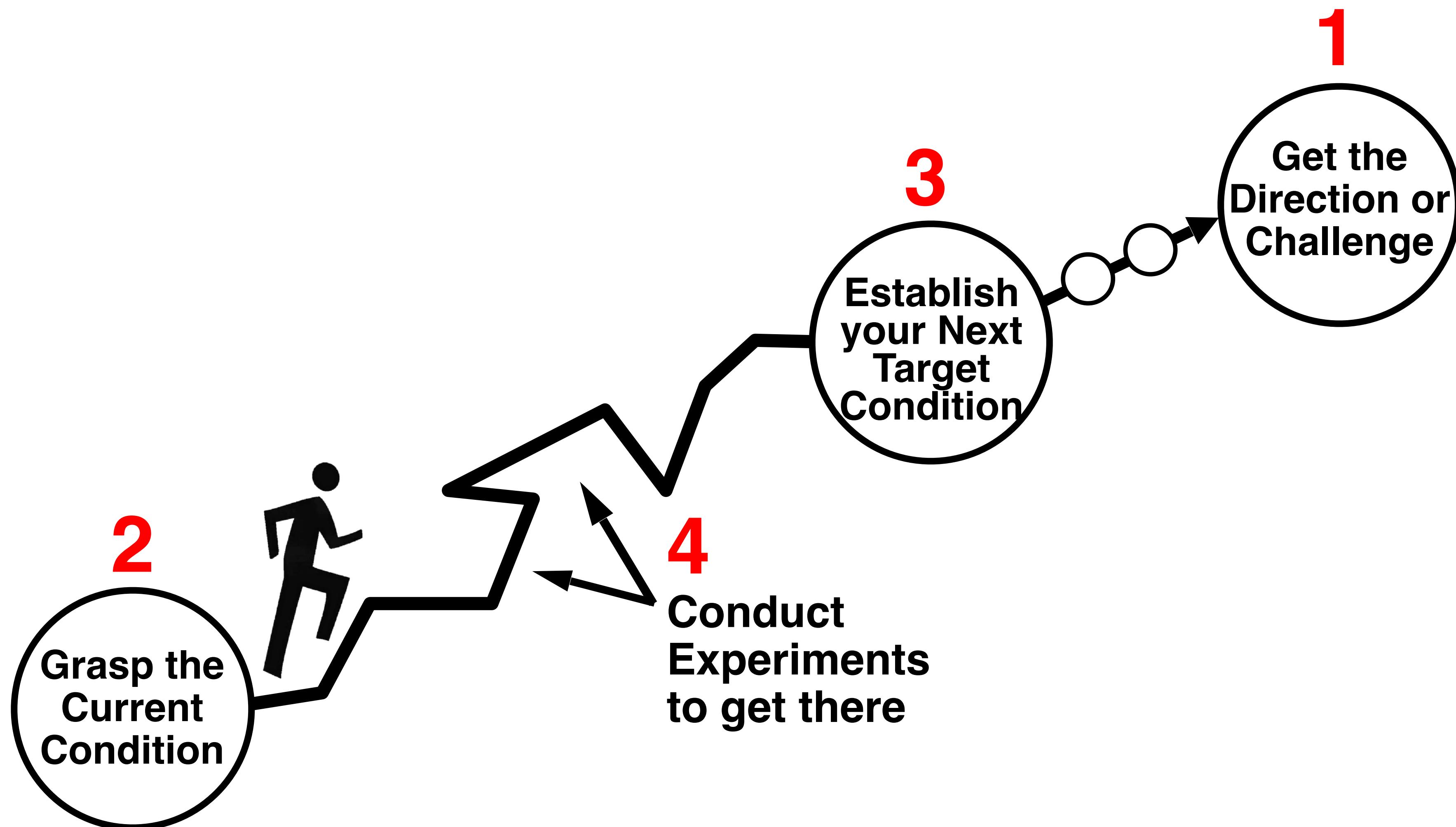
IMPROVEMENT KATA

LET'S PRACTICE SCIENTIFIC THINKING WITH A KATA!

- A Kata is a routine you practice at the start, to help you develop new skills!

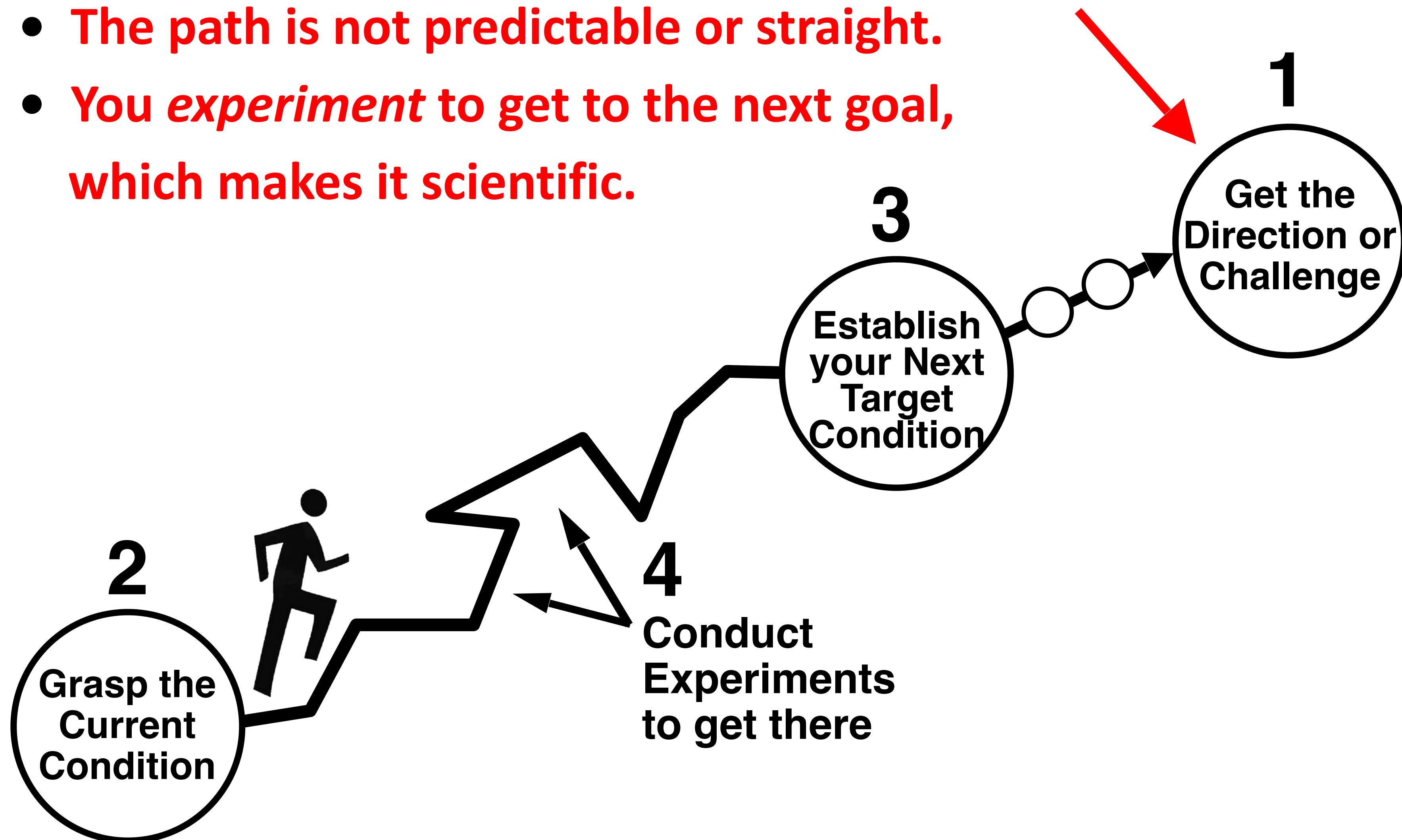


THE FOUR STEPS OF THE IMPROVEMENT KATA APPROACH

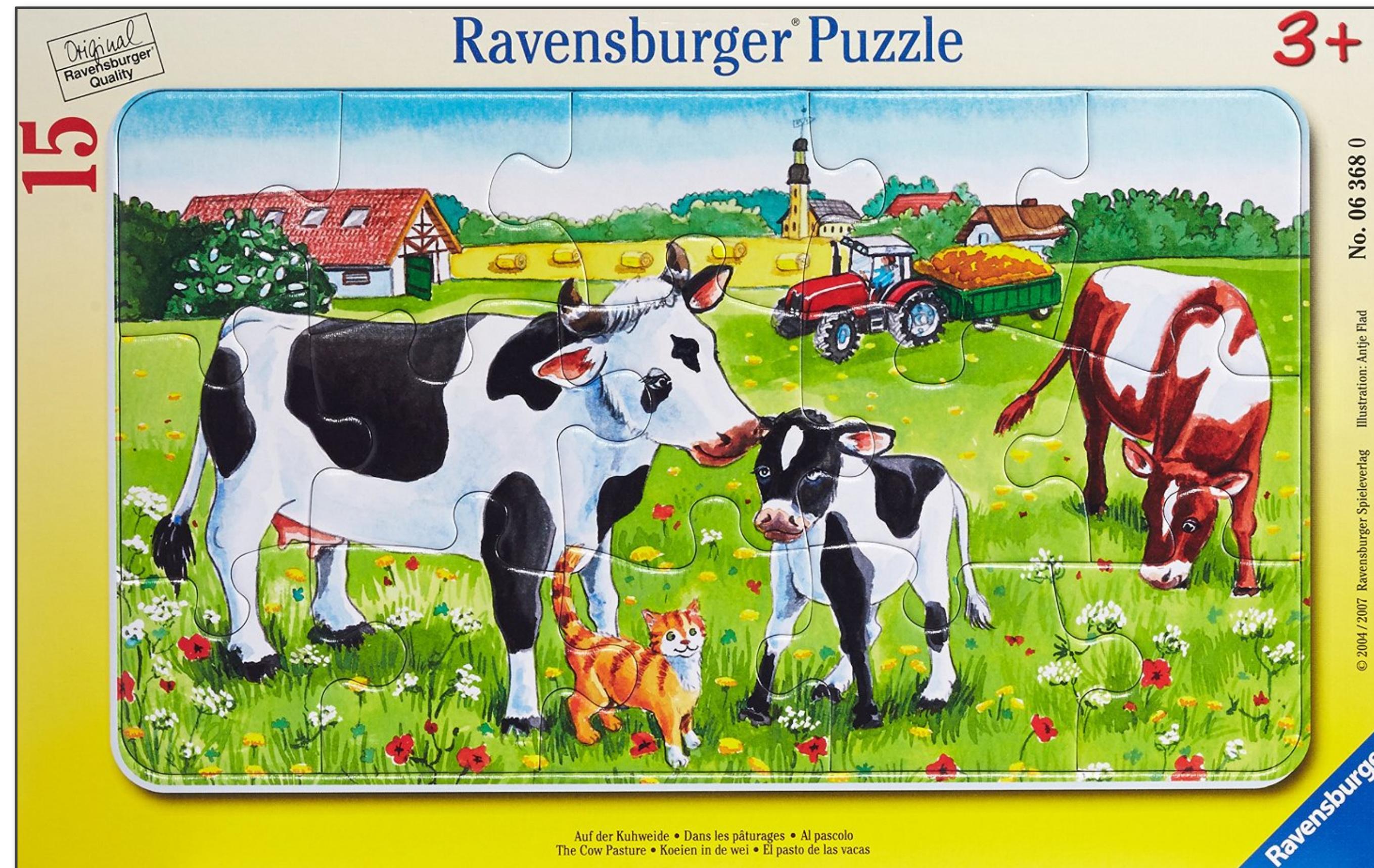


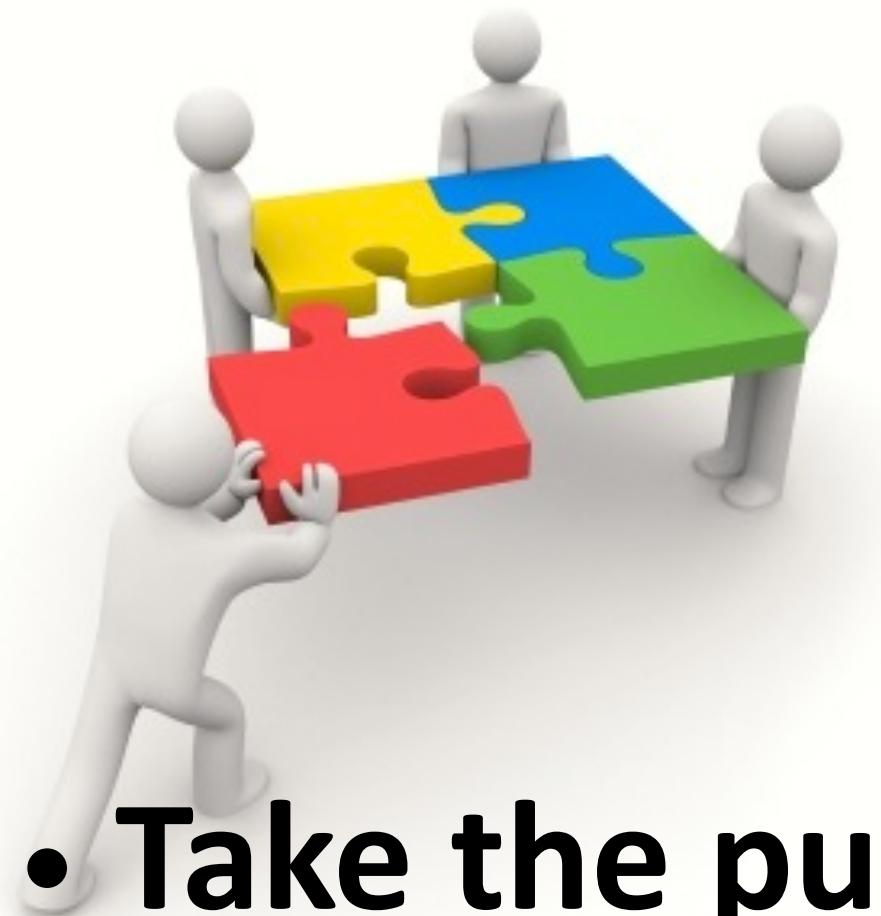
A FEW KEY POINTS

- You don't have to reach the overall challenge right away.
- The path is not predictable or straight.
- You *experiment* to get to the next goal, which makes it scientific.



For this exercise we'll build this 15-piece puzzle several times, and experiment with ways to do it faster

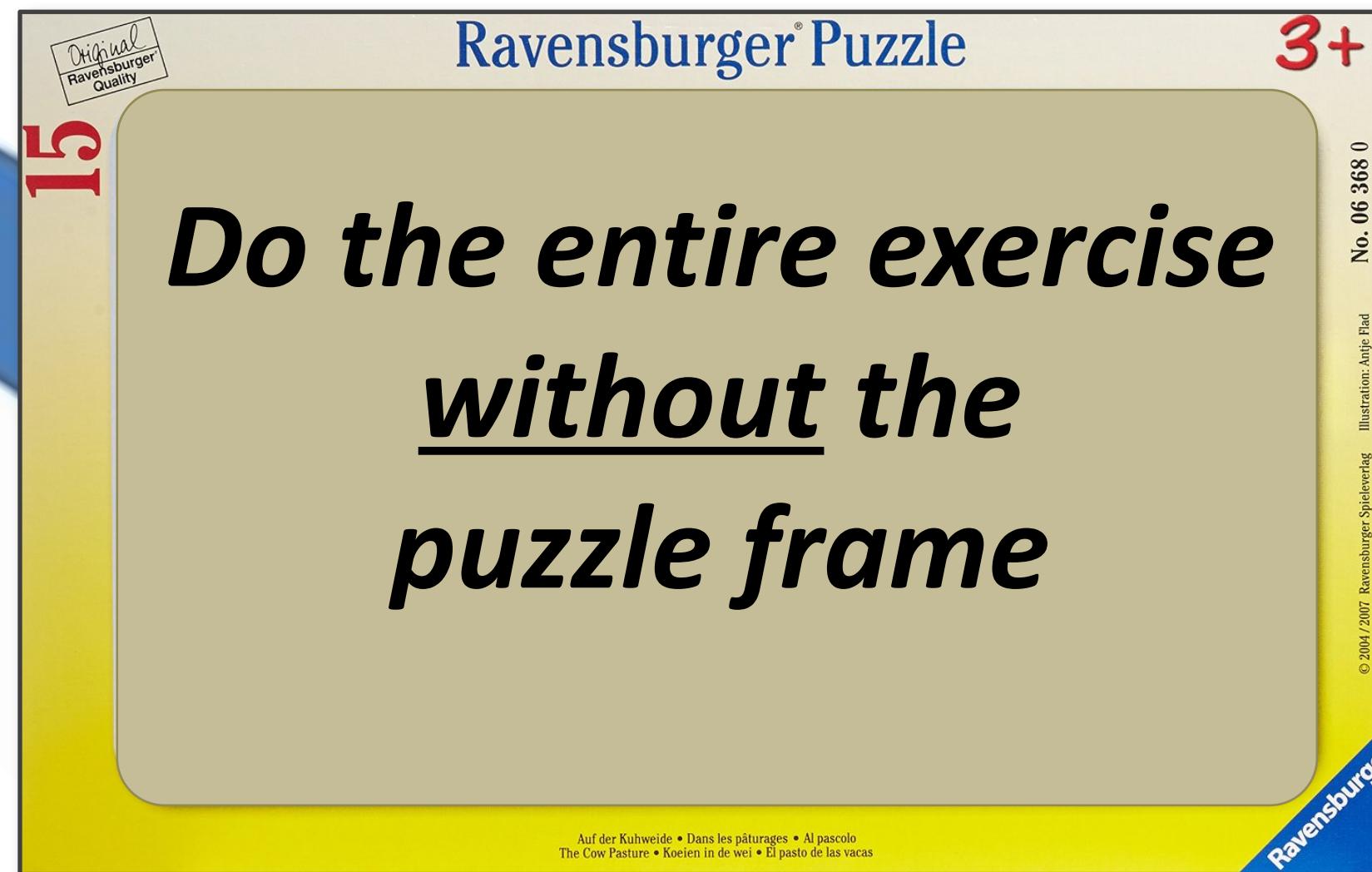




Go ahead and build the puzzle one time!

- Take the puzzle out and study the picture.
- Remove the puzzle pieces from the frame.
- Put the frame away.
- Build the puzzle once, without timing it.

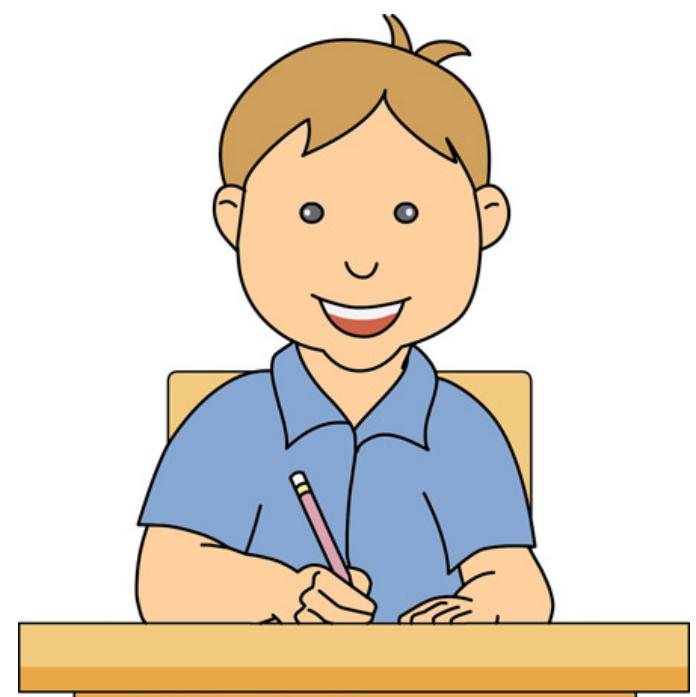
Put the Frame Aside



THREE THINGS TO DO NEXT:



Choose a Team Name



Select a Data Recorder

→ Write your team name
on the forms in the kit



Select a Timekeeper

→ Each gets a stopwatch



TODAY'S GROUND RULES

(1) "START Position" =

- Puzzle pieces shuffled in random order
- Pieces face down in one stack
- Hands flat on the table
- No talking, you're ready to go

(2) All Teams Start Together

- a. Instructor calls "START"
- b. Build the puzzle (talking allowed)
- c. Note the elapsed time on your form

(3) Don't Write on the Puzzle

LET'S ESTABLISH A **BASELINE TIME FOR YOUR TEAM**

Record your
times here

Team Name:
Date:

Round A Round B

seconds seconds

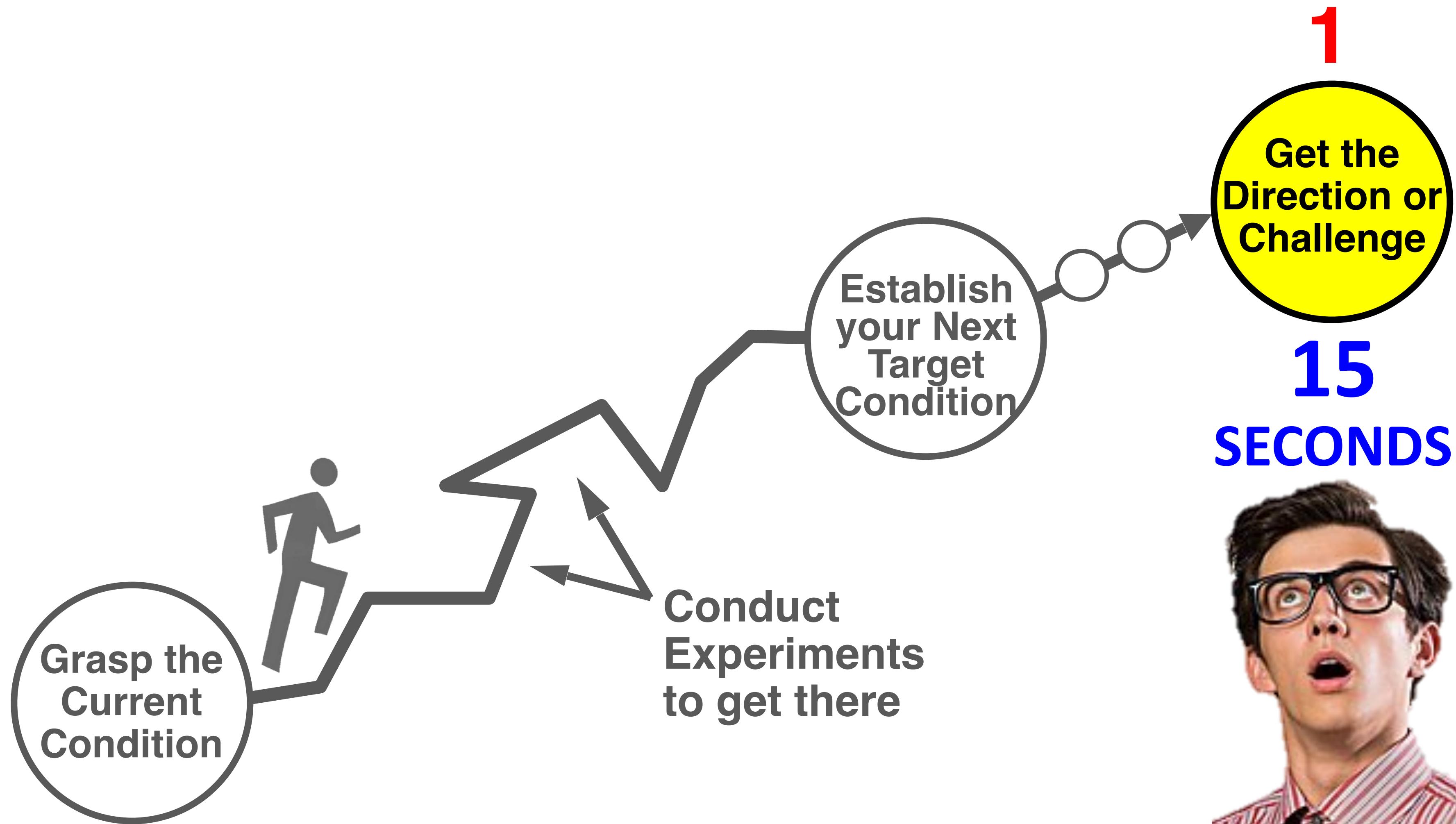
50	50
45	45
40	40
35	35
30	30
25	25
20	20
15	15
10	10
5	5

BASELINE ROUNDS

Use this form

Now let's do
the **four steps** of
the Improvement Kata

Step 1: UNDERSTAND THE CHALLENGE

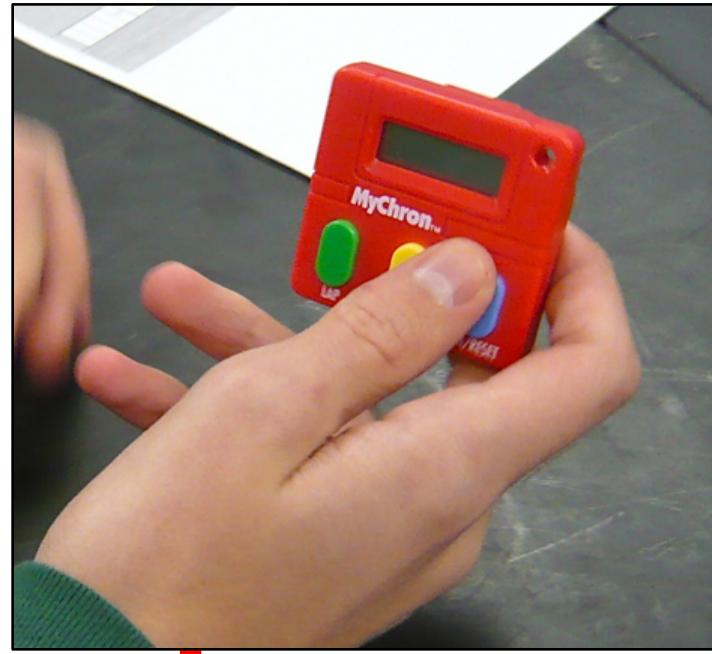


Key Points About: *UNDERSTANDING THE CHALLENGE*

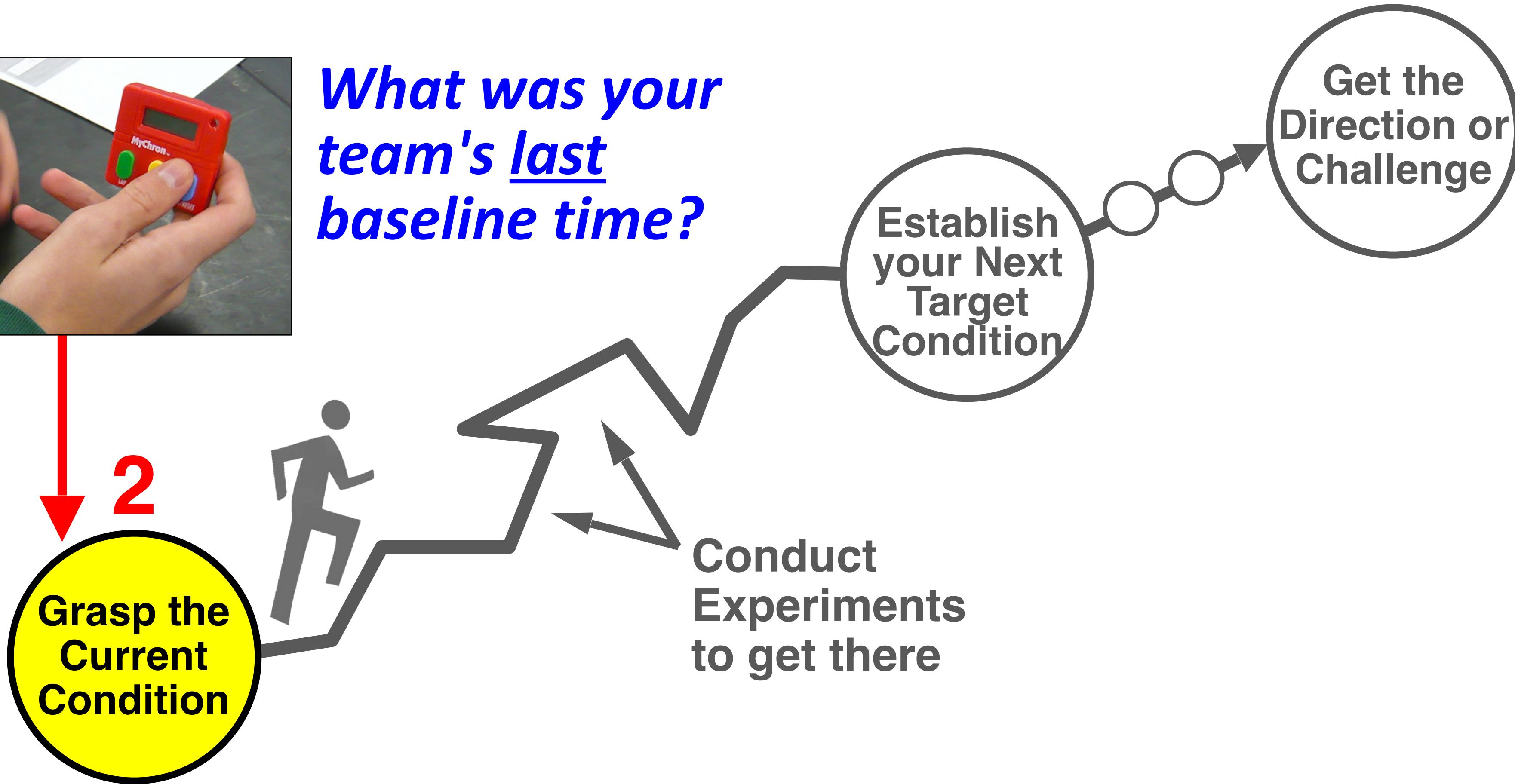


- We often face challenges in life.
No need to worry, because you
don't need to get all the way
there right away!
- A challenge often even gives us
a useful sense of direction.

Step 2: GRASP THE CURRENT CONDITION



What was your team's last baseline time?

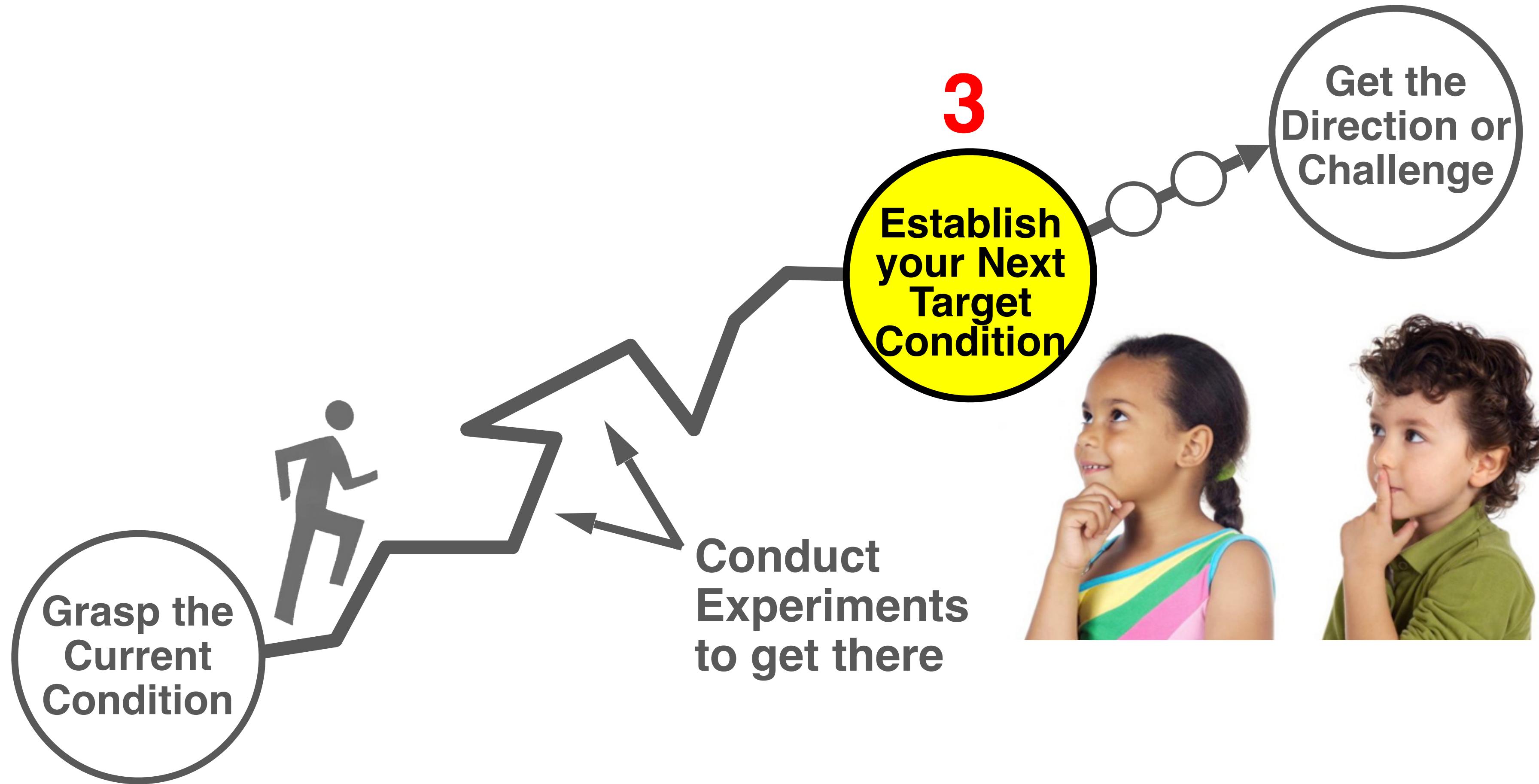


Key Points About: *GRASPING THE CURRENT CONDITION*



- It's important to understand where you currently are, before you set your next goal.
- Don't pull goals randomly out of the air. A team should feel like its goals are meaningful.

Step 3: **ESTABLISH YOUR NEXT TARGET CONDITION**



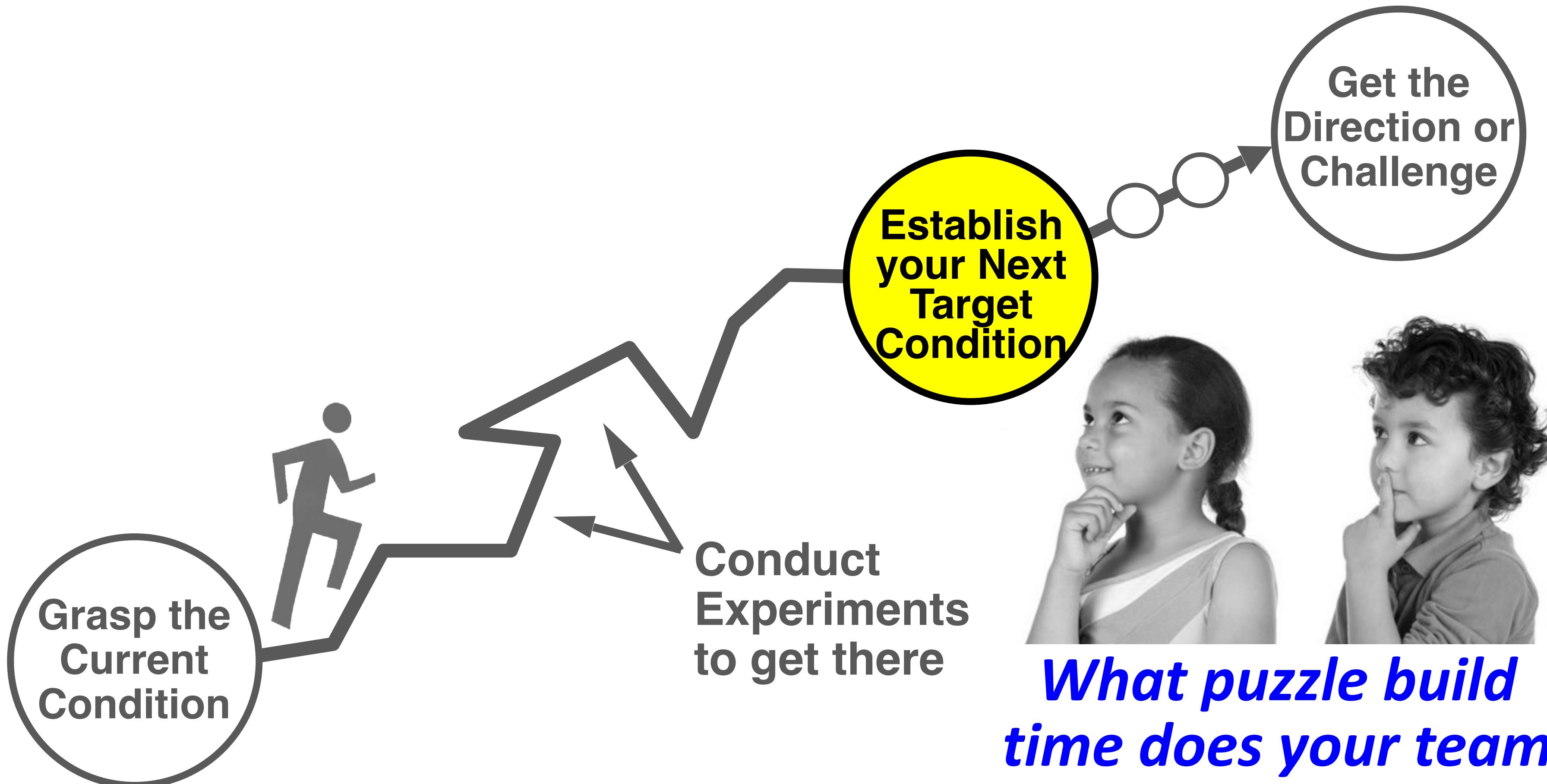
Key Points About: *ESTABLISHING YOUR NEXT TARGET CONDITION*



- Break a big challenge down into smaller goals.
- Set an easier and closer goal that's on the way to your challenge. When you get there you can set the next goal.

LET'S DEFINE YOUR TEAM'S NEXT TARGET CONDITION

We can do five (5) rounds of experimenting today



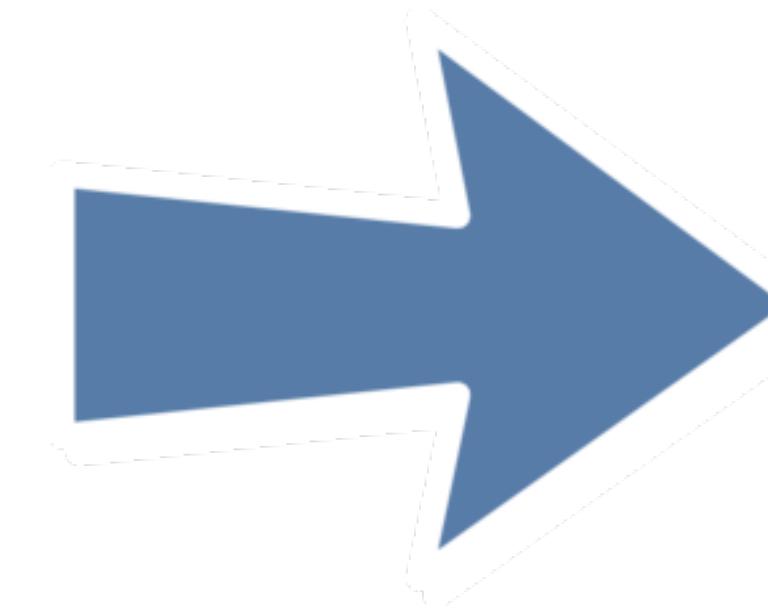
What puzzle build time does your team want to reach by the end of today's class?

TIME'S
1:30
UP

LET'S ASK EACH TEAM

What's Your Goal
for Today?

DRAW YOUR TARGET CONDITION LINE ON THE 'EXPERIMENTING' FORM



Team Name: _____ **Date:** _____

EXPERIMENTING

Experiment 1	Experiment 2	Experiment 3	Experiment 4	Experiment 5	Experiment 6
What will you do?					
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•

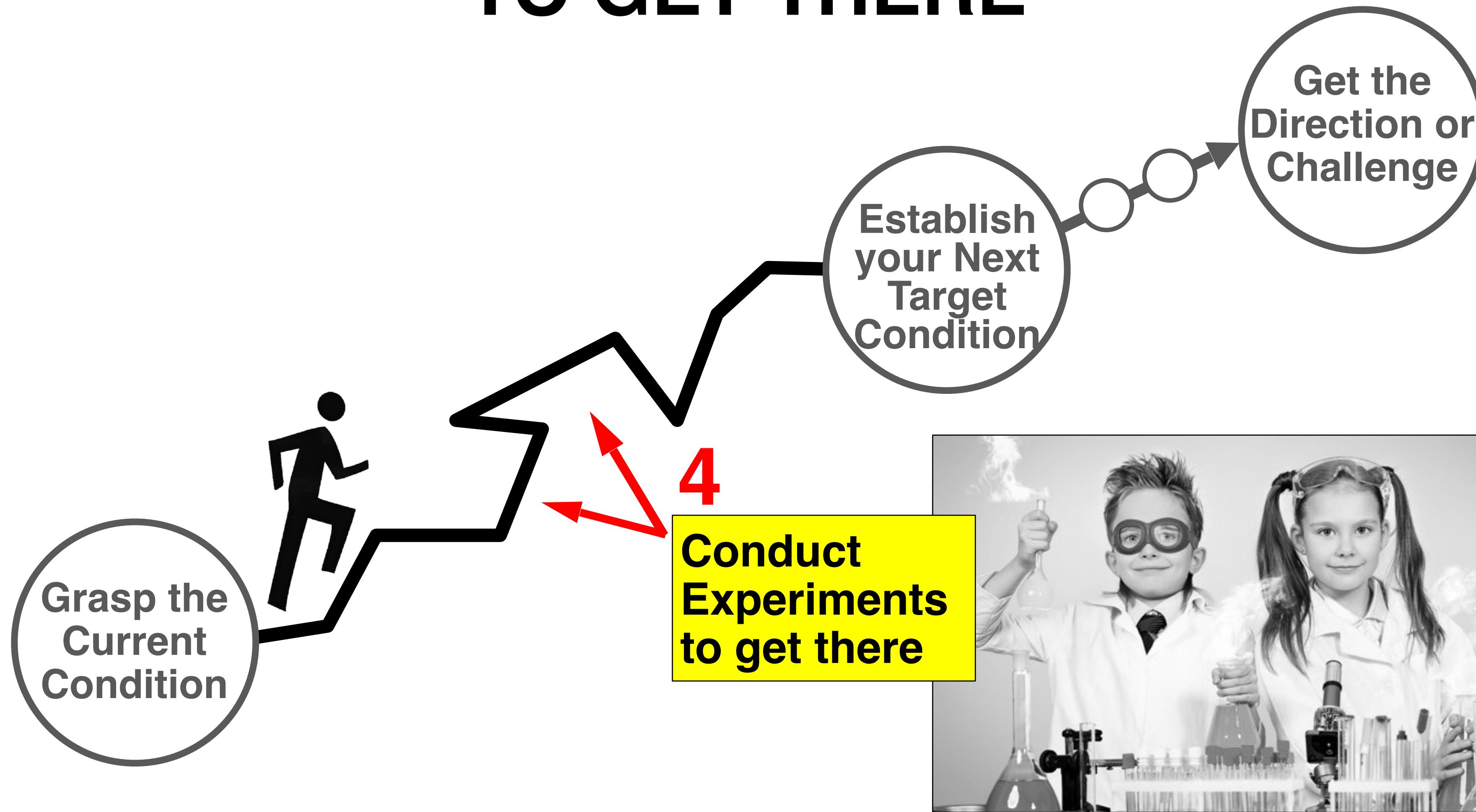
Change

50	50	50	50	50	50
45	45	45	45	45	45
40	40	40	40	40	40
35	35	35	35	35	35
30	30	30	30	30	30
25	25	25	25	25	25
20	20	20	20	20	20
15	15	15	15	15	15
10	10	10	10	10	10
5	5	5	5	5	5

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TC A thick red horizontal line is drawn across the entire width of the experiment columns, positioned roughly halfway down the page. This line represents the target condition being aimed for in the experiments.

Step 4: CONDUCT EXPERIMENTS TO GET THERE



Key Points About: ***EXPERIMENTING TO GET THERE***



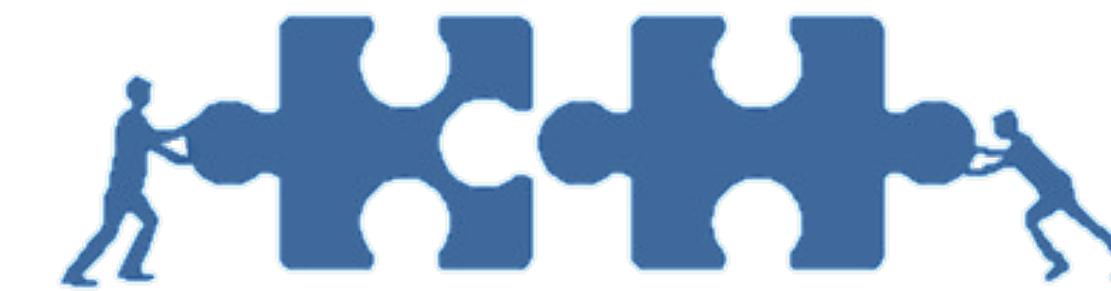
- You never know in advance exactly how you will achieve a goal.
- We need to test the ideas we have. A good way to reach a goal is to experiment rapidly. Try something, see what happens, and then adjust based on what you learn.
- To learn from an experiment you should **write down** what you *expect* and what *actually happens*, so you can compare those two things.

HOW WE'LL EXPERIMENT

Three Steps, and 3 Minutes per Experimenting Round

1) Instructor calls "START"

- Build the puzzle
- Note the elapsed time on your form



2) Based on what happened, discuss what you plan to do next. Write the ideas you want to test onto the form.



3) Then we'll ask one team the reflection questions on the card.

REFLECTION

Ask these questions after each experiment

- 1) What is your Target Condition?
- 2) Where are you now?
- 3) What did you plan to try in your last step?
- 4) What was the result?
- 5) What did you learn?
- 6) What is your next experiment?
(read)

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THE EXPERIMENTING FORM

What to record in each round

(Before)
Write down the
next ideas you
want to test

(After)
Write in how
much the time
changed
compared to
the last round

(After)
Mark the
elapsed
time

Team Name:		EXPERIMENTING					
Date:							
Experiment 1	Experiment 2	Experiment 3	Experiment 4	Experiment 5	Experiment 6		
What will you do? • • •							
Change	Change	Change	Change	Change	Change		
50 45 40 35 30 25	50 45 40 35 30 25	50 45 40 35 30 25	50 45 40 35 30 25	50 45 40 35 30 25	50 45 40 35 30 25		

PLEASE PLAN YOUR FIRST EXPERIMENT

Write the ideas you want to test **next**
on your 'Experimenting' form

Team Name:	Date:	EXPERIMENTING					
Experiment 1	Experiment 2	Experiment 3	Experiment 4	Experiment 5	Experiment 6		
What will you do? • • •							
Change <input type="text"/>							
50 45 40	50 45 40	50 45 40	50 45 40	50 45 40	50 45 40		

**Write down
the ideas you
want to test**

www.katatog

TIME'S
1:30
UP

-- HAVE YOUR CARD READY --

After each experimenting round we'll ask one team this pattern of **Reflection Questions**

REFLECTION

**Ask these questions
after each experiment**

- 1) What is your Target Condition?**
- 2) Where are you now?**
- 3) What did you plan to try
in your last step? *(read)***
- 4) What was the result? *(change)***
- 5) What did you learn?**
- 6) What is your next experiment?
*(read)***

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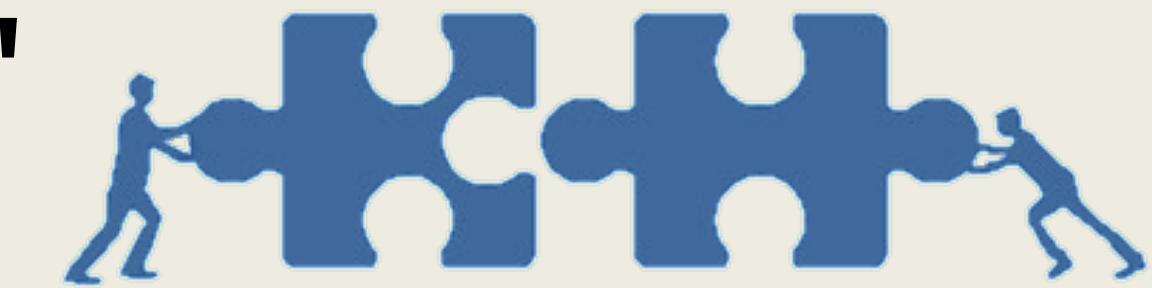
-- NEXT EXPERIMENT --

Please get into starting position

This cycle repeats



- **Instructor calls "START"**
Build the puzzle
Note the elapsed time on your form
- **Teams discuss what they plan to do next**
Write ideas you want to test on the form



REFLECTION

Ask these questions after each experiment

- 1) What is your Target Condition?
- 2) Where are you now?
- 3) What did you plan to try in your last step?
- 4) What was the result?
- 5) What did you learn?

6) What is your next experiment?
(read)

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Time's up... ask the Reflection Questions!

(Start each round of experimenting on this slide. The 3-minute timer starts on the next slide.)

TIME TO REFLECT

One person asks the others the **Reflection Questions**.

REFLECTION

**Ask these questions
after each experiment**

- 1) What is your Target Condition?**
- 2) Where are you now?**
- 3) What did you plan to try
in your last step? (*read*)**
- 4) What was the result? (*change*)**
- 5) What did you learn?**
- 6) What is your next experiment?
(*read*)**

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NOW GO BACK TO THE “NEXT EXPERIMENT” SLIDE



DEBRIEF: WHAT DID WE LEARN?

WHAT ARE THE FOUR STEPS OF THE IMPROVEMENT KATA?

HOW DID YOU APPROACH THIS CHALLENGE?

WHAT HAPPENED WHEN THINGS DIDN'T GO THE WAY WE THOUGHT THEY WOULD?

WHAT SHORTCUTS DID WE TAKE IN CONDUCTING EXPERIMENTS?

WHAT THINGS ARE GOOD FOR EXPERIMENTATION?

START WITH OUTCOMES

- Quickly write a dozen or more outcomes onto sticky notes, spread out in front of you such that they all can be read easily

BOTTOM RIGHT

- Start at the bottom right hand corner of your square.
- Carefully choose from your list the strongest single example of an outcome where there's an approach you can *all see and agree on*.
- If you're not 100% confident in the reliability of the approach or if there's not complete consensus that's ok; choose the closest example you can find.
- Now place that single best example in the bottom right corner.



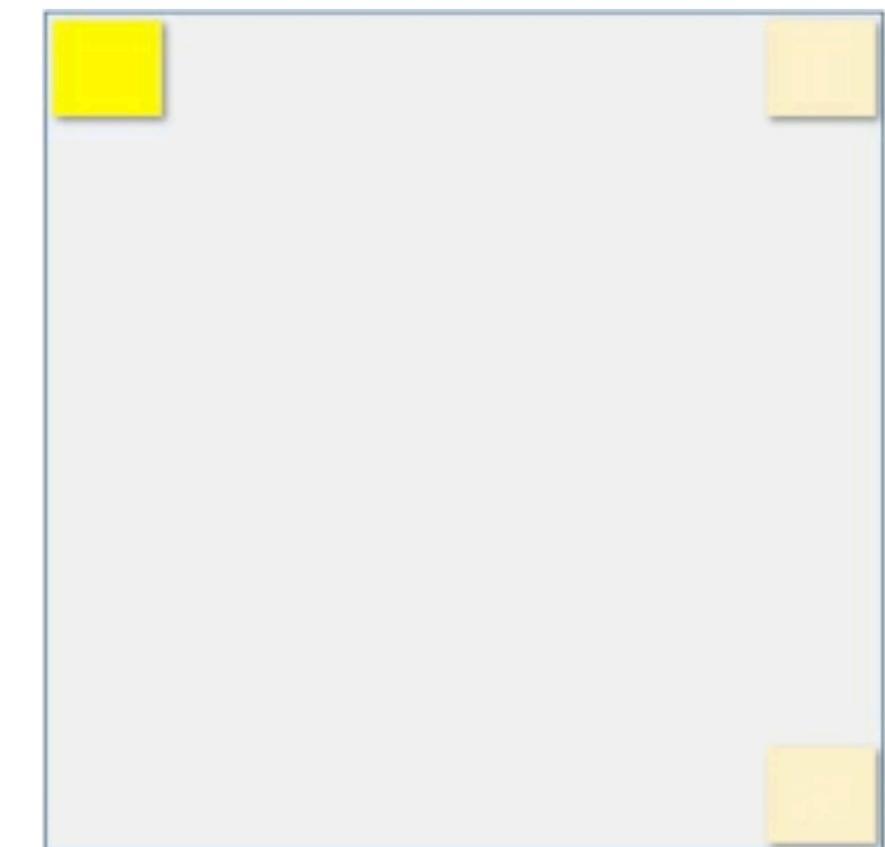
TOP RIGHT

- Select the strongest single example of an outcome where you're confident that an *expert or some research will determine a good approach.*
- As with the first corner, “good” implies confidence that the outcome will be delivered, and it's predicated on the availability (by whatever means) of someone who has the necessary expertise.



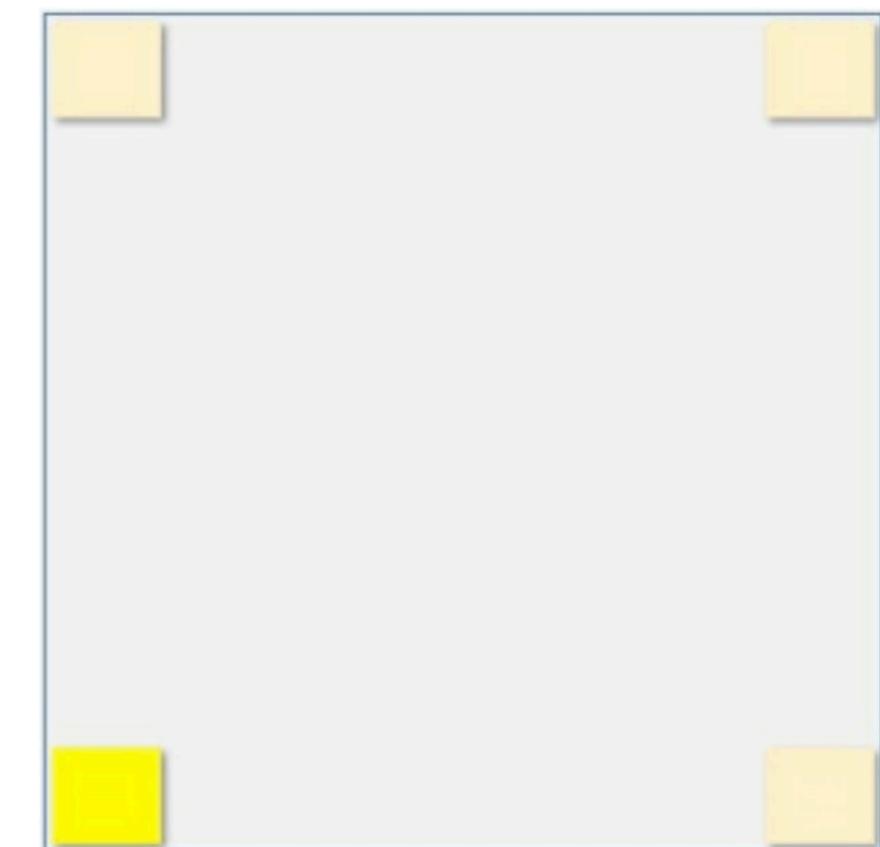
TOP LEFT

- Carefully choose the strongest single example of an outcome where *there's no one right approach* – experts will disagree. 10 experts will give you 20 different ideas, and even though some of them might be really great, typical of this kind of outcome is the sense that no single idea is sure to get you the whole way to your outcome.
- Much as you might wish it to be otherwise, you couldn't just delegate this outcome to an expert and reasonably expect a reliable plan to be laid out for you.



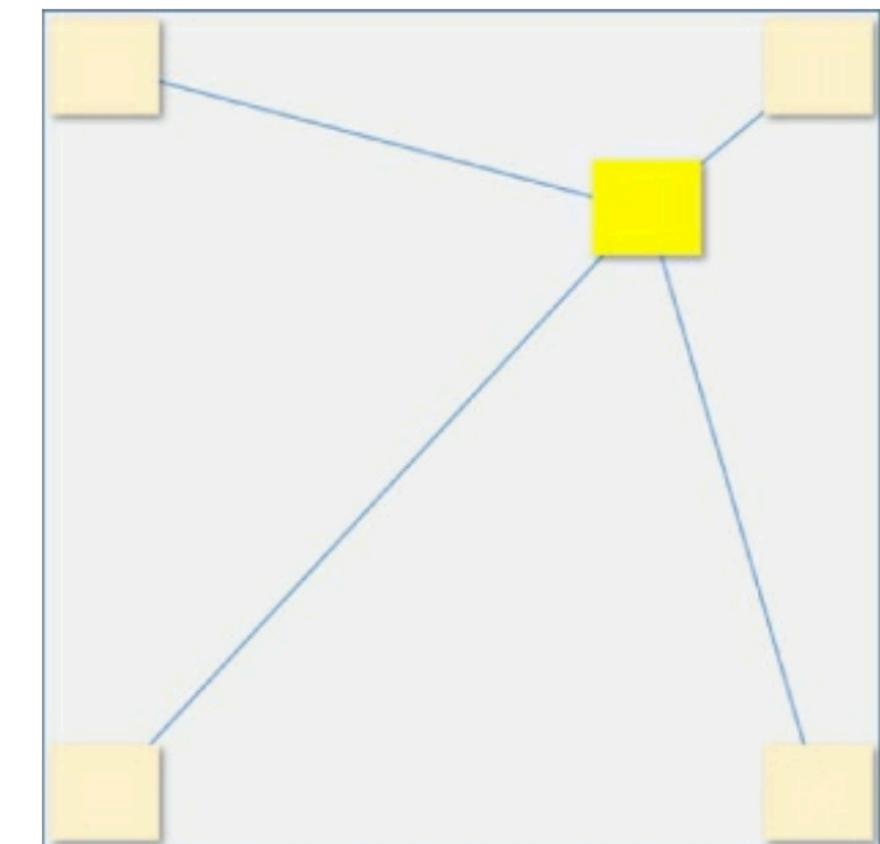
BOTTOM LEFT

- Choose the strongest single example of an outcome where *no known approach is immediately apparent*.
- Beyond symptomatic fixes (stem the bleeding, put out the fire, etc) you're not sure that an expert will help you in the time available. You don't know which of your ideas will stick. You don't know how things will settle down after they have been disrupted – whether the source of disruption is accidental or deliberate, internal or external. You don't know where to start!



YOUR NEXT STICKY...

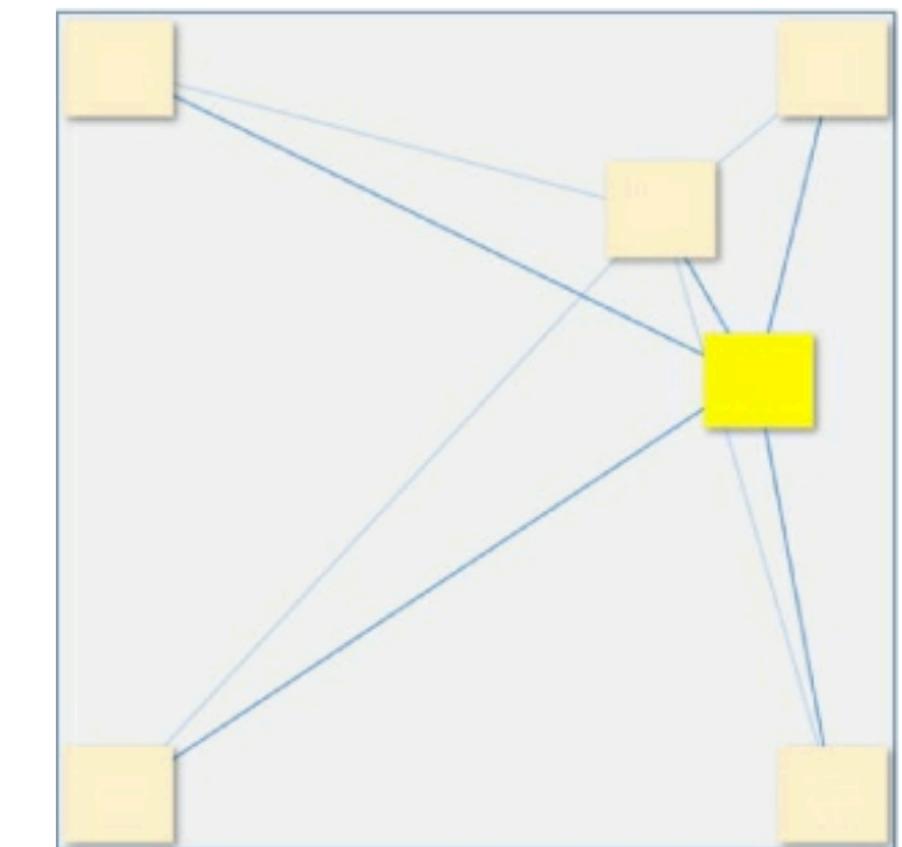
- Now choose another sticky at random – just one.
- Imagine this new sticky being drawn by imaginary lines of force towards the corner stickies to which it is most similar in terms of the kind of approach.
- It might end up next to one of them, between two, or somewhere towards the middle, drawn in various degrees towards three or four corners.



— Agendashift: Outcome-oriented change and continuous transformation

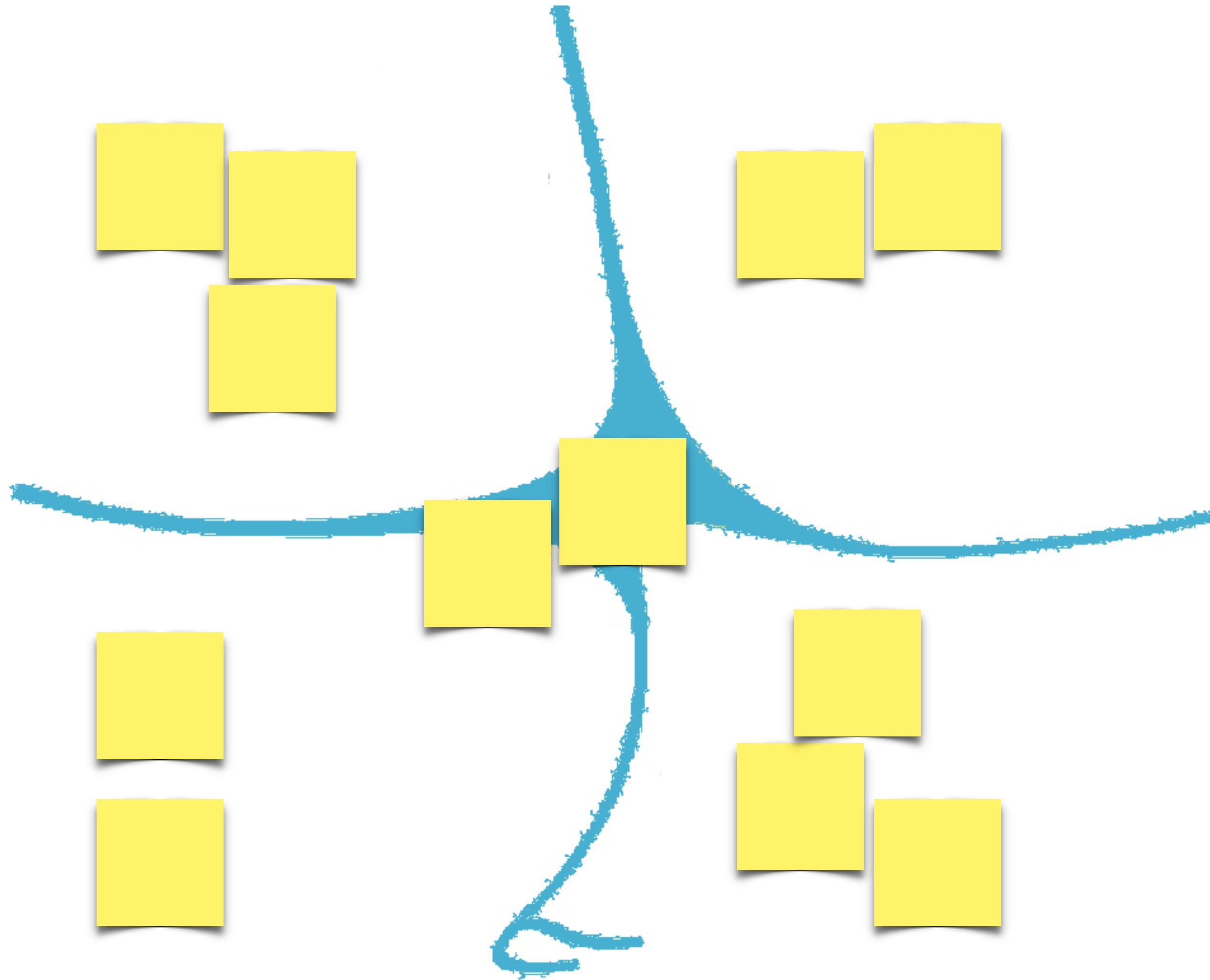
REMAINING STICKIES

- Now add your remaining stickies one at a time, trying to place them relative to those you've placed already, rearranging as necessary.
- Some will have a strong affinity approach-wise with one of your four exemplars and will be easy to place near one of the corners. Others will seem to have a natural position somewhere relative to two or three existing stickies.
- Any that really won't be placed authentically this way should be arranged in a central region.



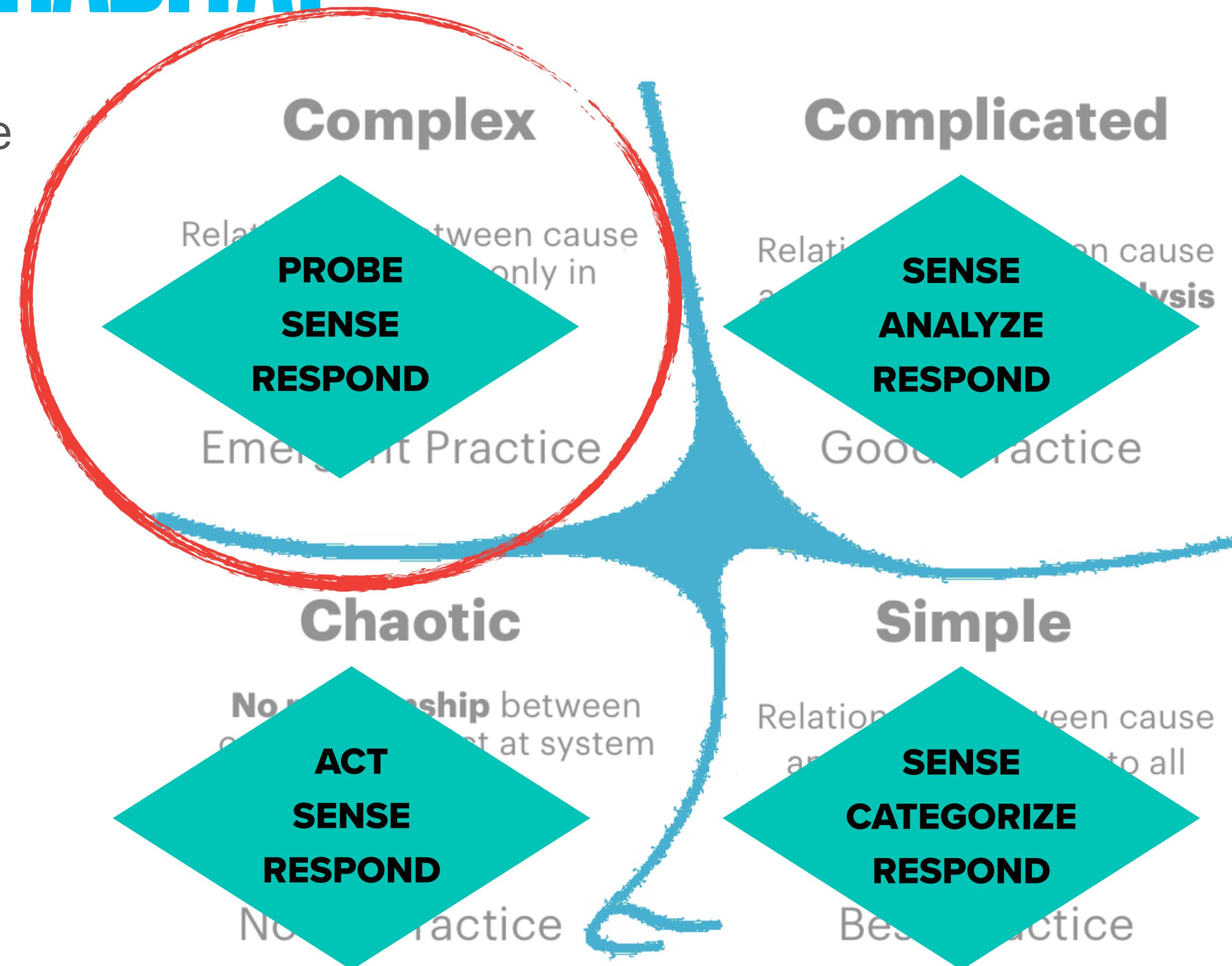
— Agendashift: Outcome-oriented change and continuous transformation

SENSEMAKING



CYNEFIN: “HABITAT”

- Allow ideas that are not useful to fail in small, contained and tolerable ways (Dave Snowden)
- Make decisions in situations of high uncertainty.



WHAT DID WE LEARN?

THOUGHTS?
OBSERVATIONS?

EXPERIMENTS AND PRODUCT MANAGEMENT

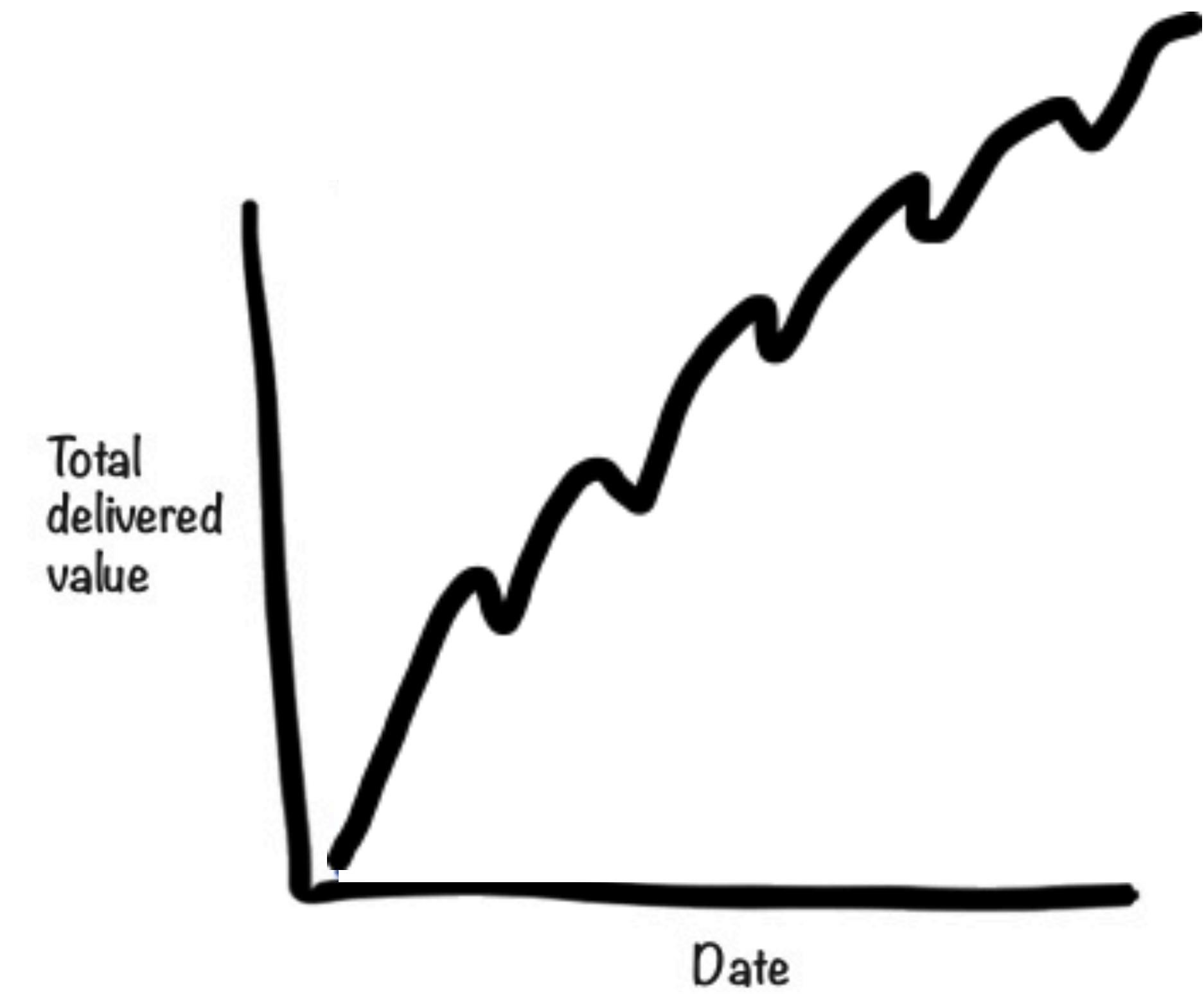
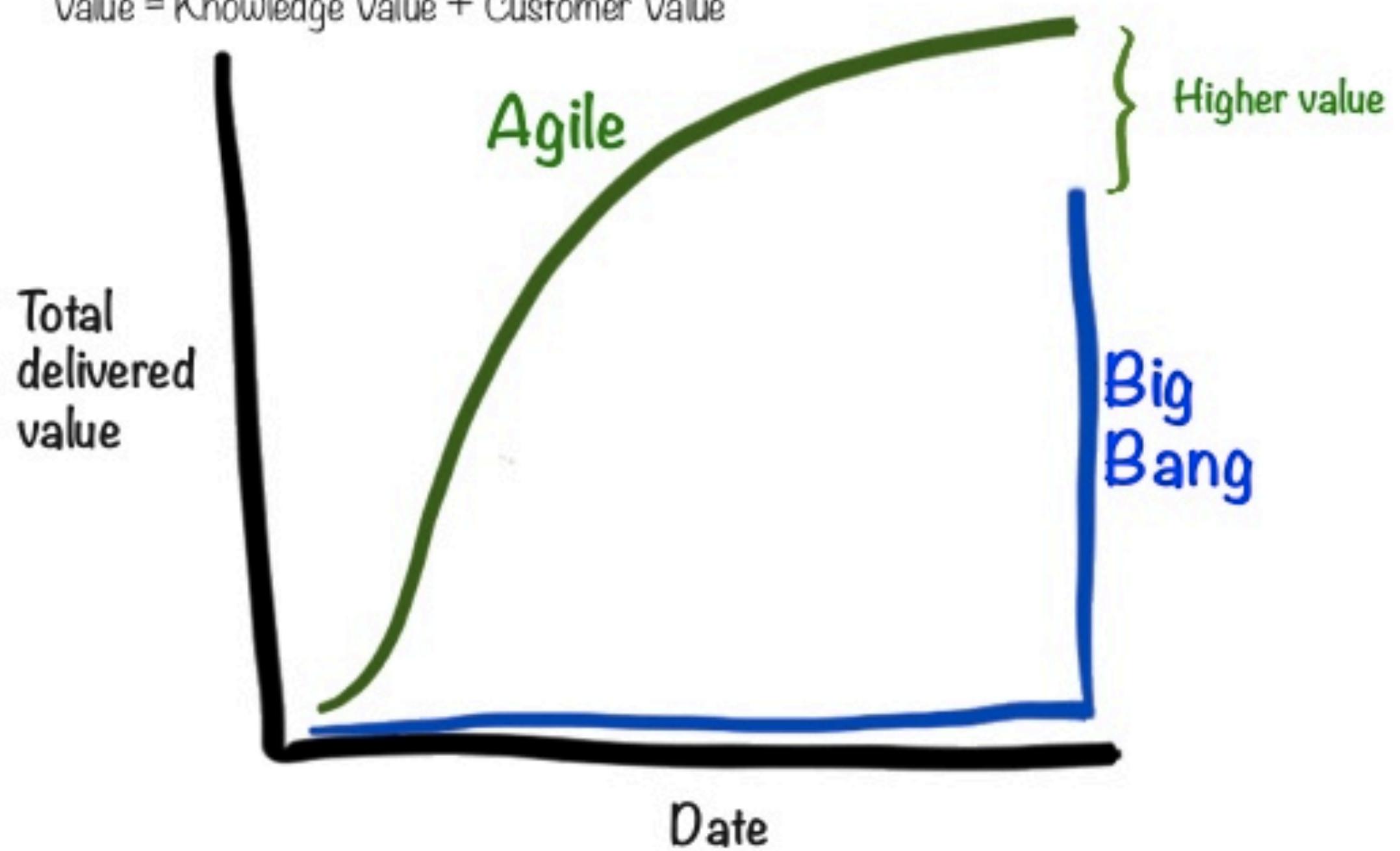
SIGNS OF BLACK-HOLE AGILE

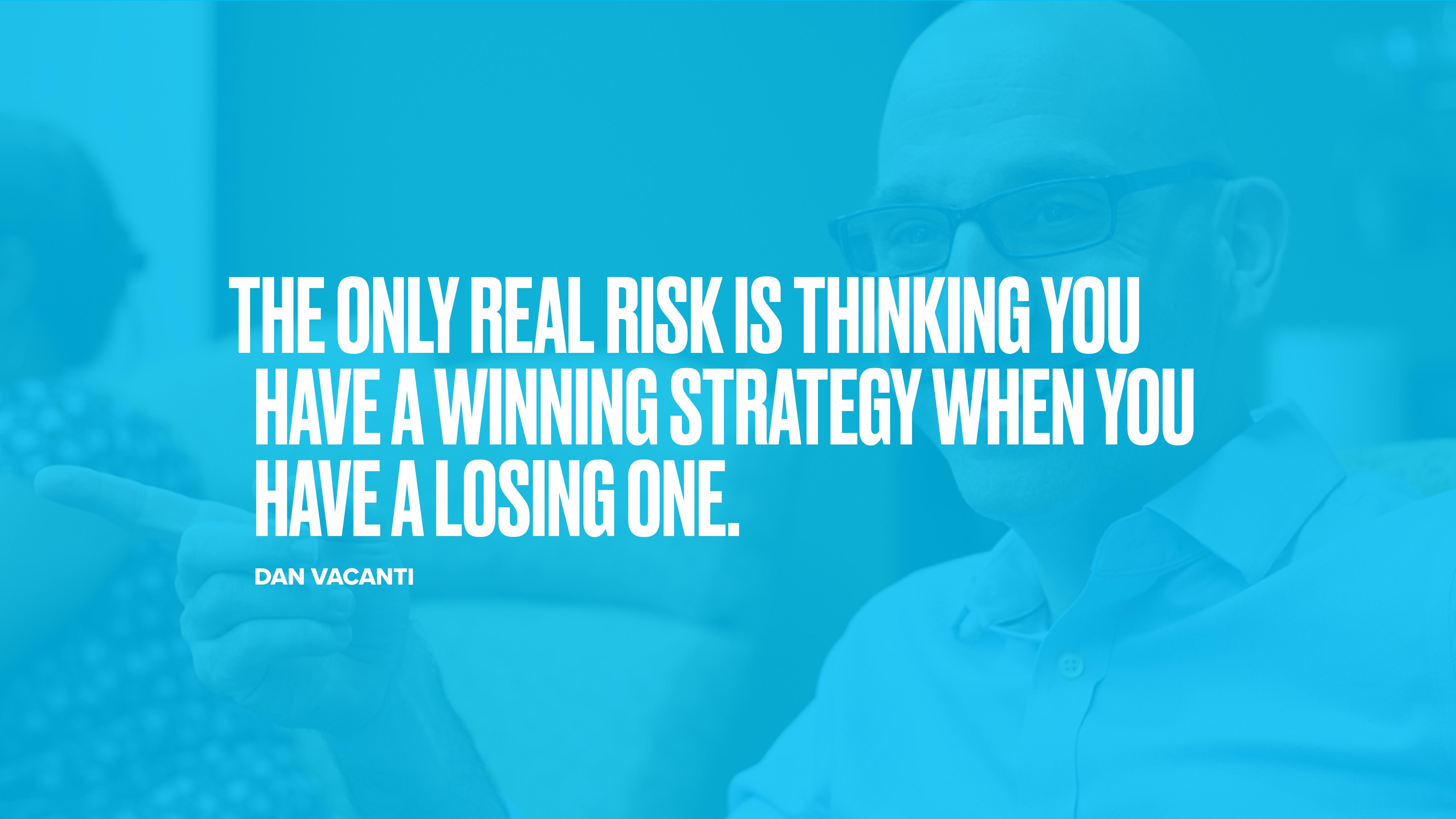
- Done means coded/tested/released (not Validated)
- Releases are celebrated more than user success
- No feature ever fails
- Planning starts with feature ideas

AGILE VALUE PROP WHEN WE VALIDATE

Faster learning = Higher value

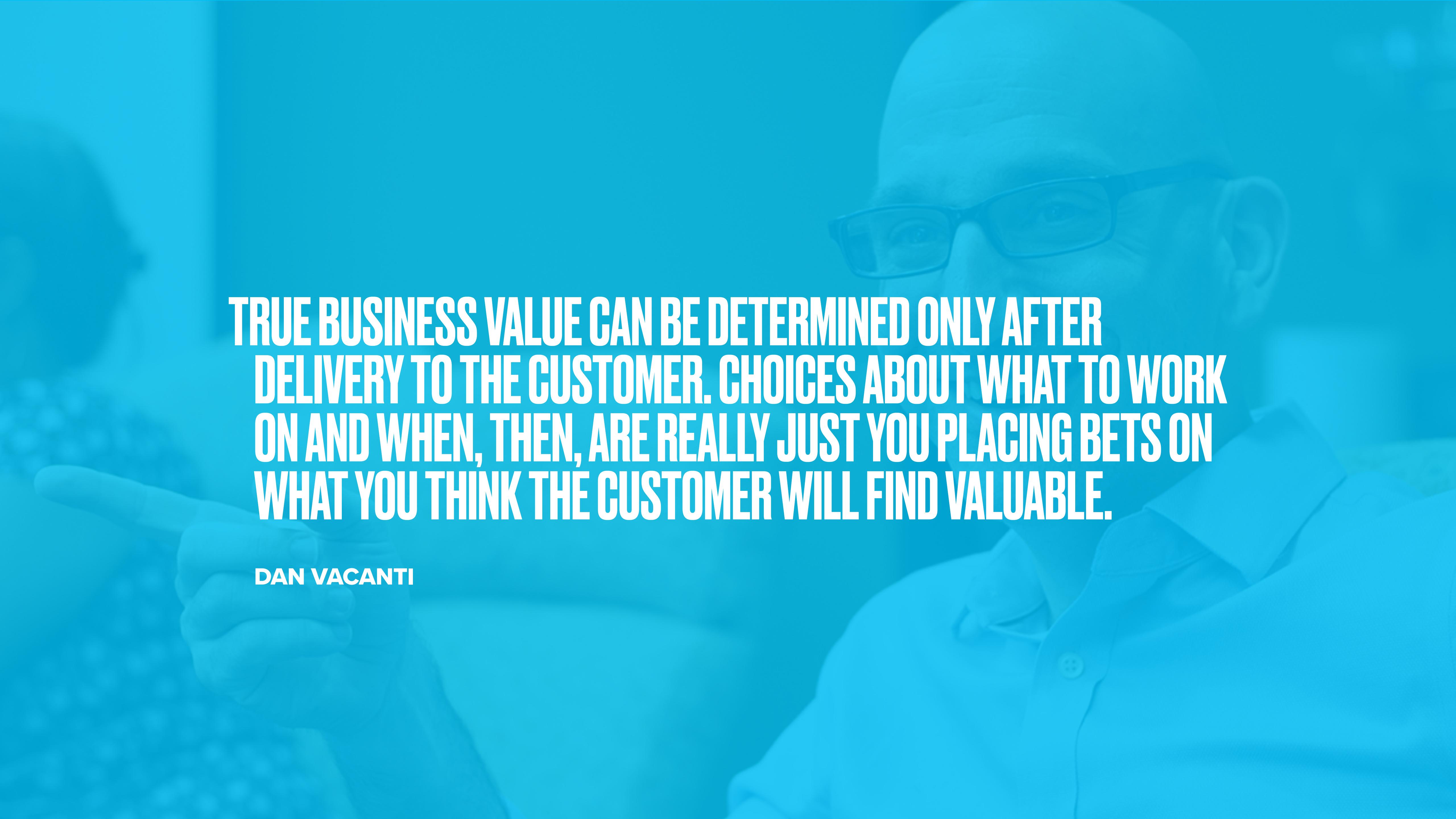
Value = Knowledge Value + Customer Value



A soft-focus background image of a man's face. He is wearing dark-rimmed glasses and a light-colored button-down shirt. His gaze is directed slightly downwards and to the left, with a contemplative or serious expression.

**THE ONLY REAL RISK IS THINKING YOU
HAVE A WINNING STRATEGY WHEN YOU
HAVE A LOSING ONE.**

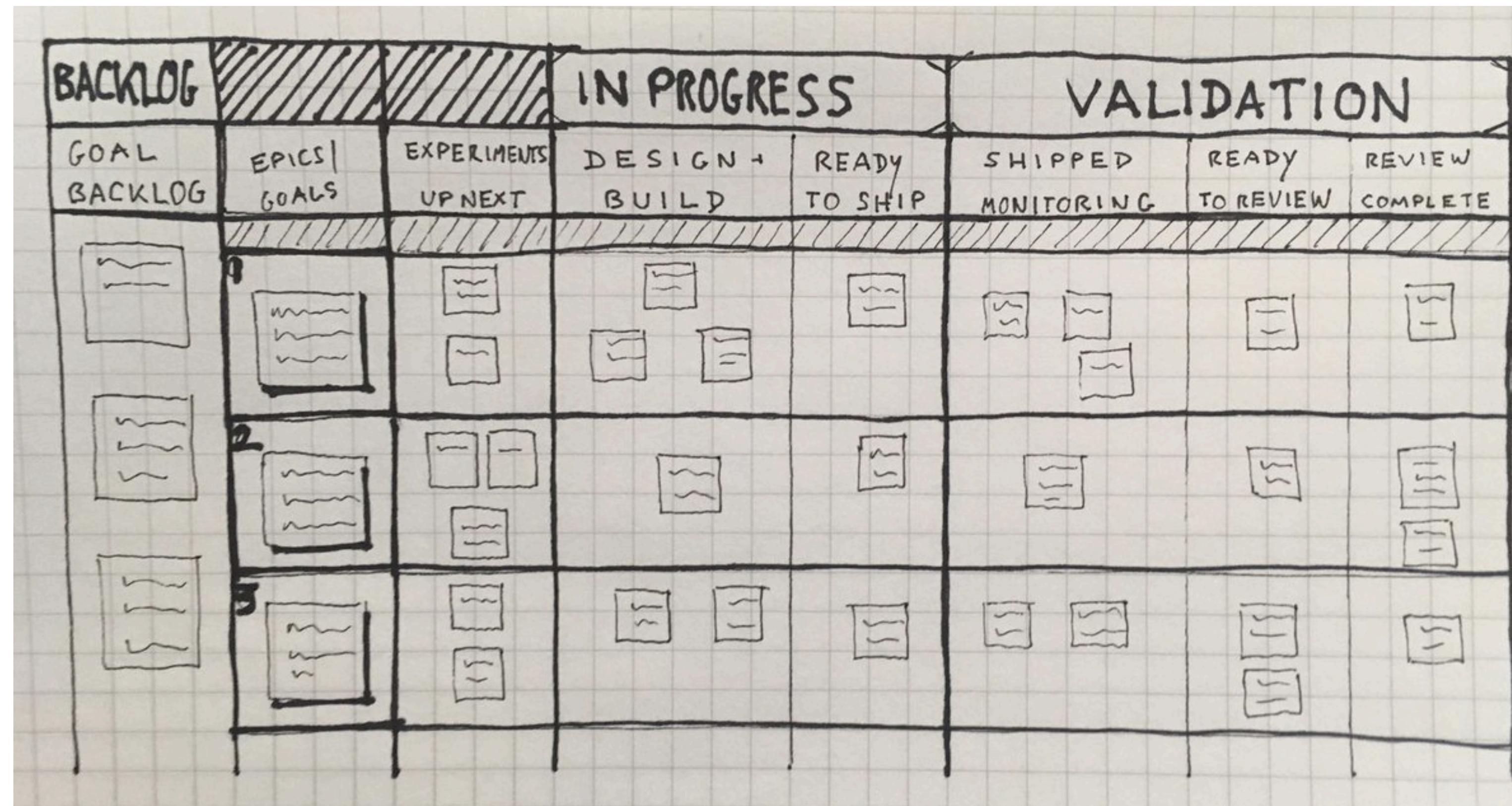
DAN VACANTI

A soft-focus background image of a man with glasses and a blue shirt, looking thoughtful.

**TRUE BUSINESS VALUE CAN BE DETERMINED ONLY AFTER
DELIVERY TO THE CUSTOMER. CHOICES ABOUT WHAT TO WORK
ON AND WHEN, THEN, ARE REALLY JUST YOU PLACING BETS ON
WHAT YOU THINK THE CUSTOMER WILL FIND VALUABLE.**

DAN VACANTI

WHAT IS “DONE” FOR YOU?



-- John Cutler

Geeking with Greg

Tuesday, April 25, 2006

Early Amazon: Shopping cart recommendations

I have talked about a couple fun projects ([\[1\]](#) [\[2\]](#)) I did at Amazon even though I was supposed to be working on other things. This story is more extreme, a project I was explicitly forbidden to do and did anyway.

I loved the idea of making recommendations based on the items in your Amazon shopping cart. Add a couple things, see what pops up. Add a couple more, see what changes.

The idea of recommending items at checkout is nothing new. Grocery stores put candy and other impulse buys in the checkout lanes. Hardware stores put small tools and gadgets near the register.

But here we had an opportunity to personalize impulse buys. It is as if the rack near the checkout lane peered into your grocery cart and magically rearranged the candy based on what you are buying.

Health food in your cart? Let's bubble that organic dark chocolate bar to the top of the impulse buys. Steaks and soda? Get those snack-sized potato chip bags up there right away.

About Me



GREG LINDEN

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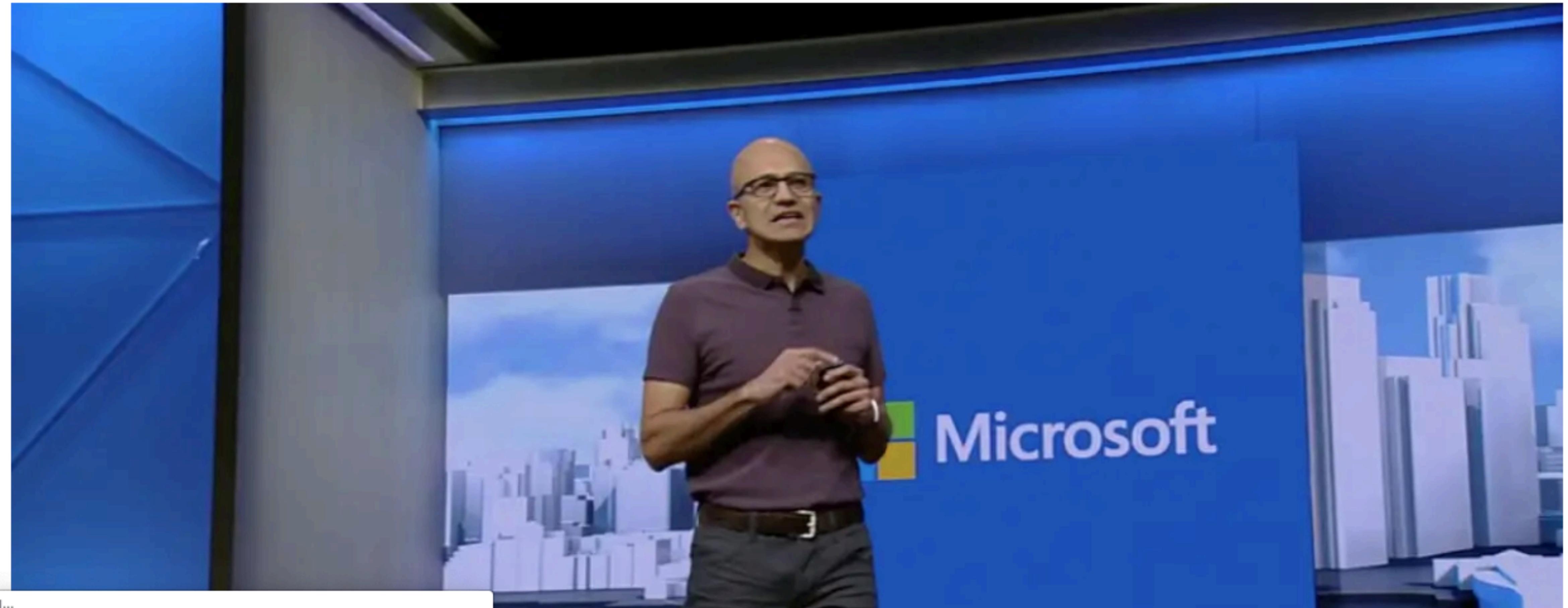
- [2021 \(1\)](#)
- [2020 \(2\)](#)
- [2019 \(2\)](#)

THE REALITY IS THAT YOU DON'T KNOW IN ADVANCE WHICH PROJECTS OR FEATURES WILL SUCCEED: THE AVERAGE FAILURE RATE IS ANYWHERE BETWEEN 50 AND 80%.



Microsoft experimented with a 4-day workweek, and productivity jumped by 40%

Lisa Eadicicco Nov 4, 2019, 8:39 AM



**EVALUATING WELL-DESIGNED AND EXECUTED
EXPERIMENTS THAT WERE DESIGNED TO IMPROVE A
KEY METRIC, ONLY ABOUT 1/3 WERE SUCCESSFUL AT
IMPROVING THE KEY METRIC!**

RONNY KOHAVI, “ONLINE EXPERIMENTATION AT MICROSOFT”

HYPOTHESIS-DRIVEN DEVELOPMENT

Hypothesis-driven development

We believe *<this capability>*

Will result in *<this outcome>*

We will have confidence to
proceed when

<we see a measurable signal>

@barryoreilly, <http://barryoreilly.com/2013/10/21/how-to-implement-hypothesis-driven-development/>

GENERATING EXPERIMENTS

ELEMENTS OF GOOD EXPERIMENTS

- Time-based
- Measurable
- Single variable (Control!)
- Provable (and disprovable) hypothesis
- Psychological safety to fail
- Learning is the outcome

HOW WOULD YOU DESIGN THESE AS EXPERIMENTS?

- Company policy to give a bonus to employees who refer new hires
- Implementing SAFe
- A new team-leadership model
- Work-from home policy
- [Your own example from earlier]

SCOTLAND CANVAS

Title:

Owner:

Context	Our problem is...	Actions	To prove/disprove the hypothesis we will...
Hypothesis	We believe we can solve it by...	Results	We will declare success or failure when...
Rationale	We believe this because...	Follow-up	As a result of success or failure we will...



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Experiment A3

<https://availagility.co.uk/templates>

LEADER BACKBRIEFING

Title:

Context		Owner:	
Hypothesis	We believe we can solve it by...	Actions	To prove/disprove the hypothesis we will...
Rationale	We believe this because...	Success	Failure



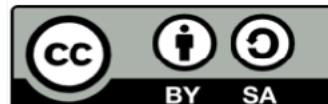
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AGENDASHIFT CANVAS

Change: Owner: Context / scope:	Mentor: Aligned to objective:	
Hypothesis We believe that will result in If successful, we might expect to see:		Assumptions & Dependencies Assumptions (to be validated) Dependencies (to be resolved)
Risks Downside (to be invalidated/mitigated)	Upside (to be nurtured)	Pilot experiments (new A3s) (owner)
People Directly impacted	Other stakeholders & influencers	Insights



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agendashift.com/a3-template
@agendashift @Right2LeftGuide



NORTON CANVAS

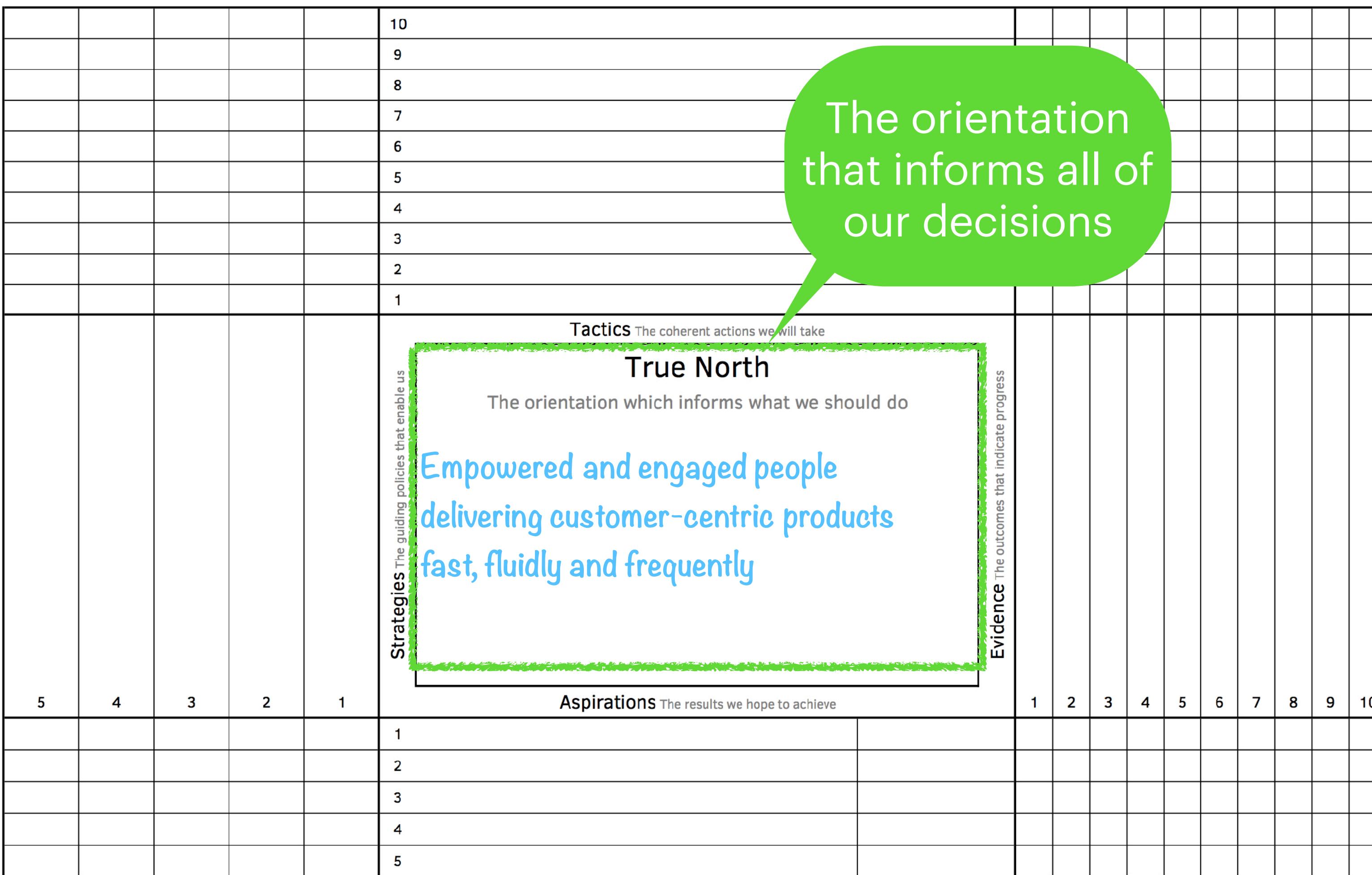
Title: What issue/opportunity are we talking about?

<p>Background:</p> <ul style="list-style-type: none">• Concise• Why are we talking about this issue/opportunity?• What problem are we trying to solve or learn about?	<p>Experiment:</p> <ul style="list-style-type: none">• How will we do [action / countermeasure]?<ul style="list-style-type: none">◦ Specific steps◦ Individuals involved◦ Timelines◦ Outcome targeted• Will there be a control?
<p>Current Situation:</p> <ul style="list-style-type: none">• Clear and concise• Where does it happen?• When does it happen?• What is the impact?• What value can we realize?	<p>Measurement:</p> <ul style="list-style-type: none">• How will we measure the experiment?<ul style="list-style-type: none">◦ Measurements must connect to outcome(s)?• Measurements should be easily understood, sharable, auditable.• What is baseline?
<p>Analysis:</p> <ul style="list-style-type: none">• Root cause analysis<ul style="list-style-type: none">◦ Evidence that supports Hypothesis• Facts - data over anecdote• May also include<ul style="list-style-type: none">◦ Data that supports current situation◦ Data that quantifies current impact	<p>Outcome(s):</p> <ul style="list-style-type: none">• What actually happened to the system after the experiment?<ul style="list-style-type: none">◦ Measurements• Was hypothesis validated?<ul style="list-style-type: none">◦ Progressive results – achieved measurable outcomes◦ Neutral results – no significant change◦ Regressive results – counter to desired outcomes• What have we learned?
<p>Hypothesis:</p> <ul style="list-style-type: none">• We believe that doing: [action / countermeasure]• For [these people / this process]• Will achieve [this/these measurable outcome(s)]	<p>Next Steps:</p> <ul style="list-style-type: none">• This is what will happen based on experiment outcomes.<ul style="list-style-type: none">◦ Progressive results - how will we scale it?◦ Neutral or Regressive results - what's the next experiment we can try?

WHAT DID WE LEARN?

HOW DID THAT GO?

CONNECTING EXPERIMENTS TO STRATEGY

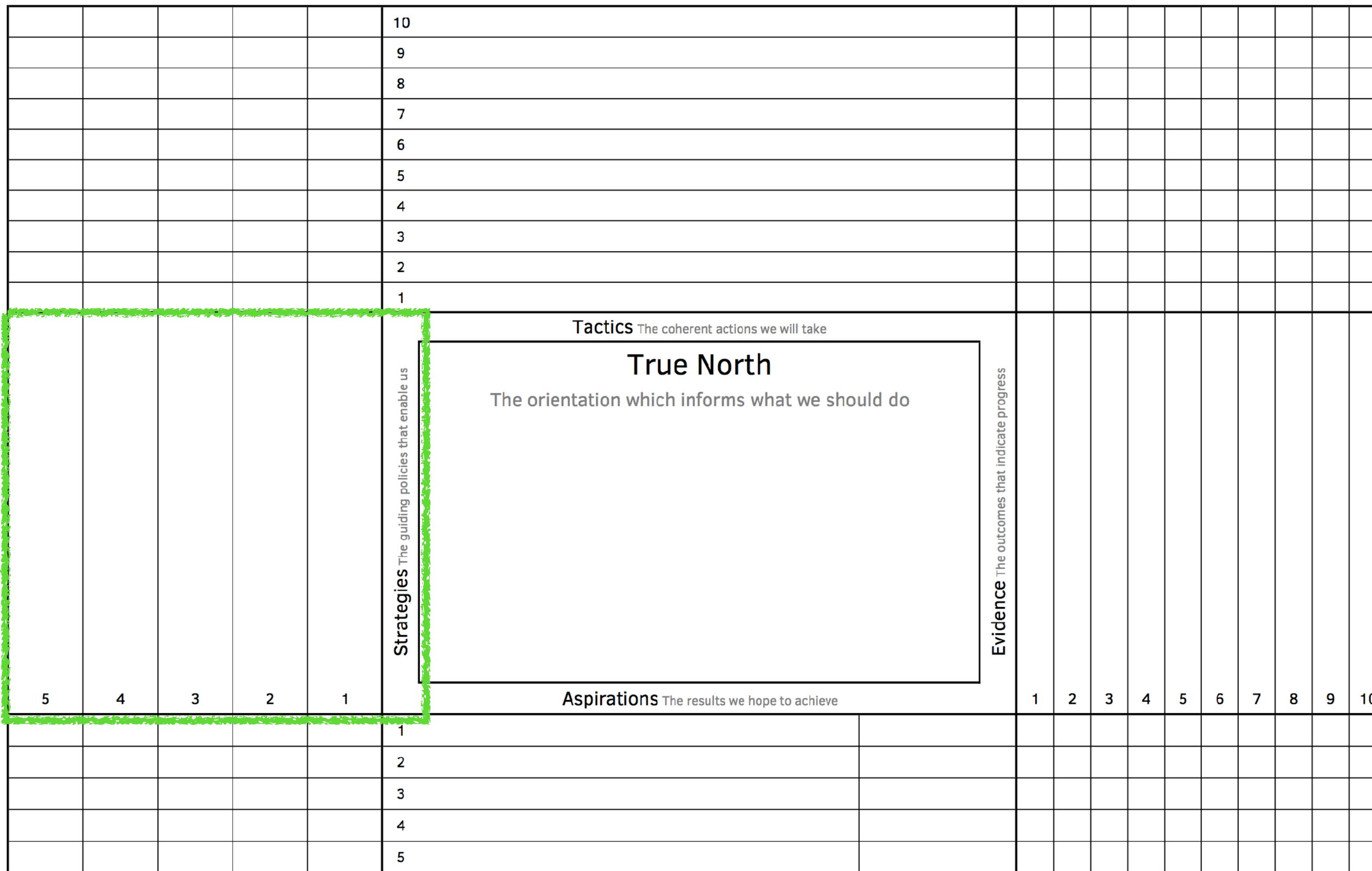




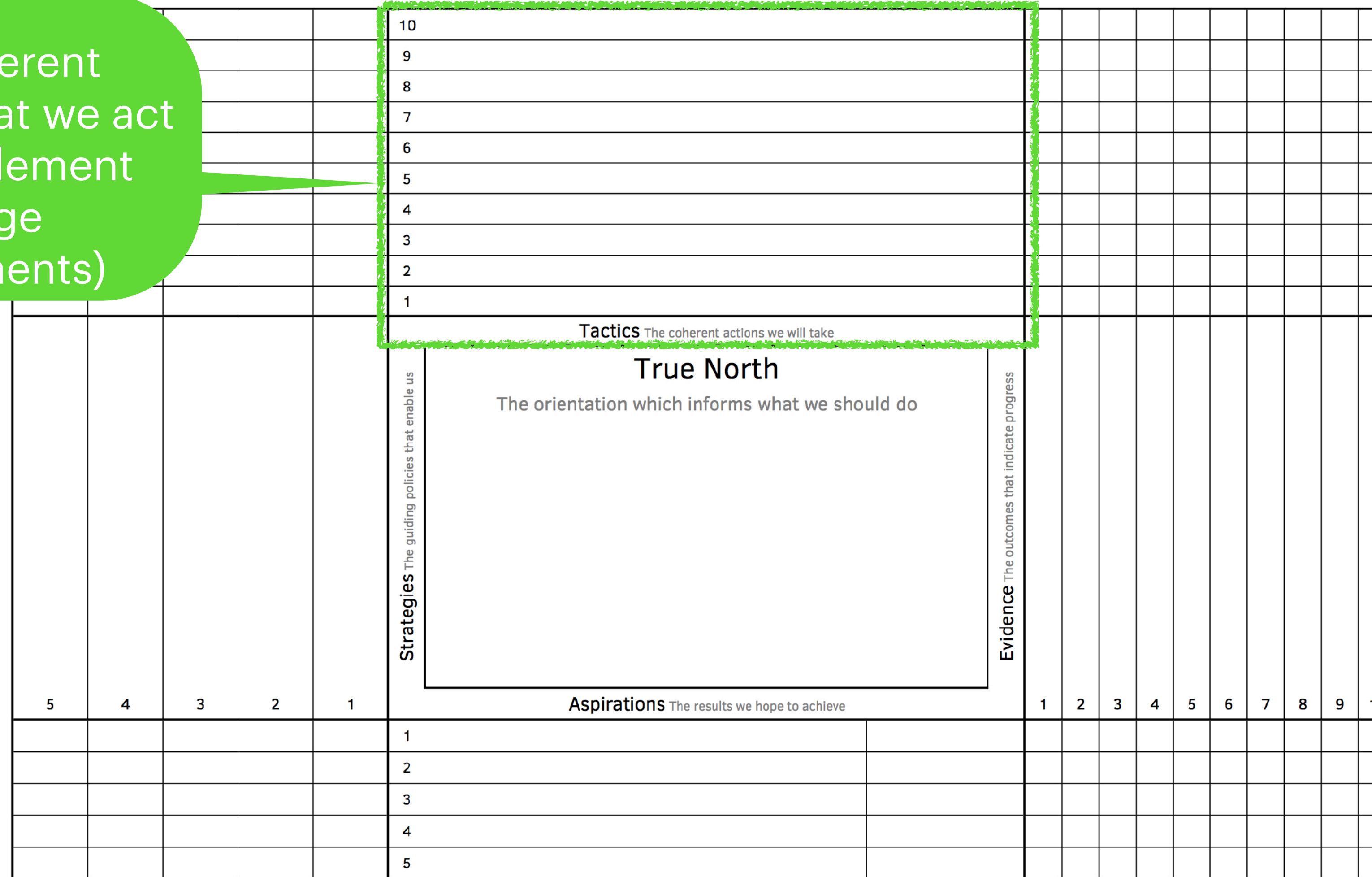
X-Matrix A3

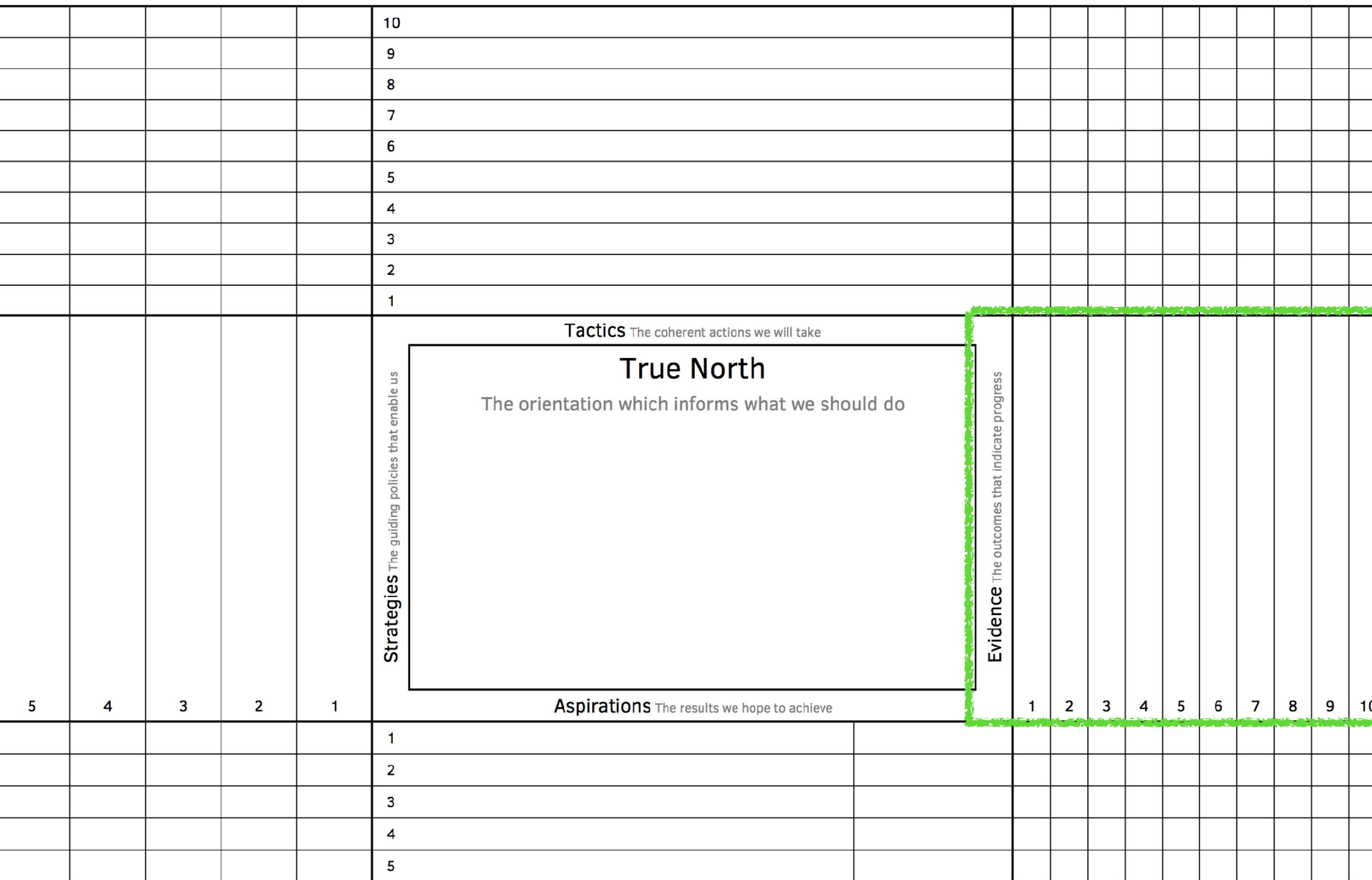
Karl Scotland Lt

The
guiding
policies that
enable us to
achieve the
results.



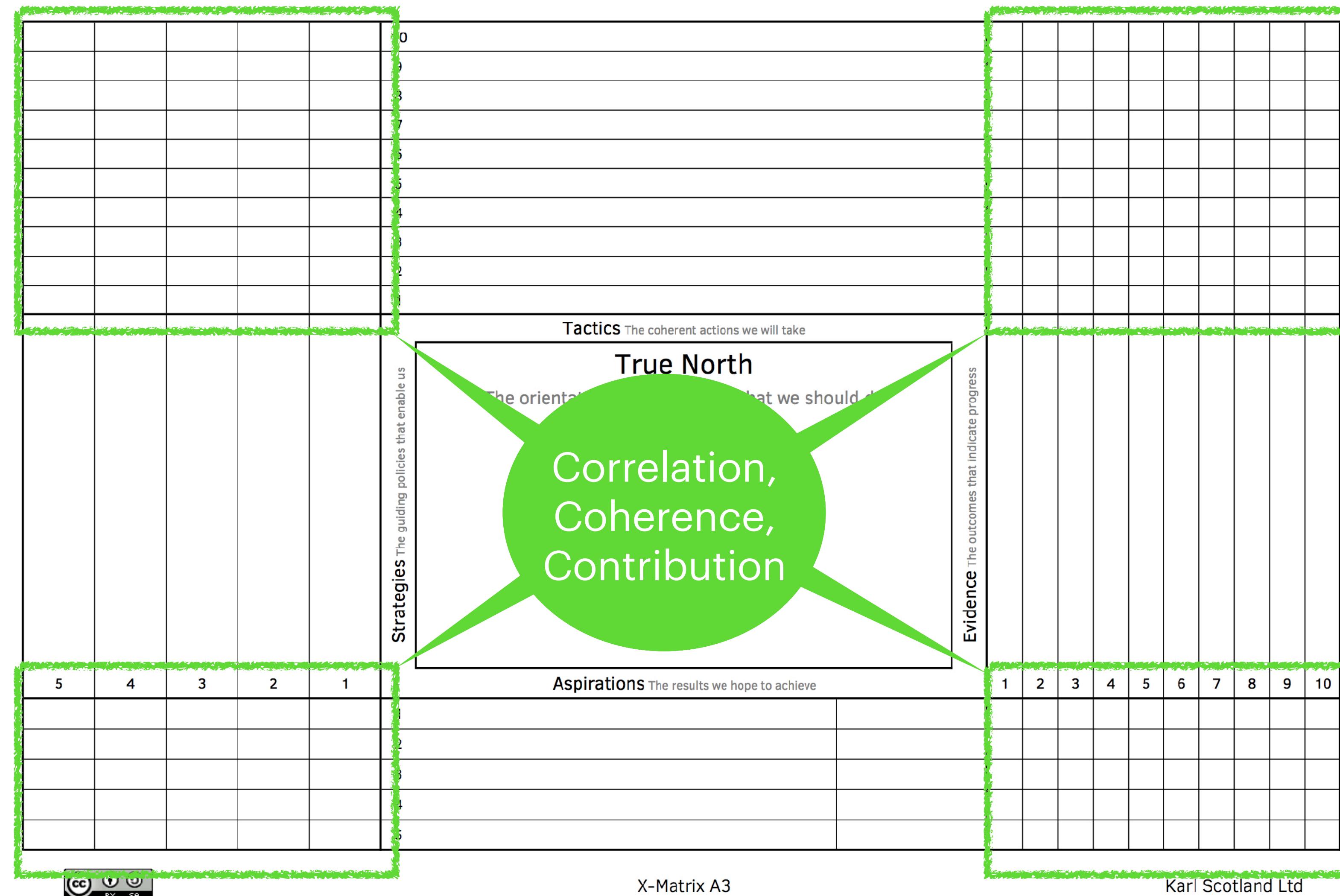
The coherent activities that we act on to implement change (experiments)

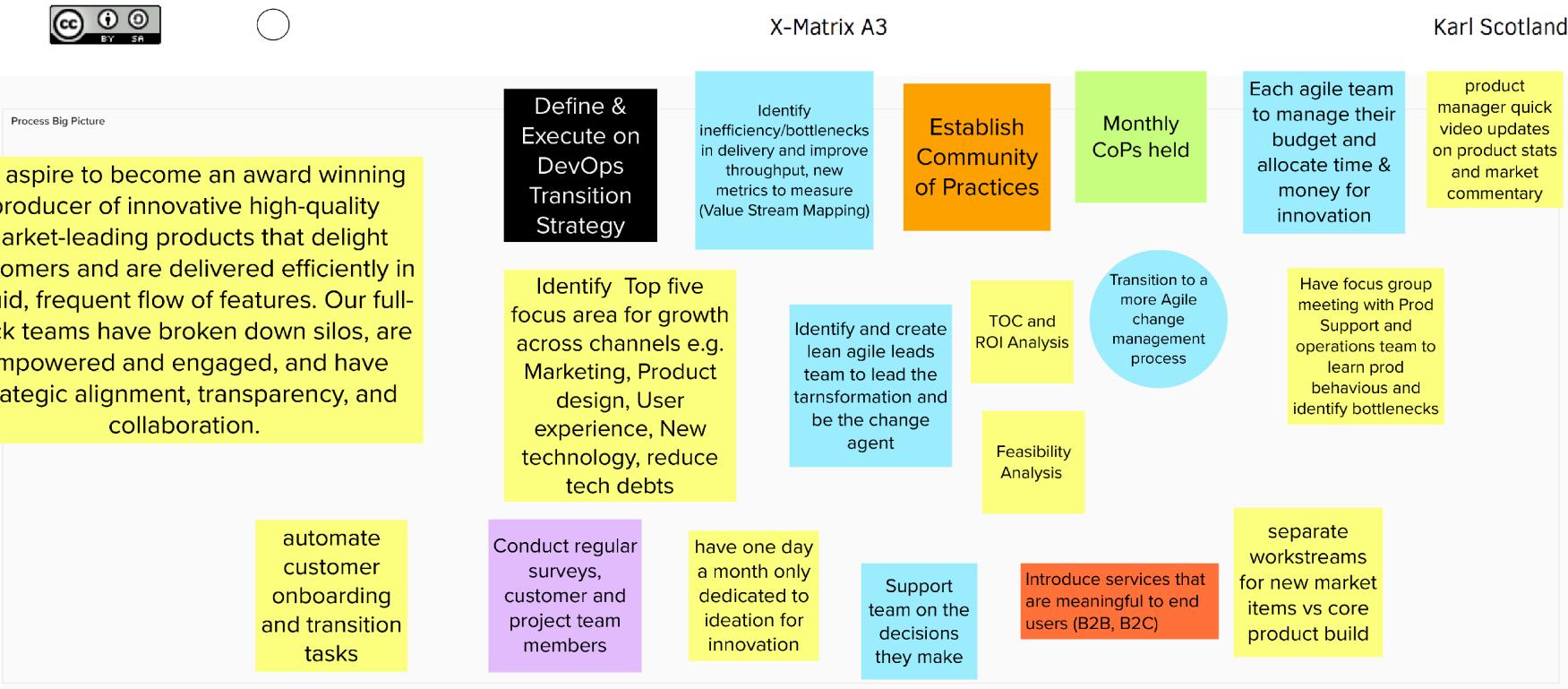
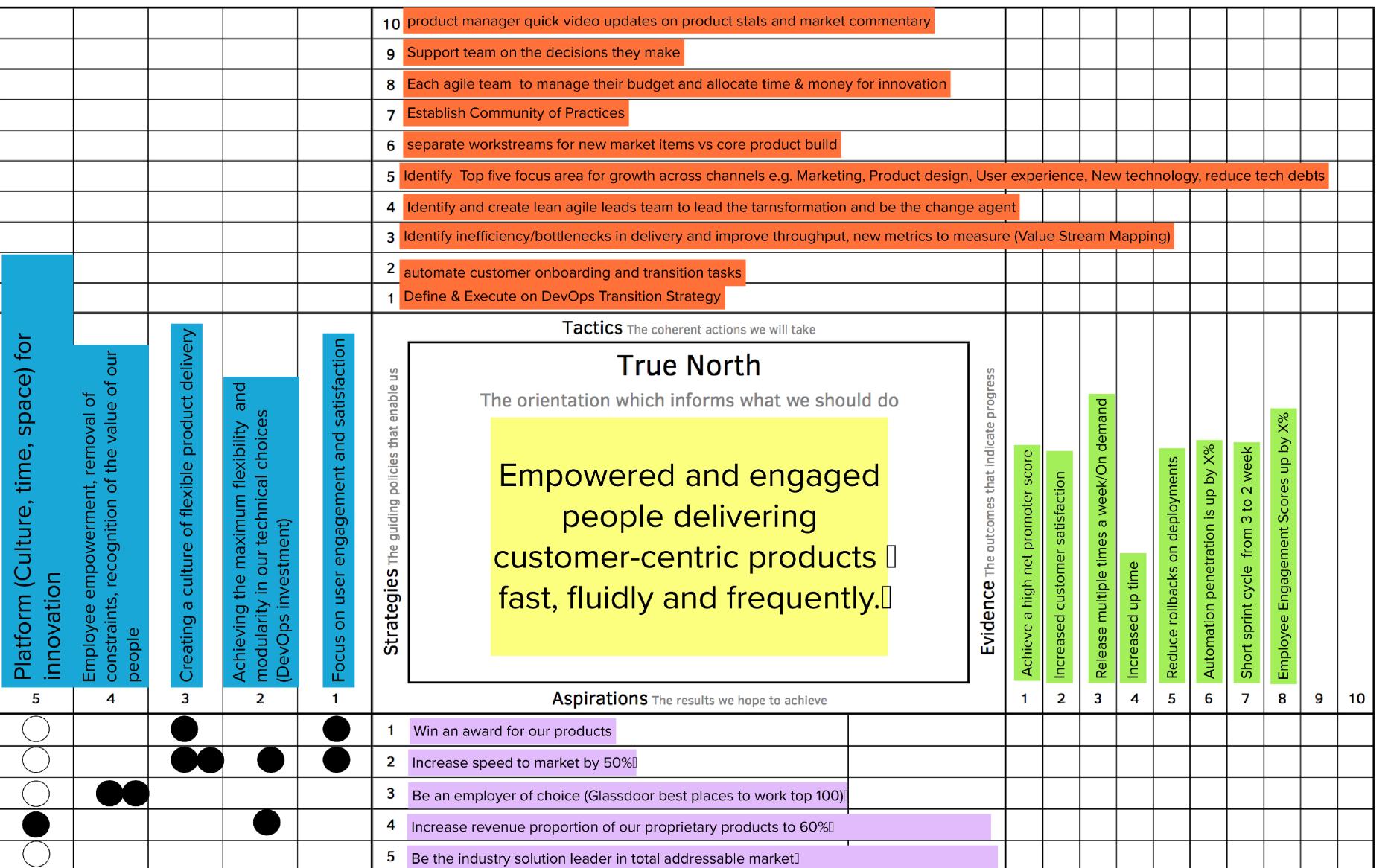




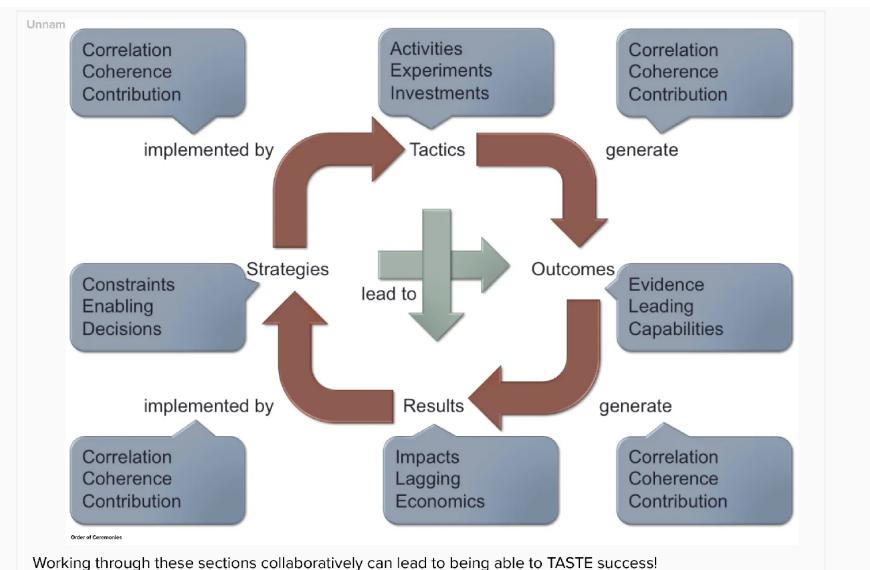
Evidence
that the
strategies are
working,
leading
indicators of







How well do all of the elements correlate with each other? Where do we have strong alignment? No alignment?



Working through these sections collaboratively can lead to being able to TASTE success!

True North
The orientation which informs what should be done. This is more of a direction and vision than a destination or future state. Decisions should take you towards rather than away from your True North.

Aspirations (Results)
The results we hope to achieve. They represent the organizational impact we want to have. They are lagging indicators, success or failure only being declared at the end of the journey. They usually reflect the nature of the business and its economics. These are not targets, but should reflect the size of the ambition and the challenge ahead.

The Aspirations are implemented by Strategies.

Strategies
The guiding policies that enable us to achieve the results. They are "enabling constraints," allowing a range of possible solutions (as opposed to governing, limiting to a specific solution). Thus they guide decisions on where to focus attention.

The Strategies lead to Evidence (Outcomes).

Evidence (Outcomes)
Outcomes are the evidence that the strategies are working, indicators of progress. They are leading indicators of whether the results can be achieved ahead of time and provide quick and frequent feedback on whether the tactics are having an impact on meeting the aspirations. They describe the capabilities that the organization requires in order to be successful.

The right Outcomes will generate the successful Results.

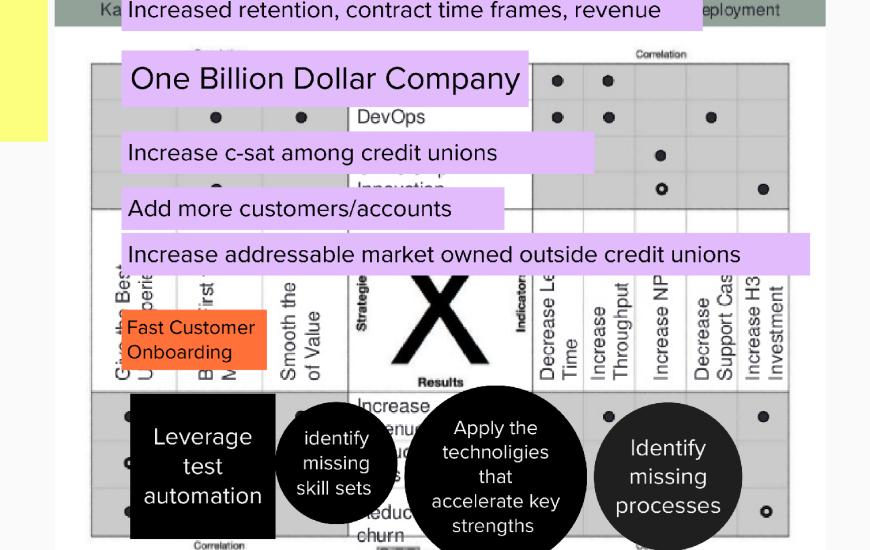
Of course the Strategies don't directly lead to Outcomes. Some form of action has to take place. Thus the Strategies are actually implemented by Tactics.

Tactics
The coherent activities we act on to implement change. They are experiments which test hypotheses on how to achieve the outcomes. They represent the bets or investments in the improvement work that is being done. They are the hypotheses to be tested to implement the strategies in the form of experiments. Therefore, it is the Tactics that generate the Outcomes and ultimately lead to the Results.

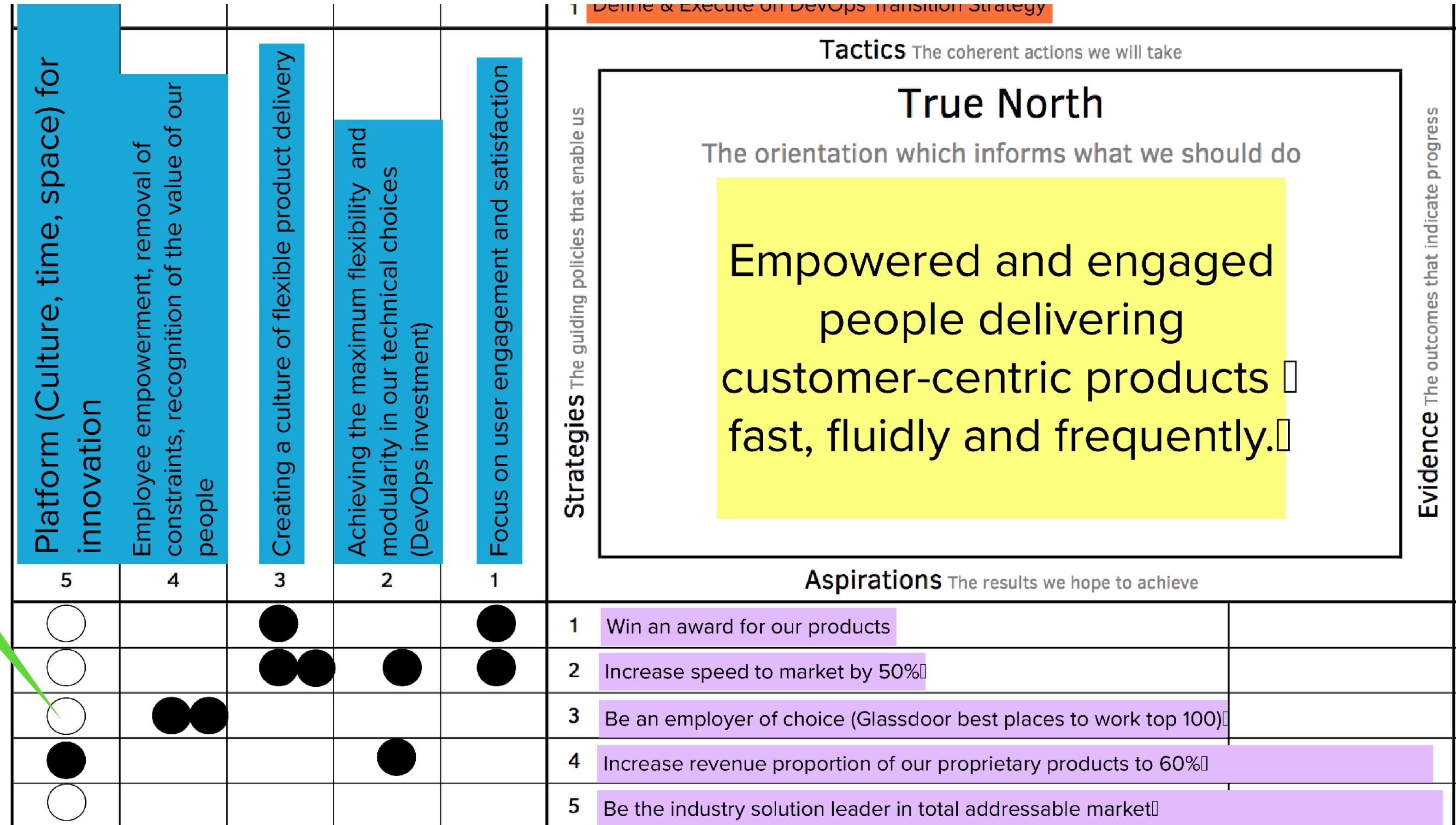
For change to be successful, there should be a correlation between the various elements in this model (and it should be remembered that correlation is not causation). Each element will have some level of contribution to another. This will range from strong or direct, to weak or indirect, or there may sometimes be none. You could also say that the correlations are Probable, Possible, or Plausible. All together there should be coherence (albeit messy) to them.

Be a Forbes Top Company (and/or Tampa Bay)

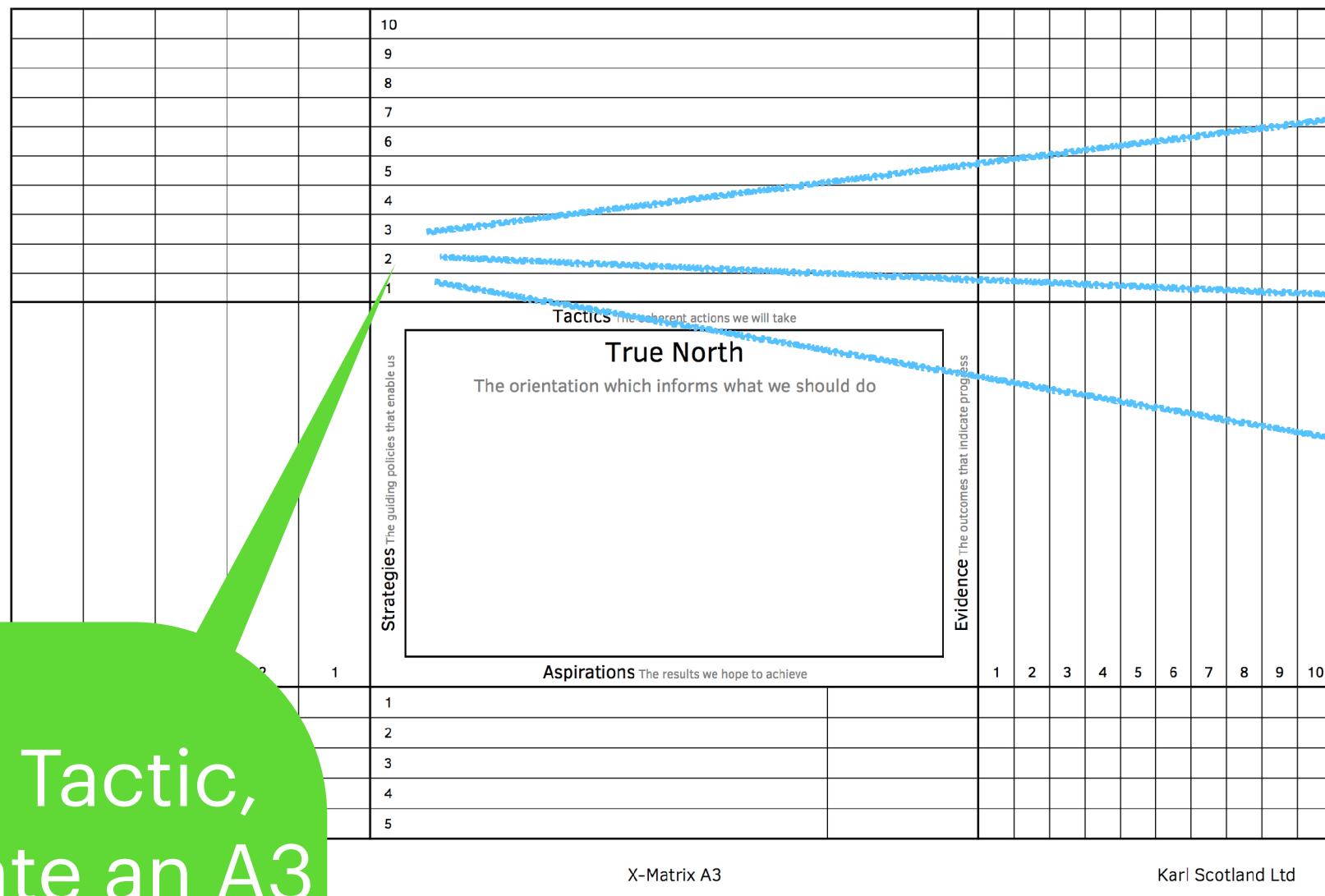
Digital Differentiator: Shifts credit union thinking
By starting with the Tactics chosen, we can implement the Strategies and generate the Outcomes. The intent is to increase win rate from 54% to 70% by 2025, justifying the Tactics. It is very easy to then justify them based on the Strategies.



How well do the elements correlate with each other? Where do we have strong alignment? No alignment?

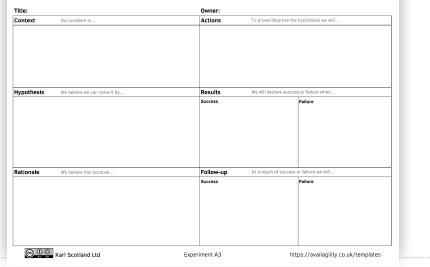
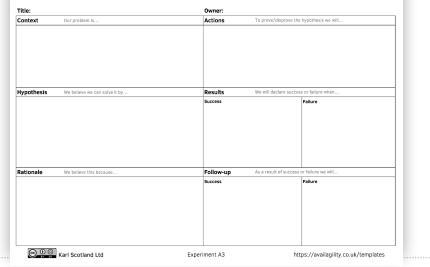
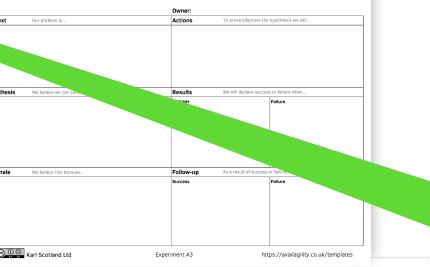
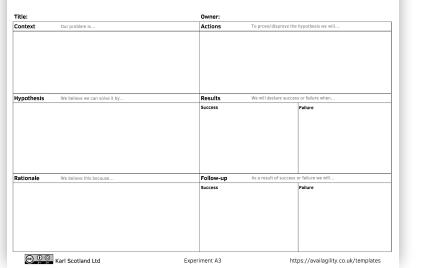
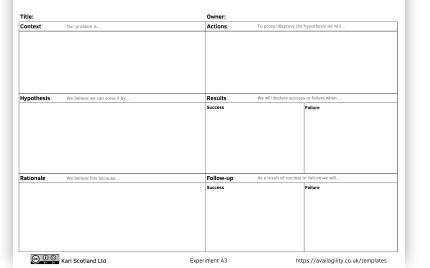
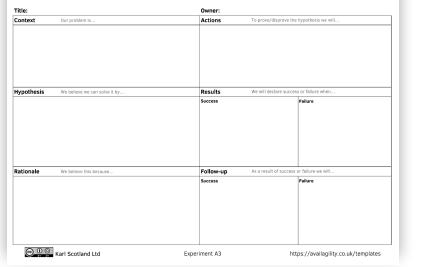
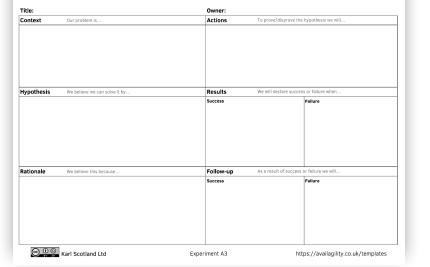
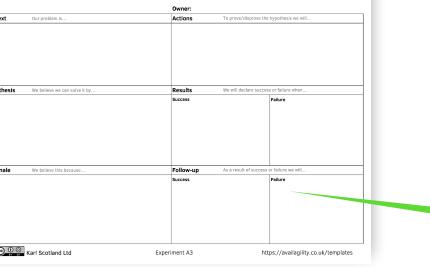
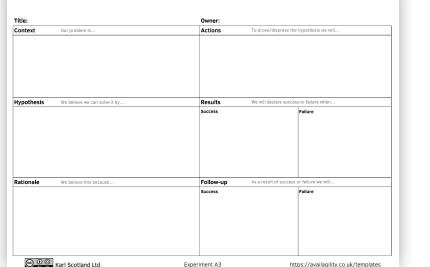
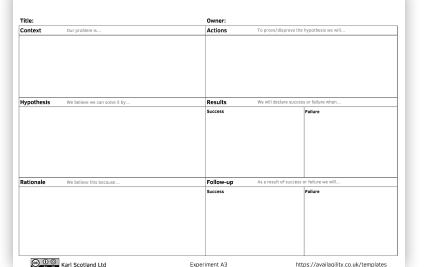
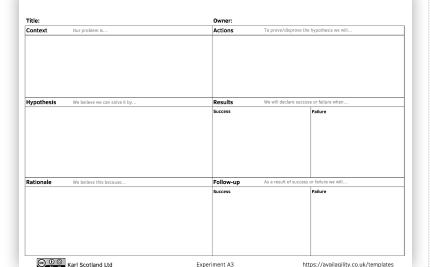


For each Tactic,
we generate an A3
Experiment
Canvas.



Title:		Owner:	
Context		Our problem is...	
Actions		To prove/disprove the hypothesis we will...	
Title:		Owner:	
Context		Our problem is...	
Actions		To prove/disprove the hypothesis we will...	
Title:		Owner:	
Context		Our problem is...	
Actions		To prove/disprove the hypothesis we will...	
Hypothesis		We believe we can solve it by...	
		Results	We will declare success or failure when...
Success		Failure	
Rationale		We believe this because...	
		Follow-up	As a result of success or failure we will...
Success		Failure	

Karl Scotland Ltd Experiment A3 <https://availagility.co.uk/templates>

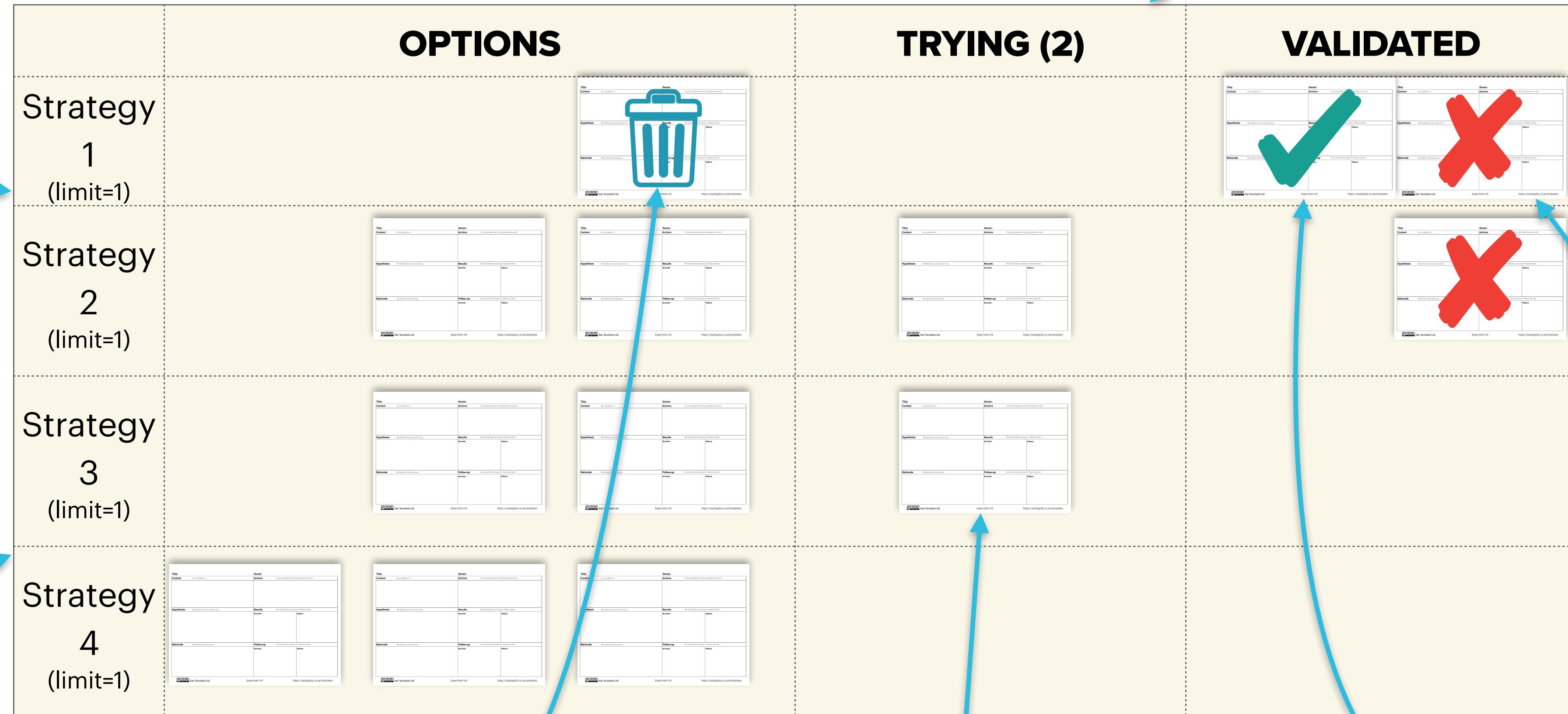
	Options	Trying (2)	Validated	Key Result
Strategy 1 (limit=1)	 			
Strategy 2 (limit=1)	 			
Strategy 3 (limit=1)	 			
Strategy 4 (limit=1)	  			

Experiments
linked to
outcomes

Each
item on the
board is an
experiment

THE EXPERIMENT BOARD

Goals can be expressed as OKRs, problems to be solved.



Limit work-in-progress for each goal to one experiment.

Now that we've solved the problem with a previous option, we can trash this one, maximizing the amount of work not done.

Each item on the board is an A3 Experiment canvas.

Limit work-in-progress across all goals.

This experiment solved the problem/delivered the key result.

The first option didn't solve the problem, so we pulled in the next option.

TYPES OF FAILURE

	Preventable	Complex	Intelligent
Definition	Deviations from known process that produce unwanted outcomes	Unique and novel combinations of events and actions that give rise to unwanted outcomes	Novel forays into new territory that lead to unwanted outcomes
Common Causes	Behavior, skill, attention deficiencies	Complexity, variability, novel factors imposed on familiar situations	Uncertainty, experimentation, risk taking
AKA	Process deviation	System breakdown	Unsuccessful trial
Contexts Where Each Is Most Salient	Production line manufacturing Fast-food services Basic utilities and services	NASA shuttle program Aircraft carrier Nuclear power plant	Drug development New product design

— Amy Edmondson, *The Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth*

DESTIGMATIZING FAILURE

	Traditional Frame	Destigmatizing Frame
Concept of Failure	Failure is not acceptable.	Failure is a natural by-product of experimentation.
Beliefs About Effective Performance	Effective performers don't fail.	Effective performers produce, learn from and share the lessons from intelligent failures.
Goal	Prevent failure.	Learn fast.
Impact of Frame	People hide failures to protect themselves.	Open discussion, fast learning and innovation.

— Amy Edmondson, The Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth

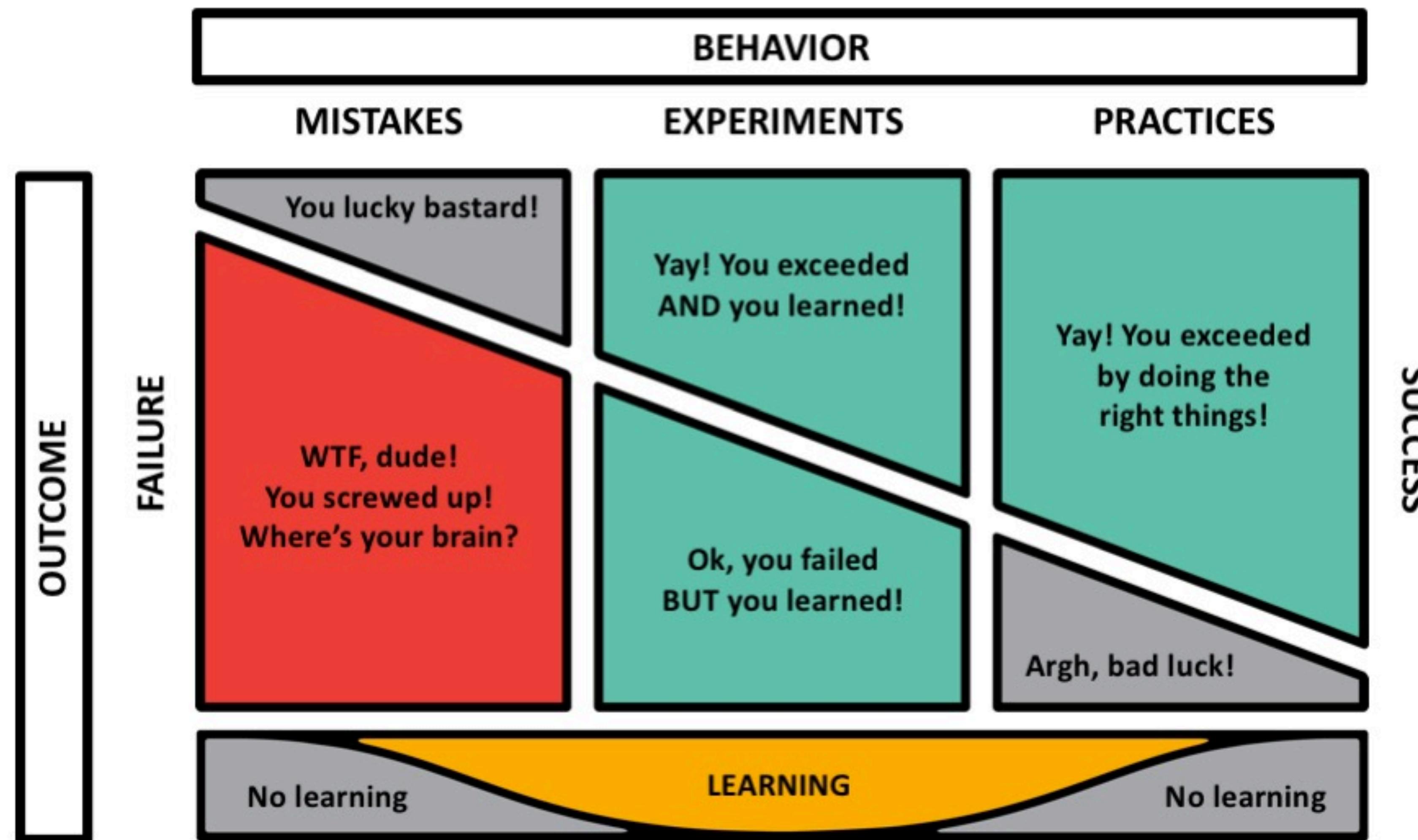


PRODUCTIVE RESPONSES TO FAILURE

Preventable Failure	Complex Failure	Intelligent Failure
<ul style="list-style-type: none">- Training- Retraining- Process improvement- System redesign- Sanctions, if repeated or otherwise blameworthy actions are found	<ul style="list-style-type: none">- Failure analysis from diverse perspectives- Identification of risk factors to address- System improvement	<ul style="list-style-type: none">- Failure parties- Failure awards- Thoughtful analysis of results to figure out implications- Brainstorming of new hypotheses- Design of next steps or additional experiments

— Amy Edmondson, *The Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth*

CELEBRATION GRID



Why Etsy engineers send company-wide emails confessing mistakes they made



SCIENCE FAIR



YOKOTEN: “HORIZONTAL DEPLOYMENT”



OTHER CONSIDERATIONS

- Language: “Fail Fast” → “Prove/disprove hypothesis”
- Leaders SETT the boundaries (“Safe Enough To Try”)
- Organizational experiments board
- “Goldratt User Stories”
- Finding your optimal WIP limit
- Retrospective actions
- A/B tests

BEWARE



HAWTHORNE EFFECT

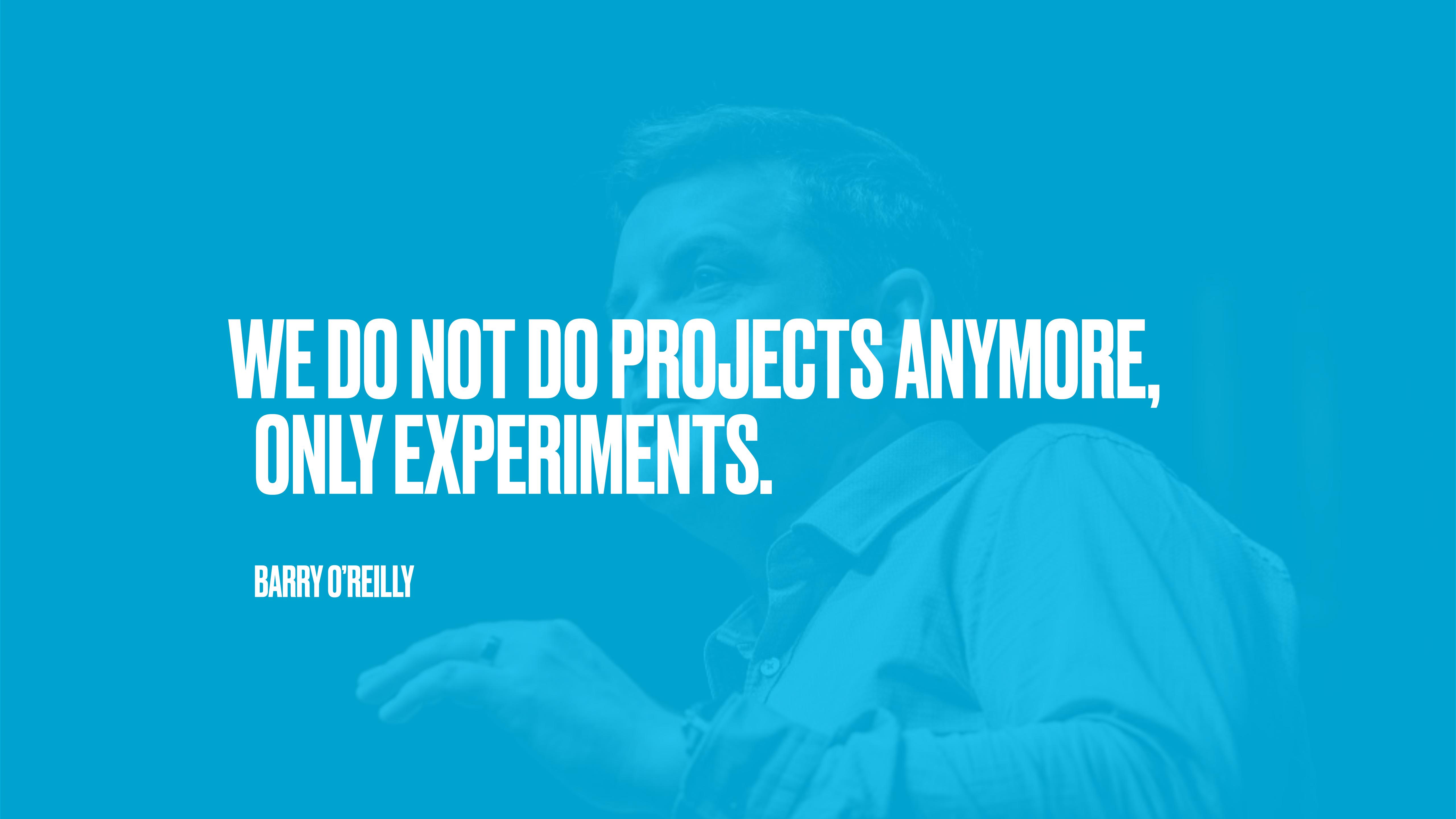
AKA Observer Effect

SELECTING SAFE-TO-FAIL EXPERIMENTS

- 1. Any experiment must be something you can do something about and that you believe stands a chance of having a positive effect.
- 2. Secondly, it has to be a change with an observable or measurable effect – so that you can see if the change was good or bad.
- 3. The experiment must be something you believe you can dampen down if it goes wrong (ie safe to fail) or amplify the effect if it goes well.

WHO CAN BENEFIT FROM EXPERIMENTS?

- **Product Owners:** Measurable outcomes from user stories
- **Coaches:** Impact on people, teams, departments
- **Transformation Agents:** Evolutionary organizational fitness
- **Developers**
- **Teams:** Retrospective actions
- **Organizations:** Leverage scale by running multiple experiments

A black and white photograph of a man with dark hair and a beard. He is wearing a light-colored shirt and a dark suit jacket over it. His right hand is resting against his chin, with his fingers partially hidden in his pocket. He is looking slightly to the left of the camera with a contemplative expression.

**WE DO NOT DO PROJECTS ANYMORE,
ONLY EXPERIMENTS.**

BARRY O'REILLY

1. Eleusis Expeditious and Eleusis Express (<https://availability.co.uk/resources/games/eleusis-expeditious/>)
2. A3 Experiment Canvas from Karl Scotland (<https://availability.co.uk/>)
3. Safe-to-Fail Probes (<http://cognitive-edge.com/methods/safe-to-fail-probes/>)
4. How to Fail like a Pro, Freakonomics Radio: 370.
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9. pretty much anything from John Cutler
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14. How to Implement Hypothesis-Driven Development (<https://barryoreilly.com/how-to-implement-hypothesis-driven-development/>)
15. Beyond the Black Hole: Product Management for Continuous Delivery, Elizabeth Ayer, FlowCon 2019
16. The Fearless Organization by Amy Edmondson
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18. Goldratt User Stories (<https://yorkesoftware.com/2018/03/09/goldratt-user-stories/>)
19. "Online Experimentation at Microsoft" Kohavi et al (<http://stanford.io/130uW6X>)
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27. mattphilip.wordpress.com

