CREATIVE PROBLEM SOLVING FACILITATION WORKBOOK

Creative Problem Solving Framework

This will help you lead a small group through the Creative Problem Solving process. It contains guidelines and tools for all three phases of the process.

Before the session, identify the key Problem Owners and interview them using the prompts on the next three pages of this workbook. Use this information to prepare a problem background presentation to be shared with the Solving Team.

The rest of the workbook will help you plan a session to address the challenge.

Problem Formulation

OPPORTUNITY FINDING

Briefly describe the problem to be addressed by the meeting participants:

Answer the following questions in clear, complete sentences.

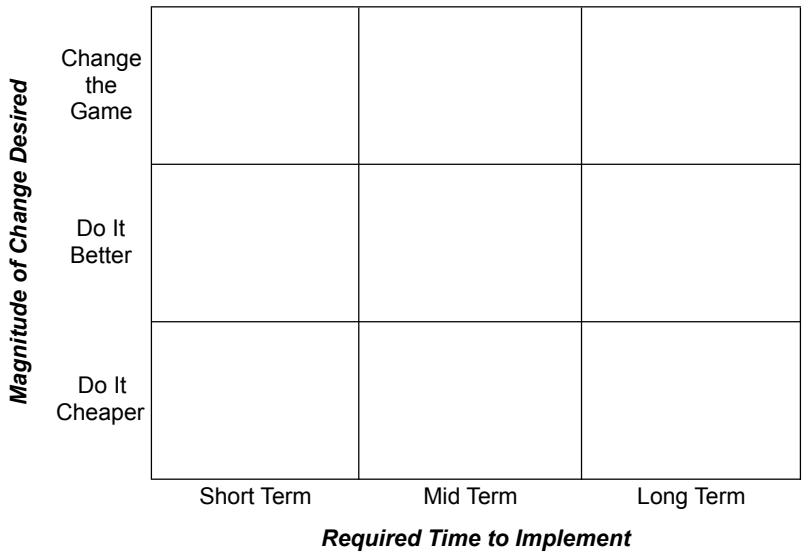
WHY IS THIS PROBLEM IMPORTANT FOR YOUR BUSINESS TO SOLVE?

WHAT WOULD THE IDEAL OUTCOME LOOK LIKE?

WHAT RESOURCES ARE AVAILABLE TO YOU?

Opportunity Finding

Write alternative opportunity statements that you could address during your session at the various magnitudes of change and time scales.



Choose the one opportunity statement you would like to address with your team during the session. Write it in the form of a How Might We statement in the box below.

Thinking of all the steps in the CPS process, which steps would you want to do primarily before the session, during the session, and after the session?

Creative Problem Solving Process Step	Before	During	After
1 – Opportunity Finding	x		
2 – Fact Finding	x		
3 – Problem Definition			
4 – Idea Finding			
5 – Evaluation and Selection			
6 – Action Planning			
7 – Acceptance Finding			
8 – Execution			x

Identify those with relevant knowledge and invite them to your session.

Fact Finding

Answer the following questions in clear, complete sentences.

WHAT ARE THREE KEY FACTS YOU KNOW ABOUT THIS CHALLENGE?

WHAT ARE THREE THINGS YOU DON'T KNOW ABOUT THIS CHALLENGE (BUT WOULD LIKE TO KNOW)?

WHAT APPROACHES HAVE YOU ALREADY THOUGHT OF OR TRIED?

WHAT ARE THREE CRITICAL ASSUMPTIONS YOU ARE MAKING ABOUT THIS PROBLEM?

Go back and highlight the most important facts to share with the session participants. Develop a fact-finding plan to complete as prework for the information you don't know.

Develop a Fact-Finding Plan

What additional information will need to be gathered prior to the session?

What Do You Need to Know?	Where to get it?

Prepare the Background Presentation

The problem owner will need to prepare a background presentation to give the Solving Team a common understanding of the opportunity.

SLIDE 1: THE OPPORTUNITY

WHAT IS THE OPPORTUNITY?

SLIDE 2: WHY ARE WE ADDRESSING THIS OPPORTUNITY

HOW DOES THIS OPPORTUNITY LINK TO YOUR BUSINESS OBJECTIVES?

SLIDE 3: WHAT SUCCESS LOOKS LIKE

WHAT ARE THE KEY SUCCESS MEASURES AND GOALS?

SLIDE 4: CURRENT STATE

WHAT IS WORKING AND NOT WORKING TODAY? PROVIDE EXAMPLES IF APPLICABLE.

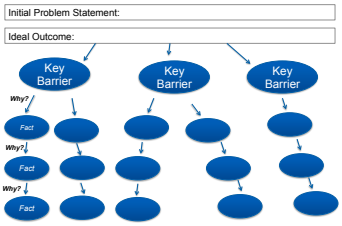
SLIDE 5: BOUNDARIES AND CONSTRAINTS

WHAT CONSTAINTS SHOULD THE PARTICIPANTS CONSIDER AS THEY EVALUATE ANY IDEAS GENERATED DURING THE WORKSHOP?

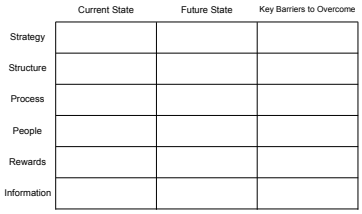
Design Your Session

Below is a summary of the tools in this workbook. Check the tools you plan to guide your team through for your innovation challenge.

PROBLEM FORMULATION

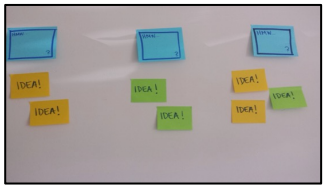


Why-Why-Why Analysis

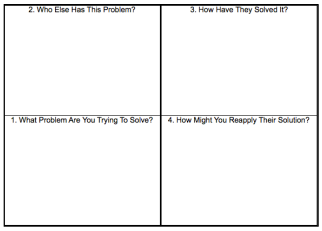


Gap Analysis

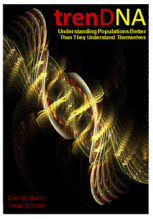
IDEA FINDING



Brain Walking



Innovation by Analogy



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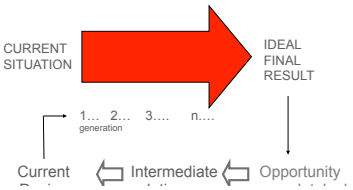
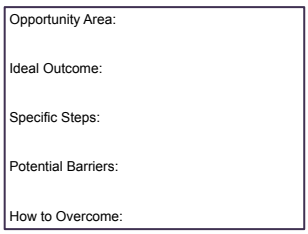
Trends Analysis

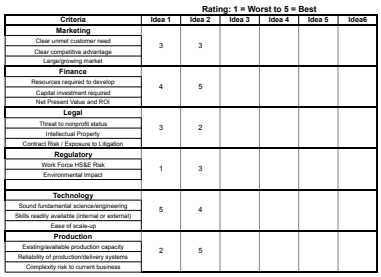
IDEA STRENGTHENING & EVALUATION



Ideal Final Result

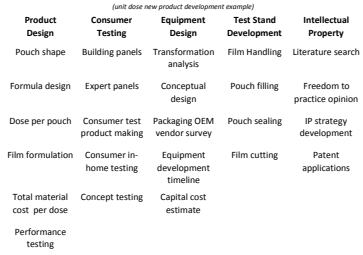


Implementation Intention

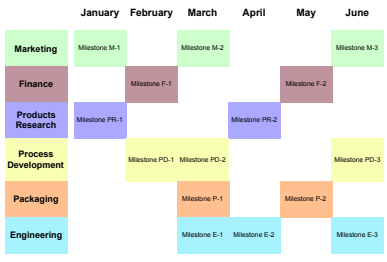


Best Bet Option Analysis

PLANNING & EXECUTION



Displayed Thinking



Immersive Critical Path Schedule

Fact Finding

At the beginning of the session, have the Problem Owner present the Session Objective, Ideal Outcome, and the Facts you've uncovered about your challenge.

Overall Reactions (!)

Likes (+)	**Wish 4's/Builds** (-)

Questions/Concerns (?)

Listening Template and How Might We's:

As the Problem Owner presents the facts, participants will capture their reactions, likes, wish-for's or builds, and questions / concerns on the listening template.

When the background presentation is finished, give the participants a few minutes to review their insights and write 3 How Might We problem statements on Post-It notes. Remember, one HMW per post-it note.

If any ideas occur to them, have them write Ideas on a post-it note (one per post-it note!) and put it in an "Idea Catcher" section on the wall to refer back to when the team gets to the Idea Finding step.

Problem Definition

Affinity Diagram and Power Dot to Converge on Top Problems.

Affinity Diagraming and Power Dotting:

Have participants post their How Might We statements to a large blank wall.

Instruct your team to find problem statements that are similar to each other and group them together.

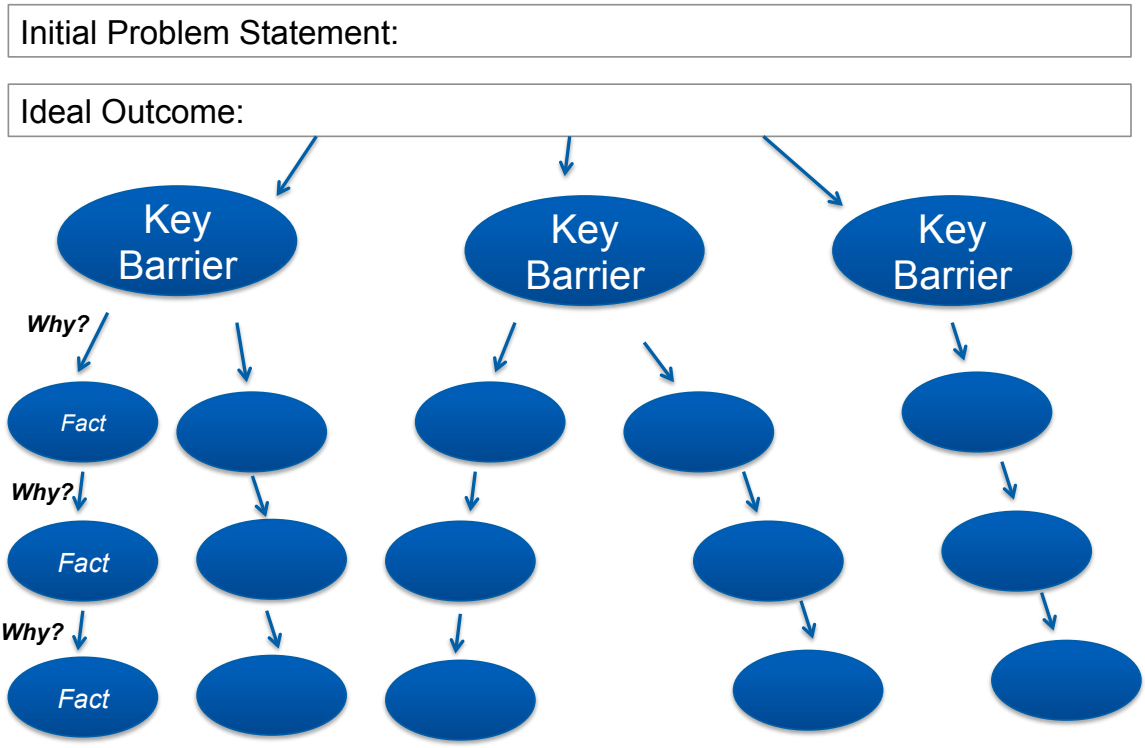
As groups of problem statements form, have the participants label each group with a theme. It's ok if a few problem statements don't fit into a theme.

Give each participant a set of power dots. Have them place their power dots on the **How Might We statements** (not themes) that they think should be solved to address the challenge.

Identify the top HMWs and gain concurrence from the Problem Owner that if those problems were solved, the opportunity would be fully addressed.

Problem Definition

Why-Why-Why Analysis to understand root causes of top problems.



Why-Why-Why Analysis:

Have subteams complete a Why-Why-Why Analysis on flip charts, or on a blank wall using Post-It notes, as outlined below:

- Post the Initial Problem Statement at the top.
- Write the Idea Outcome – state it positively.
- Identify the Key Barriers to achieving the Ideal Outcome – state these negatively.
- Next, look for the underlying causes for the problem. For each Key Barrier, ask "why is that?" Capture the answer as a complete sentence, stated negatively.
- Continue asking "Why?" for each fact until you have an understanding of the root causes of the Initial Problem Statement.
- When finished, determine the most important facts and write How Might We statements for them.

Have each subteam share the original problem statement and their new HMW's.

Problem Definition

Gap Analysis identifies key elements of the ideal solution and the key barriers to overcome for complex, multi-dimensional problems.

	Current State	Future State	Key Barriers to Overcome
Strategy			
Structure			
Process			
People			
Rewards			
Information			

Gap Analysis:

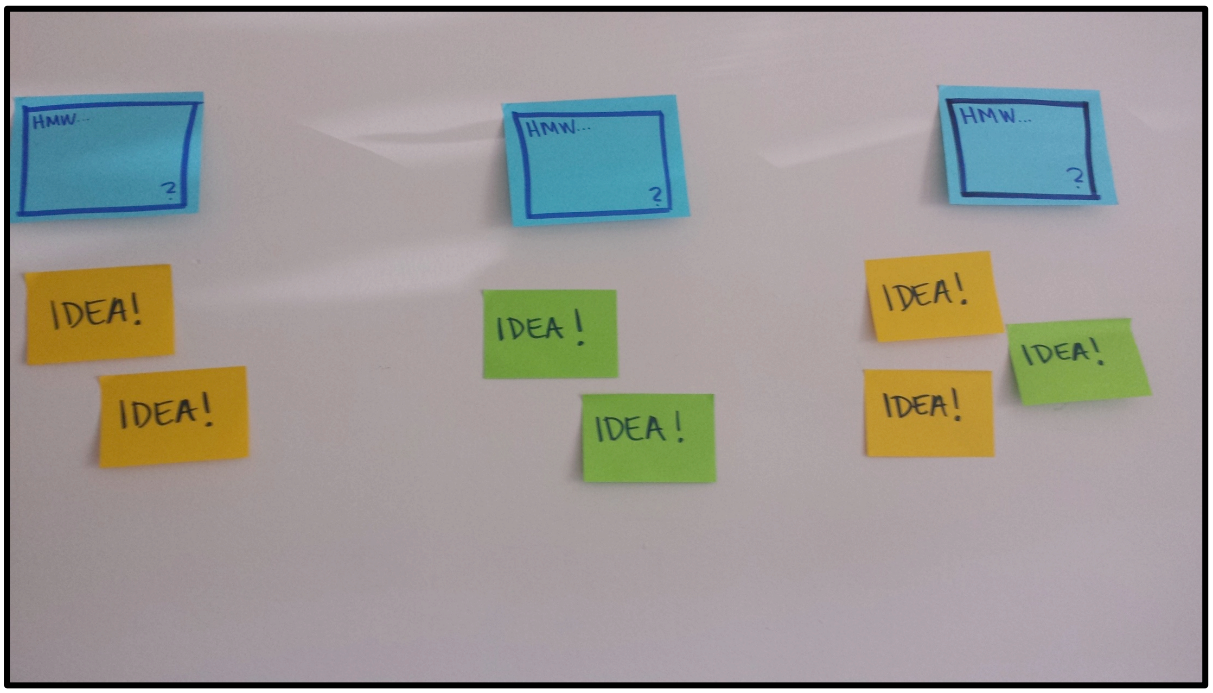
Have your team complete a Gap Analysis on flip charts, or on a blank wall using Post-It notes, as outlined below:

- As a group, identify the key elements for your problem. Assign one or more elements to pairs.
- In pairs, describe the Current State for your key element(s).
- Define the ideal Future State for your key element(s).
- Identify the Key Barriers to achieving the Future State for your element(s).
- Rewrite the Key Barriers in the form of How Might We statements.

Have each pair share their How Might We statements with the team.

Idea Finding

Brain Walking to capture top-of-mind ideas after Problem Definition.



Brain Walking:

Post your problem-finding work – whether it is your top HMWs or the output of a tool such as a Why-Why-Why Analysis – around the room.

Instruct your team member to take a post-it note pad and sharpie and silently visit each of the top problems on the wall.

Individually, write ideas for each problem on Post-Its and post them under the corresponding problem statement. (No discussion) Time permitting, encourage them to make a second round and build on ideas they see.

When Brainwalking is finished, have each subteams develop Idea Cards, synthesizing the ideas the team posted.

Idea Card

Idea Name

What problem does this idea solve?

The idea is:

Here’s how it works:

Idea Finding

Innovation by Analogy to identify others who have solved problems similar to yours and reapply their solution approaches to your problem.

2. Who Else Has This Problem?	3. How Have They Solved It?
1. What Problem Are You Trying To Solve?	4. How Might You Reapply Their Solution?

Innovation by Analogy:

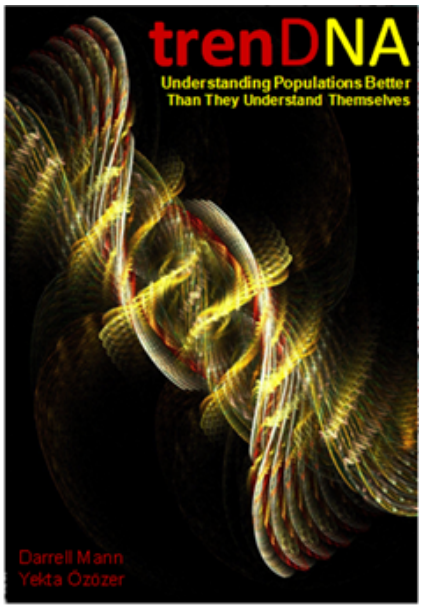
Have your team generate Idea Cards using Innovation by Analogy as outlined below:

- Assign a problem statement to each pair in your team.
- Have each pair share their problem statement, and the entire team will help brainstorm potential analogies.
- When all pairs have the team's input on analogies, the pairs will then select the most promising analogies to reapply to their problem statement.**
- Have each pair create at least 3 new Idea Cards and share with the rest of the team.

**Time permitting, have subteams conduct research on these analogies and bring key findings back to the group.

Idea Finding

Trends Analysis to apply major trends that relate to your industry/category will help predict future problems that, if solved today, will create a competitive advantage in the future



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Trends Analysis:

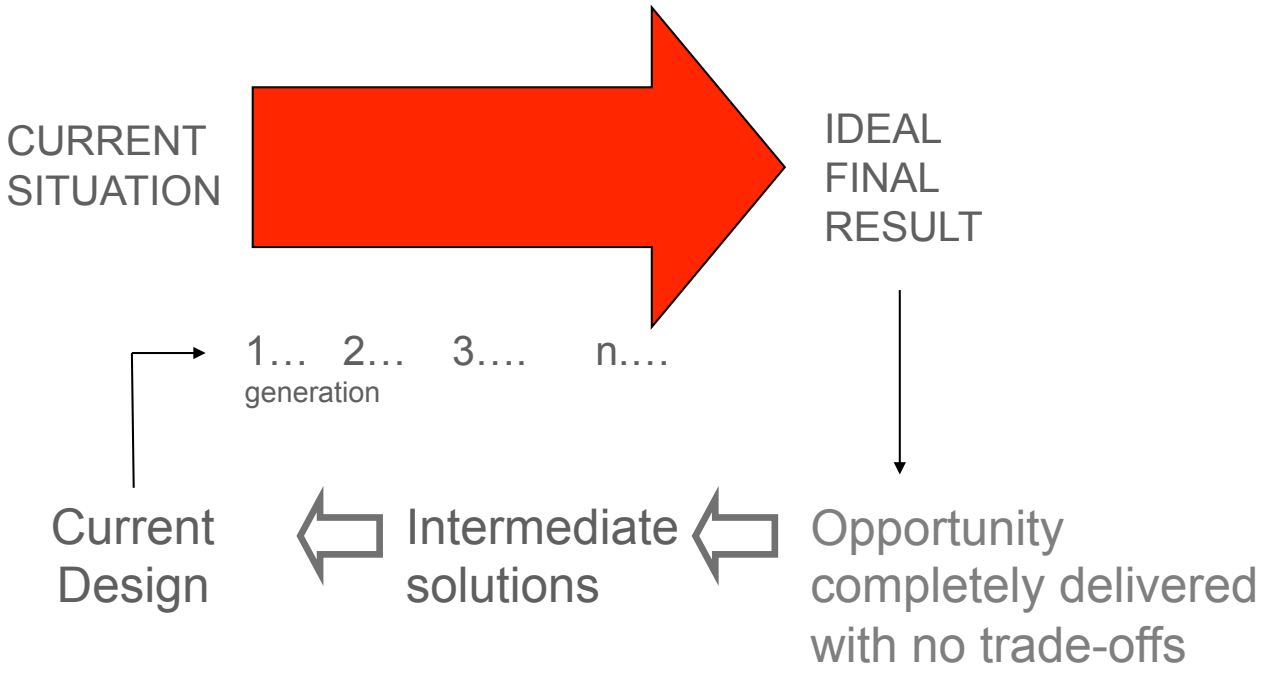
Supply your team with Trends Cards from Darrell Mann's work, or have them research trends using resources such as Google Trends, Institttude for the Future, or trendwatching.com.

Prompts for your team:

- With today's overall challenge in mind, quickly review your set of Trends and sort them into piles "relevant" and "not relevant" cards.
- Select the 3 most relevant Trends from your pile and share with the team.
- Write new Idea Cards inspired by the top trends.

Idea Finding

Ideal Final Result to generate bigger ideas by imagining the best possible solution and identifying what could be done in the short term and long term, rather than making incremental improvements to the current state.



Ideal Final Result:

Have your team detail the Ideal Final Result using the following prompts:

- What would the perfect solution be?
- What if we had unlimited time, money, and resources?
- What would we do if we had unlimited power?
- What would the ideal solution look like?
- What can be accomplished in the short term and what should be implemented in the longer-term?

Have pairs develop new Idea Cards and identify when on the project timeline they should be implemented.

Idea Finding

Implementation Intention to further develop and strengthen the top ideas.

Opportunity Area:

Ideal Outcome:

Specific Steps:

Potential Barriers:

How to Overcome:

Implementation Intention:

Have pairs choose an idea they want to develop further, using the template above.

When completed, have the pairs share out to each other.

Remind your team they are not debating during this share out. Instead, have the team submit feedback on Post-It notes.

Pairs incorporate the feedback into their final Implementation Intention.

Evaluation & Selection

Best Bet Option Analysis to evaluate Ideas against success criteria and highlight weaknesses to be strengthened.

Rating: 1 = Worst to 5 = Best

Criteria	Idea 1	Idea 2	Idea 3	Idea 4	Idea 5	Idea6
Marketing	3	3				
Clear unmet customer need						
Clear competitive advantage						
Large/growing market						
Finance	4	5				
Resources required to develop						
Capital investment required						
Net Present Value and ROI						
Legal	3	2				
Threat to nonprofit status						
Intellectual Property						
Contract Risk / Exposure to Litigation						
Regulatory	1	3				
Work Force HS&E Risk						
Environmental Impact						
Technology	5	4				
Sound fundamental science/engineering						
Skills readily available (internal or external)						
Ease of scale-up						
Production	2	5				
Existing/available production capacity						
Reliability of production/delivery systems						
Complexity risk to current business						

Best Bet Option Analysis:

Brainstorm criteria to evaluate top Ideas. Define what each criteria means for this opportunity so everyone has a common understanding as they score the Ideas.

For each top Idea, have the subteam that developed the Idea rate it against each criteria and present to the group for input.

For any criteria that scored a 1 or 2, have the group brainstorm how to strengthen the Idea in that category.

Action Planning

Displayed Thinking to identify all the work that would be required to implement the top ideas.

(unit dose new product development example)

Product Design	Consumer Testing	Equipment Design	Test Stand Development	Intellectual Property
Pouch shape	Building panels	Transformation analysis	Film Handling	Literature search
Formula design	Expert panels	Conceptual design	Pouch filling	Freedom to practice opinion
Dose per pouch	Consumer test product making	Packaging OEM vendor survey	Pouch sealing	IP strategy development
Film formulation	Consumer in-home testing	Equipment development timeline	Film cutting	Patent applications
Total material cost per dose	Concept testing	Capital cost estimate		
Performance testing				

Displayed Thinking:

Have your team begin planning for Execution by completing a Displayed Thinking wall chart, as outlined below:

As a group, brainstorm the main categories of work required to fully implement the top Ideas. Write the categories on Post-Its and create the top row of the wall chart.

Assign one or two categories to each pair. Have the pairs brainstorm more specific bodies of work needed in each category (one body of work per post-it!). Post the items in a column under the category.

Share out with the team and have them add any extra bodies of work.

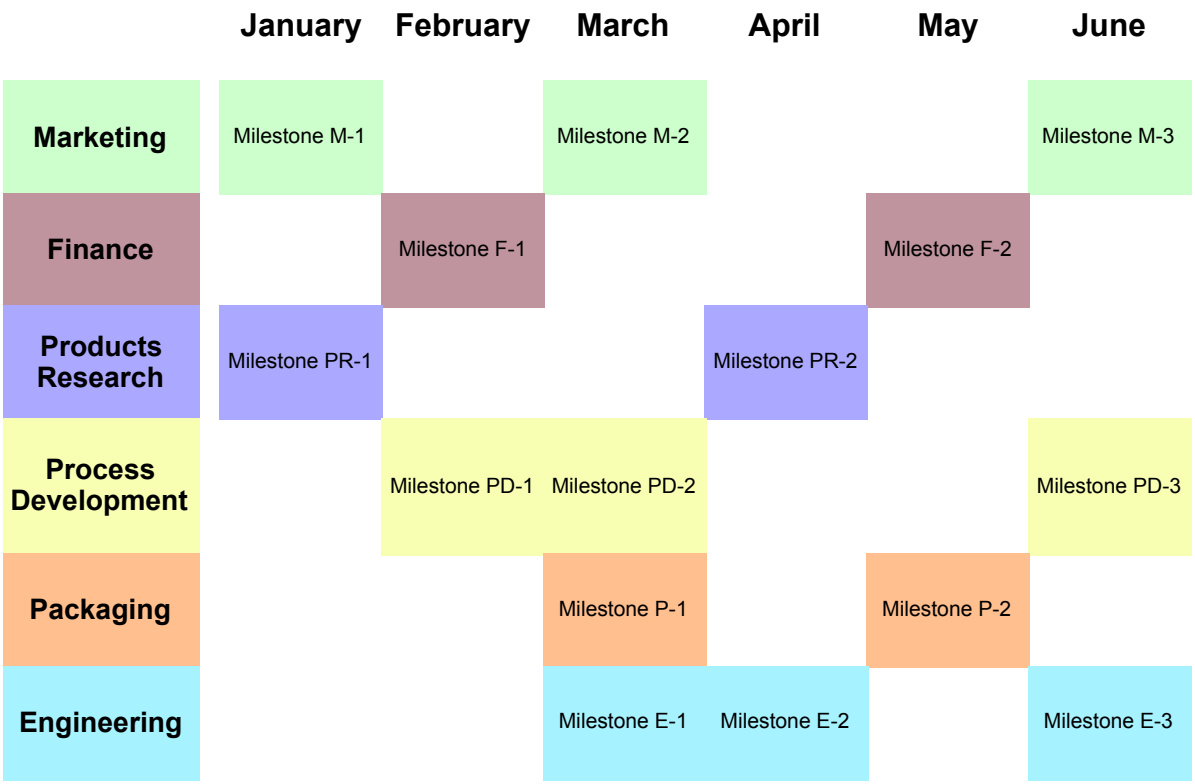
Converge on the most important work by having participants put a checkmark on each post-it note with a task that needs to be completed in the next 90 days .

Action Planning

Immersive Critical Path Schedule to gain multi-functional alignment on the proper pacing of milestones and deliverables.

Immersive Critical Path Schedule

(new product development example)



Immersive Critical Path:

Brainstorm what team members or functions need to be included in the implementation of these Ideas.

Have a representative of each function or the individual team members identify their milestones and deliverables and place them on the timeline.

As a group, check that the timeline is realistic for each function and check for interdependencies between the functions.

Action Planning

Key Stakeholder Commitment Chart to identify the key people needed to make this project a success, and how to influence them.

Key Players	No Commitment	Let It Happen	Help It Happen	Make it Happen
A	X →			O
B		X →	O	
C			(X O)	
D		O ←		X
E	X →		O	

Legend:
X = Present State
O = Desired State

Key Stakeholder Commitment Chart:

As a group, identify the key stakeholders whose alignment / support will be needed to successfully implement this program

For each stakeholder, place an "**X**" in the column that reflects their current state.

For each stakeholder, place an "**O**" in the column that reflects where you need them to be.

Draw an arrow from each **X** to the **O** in the same row to indicate where you need to move each stakeholder. If the **X** and **O** are in the same column, circle them to indicate no action.

Brainstorm potential ways to ways to gain the alignment / support needed.