

the pie book[®]

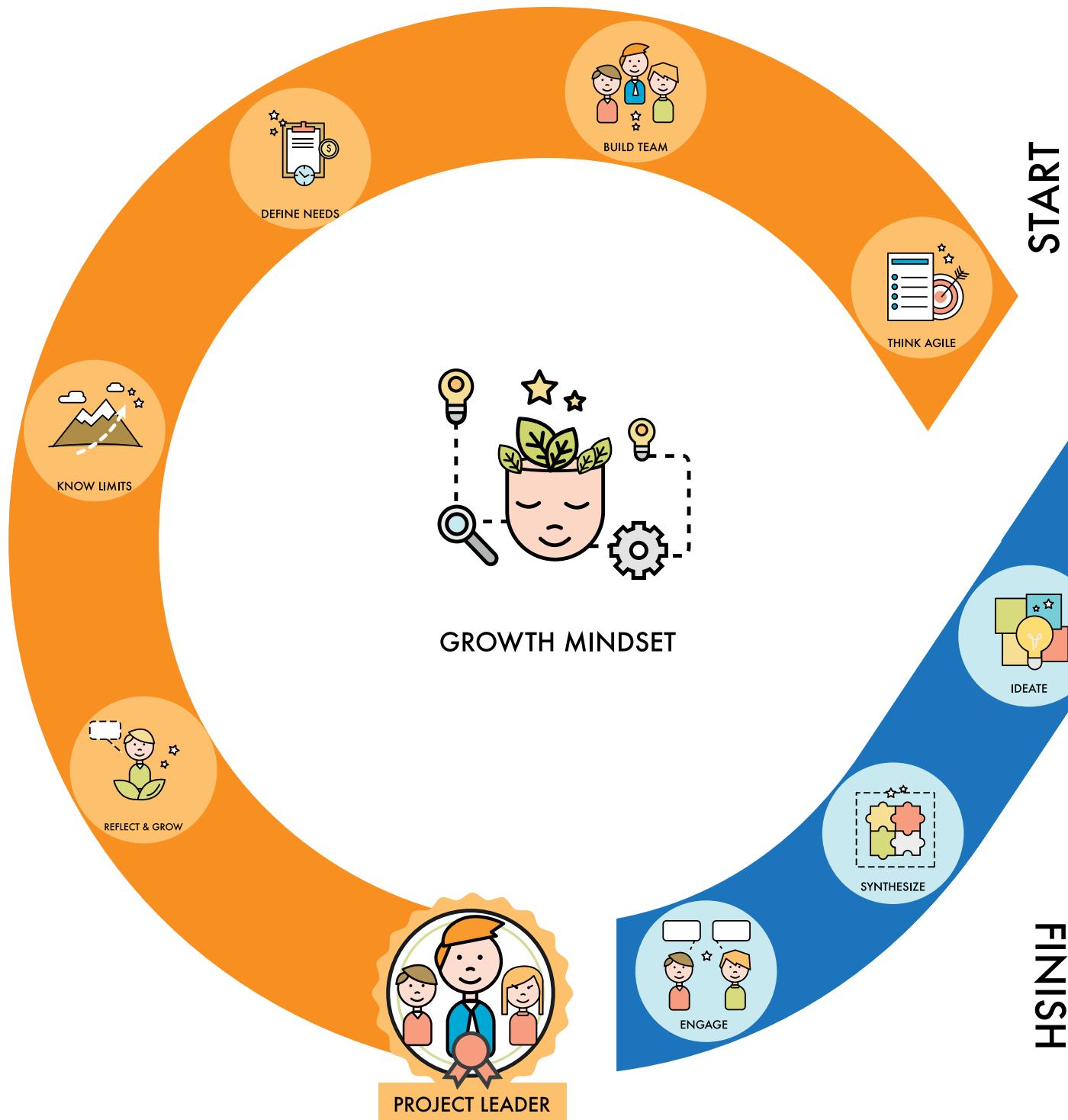
TURN **REAL-WORLD CHALLENGES**
INTO **BUSINESS OPPORTUNITIES**

CO-CREATED BY

A passionate group of 126 change makers, catalysts, solvers,
growth engineers and visioneers from 14 countries.



START



Project Leadership



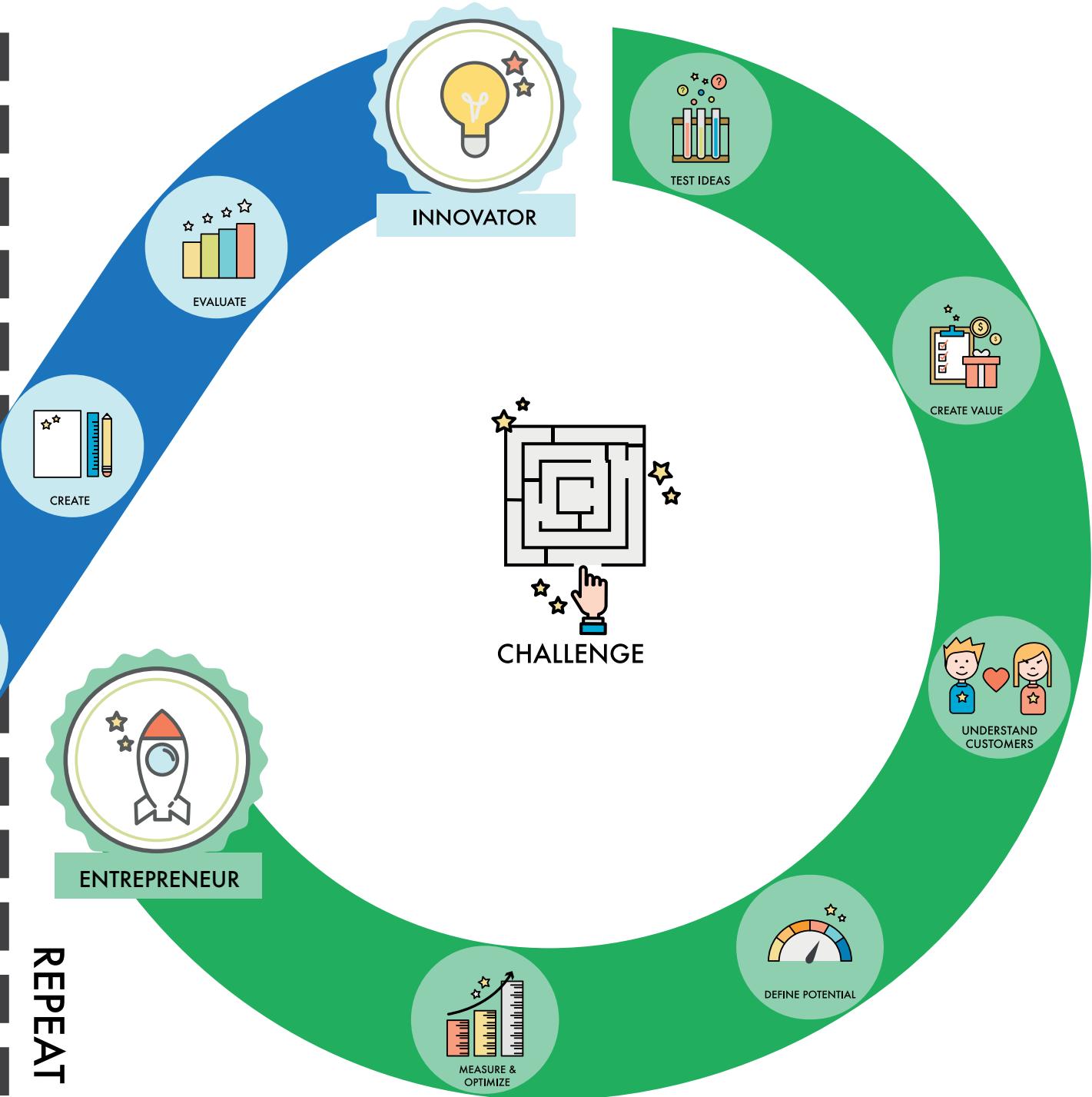
Innovation



Entrepreneurship

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Preface

In today's world, things evolve more rapidly than ever. New products emerge, new businesses form, and we continue to push the limits of what is possible in science and technology. It's an incredible time to be alive, and the possibilities for what lays before us seem endless.

While many of the largest enterprises are opening innovation centres and pouring huge amounts of money into emerging ideas and research and development labs, many small and medium enterprise (SME) business owners are left wondering how to compete. In Canada, SME's make a huge mark on the economy, yet they face many challenges when trying to develop a new solution, or take a new product to market.

In the last few years we have witnessed the growth of the startup ecosystem across globe; a network comprised of aspiring entrepreneurs, startups, educators, corporations, non-profits, and government. This is especially true at the university level, with many opening internal accelerators or incubators to support the local ecosystem. It provides the perfect environment for students to test ideas, fail, and then try again.

This is one of the reasons we developed the PIE® Program. PIE®, is an interdisciplinary problem-solving framework: a **3-phase method** combining project leadership, innovation and entrepreneurship to help build agile teams and take ideas to market in **15 steps**, under **90 days**. It provides relevant information, introduces key concepts along with a step-by-step process to enable entrepreneurs, intrapreneurs and their teams learn by doing with a framework to guide them.

With 3 phases and a total of 15 steps, the program is concise enough that almost anyone can fit it into their busy schedule. That said, it was designed to pack a punch. With a series of worksheets, tool kits, and method cards in addition to the PIE® book, it's built to be flexible and practical.

We hope you find it useful. The PIE® Program has been over 5 years in the making, has gone through multiple iterations and has benefitted from the work of over 126 change-makers and subject-matter experts. We co-created this as a collaborative effort to tackle some of our toughest challenges. That is, helping aspiring entrepreneurs and intrapreneurs develop the skills, knowledge and mindset to help them succeed.

This is the program we wish someone had handed us when we were first starting out, and many of our change-makers echo those thoughts. We use the processes and tools outlined here everyday, and we continue to refine them. We hope you find as much value in the program as we do. The best of luck on your journey!

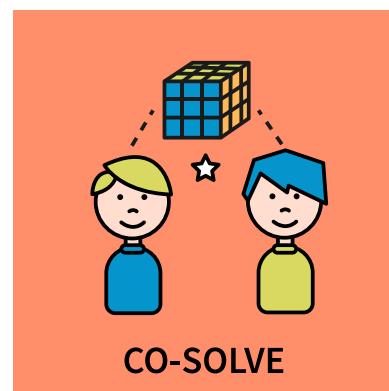
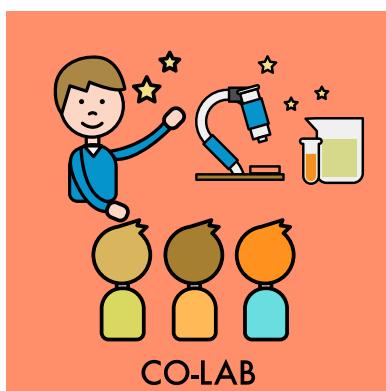
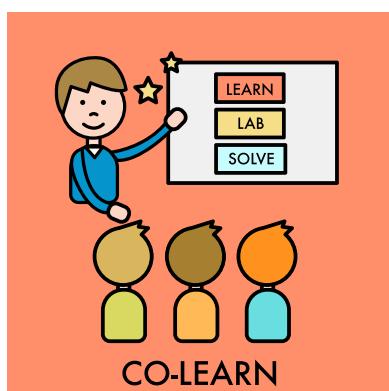
Salar Chagpar

Chief Visioneer

About Prepr

We equip aspiring entrepreneurs and intrapreneurs to be the leaders and problems solvers of tomorrow.

We are a team of changemakers, collaborators, and growth engineers who want to pay it forward by helping individuals and teams develop the skills and competitive advantage they need to succeed in today's economy. Through our programs, learners get the tools, framework and advice to start, grow or scale a business.



We teach you how to build agile teams and take ideas to market in 3 phases, 15 steps, under 90 days using the PIE® method.

We create a safe space for you to learn and collaborate on projects with peers and advisors.

Experiment with ideas and learn to solve user-driven challenges in the real world

What we do

Prepr is a global network of labs that connects entrepreneurs, intrapreneurs, and educators to co-LEARN, co-LAB and co-SOLVE™ real-world challenges and create business opportunities. Our mission is to strengthen the collaboration between the public and private sectors on key challenges that affect communities, organizations and governments. In a nutshell, Prepr is the place where new insights are gained, problems get solved, and communities are built.

Who is this book for?

This book is designed for anyone who is looking to turn real world challenges into business opportunities.

Whether you have a startup already, or are looking for new opportunities to succeed at work through innovation and intrapreneurship, the PIE program can help you. Here are a few of the ways other participants have used the PIE Program to help them succeed:

Building a startup



Help your team gain traction faster with a clear roadmap for testing, iterating and optimizing.

Participating in a hackathon



For new teams forming during a hackathon we give you tools to understand your customer and prototype faster.

Collaborating within a project team



When you are working in a team, collaboration skills matter. Build a highly functional team faster.

Working on an innovation challenge



Get a clear, easy to follow framework for innovating to solve your challenge, and for going beyond to establish product-market fit.

The PIE Book

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Prepr Foundation HEADQUARTERS
720 Bathurst Street
Toronto, Ontario
M5S 2R4
Canada

email: info@prepr.org
website: prepr.org

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1. Learn to Solve Challenges 2. Build Digital Skills 3. Team Success 4. Fail Fast 5. Earn Soft Skills 6. Build Portfolio

Thank you

Our incredible team of volunteers, subject matter experts, advisors, and donors has made the PIE® Program possible. We are very grateful for their contribution, a big thank you to all of them. As well, we would like to take a moment to acknowledge the generous donations of our sponsors and partners. They have shared their time and expertise, as well as their products and services with Prepr, allowing us to continually reach new heights.

Our donors, subject-matter experts, advisors and volunteers:

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Getting Started

1

1.1 The Prepr Growth Mindset

Before you begin learning the ideas and key concepts of the PIE ® Program, it is important to take a moment to consider what mindset will lead you to success.

While the information presented here can be powerful, developing the right mindset can be transformative. Chances are that if you are reading this you are already well on your way to having the right mindset. With the Prepr Growth Mindset, we're going to challenge you to take it to the next level. It will be worth the effort, we promise.

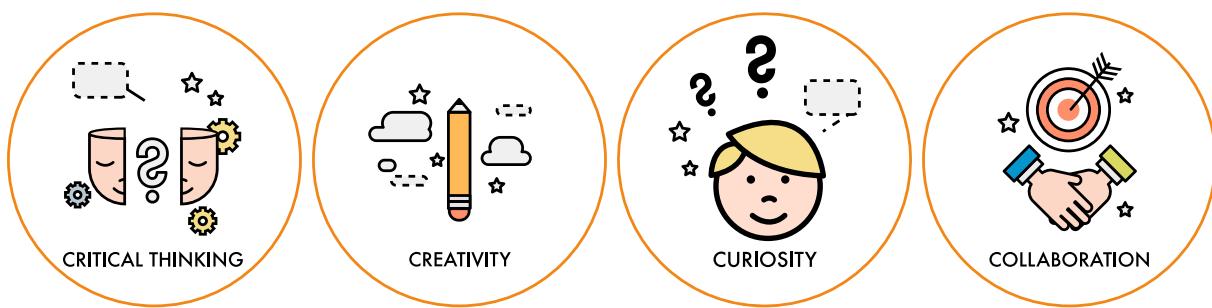


Figure 1-1A. The four elements of the Prepr Growth Mindset: Critical Thinking, Creativity, Curiosity, and Collaboration.

Critical Thinking: Develop a mindset of continual experimentation. Question your assumptions and use data to make informed decisions.

Creativity: Think like a designer. That means seeing challenges as opportunities to use your creativity and the processes you'll learn here to come up with innovative solutions that will help people and solve challenges.

Curiosity: Never stop learning and never stop questioning. Engage with others to learn more about the world and yourself.

Collaboration: There is power in teams. Work together to tackle problems and develop new ideas. It will be more fun during the process and more rewarding to share the success together.

It's time to get started learning PIE®! The following guide will explain what you can expect as you progress through the program, and how it works.

1.2 Defining the Challenge

In order to successfully innovate you need to start with a burning problem. This is the problem that you have witnessed first-hand, or that your customers keep telling you that they are struggling to solve.



Remember, this is just a starting point. Over the course of the program you will conduct user interviews and customer research to develop a clear challenge statement. This challenge statement will then be used to develop or improve a solution to the problem.

Maybe you will know immediately which problem you should tackle, but for many people the answer is less obvious. If you are part of a team, we suggest you work through this as a group.

Here are a few questions to guide your brainstorming:

Who are you trying to help?

- o What are their biggest challenges?
- o What keeps them up at night?
- o If they are existing customers, what conversations have you had with them about their problems? Are they worried? Frustrated? Excited?

What are your areas of expertise?**If you have a business already, what problems do your current solutions solve (if applicable)?**

- o How can you build upon that?
- o How has the problem your customers face changed since you originally developed the solution?
- o What additional pains are related to these problems?

In your industry, what big changes do you see in the next 5 years? 10 years?

At this point you do not need to understand the problem fully. However you should have some idea of WHO you are trying to help, and their NEED. This will provide a sense of direction as you get started and will influence who you invite to join your project team.

1.3 Getting Started Guide

We designed this program to be simple and easy to use, and also hands-on to maximize benefit. There are 3 Phases to the program, including:



Each Phase has a total of 5 Steps, with a Pitch at the end. For example, here are the Steps of the Project Leadership Phase:



Each Step has a complete learning module with everything you need to hit the ground running, including:

- Key concepts and knowledge (this book!)
- Worksheets - provided to help you put the concepts into action
- Task outlines and toolkit - guidelines and tools for completing the worksheets
- PIE® Method Cards - to facilitate team collaboration
- Additional articles and resources

The image shows two side-by-side screenshots. On the left is a Microsoft Excel spreadsheet titled "Synthesize (Innovation) Worksheet". It has several rows and columns of data. Row 7 contains the header "Define the Problem". Row 8 asks "What is the problem in one sentence?". Row 10 contains the header "Who does it affect?". Row 11 asks "User Profile? Who did you interview?". Row 12 asks "Who else is affected? # of people & geographic region". Row 14 contains the header "How does it affect them?". Row 15 asks "Emotions observed?". Row 16 asks "Important quotes they told?". To the right of the Excel sheet is a screenshot of a web page titled "Assignment Outline: SYNTHESIZE". The page includes sections for defining the problem, identifying affected users, and observing emotions. It also provides a challenge statement template ("CHALLENGE STATEMENT = WHO + NEED + WHY") and a list of tasks for organizing observations. At the bottom, there is a note about submitting the worksheet to earn a badge.



Figure 1-0A. An example of a PIE® worksheet (left) and Task Outline (right). The worksheet helps you immediately put the concepts you're learning into practice and the task outline serves as your guide providing practical advice and tools.



Figure 1-0B. Figure 1-0B. PIE® Method Cards. Shown here is the front and reverse of the Innovation: Ideate card. Use these for team meetings and keep them at your desk for quick reference

The image shows two sides of a card. The front side is titled "ENGAGE What do your users...". It features four quadrants: "THINK" (top-left, blue), "SEE" (top-right, pink), "FEEL" (bottom-left, yellow), and "SAY" (bottom-right, orange). The word "PAINS?" is written vertically along the left edge, and "GAINS?" is written vertically along the right edge. The word "INSIGHTS" is centered at the bottom. The back side is titled "INNOVATION 1. Engage". It includes a logo for "prepr", a list of steps for engagement (1. Think about a problem you want to solve, 2. Find someone who has this problem and ask them about it, 3. Ask what they think and feel about the problem, 4. Take notes on what they tell you. Think about any new ideas you got from asking them questions.), and a note about thinking about people's challenges and gains. At the bottom right, there is a vertical column of icons for "ENGAGE", "SYNTHESIZE", "EVALUATE", "CREATE", and "IDEATE". The URL "www.prepr.org" is at the bottom.



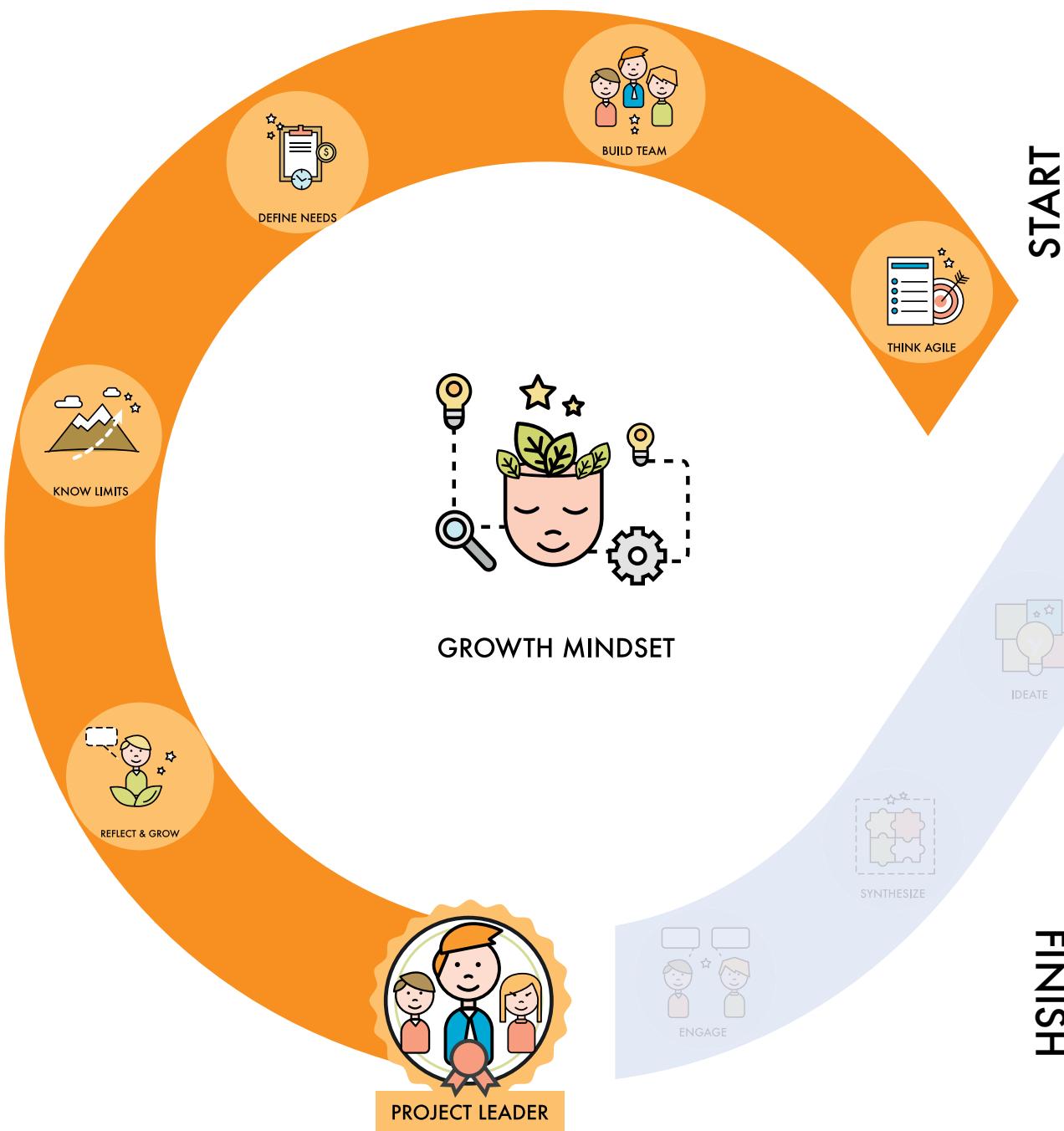
Getting started is easy. All of the information and materials you need will be provided for you.

We'll guide you through the program and remind you of the resources available at each Step. Your journey starts here, good luck!

Project Leadership

2

Build your team and use agile principles to get things done more efficiently. After completing the first two Steps of Project Leadership you will progress through the Innovation and Entrepreneurship Phases. This will provide the context and application for the final 3 Steps of Project Leadership.



Project Leadership

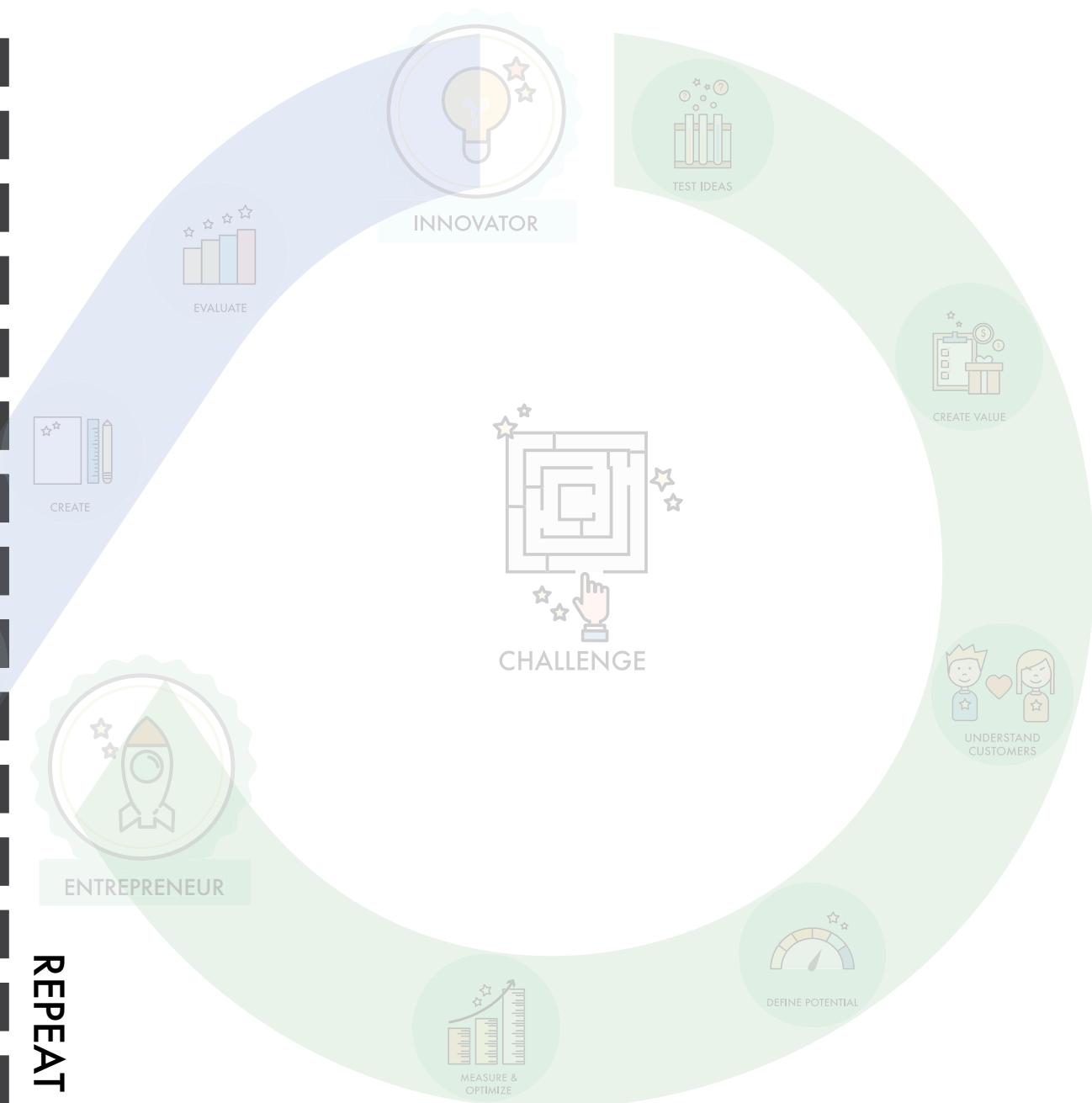


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2.0

Project Leadership

Overview

The success of any project rests on the ability of the team to establish a realistic plan, work well together, manage resources and ultimately execute on their plan.

Project leadership also requires taking the time for reflection, and looking for opportunities to improve for the next time. In this Phase, we will introduce you to these essential skills, and give you the opportunity to put them into practice. If you are already an experienced project leader, you may choose to jump ahead to the Innovation Phase, or you can use this as a quick refresher.

Introduction to Project Leadership

You can think of Project Leadership as the underlying foundation of the PIE® method. While it may be tempting to jump right into Innovation or Entrepreneurship, the fact of the matter is that having a good team with a solid understanding of agile project management is often the difference between success and failure.

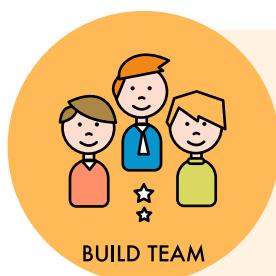
You will notice that the Project Leadership Phase is structured to bookend the Innovation and Entrepreneurship sections.

Project Leadership Steps



Step 1: Think Agile

In this Step, we focus on creating value and learn how to prioritize high value tasks. You will also learn basic agile project management principles, such as delivering solutions early and often, as well as adapting to new information over sticking to a rigid schedule. Over time these principals will become second nature and you will adopt an agile approach that works for your team.



Step 2: Build Team

One of the biggest determinants of your success in both projects and business is your team. During this Step we help you select team members, (if you haven't formed your team already) as well as introducing you to the form, storm, norm and perform development cycle that can help your team get to the next level of cohesiveness and efficiency.



Step 3: Define Needs

During this Step you will think about the activities, partners, resources and costs that you need to make your project a success. You will complete this module after completing the Innovation Phase. In this Step you take the idea you prototyped and develop a plan to turn it into a reality.



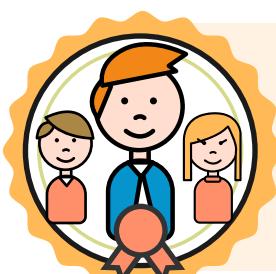
Step 4: Know Limits

A simple concept in theory that often proves challenging in practice. In this Step, we examine the triple constraint and help you strike the right balance between scope, time and cost. As part of that process we look at scope and ask, what is the core offering? Where should we focus our efforts? And how can we phase the development?



Step 5: Reflect & Grow

As part of the growth mindset we have built in checkpoints for you to evaluate your progress, and areas for improvement, both individually and as a team. Here we introduce you to two types of learning - single loop learning (solving simple problems) and double loop learning (iterative improvement, complex problems) and how to use both to accelerate growth.



Project Leadership Pitch

In order to complete the Project Leadership Phase you will need to create a Final Pitch that summarizes your work in each of the 5 Steps outlined above. By completing this milestone you will earn the Project Leader achievement badge.

Your journey starts at Step 1: Think Agile, where you will learn the fundamental principles of agile project management. It continues with Step 2: Build Teams, where you will learn how to develop a highly functional team with complimentary skills. After completing the first two Steps, we suggest you jump ahead to the Innovation Phase. This will provide the context for the remainder of the Project Leadership Phase.

During **Innovation** and **Entrepreneurship** you will learn how to create a product that people want. You will talk to your customers and ask the right questions. You might ask, for example, what pain do we solve, or what gain do we offer? And what is the minimum product or service we need to build in order to satisfy user needs? During this process you will realize that most users will be happy with 20% of potential features, as long as they are executed well. In other words building half a product **REALLY WELL** is the key to attracting early customers. After you have completed the Innovation and Entrepreneurship Phases you will return to Project Leadership to complete the last 3 Steps and your PIE Project Pitch Story.

In the final Steps of Project Leadership you will learn that creating an effective, realistic development plan can be challenging, and adapting it once you begin executing your plans can be even harder. It can be very tempting to narrow your vision and stick completely to the original strategy – regardless of new information. But this could mean disaster for your new solution because delivering something of little value on time and on budget is a waste. In order to succeed you need to stay agile, be open to new information and change the plan accordingly. During the Project Leadership Steps we will give you the skills you need to deliver something of value, on time and on budget. The project management trifecta!

What is Project Management?

It is a system for managing projects from planning to execution. The Project Management Institute further defines it as, “the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.” It is also important to understand that a project is temporary; it has a defined beginning and end time, and thus also has a defined scope and resources. In the case of an existing business, a project is unique from the existing

operation and is created to achieve a specific goal.

It is important to understand that projects can be divided into phases to better manage and control project outcomes. These phases collectively form the project life cycle. There are many ways that different organizations can choose to break down their projects into phases. Many project managers will customize the life cycles phases based on the project type. A very simple project life cycle will include three phases:

- The Initiation Phase
- The Intermediate Phase(s)
- The Final Phase

This typically represents the minimum, however in the process of customizing project phases many organizations will provide more descriptive or relevant phase names, goals and deliverables. Each phase represents a specific portion of a project that is defined by a collection of related activities and a defined set of deliverables that must be completed at the end of the project phase. This adds clarity to what is required at each phase of the project, for both team members and stakeholders.

Designing and delivering an innovative solution to a real world problem that customers are willing to pay for represents a challenging type of project. This is in part because of the many unknown variables that need to be assessed and controlled, and also in part because of the many deliverables that need to be managed. In order to address these challenges the PIE® Program is divided into 3 Phases, each with 5 Steps for a total of 15 project Steps, as you read before. Each PIE® Phase has defined project deliverables in the form of worksheets and an associated Pitch. As project leader your job is to manage risk, respond to change and deliver the RIGHT solution in a timely and resource-effective manner.

The 5 Steps of Project Leadership

In Project Leadership we will introduce Agile Development, a process for building solutions that is responsive and adaptive to the needs of users as more information becomes available. The unique goal of developing a new solution or adapting existing ones means that you will likely form a new cross-functional team. If you are undertaking this project within an



organization this may mean bringing in people from other divisions, or from outside the company. If this project is created independently then you will need to identify and recruit team members that bring diverse and relevant experience to the project. After completing the first two Steps of Project Leadership, we recommend moving on to the Innovation Phase. You will return to Project Leadership after completing the Innovation and Entrepreneurship Phases where you will prototype and test your new solution, as well as determine whether there is Solution-Market Fit.

When you return to Project Leadership you will address the business requirements you need to manage, including: key resources, activities, partners and costs. Next, you will learn about the triple constraint and how to balance scope, time, and cost with solution quality. The final and very important element to Project Leadership is to reflect and grow. Throughout the PIE® Program a central theme will be learning by doing, and more specifically, by examining what happened in the past and figuring out how to improve upon it. In project management, we can always find ways to optimize and improve our development and business processes.

It's time to get doing! Get started with Think Agile.

2.1

Project Leadership: Think Agile

Agile project management means learning to create value above all else. For your customer this means delivering solutions early and often, as well as adapting to change over sticking to a plan. With practice, the agile approach will help you get the right things done more efficiently.



Figure 2-1A. The four principles of agile project management.

Becoming an Agile Warrior: Key Principles

Agile is a great tool for managing projects – it allows you to create value for your customers by remaining flexible, yet focused. The key principles of agile include valuing working products, customer collaboration, and continuous learning. Below we will discuss these in more detail and how you can put these principles into practice.

Working Products over Extensive Documentation

Working products delivered early and often are valued over extensive documentation. While there is a place for planning and documentation (much of which you will create during the Innovation and Entrepreneurship Phases), if you ask customers what their preference is between documents and a working product, which do you think they will choose? In order to succeed in agile we need to be clear on what is required and be able to break larger problems into smaller ones. This process allows us to deliver something of value regularly – whether every week, every two weeks or once a month – and to test it to ensure it delivers the expected benefits. It also means choosing simplicity- the art of maximizing the amount of work not done – to succeed.

Customer Value Above Everything Else

In traditional projects (especially software development cases) it is common for many features to offer little value to the customer. With only a small number of well-executed features providing the majority of the value to the user, does it make sense to measure your success against anything other than user satisfaction? This is your highest priority, and the most efficient way to make them happy is to collaborate with them. This can be a challenging process because they may not always be clear on what features they want – but that is why you will go through customer discovery during the Entrepreneurship phase – to understand their pains and gains. Once you enter development you should continue talking to them, your users and customers are your greatest asset and provide great opportunities to learn.

Responding to Change over Following a Plan

At the beginning of a project it is impossible to gather all of the requirements. As you continue on your project journey you will discover new things and they could

come from anywhere. So start with a plan – it will give you direction – but keep it malleable. During development it is common for your understanding of the problem to change, you are becoming more intimately familiar with it and if you pay attention you can harness this as a competitive advantage. Remember no plan survives its first encounter with reality – and that's okay.

Asking Tough Questions: Getting everyone on the same page

Regardless of which project management tools you use it is important to ask tough questions at the beginning of any new project. While asking open questions of yourself and your team may be scary, it is necessary and you have little to lose. Consider the following questions as you embark on this journey:

- What value do we want to deliver and to whom?
- Are there any features we can remove while retaining our core value?
- What will success look like to us?
- How much experience do we have in this area?
- Outside of our existing team, who else do we need to help us? Or can we pivot to better use our own strengths while maintaining value to the customer?
- Have we ever done this type of thing before?
- What do we need to make this project a success?
- How much money do we have?
- Who's calling the shots on this project (i.e. Who is the Project Leader)?

Tools: Getting things done

When it comes to getting things done there are strategies we can use to make the process easier. The simplest advice is to first make a list, and then do it. However, many of us need a little more guidance on how to structure our time and work effectively. Here are some of the best strategies we have found:

Do the hardest things first. If you start your day by answering emails you may find



yourself unmotivated to tackle the larger and daunting tasks at mid-day. Ask yourself, what is the most important thing I need to accomplish today?

Write a to-do list and prioritize it. This goes hand in hand with number one; often we make a to-do list and do the easiest things first. This is great for checking things off, but can make the harder items seem more challenging.

Set realistic time goals for each task. How long will it take you to complete that report in reality? If we consistently set optimistic time goals and consistently fail to reach them it can diminish the motivational power of deadlines.

Move the big rocks. Those big projects with far off deadlines that you keep putting aside? You need to make time for them. Start by breaking them down into more manageable tasks. Next, commit a small part of each day to them. By chipping away at it slowly and steadily you will have it done in no time!

Keep track of your ‘wins’ in a success journal. By [writing down your success\(es\)](#) each day and how you felt during them you can get a good reality check. Did you succeed on that project because you were motivated and on your game? Or was it in spite of burnout? This process can give you insight into how you work best, and what you can do in the future to succeed. It’s also a great way to track how your career is progressing and to build your portfolio.

Prepr Toolkit: Next Steps



1. Use the **Think Agile Task Outline** to review your instructions and next steps.
2. Complete the **Think Agile Worksheet** and submit it on Prepr.org to track your progress.

Think Agile: Additional Resources & References



Eric Ries, [Agile vs. Waterfall Development](#) (September 30 th , 2009) Watch at: <http://ecorner.stanford.edu/videos/2292/Agile-Vs-Waterfall-Product-Engineering>

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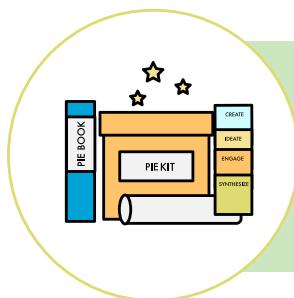
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2.2

Project Leadership: Build Team

The right team can make the difference between success and failure, so choosing your team carefully and building those relationships is essential. In this section you will learn how to find team members and develop team workflow. You will also learn the form, storm, norm and perform team development cycle and what you can expect at each stage.

People: Your most valuable resource

In agile project management we recognize the value of individuals and interactions in delivering great results. While tools and processes can help us succeed, they cannot adapt, learn and evolve on their own. Your project team members are your best assets, and are exceedingly important to the success of your project. In *The Founder's Dilemma*, Naom Wasserman makes the case that 65% of startups fail due to people problems. This line of thinking can be applied to internal innovation teams as well. Even the best business model cannot survive in the hands of a poorly functioning team. On the other hand, the right people can take a mediocre idea and turn it into something incredible.

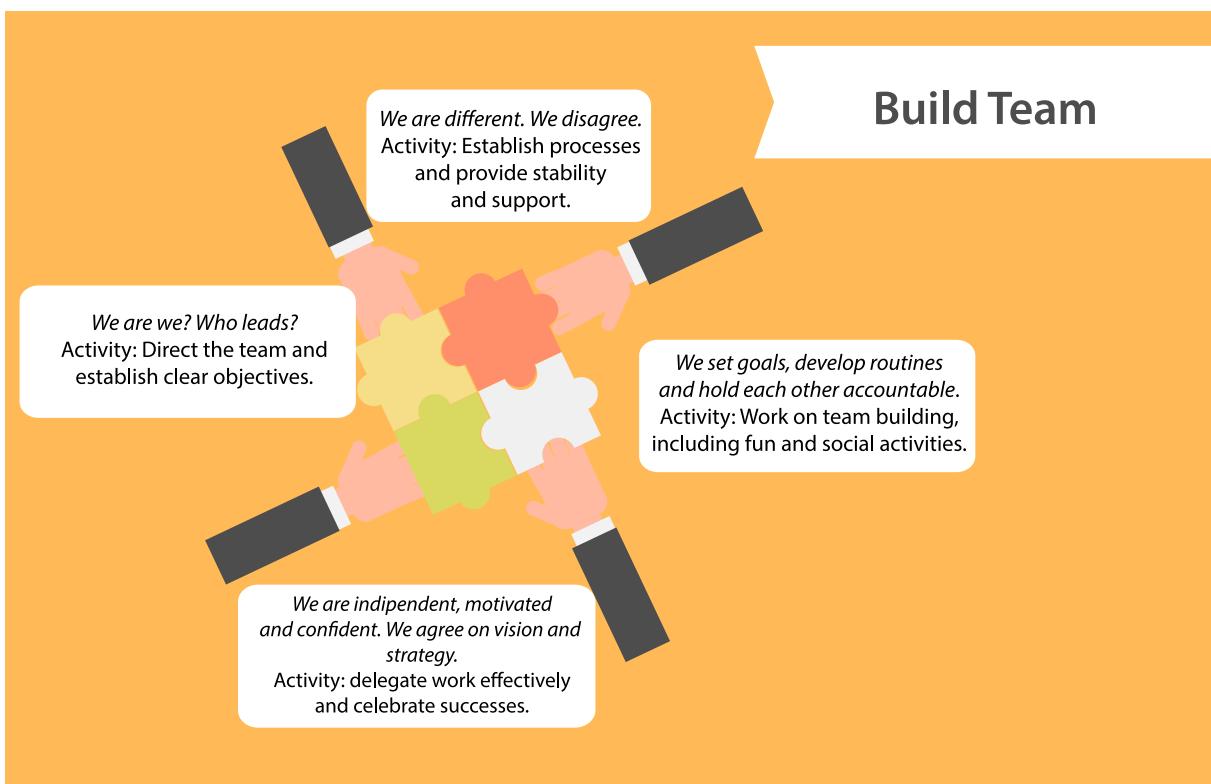


Figure 2-2A. In developing a highly functional team there are four stages your team will progress through: form, storm, norm and perform.

Team Success Factors

Starting a new company or developing a new solution is a highly intensive process where you will work day in and day out with your team members. Having a highly cross-functional team with good collaboration and communication practices is key. If you are undertaking this project within your organization you will likely work with team members from other areas of the business.

In a survey of over 1,543 people, that were members of 55 collaborative project teams, several key success factors emerged that are applicable here. The study was jointly conducted by the Concours Institute and the London Business School, and looked at teams of varying sizes ranging from 4 people to 183 with an average size of 44. In the case of this project, you will find that a smaller team of less than 10 people will likely be most effective. That said, several of the success factors they identified are worth reviewing, including:

Ensure the requisite skills - This includes not only bringing the right people to the table, but also ensuring those people have the communication, conflict resolution, and relationship



building skills necessary for success.

Support a strong sense of community - When this sense of community is fostered, both within the team and the organization as a whole, team members are more likely to reach out and more likely to share knowledge.

Assign Team Leaders that are both task- and relationship-oriented - Both elements are necessary for success; the leader must ensure tasks are completed, but must also nurture relationships, especially in cases where many team members don't know each other. Starting with a task-oriented approach and moving to a more relationship-oriented approach may work best.

Build on heritage relationships - When possible bring together at least a few team members that have worked together in the past.

Understand role clarity and task ambiguity - Defining the roles of each team member can increase cooperation. However, the teams were also found to work more effectively when given latitude on how to achieve the task.

Collectively these factors suggest that a team will be more likely to share knowledge and resources freely, learn together, shift workload to avoid bottlenecks and generally collaborate effectively.

Choosing the Right People

When building your project team, start by considering what skills and knowledge you bring to the table. Start with the following questions:

- What technical expertise do you have and is it relevant to the success of the project?
- What experience do you have in establishing Product-Solution Fit as well as marketing and customer acquisition?
- What experience do you have with innovation and rapid prototyping?

After establishing what skills and knowledge the project would benefit from, as well as the expertise that you bring to the table you can begin recruiting your team. If you are selecting people internally, consider the following:

- What technical skills do you need for this project to succeed?
- What business or project management skills are you looking for in potential candidates?
- Does anyone in your organization have significant innovation or entrepreneurship experience?
- Is there anyone in your organization that cares about the problem you are trying to solve,
- either because it is something they have been affected by, or have tried to solve in the past?
- Who do you know that could provide recommendations for prospective team members,
- perhaps a senior executive or human resources manager?



As a starting point, you will want to look for 'T' Shaped people. These are individuals who are exceptional in their field (depth), but also know how to connect, communicate and get along with others because of a shared understanding and way of working (breadth).

Assessing Potential and Performance: The 9 Box Model

Once you have identified prospective team members you will need to assess their fit with your project team. If these are internal employees to your organization then you can use the 9 Box Performance-Potential Matrix to assess their fit with your team. In this example, performance includes the technical skills, knowledge and behaviour that a team member demonstrates in the course of work. Potential is their ability for growth and development, both within their role and as a team leader.

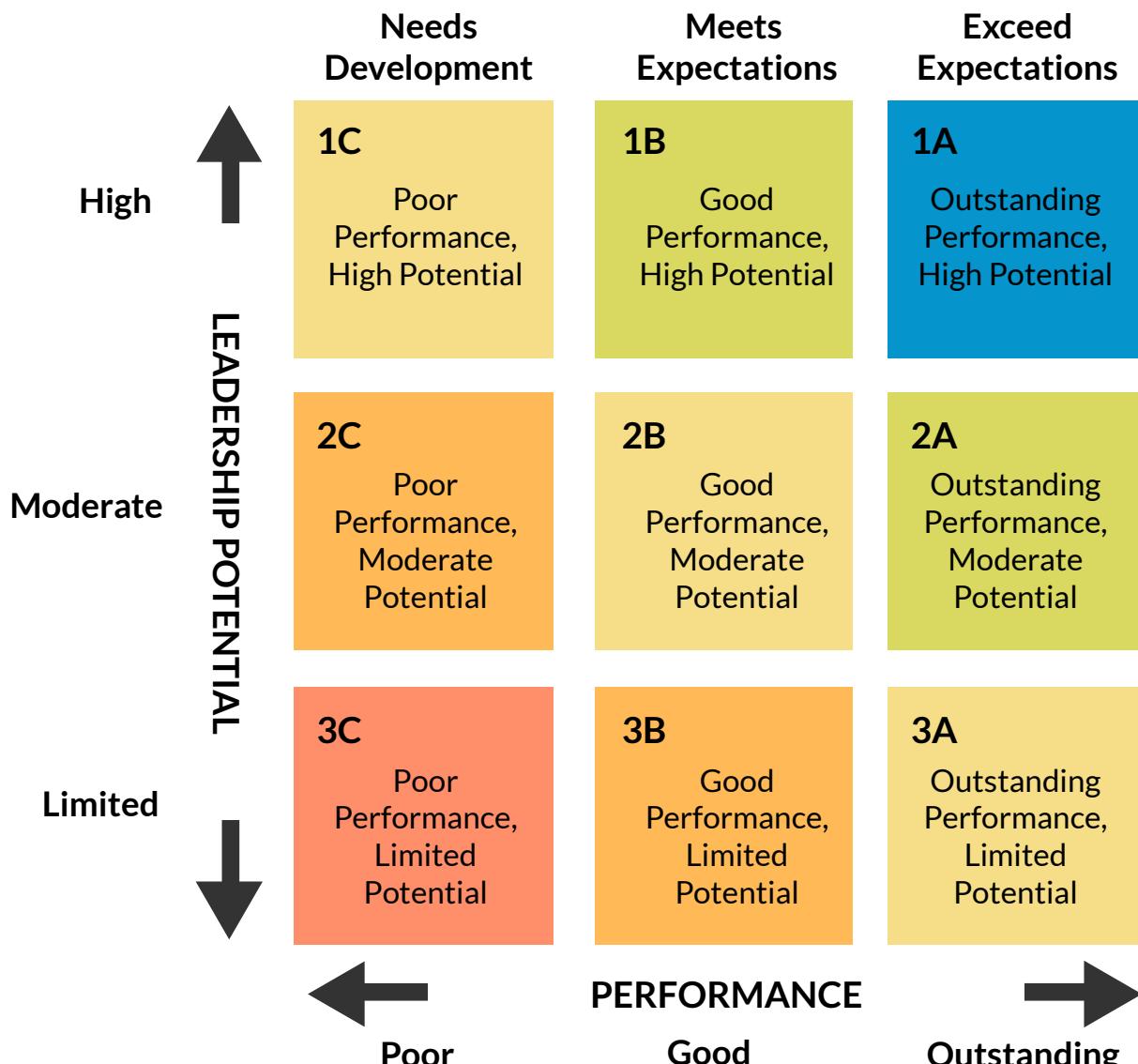


Figure 2-2B. The 9 Box Model: The Performance and Potential Matrix. After further defining the behaviours that constitute each performance and potential level you can use this to assess prospective team members.

This is a simple tool that can help you to identify and cultivate talent. In order to implement the 9 Box Model you will need to:

1. Define Performance behaviours
2. Define Potential behaviours
3. Build 9 Box Category Definitions by Plotting behaviours
4. Interview prospective team members asking questions that will help you to categorize their past potential and performance.

It is also important to consider factors not shown here, such as fit with the team culture and interest in the project.

Shared Vision and Goals

You need to build a great team that works well together and is on the same page about expectations and success. At the start of a new project the team may believe they have reached consensus because they are using the same words and phrases to describe what they want. However, after working together for a short period it becomes clear that each team member interpreted the ‘shared understanding’ differently. It is important to revisit the tough questions in Think Agile and go over them as a team to ensure everyone is on board. Once everyone is on board we can work through the stages of team building.



Becoming a Cohesive Team: Forming, storming, norming and performing

As teams learn to work together and their relationships mature they move through several different stages. One model, forming, storming, norming and performing was developed by Bruce Tuckman in the 1960s. Below is an outline of what you can expect at each stage:

Forming

Who are we? Who leads? Who cares?

In the forming stage the team is friendly, but the foundation of trust hasn’t been established yet and individuals are unsure of their roles and responsibilities. The team will look to a leader for direction and purpose as they establish their objectives in working together. This stage is characterized by positive energy and excitement for many team members, and is usually short requiring only 1-2 meetings for reality to set in and the storming stage to begin.

Activity: Direct the team and establish clear objectives.

Storming

We are different. We disagree.

This can be a challenging stage as team members try to position themselves and build relationships. The leader may be challenged and power struggles may emerge. With good



facilitation the group begins to find ways of functioning together, and learns to compromise. This is important as the group puts more ideas forward, but decisions aren't easy. Unsettled feelings and the sense of being on an 'emotional roller coaster' are common. Many teams will fail at this stage, but if they can move through it they become more efficient and more content.

Activity: Work to establish processes and build relationships. Support team members through this stage, providing stability and a positive outlook. By understanding the stages of team development, many team members find the process easier.

Norming

We set goals, develop routines, and manage conflict. We hold each other accountable. During this stage teams function well and have a high level of agreement on rules and values. Team members establish their roles and responsibilities, and build processes and working habits as a team. Group decisions are easier and consensus is possible for big decisions, while trust allows individuals to handle smaller ones. This stage is emotionally steady with members being positive about what is to come. Some teams will remain in this stage indefinitely, and can still function reasonably well to complete tasks and projects.

Activity: Work on team building, including fun and social activities.

Performing

We are independent, motivated and confident. We agree on vision and strategy. A team functioning at this level is highly competent, they know what they are doing and why. With a shared vision and a strategy to execute it the team is focused on achieving their goals. At this stage the team leader has a minimal role as facilitator as the group is self-regulating, able to manage disagreements and decision making on their own. Between team members there is a high level of trust and respect, and they look to each other for support.

Activity: Delegate work effectively and celebrate successes.

Moving a team through the four stages can be challenging; however, by understanding the process and using team building exercises a team can reach the performing stage. Below are some team building exercises, try several with your team:

Improving Communication: Back-to- Back Drawing

Divide your group into pairs, and have each pair sit on the floor back to back. Give one person in each pair a picture of a shape, and give the other person a pencil and pad of paper. Ask the people holding the pictures to give verbal instructions to their partners on how to draw the shape – without actually telling the partners what the shape is. After they've finished, ask each pair to compare their original shape with the actual drawing, and consider the following questions:

- How well did the first person describe the shape?
- How well did the second person interpret the instructions?
- Were there problems with both the sending and receiving parts of the communication process?



Improving Communication: Survival Scenario

This exercise forces your group to communicate and agree to ensure their 'survival'. Tell your group that their airplane has just crashed in the ocean. There's a desert island nearby, and there's room on the lifeboat for every person – plus 12 items they'll need to survive on the island. Instruct the team to choose which items they want to take. How do they decide? How do they rank or rate each item?

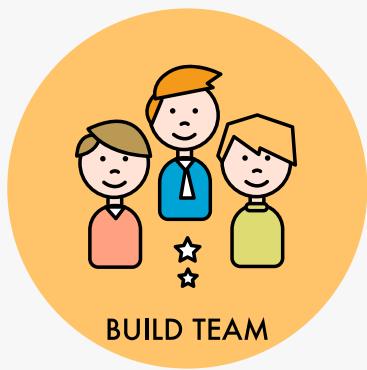
Building Trust & Rapport: Dream Holiday

A light-hearted ice-breaker activity, it helps participants learn more about each other. Working in pairs, participants are asked to describe how they would spend their time and money if they were given one month away from usual work and domestic routines and responsibilities with an unlimited budget. These Dream Holidays are then shared with the group as a whole.

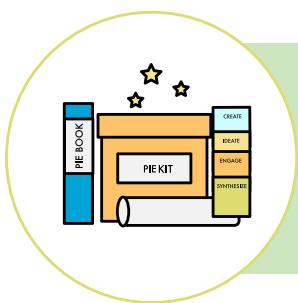
Understanding Each Other: Personality Tests

Understanding your colleagues' habits and ways of working can lessen tension in the team and improve collaboration. One way to quickly and effectively do this is through personality tests. There are many different variations, but one of the most commonly used ones is the Myers Briggs Type Indicator.

Prepr Toolkit: Next Steps



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Build Team: Additional Resources & References



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2.3

Project Leadership: Define Needs

In the Define Needs section you will learn about the activities, partners, resources and costs that you need to do/have to make your project a success. What do you need to do? Who should you work with? What strategies can you use to elevate your core offering?

The value of an idea vs. the value of execution

During the Entrepreneurship Phase of PIE we searched for product-market fit and focused on building customer relationships, however we didn't discuss what is needed to turn your plan into a reality. In order to succeed you need to deliver your idea in a way that provides value to the customer. You can do this through key activities, using available resources and partners at a given cost.

Derek Sivers, founder of CD Baby explained it best when he said ideas are just multipliers of execution: "To me, ideas are worth nothing unless executed. They are just a multiplier. Execution is worth millions." Cross multiply your ideas' value by the execution value...

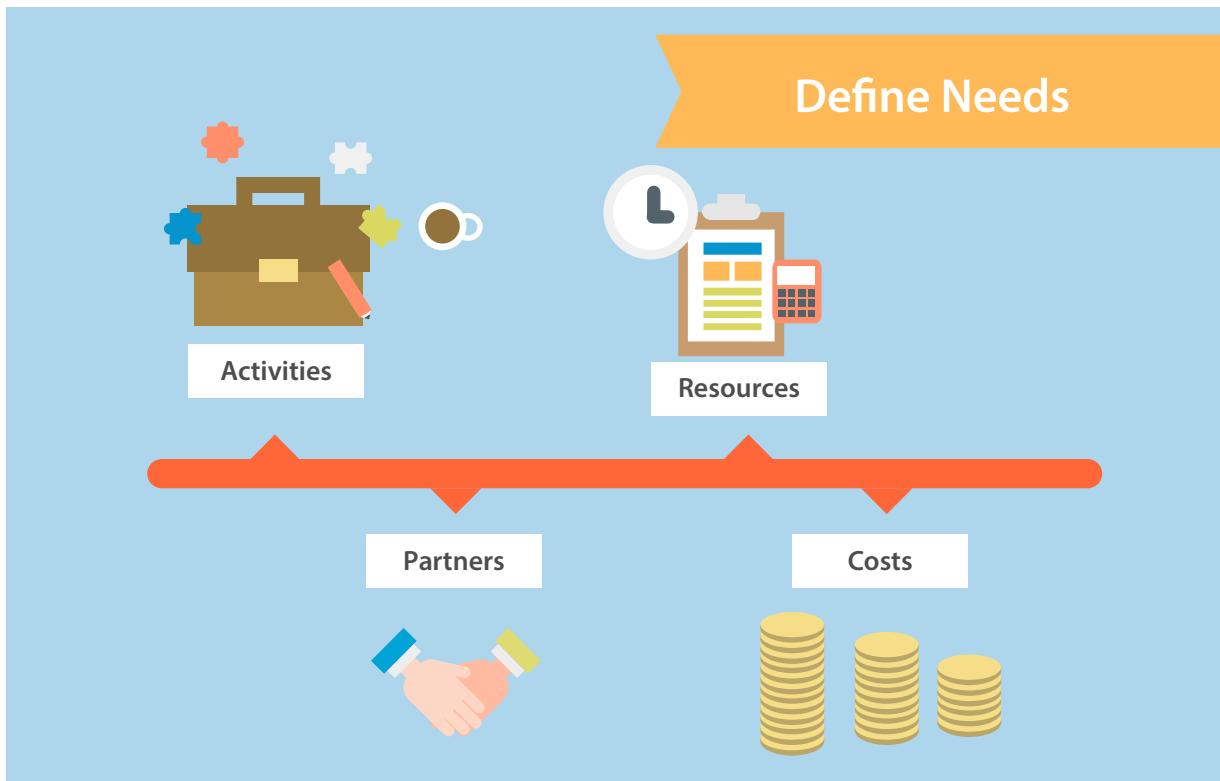


Figure 2-3A. The business requirements represent all of the activities you need for the day to day operation of your business. These include considering activities, resources, partners and costs.

Proceed to Innovation



If you haven't completed the **Innovation Phase**, now is the time to jump ahead. You will return to the Define Needs Step once you have established an idea that you would like to take to market with your team.

AWFUL IDEA = -1	NO EXECUTION = \$1
WEAK IDEA = 1	WEAK EXECUTION = \$1000
GOOD IDEA = 10	GOOD EXECUTION = \$100,000
BRILLIANT IDEA = 20	BRILLIANT EXECUTION = \$10,000,000

This section elaborates on the things you need to do, and manage, to successfully turn your project into a sustainable business. In contrast, the next Step, Know Limits, focuses on the Triple Constraint and the elements you need to manage to deliver a successful project.

Key Resources: What resources do we need (human, intellectual, financial, physical)?

What are the most important resources you need to make your business work? Think across the spectrum (human, intellectual, financial, physical) about the things that you need to build relationships, get new customers, deliver your value proposition, and earn revenue. Resources can be acquired as permanent (bought) or temporary assets (leased, borrowed from a partner).

Four Critical Resources: Human, Intellectual, Financial and Physical

Human

Human resources are important to any business, and are especially crucial in businesses built on customer relationships or innovation. Finding a project team that shares your vision and brings expertise is one of the most important things you can do to ensure success. Beyond that, hiring great employees when you need to can accelerate your business, and be the difference between success and failure. However, there are other human relationships you should cultivate to improve your chances

of success - advisors. These people can keep you grounded, provide solid advice and ensure you're building your business based on facts, not dreams.

Intellectual Resources

Building a brand recognized for its high value offering takes time and resources, but can pay dividends in the long term. Taking the time to develop - and protect - your intellectual property is important. Consider processes such as trademarking your logos and taglines, patenting new inventions or processes, and copyrighting creative work.

Financial

Depending on the nature of your business you will need different levels of financing. For web development or knowledge transfer projects, the low costs mean bootstrapping and crowdfunding are good first steps, with business loans or angel investing with growth. For higher cost startups, such as those in manufacturing, other options such as venture capital (VC) funding, vendor financing and corporate partners can make sense. In general, taking money, especially VC money makes the most sense once product-market fit is established. At that time your desires are aligned with the VC for growth and the money can be used to scale.

Physical

Physical assets include facilities (manufacturing, office space), and the resources required to deliver the product or service (raw materials, warehouse space, distribution networks). Projects that are physical asset intensive are typically also capital intensive.

Key Activities? What do we need to do to make the business model work?

What are the most important things you must do to make your business model work? These actions help you to deliver your value proposition, gain customers, build relationships, and earn revenue. They will vary depending on your business type. Three key activities are outlined below (Production, Problem Solving, Network), however there are many potential activities that will advance your project.





Brainstorm what actions you will need to take by examining your Innovation and Entrepreneurship worksheets and asking what needs to be done for each building block to make it a reality.

Production

What activities are required to design, build and deliver your product with the quantity and quality your business model requires? In manufacturing, or product-based businesses, this is a primary activity; however, it is also an important activity in service-based and software companies.

Problem Solving

In consulting and knowledge-intensive businesses, the key activity is providing solutions to customer problems, often in a personalized manner. In general, service-oriented businesses focus on problem solving and require on-going training and innovation for success.

Network/Platform

Companies such as Ebay, Amazon, and Visa built a network/platform type of business. These businesses require on-going development and maintenance of the platform, as well as promotion to increase brand recognition and reach.

Key Partners: Who are they and what value do they provide?

Who are our key partners and what value do they provide? What key activities and resources do they provide? Partnerships are mutually beneficial arrangements between businesses to optimize business processes and better manage risk. It is important to consider the value and necessity of partnerships in early stage ventures - is it really going to provide the benefit you imagine? Typically partners begin to add value as you scale and grow, not during the early stages of customer development.

There are several types of partnerships:

1. Strategic Alliances - Partnership between non-competitors to offer a whole product, for instance Ubikey, a hardware encryption key manufacturer partnered

with LastPass to offer a complete security solution, enhancing the value proposition. Another important type of strategic alliance is between channel partners that help to build traffic and customer base through co-promotion, exchanging email lists, website linking and other marketing activities.

2. Co-opetition - Strategic partnerships between competitors, where they work together to raise awareness around their industry, or a new idea/technology. New markets, in particular, with their large barriers to entry (no customer awareness) and high risk can benefit from co-opetition by dispersing the risk among partners. An example is the introduction of blu-ray where several electronic manufacturers' got together and worked to promote the introduction of a new technology while simultaneously competing in other areas (e.g. sales of blu-ray players). A different type of co-opetition involves creating industry events such as trade shows or festivals to raise awareness.

3. Joint Ventures - A partnership where complimentary products work together to develop a new business. Rarely does a company want or need to perform all the key activities or own all of the resources. Instead of trying to stretch resources and learn how to develop a component or service in-house, sometimes it is better to find a partner to help you optimize.

4. Buyer-Supplier Relationships - Building a relationship with the people that help you to deliver your product or service will pay dividends in the long term. Through economies of scale and outsourcing, this type of relationship can help to reduce costs by optimizing resources and activities. It can help you to optimize processes and establish reliable supply chains.

While developing your partnership strategy consider which areas a partnership would be most useful. Are you looking to have a faster time to market? Do you need access to new markets? Can a process be optimized, such as distribution? Do you need risk management? Partnerships can offer a lot of value, but with it come challenges and risks. From timing and delivery, to intellectual property and customer ownership, there are issues in partnerships that need to be considered. Managing risk means ensuring partners have a shared understanding of objectives, product vision and long term planning.



Cost Structure: What costs are required to operate the business?

Using the information you gathered when planning Key Activities, Key Resources and Partners will help you to calculate the costs associated with running your project. Optimizing costs is a concern for every business; however, as you will learn when we explore the triple constraints, costs are directly affected by time and scope. And this has an effect on output quality. So, before we focus on cutting costs we should take a moment to consider what kind of a product/service our customers want:

Cost-driven: This is the low budget approach, provide the best product possible on the leanest frame. Providing no-frills service and products allows car rental companies like Budget, and retailers like Walmart to deliver a low price value proposition.

Value-driven: Customers care less about the money required and more about the value being offered. Offer a great product with high touch service to satisfy customers. High-end designers like Louis Vuitton and car manufacturers like Mercedes Benz represent many of these quality-driven brands.

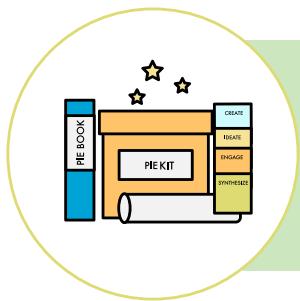
After determining how cost-sensitive your project is you can begin to make a list of the costs, and consider, which are most important? What are the most expensive activities and resources? Are the costs fixed or variable? Fixed costs will be recurring and not dependent on scale, whereas variable costs will change proportionally.

Now we need to check back in – are the revenues greater than costs? At what point? 6 months? Year 1? Year 2? Year 3? It is important that you ensure the expectations of all vested parties are in line.

Prepr Toolkit: Next Steps



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Define Needs: Additional Resources & References



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2.4

Project Leadership: Know Limits

Next we will explore the triple constraint in more detail. How do we deliver value while still remaining mindful of scope, time, and cost? What do we need to focus on in order to make our customers happy?

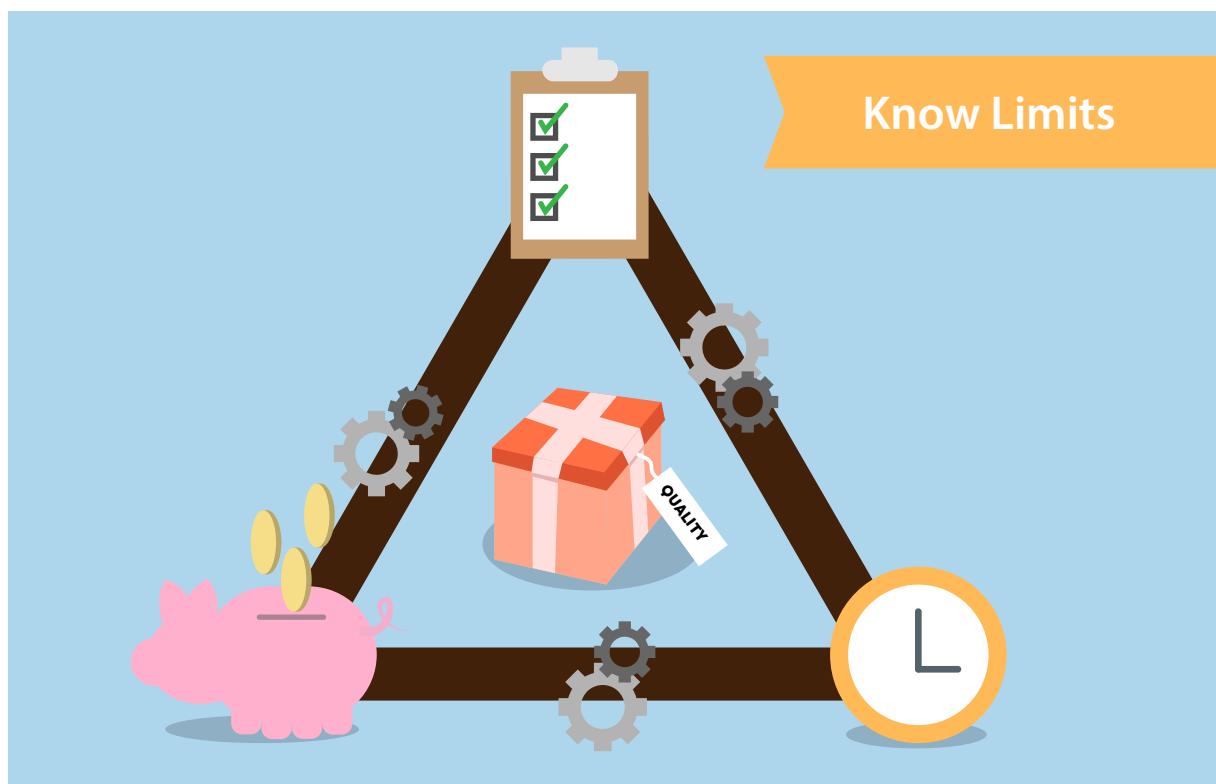


Figure 2-4A. The triple constraint: scope, time and cost. Quality has also been added here as a key consideration - when you strike the right balance the result is high value for your customers.

Better, Faster, Cheaper: Striking the right balance

In the last section we explored the activities we need to make our business model successful, and the resources, partners, and costs required. However, not all activities we outlined need to be done immediately. Depending on your project there will usually be one or two parts that take priority, either because they are central to your value proposition, or because they are important and high risk, requiring early testing. In either case, we need to manage the development of those aspects using the agile principles learned in Think Agile and frame them using the triple constraint to deliver the right solution at the right time.

The triple constraint requires us to consider scope, time and cost, and their effect on quality. During entrepreneurship we worked to simplify our offering to its core functionality, and create something of value. Now we need to balance needs against constraints to deliver the most useful offering to our customers.

Over the years the triple constraint has been expressed using different models. It started with the three-card model: better, faster, cheaper. Which two cards do you want? But this lacked an important third element: quality (or, in our case value). Soon after, the Project Management Institute introduced the scope, time, cost triangle in the PMBOK. In the center of the triangle was quality, a core project outcome that needs to be managed by balancing the other constraints. This framework has been used extensively and is a great, simple way to grasp the constraints you need to balance in a project. Like a three-legged table, if one leg is removed everything slides to the floor. This is equally true in managing projects; if one constraint changes considerably it will affect the other two constraints, as well as the output quality.

Creating Value: What is the minimum scope required?

As a team it is important to sit down and set expectations, do you all understand and agree on these elements? Is the scope well understood, or do different team members have their own interpretation? Let's consider each element in greater detail:

Value: Value (also referred to as quality) is key to delivering a great solution. For instance, if you create something that is not considerably better than your customer's current solution, it

doesn't matter if it is on time and on budget, they won't buy it or use it. It is important to remember that your first job is to create something of value. Everything else comes after. This doesn't refer to the relative quality (is it premium?), it just asks whether you are creating something that your customers really want and desire. You should have a good idea of what kind of value you are offering as we explored this during Innovation Phase, and defined it during the Entrepreneurship Phase of the PIE® Program.

Scope: Scope refers to the number of features, functions, or breadth of tasks required in a project. It has a significant effect on time and cost to deliver a project, and is closely tied to value. For example, as scope decreases with fixed time and cost the value or quality can be elevated. One common challenge in projects is the opposite effect, increasing scope or scope creep, and the associated strain it puts on the time and cost constraints. Between being flexible on scope or time – be flexible on scope and constant with time. Pushing back a shipping date can be detrimental because it delays learning and doesn't engage your customers early. Being flexible on scope doesn't mean throwing in many new features and worrying about the outcome later, it means adding and removing elements to keep the overall size of the project constant, but better adapt it to suit the needs of your customers.

How do we determine scope?

Go back to value proposition – what core features do your users want? Deliver those first. Simplify the project as much as possible early on, especially while building a Minimum Viable Solution (MVS). For a refresher, return to section 2.2 Entrepreneurship: Create Value.

The other constraints: time and cost

Time: As time constraints change it affects both the cost, and the scope allowable. With increasing time allotted for project deliverable(s) the cost will increase too. With changing scope (such as adding or removing features), the time to completion will change accordingly. Time can also directly affect quality, as the time allotted is reduced at a fixed cost and scope, the quality would be expected to diminish, or with extra time the value can be enhanced.

What strategies can we use to predict timelines?

Learning to be realistic about timing on our own projects is a challenge – however we tend to be better predictors of time when imagining someone else's work. It may help to ask trusted



colleagues for their predictions, as well as reflecting back on similar projects and recalling the time to completion. In general, the time required will be longer than what you expect.

One way to better estimate timelines is to review the scope of work and then ask each team member to silently write down their prediction on an index card. All cards are placed in the middle of the table and one person collects them and reads them aloud. If they are more or less alike the estimate is considered good, if not a discussion takes place about why each person had a different estimate. It's important that all key team members are present for this activity.

Cost: By changing the time to deliver the project we also affect cost. For instance, a project delivered on a tight timeline will typically cost more, while a longer or more flexible schedule can reduce personnel costs and allow time to optimize resource expenses. Scope can have a similar effect on cost, which intuitively makes sense, the larger the project the more expensive it will be and vice versa.

What things do we need to think about in cost?

Resources? Human capital? What are the most expensive activities? What material costs are required for the project? Are the costs variable? Fixed? Are there economies of scale if we are creating a physical product?

Doing More With Less

There will always be more to do than time and money allow. That is normal and expected; the key is to manage the project by setting priorities and becoming crystal clear on the value proposition (s). Simplify your requirements, do the most important things first and the odds will be stacked in your favour for a successful project.

** NOTE: The triple constraint model is no longer used in PMBOK as it does not consider all elements, including risk management and human resources. However, going through Entrepreneurship you will remember that **risk management** is built into the Prepr Experimentation Framework, and human resources will be addressed in the **Business Requirements Step**. Thus, the triple constraint is a simple way to understand the core competing demands of your project.

Know Limits: Additional Resources & References



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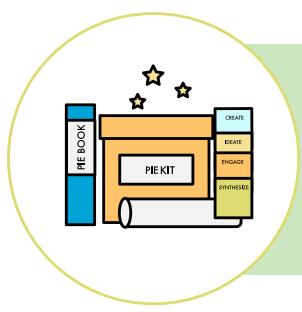
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Prepr Toolkit: Next Steps



1. Use the **Know Limits Task Outline** to review your instructions and next steps.
2. Complete the **Know Limits Worksheet** and submit it on Prepr.org to track your progress.



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2.5 Project Leadership: Reflect & Grow

Continuous learning is essential to success. Here we introduce you to single loop learning (solving simple problems), and double loop learning (improving yourself and your team).

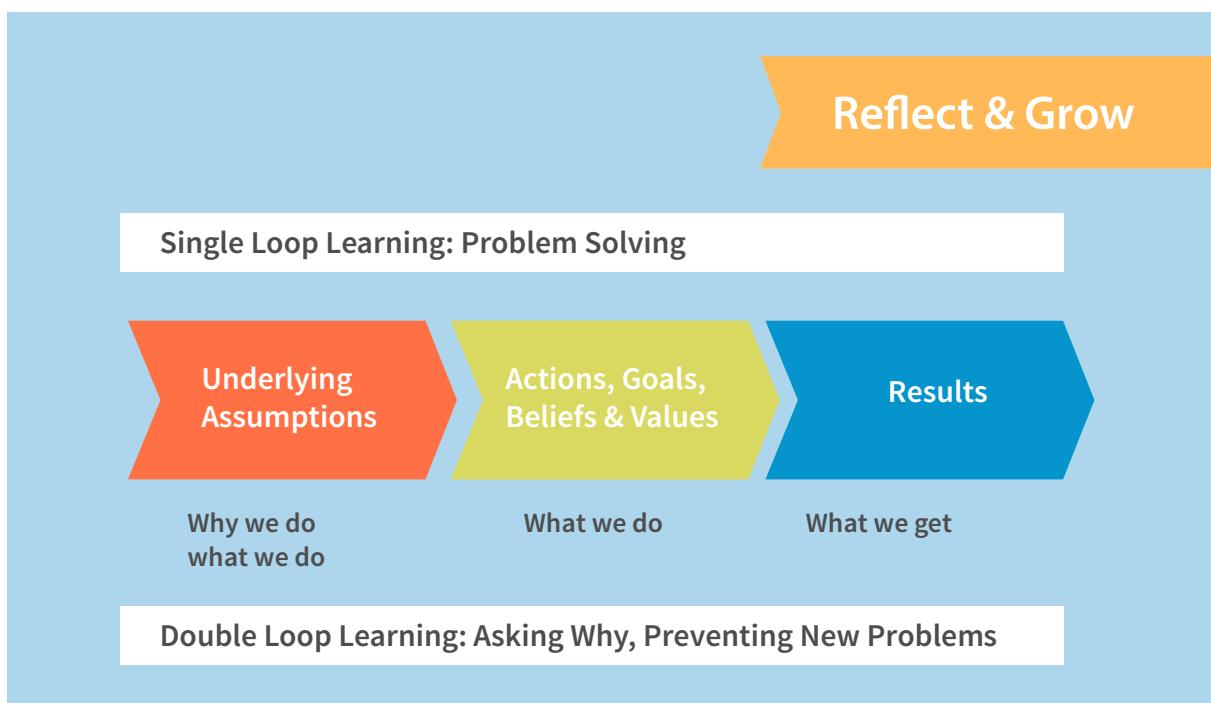


Figure 2-5A. The two types of project reflection: single loop learning and double loop learning.

Single Loop Learning: Improving your business model

Part of becoming a great innovator, entrepreneur and project leader is learning from the past and optimizing for future success. There are two types of learning identified by Christopher Argyris, a Harvard Business School Professor, we are going to consider: single and double loop learning.

Single Loop Learning: Improve your business model by tackling known issues

At minimum this involves analyzing the data, reflecting on your experience, asking for feedback, and solving the problems identified. It can be summarized as learning what to do, and “doing things right”. This is very effective for testing hypotheses and managing risk within your business model. Here’s an example:

We’re building a business to sell designer shoes online at discounted prices. Who are our customers?

Hypothesis: Our primary customer segment will be professional women 27-40 with a minimum income of \$60,000 who want the convenience of shopping online.

Test: Now we go out and talk to our customers! And what we learn is that these women enjoy the experience of shopping in store and the discount is not appealing enough to them. However, we also learn by interviewing other women that university students 19- 25 with a lower income are very interested in our proposition.

In this type of learning we get useful information about a clear problem. This type of learning is important and necessary when building your business model.

Double Loop Learning: Improving yourself, your team, and your project

The problem with single loop learning is that it doesn’t challenge us to dig deeper and identify underlying issues that may be hindering success. If single loop learning is “doing things right”, then double loop learning is about why we do what we do, and “doing the right things.” In the process we ask why and seek to understand the context. What is the culture? Is making mistakes an accepted part of growth? Are people holding themselves accountable? Or is blame going around the table? Here’s an example:



Your team is in the norming stage and generally working well together; however, during your last stage you did not complete on time due to a misunderstanding about scope. In single loop learning we would ask, “how do we do this right the next time?” You could seek feedback from your team, identify the two people with the misunderstanding and try to identify the point at which the communication failure happened. You may be able to avoid a future problem using this method, however it is unlikely. There is an underlying issue here that requires tougher questions.

Asking the first person why they think it happened they may tell you it's because they didn't feel they could interrupt progress and should just keep their head down and work. Talking to the second person about the same thing they may say they didn't realize there was any issue. This type of situation is a cultural problem with all individuals needing to take responsibility for their role and working to promote openness and frank discussions in the future.

By dealing with the root issue you can prevent future problems and help your team perform at a higher level. This type of learning is unfamiliar to many people, and feels inherently riskier because it involves greater vulnerability and accountability. Developing a culture of openness and reflective learning will take time, however there are some strategies you can use to help your team become more reflective.

Learning in Action: Asking the right questions

In order to become better leaders you need to make the feedback loop an on-going part of your project.

- Model accountability by owning the quality, the schedule, the cost and by setting expectations for your deliverables. If things do not go according to plan, gracefully accept responsibility and find a solution. When it comes to your team members, hold them accountable on their projects, and if things don't go according to plan, encourage them to be open with the team and bring forward challenges early.
- Reflect on your weaknesses and ask for help when needed – show that it is okay to not be perfect. Encourage your team members to also be transparent about their shortcomings, and build in opportunities for growth.
- Encourage team members to bring forward issues as soon as they arise, whether they

are related to “doing things right”, or “doing the right things” – and mean it. If you say you are open and want people to bring issues to you, be prepared to work through them, either with the individual, or with the team.

- Set a recurring time bi-weekly or monthly to sit down with your entire team and get their perspectives. One way of opening these meetings is asking, “what is the most important issue we need to talk about?”
- Seek feedback from advisors and other key players. Sometimes an outside perspective can offer a lot of value and help you to re-frame problems.

Key Questions to Ask

Single Loop Learning:

- How can we reduce time to delivery in future projects?
- How can we ensure team members have a shared objective?
- What inefficiencies can we identify and eliminate?

Double Loop Learning:

- What am I trying to do?
- What is stopping me from doing it?
- What can I do about it?
- How do you feel about what is going on?
- What questions does that raise?

Prepr Toolkit: Next Steps



1. Use the **Reflect & Grow Task Outline** to review your instructions and next steps.
2. Complete the **Reflect & Grow Worksheet** and submit it on Prepr.org to track your progress.





Learning & Accountability: Additional Resources & References



Jim Benson (Personal Kanban), Metacognitive Tool: Element #8 of the Kanban. (July 30 th , 2012). Read more at: <http://www.personalkanban.com/pk/expert/metacognitive-tool-element-8-of-the-kanban>

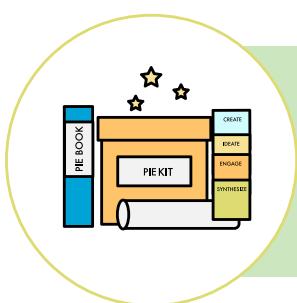
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2.6 Project Leadership Pitch

At this point, you should have successfully completed the 5 Steps of Project Leadership, including the related activities and workbooks. During this Phase you learned agile principles, developed a functional team, and identified the necessary activities, resources, costs and partners needed to make your project a success. You also learned how to balance the triple constraint of scope, time and cost. Lastly, you took time to reflect on how you as individuals and as a team can improve.

Not only did you learn these foundational concepts, but hopefully you also put them into practice as you developed your project with your team.

Task: The final step required to earn your Project Leader badge is to create your Pitch. This should be a visual summary of the 5 worksheets you completed for each Step of Project Leadership.

Requirements: Your presentation should address the core requirements of planning and executing a project, as laid out in the PIE® Program. At minimum you should expect to have one content slide for each Step in Project Leadership. Use the questions below as a guide. Wherever possible, demonstrate your learning and evolution over time.

1. Think Agile: What “value for the customer” did you prioritize above everything else?

What is your project roadmap, including goals, planning, R&D and marketing?

2. Build Team: Who are your team members? What role is each of you going to do? Are there any other talent gaps in your team? If so, do you have a plan for addressing them?

3. Define Needs: What resources do you need? What activities do you need to do? Who are your key partners? What costs are associated with running your business? What does your agile project management schedule look like?

4. Know Limits: How flexible are you in terms of scope, time and cost? Use the urgent vs important matrix to evaluate potential tasks/features.

5. Reflect & Grow: What key lessons did you learn from working on this project?

Once you complete the Pitch you will have earned your Project Leader badge.

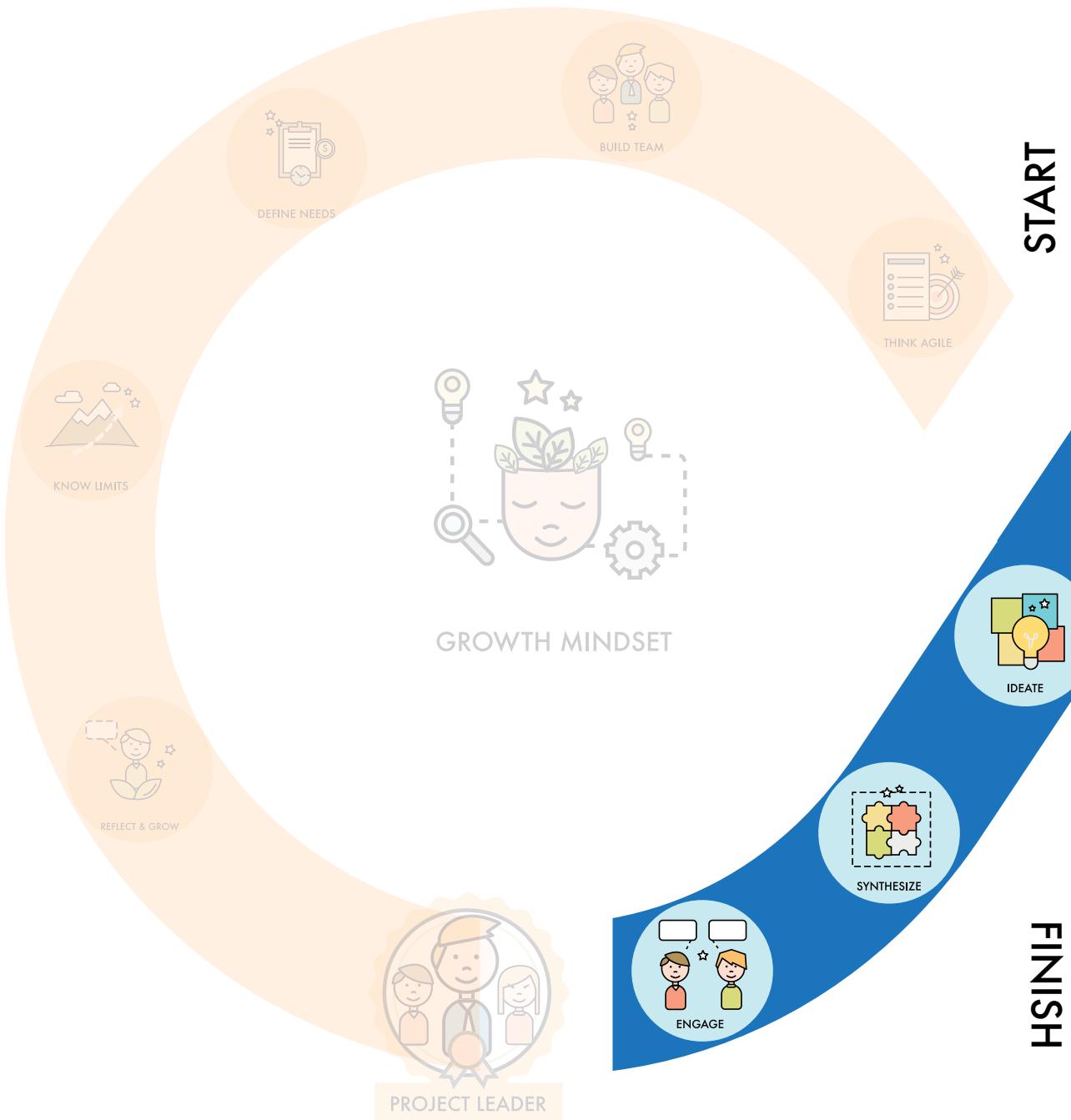


Innovation

Solve real world problems by engaging with users, defining the challenge and brainstorming ideas.

You will also learn how to create, evaluate and improve solutions with rapid prototyping.

3



Project Leadership

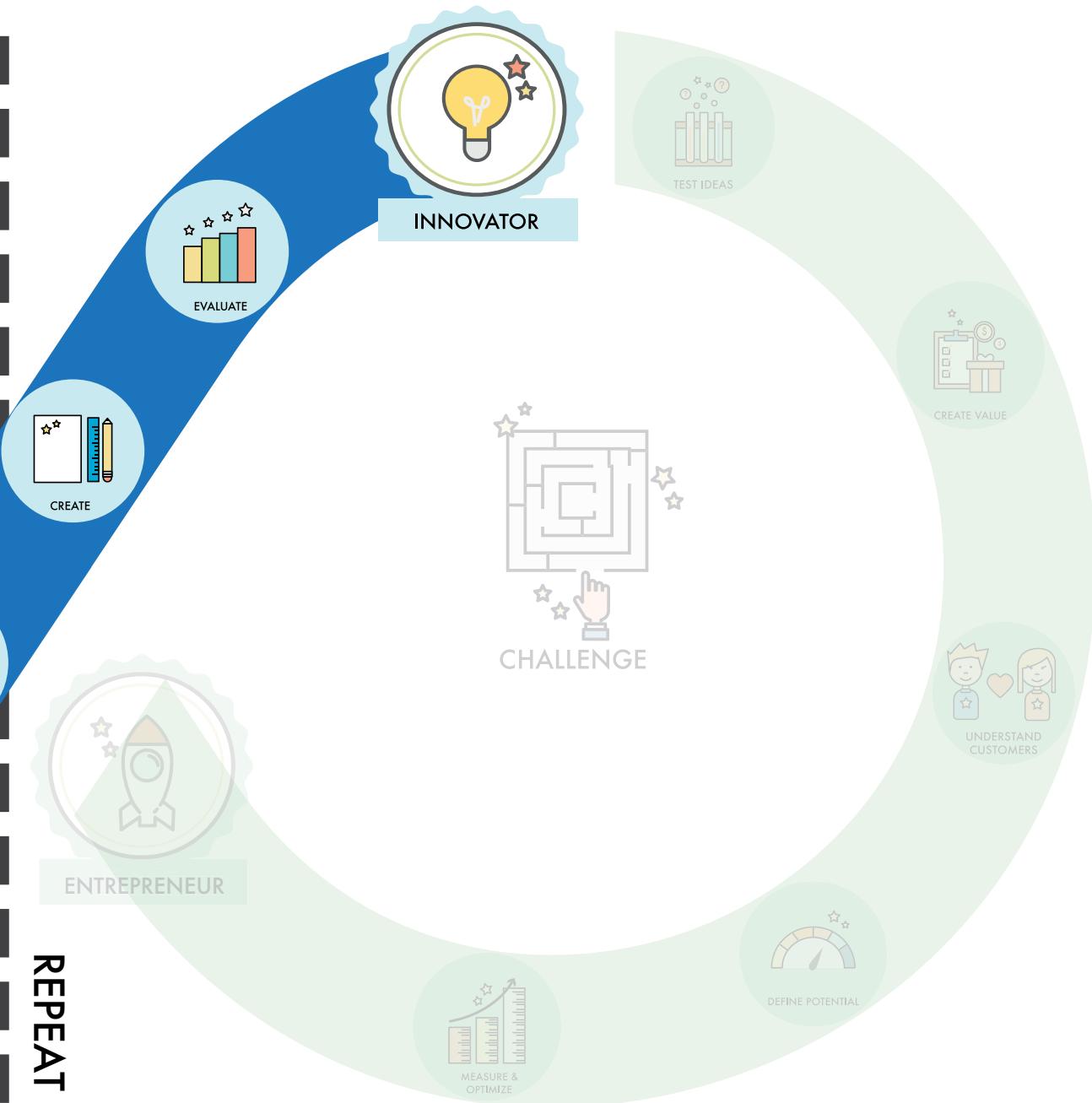


Innovation



Entrepreneurship

pie®



3.0

Innovation Overview

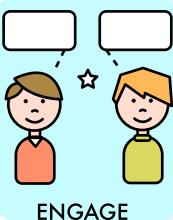
Innovation. It has become a buzzword for anything new and novel, whether practical or not. When we talk about innovation in the context of the PIE® Program, newness is not the top criteria; rather, solving a problem in a way that is better, cheaper or more efficient than the existing solutions is what counts. During this Phase we will introduce you to an iterative process that you can use to solve any problem, big or small. It's a process that's repeatable and scalable, and anyone can learn how to use it.

Introduction to Innovation

Wouldn't it be nice to always have fresh and creative ideas at your disposal? Have you ever wanted to be more innovative? There are some people who seem to have an endless supply of new ideas, what is it that sets them apart? Wanted to be more innovative? There are some people who seem to have an endless supply of new ideas, what is it that sets them apart?

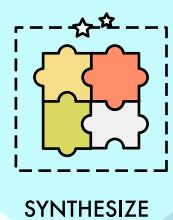
There is nothing magical about being innovative or creative, rather there is a defined process you can learn that will help you routinely come up with innovative solutions to challenges. Of course, while the process may only take a few hours to learn, it can take a lifetime to perfect as you hone your skills, develop habits and adopt the Prepr Mindset.

Innovation Steps



Step 1: Engage

The starting point for all innovation: connecting with your target users. In order to solve a problem you need to understand it from the perspective of the people who have the problem (we'll call them users for simplicity). Through observation and interviews you will engage with users, learning more about their challenges, needs and desires.



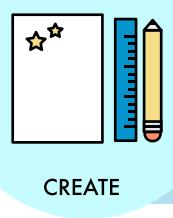
Step 2: Synthesize

Once you have developed a good understanding of the problem it is time to synthesize your findings into a challenge statement. The challenge statement combines the who (user) with the need (problem) and an insight (why) to create a succinct explanation of the issue. By adding boundaries to the problem you are forced to focus on the core issue that, if addressed, will be extremely useful to the user.



Step 3: Ideate

Having developed clarity on what problem you are trying to solve it is time to move into the brainstorming phase. During the Ideate Step, we will introduce a variety of techniques that can be used independently and in groups to generate ideas. We will also help you select the top ideas that will move into the next Step, Create.



Step 4: Create

During Ideate you diverge, thinking broadly and looking for all possible solutions to your challenge. In the Create Step, you converge to narrow your focus on the top 3 solutions, and create low fidelity prototypes for rapid testing. We will introduce methods for prototyping, both physically and digitally and explore when to use each.



Step 5: Evaluate

The final Step of the innovation process is evaluating. Now you will take the prototypes you designed and watch users interact with them. We discuss techniques to create "experiences" that mimic the real world situation. With the feedback collected you can then iterate (refine the idea) or pivot (major re-focus).



INNOVATOR



Let's do a great exercise from the book **Brainsteering**. This will introduce you to one of the basic principles of innovation and show you that you have the capacity to create. You will need about half an hour without interruption.

1. Set a timer for 15 minutes. Begin by brainstorming ideas for a new business. It can be anything you like, as long as it doesn't currently exist, you haven't thought of it before and it is feasible (yes, a vanishing cloak would be great, but do you know how to create one?). Ready, set, go! Let your creative juices flow and think outside of the box!

How did you do? If you're like most people, not too well. Your mind probably wandered across multiple sectors and business types and you eventually gave up altogether. Don't worry, that's normal and not an indication of your creative potential.

Now let's try that again, but this time...

2. Instead, let's set boundaries and focus on one thing. You are in charge of creating a new business, but this time you need to think of something that was emotionally powerful to you as a child (e.g. Chuck E Cheese) that can be reproduced in a more exotic – and expensive – form for adults (e.g. Dave and Buster's).

How did you do now? It was probably much easier. You generated more ideas and if you ran with one idea you were probably able to imagine a viable product/service/business within the 15 minutes. So, what changed? In the second scenario you had boundaries and a more defined problem statement. Innovation and creativity are not magic black boxes where only some people can play. As you saw, with just a few instructions you were able to be more innovative.

There is one other myth we want to address – that creativity and analysis don't go well together. For some reason it became commonly accepted that creative people are not good at analysis and vice versa. This isn't necessarily true, and in fact using creativity with analysis as we do during the innovation process often leads to the best outcomes for users. Imagine this, you are working with someone who is very 'creative', they are able to produce many ideas for every challenge. However, when it comes time to bring the product to the real world, they don't know which idea to choose, or work on a hunch. This may work out sometimes, but essentially you are betting a lot of time and money on a guess. Analysis, on the other

hand, through prototyping and testing can tell you which idea your users think is best. That will allow you to consistently produce valuable ideas, and ultimately be successful.

Your brain is incredible and capable of both creativity and analysis, the important part is to learn when and how to employ each strategy. The Innovation Phase will introduce you to the key Steps of the innovation methodology: Engage, Synthesize, Ideate, Create and Evaluate. By completing the 5 Steps and associated worksheets you will be well on your way to solving challenges!

Ready to begin? It's time to start the Engage Step, where you will get to know your users and understand their needs.

3.1

Innovation: Engage

Observe those affected by the challenge. How do they cope with it now? Imagine yourself in their shoes; what are their most important issues? Talk with your users, ask questions, and listen carefully to gain a deeper understanding of their experience and why this is important to them.

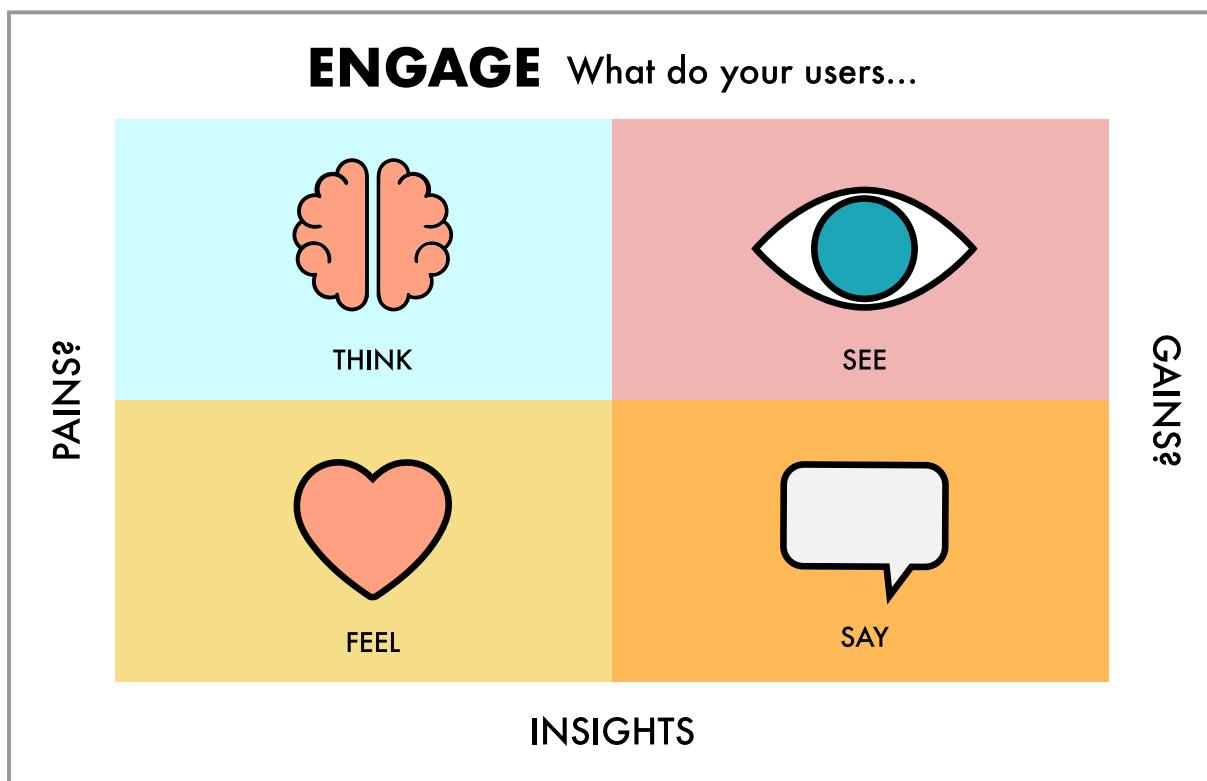


Figure 3-1A. Engaging with your users means considering what they think (top left), see (top right), feel (bottom left) and say (bottom right). It also means considering what their primary pain points are and what they stand to gain from a problem being solved.

The idea

“The real voyage of discovery consists not in seeking new landscapes, but in having new eyes.” – Marcel Proust

To solve a challenge for someone you need to understand their experience of that challenge – what is it, how do they deal with it and what’s wrong with the status quo? The Engage Step is your chance to see the challenge through your user’s eyes by observing, conversing and empathizing with them. What are their physical, mental and emotional needs? What is most meaningful to them? When you engage you play the dual role of passive observer and active empathizer. As an empathizer you feel what they are feeling, and you share in their lived experience by relating to their attitudes and thoughts.

This process helps you to gain a better understanding of your user’s needs – both explicit and implicit – so that you can solve their challenge! Sometimes the beliefs and values users hold are not obvious, even to them. By empathizing with the users and asking thoughtful questions you are able to uncover valuable insights into their beliefs and values, even if this is in conflict with the behaviour you observe. Understanding inconsistencies between what people say and do can also provide useful insight for solving their challenge.

For instance, many people value a healthy body and strive to eat well, but fall short in their behaviour when immediate gratification is on the table. A product or service that helps them remember the long term benefits or consequences of their behaviour could be very valuable to them (but remember, we still have to test this hypothesis!).

The Value

Engaging is at the heart of innovation and entrepreneurship. We are striving to provide something of value to our users, but this is only possible if we understand what it is that they value! At first glance it seems easy to understand someone else’s challenge and a quick conversation should be enough. In the real world gaining insight is rarely that easy because our minds automatically filter information and make assumptions. In



most situations these ‘brain shortcuts’ are great, freeing our minds from analyzing every small detail. However, while innovating they hinder our understanding and insights. By observing, conversing and empathizing we can learn to ‘see the world through new eyes’ and understand our user’s needs and challenges.

The Tools

By connecting with another person or community you gain greater perspective on their needs and how you can address them. Watch this video by IDEO founder, Tom Kelley to see a greater example of this in action:

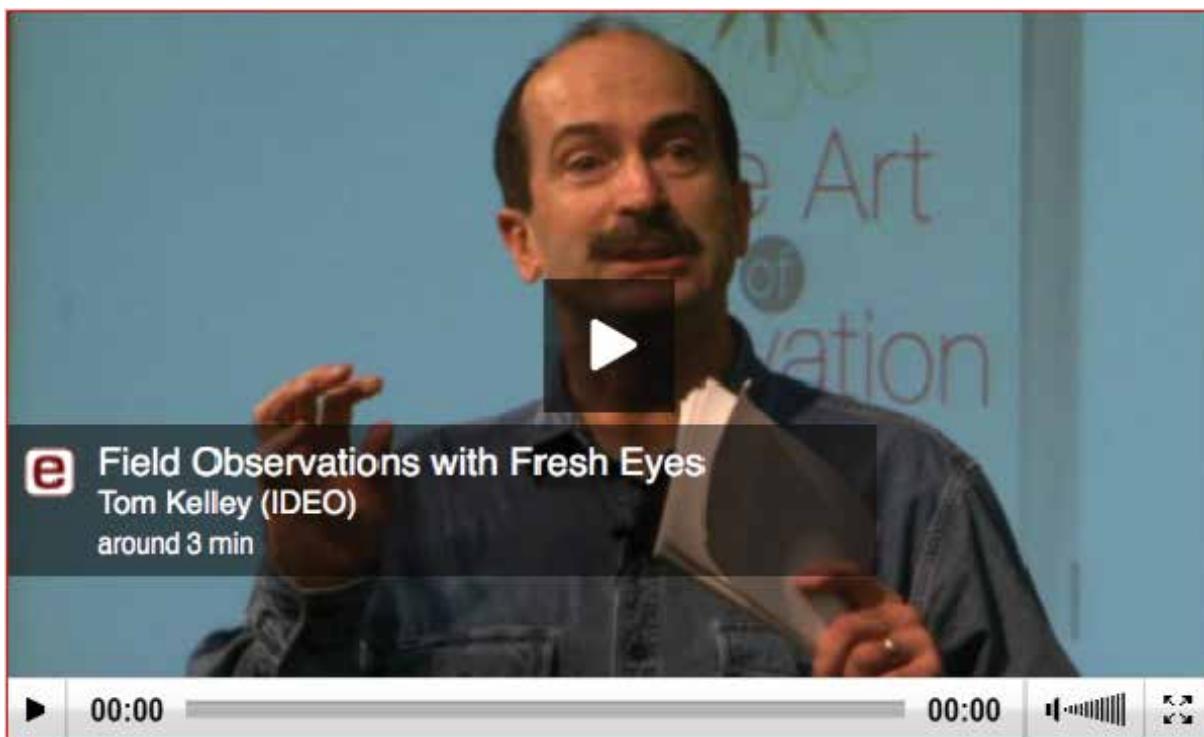


Figure 3-1A. Watch the video: Field Observations with Fresh Eyes by IDEO’s Tom Kelley. Learn how to use a ‘beginner’s eye’ to better empathize and engage with your users.

Observe

Observe with a beginner’s eye (as though you are seeing the world for the first time), with curiosity and without judgement. As much as possible observe people’s behaviour in the context of the challenge, for instance if the challenge is around food, watch them both at home and wherever else they eat (i.e. work or restaurants). Look

for solutions the person currently uses to the challenge, the user may not even be aware they are compensating but it can provide great ideas for your solution!



Converse

After you have observed your user you can open the conversation. Use questions to prompt people to open up, but don't constrain them with narrow questions or leading questions. Start with 'how?' questions to learn about their current habits and their predicted future needs. As you get deeper into the conversation you can follow up using these strategies:

Seek stories to empathize with their lived experience (Tell me about the last time you..., Tell me about an experience where you...)

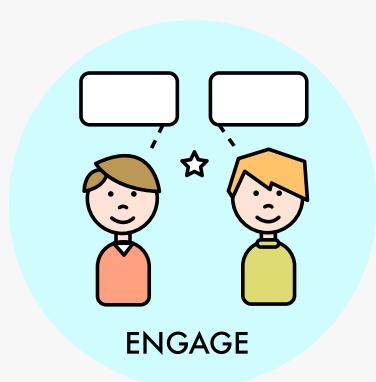
Talk about feelings to understand values and beliefs (How did you feel when...?)

Follow up with why to understand their motivations (Can you tell me why that matters? Do you know why you think that?)

Depending on the topic your users may need time to process your questions and there will be silence in the conversation. This is good! The pauses in the conversation often lead to the deepest insights. Ideally, choose to have conversations in an environment relevant to the challenge, this will allow you to use objects and material at hand to draw out deeper meanings.



Prepr Toolkit: Next Steps



1. Use the **Engage Task Outline** to review your instructions and next steps.
2. Complete the **Engage Worksheet** and submit it on Prepr.org to track your progress.



Engage: Additional Resources & References



Tom Kelley, Field Observations with Fresh Eyes. (July 8 th , 2011) Watch at: <https://www.youtube.com/watch?v=XrpAveg7Zlg>

Peter Thomson, Using Empathy to Drive Innovation. (December 8 th , 2010) Watch at: <https://www.youtube.com/watch?v=eDG8YrJw6Ew>

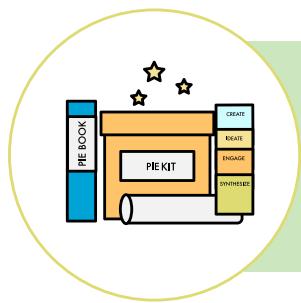
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3.2

Innovation: Synthesize

In this section you will capture the essence of the challenge by setting boundaries and defining the scope. Your earlier interactions and feedback from users will help you create a challenge statement that includes who + need + why.

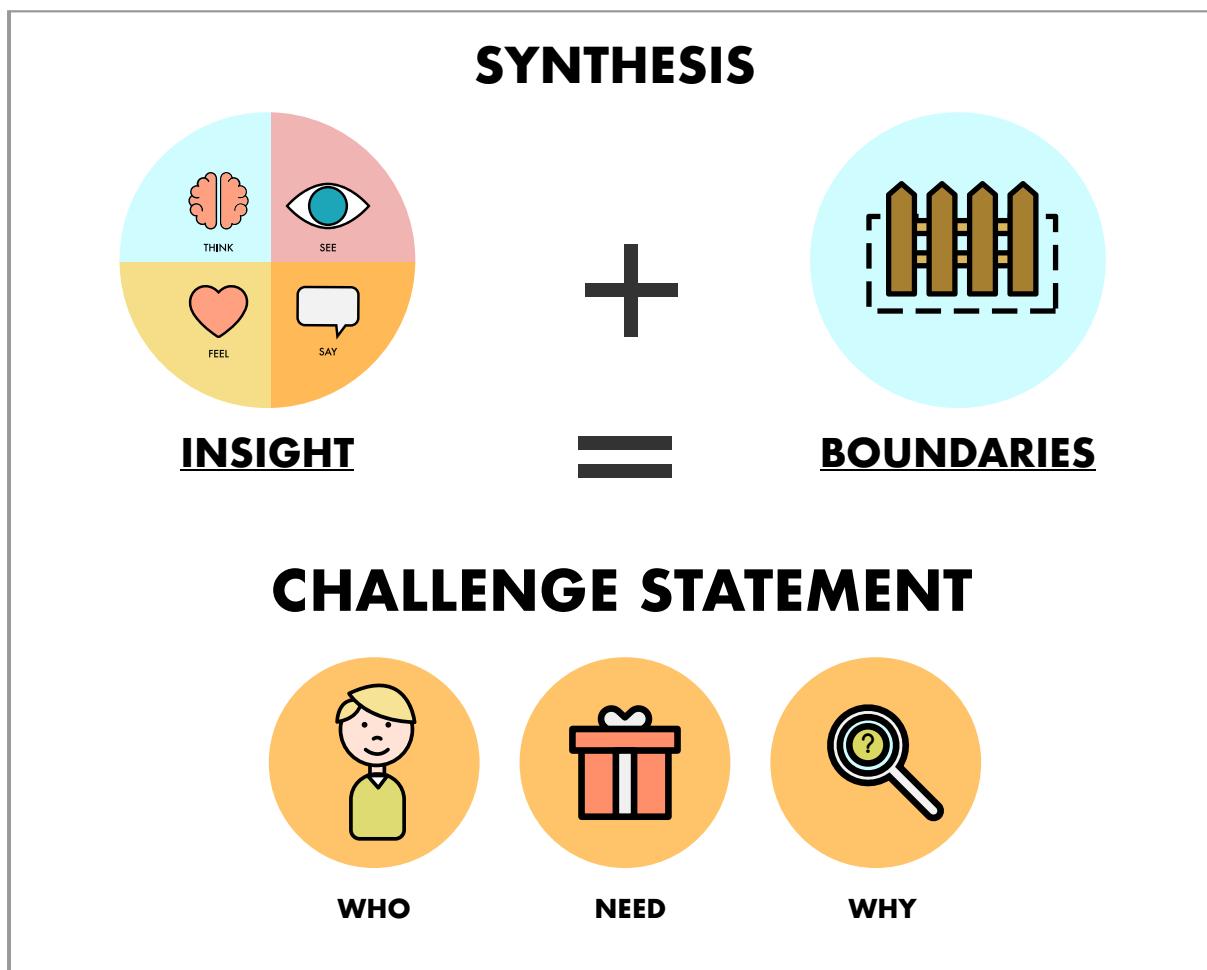


Figure 3-2A. Create your challenge statement by combining insights with boundaries. The output is a single sentence that captures who your users are, what they need and why they need it.

The idea

Synthesis is about making sense of the information that you collected while engaging with your users. Whereas the previous section was about collecting as much information as possible, this Step is about listening to people's needs and then recognizing the connections and patterns within them. Through this process the essence of their problem will become clearer and you will understand what they are really asking for.

In some cases you may come to know their problems better than they do. A great example comes from Henry Ford, who once said, "If I asked people what they wanted, they'd have told me they need a faster horse." But if we dig deeper, what do we find? Their underlying need:

"People need a faster means of getting between two places." Ford understood the essence of what they wanted, and it's your job to understand your users that well too. In this Step you need to synthesize the ideas and feelings of the people you interviewed into their core need. This will become your design challenge – to meet this need. Below is an example of re-framing in photography. It is a great metaphor for what you are doing during this Step.

Re-framing: See the World Through the Eyes of a Photographer



Figure 3-2B. The full scene. Interesting, but hard to tell what to focus on.

Great photographers don't succeed because they find new things to take photos of, instead they learn how to shift their perspective to provide striking results. Look at this progression, the first photo is rather ordinary at best – there are too many subjects competing for your attention, your eye doesn't know where to focus.



Figure 3-2C. A better photo; however, still not properly framed and lacking a focal point.



Figure 3-2D. The final frame. The subject is at the forefront, and there is no doubt what the photographer wanted you to focus on.

“There’s nothing worse than a sharp photo of a fuzzy idea,” Ansel Adams once said. The same thing is true for whatever you are creating, put in the time to clarify your challenge question, frame it properly and the solutions will flow more easily. Simplify, exclude and then think about what’s left.

The Value

This process is important because it helps you to identify the implicit needs of your community. These are the things that your users can’t articulate, either because they don’t realize their underlying needs, or because it never occurred to them that it would be relevant to you. These implicit needs often form the basis of your challenge. In addition, the research

The second photograph is more interesting, now we can see more detail and it is clear that these are padlocks chained to a railing. We have simplified the photo by excluding unnecessary elements. However, there is still room for improvement because the subject isn’t well focused and the colour, while attractive doesn’t reflect the real scene.



In the final frame we have distilled the subject down to its essence; it is interesting, focused, and has good colour balance.



consistently shows that people generate ideas of a higher number and quality when there are limits placed on the brainstorming.

The Tools

During the Engage Step we made observations about what our users said and did. We also made inferences about what they thought and felt. In the Synthesize Step we will use that information as a base and add framing around it to create a clear challenge statement. If you haven't already done so use your notes taken during the interview to organize your observations into four categories: Say, Do, Think, Feel.

Does anything stand out for you? If you interviewed multiple people look for common themes. For example, was an idea or issue raised multiple times? Here are three questions you can use to synthesize your research into a challenge statement:

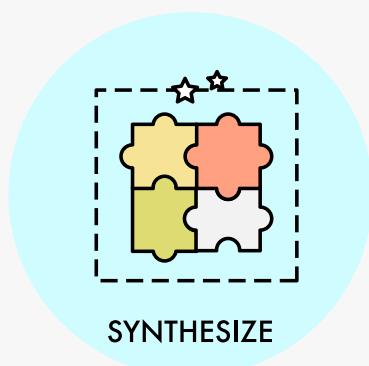
Who are you designing for? Typically, this would be the person/people you interviewed, however new potential users may have emerged during the interview process.

What do they think they need, and why? Ensure this is limited to a distinct number of core issues, in some cases only one need is expressed.

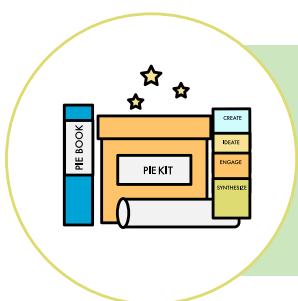
What insight or discoveries did you make? WHY questions and patterning often provide opportunities to draw new insight and connections.

A good challenge definition is focused and tangible, and expresses a clear user and need. It will form the springboard to launch into the Ideate Step, so it should be clear and inspiring.

Prepr Toolkit: Next Steps



1. Use the **Synthesize Task Outline** to review your instructions and next steps.
2. Complete the **Synthesize Worksheet** and submit it on Prepr.org to track your progress.



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Synthesize: Additional Resources & References



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3.3

Innovation: Ideate

You have established a challenge statement in the last section and now understand who you are helping, what their need is and why. Using this information it is time to ideate! You will learn several strategies for developing great ideas, and some good rules to keep you on track.

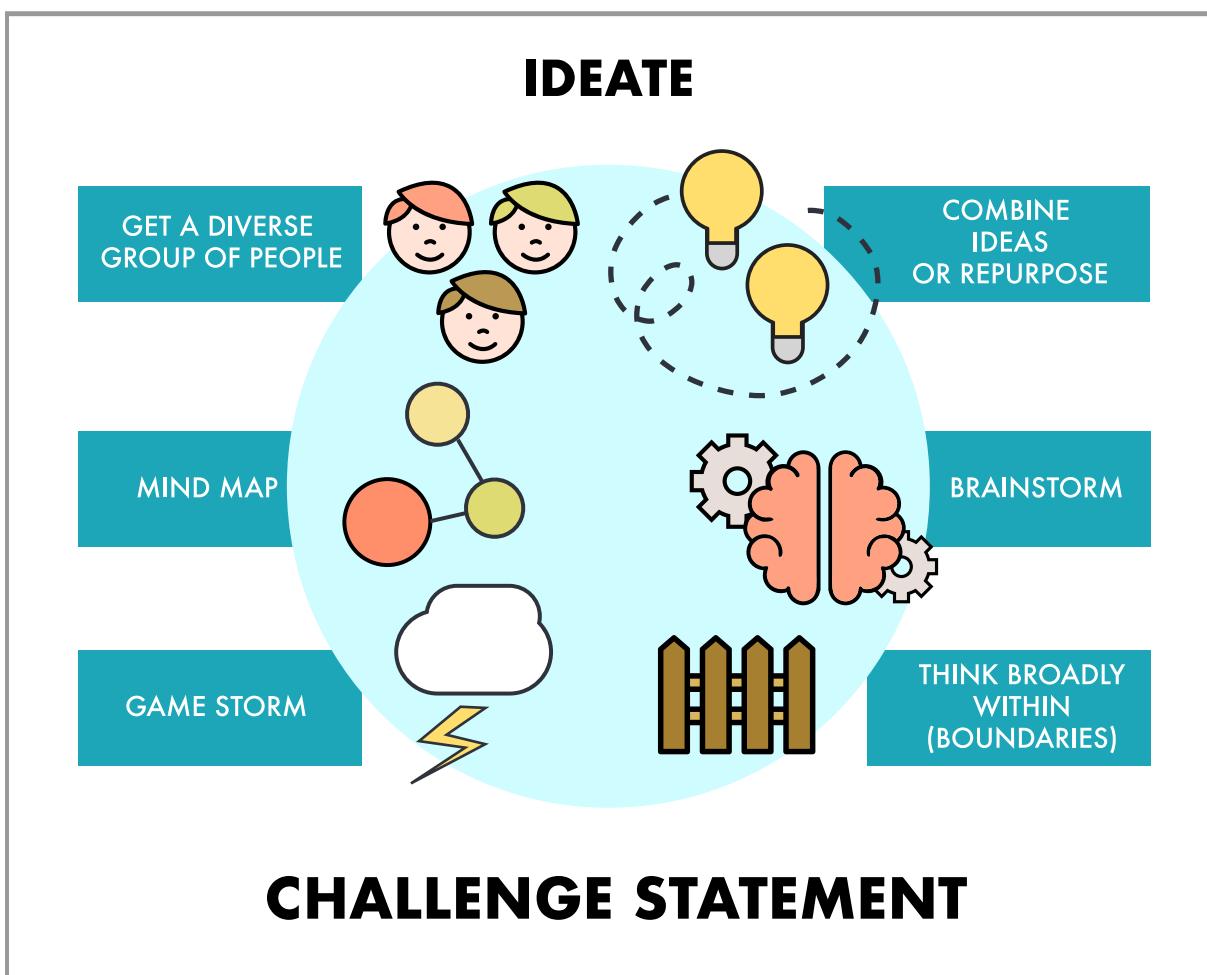


Figure 3-3A. During ideation there are a variety of techniques you can use to develop practical solutions to the challenge you identified during Synthesize. Use these techniques alone or in a group.

The Idea

During the Synthesis Step you used the information you collected during engagement to create boundaries for your challenge. Given your challenge is now well defined and of an appropriate scope, it is time to ‘dive’ and think broadly in order to begin generating ideas.

Don’t focus on developing one single right idea yet, you will have an opportunity to flesh out ideas and prototype in the next Step, now is about imagining possibilities. By falling in love with one idea too quickly you run the risk of missing something else. It is better to brainstorm and evaluate multiple solutions before turning one into a polished product.

The Value

This is an important Step because you move from challenge to solution, and identify what solutions are already available, whether makeshift or commercially produced. By working with a defined challenge you can look beyond obvious and existing options, to find new areas to explore. You can also increase your potential for finding a solution that resonates with users by brainstorming many ideas options. This also creates the possibility for crossover where multiple ideas blend into a great solution.

Push the limits here, work with your team and reap the rewards.

The Tools

It’s time to learn techniques to think creatively, challenge assumptions and ideate multiple potential solutions. No matter what ideation techniques you choose think about how you will open the session when working with your team. This is where you lay the groundwork by introducing the challenge, setting the context and raising the energy level. Opening is important to prepare the participants and get them in the right mindset, it is about creating space for new possibilities.

A few other things to note before we introduce you to the techniques: Spark the conversation with a provocative question, and use additional questions to keep the group on track, or to open new possibilities. Questions can be used to guide the conversation ('Is this a useful line of questioning?'), they can refine ideas ('What would that solution look like?'), and they can





push boundaries ('Are we missing something?'). Many of the best ideas come from combining and refining existing ideas, sometimes referred to as 'cross-pollinating ideas.' It isn't necessary – or even desirable – to come up with something entirely novel. What is important is to address the challenge at hand and make your users happy. Bottom line, look for what works and is feasible.

Understand that it is okay to stop a line of thought if it seems to be going off track. This can be done by refocusing on your challenge question or asking how it addresses a stated need. If it isn't serving the discussion any further it's okay to let it go and close that line of thinking. Use a visual idea tracking method. Whether on a white board, post-it notes, cue cards or something else, make sure the group has a way of tracking idea development.

Ready to start ideating?! Here are a few techniques to try, experiment and find what works best with your style:

Brainstorming

Brainstorming is the 'classical' exercise where you create ideas in a group by building on each other's ideas. This technique can be effective, if you are careful about who is invited to participate.

- Choose participants with diverse views and expertise, ideally with some members from outside of your core team. Maintain a small group (max. 6 people), and have a good facilitator to ensure everyone's ideas are heard.
- Remind the group of the challenge statement and remember to use a visual idea tracking method (e.g. whiteboard). Consider giving participants objects related to the challenge to play with and touch.
- Set limits and expectations. For instance, using a time limit (15-30 minutes) can be beneficial by creating a sense of urgency.
- To begin ideating you need to create a spark – start with a great question – one that opens the mind and generates feelings of energy and optimism.
- Brainstorm, discuss and see where the ideas take you.
- Decide on the best ideas and provide closure.

**Note: If there are one or two louder individuals that overpower the conversation the ideation will evolve into ‘group think’ and not benefit from the ideas of quieter group members. In these cases, strategies such as brainwriting may be more effective.

Brainwriting

This is an excellent alternative to brainstorming that benefits from the ideas of multiple contributors while having the added advantage of giving participants time alone to ideate.

1. Begin by reminding the group of your challenge statement, and ask if there are any questions.
2. Then hand out paper and ask each person to silently write down an idea.
3. Once they have created a new idea have them hand their paper to the person beside them. Now have them use the idea(s) on the sheet as inspiration for another idea!
4. After passing the sheets around several times collect them and tape them to a wall where everyone can review them.
5. Have participants place a star next to their favourite ideas, and then discuss as a group!
6. Use a closing activity to decide on the best ideas to move into the Create Step.

This activity is based on the same-named activity created by Michael Michalko’s Thinker-toys.

Create-to-Think

Physically building solutions, or sketching can trigger ideas and it’s a great method for tactical, kinesthetic learners. In addition to helping generate ideas it can make you more aware of the value and limitations of your ideas.

Begin by assembling things to build with, consider items like:

- coloured paper
- glue sticks
- pencil crayons
- cardboard boxes
- scissors

and anything else that’s available and useful.





Create-to- Think activities can be done alone, or in a group. Start the session by opening and reminding the group of the challenge.

Build! Have fun, experiment and see where the process takes you.

Mind-mapping

Mind-mapping is a technique that is often used by individuals or small teams to create new ideas. Like many other ideation activities consider setting a time constraint, we suggest 15 minutes.

- Begin by writing or drawing your challenge in the centre of the map. This will act as the springboard.
- Now it's time to get creative. Use different colors and begin adding new ideas or keywords around the challenge.
- Add other smaller branches off of these as you develop the ideas further. Continue to add these child branches as you generate more ideas.
- Continue until the time runs out. Now it's time to assess your mind-map and decide which are the best ideas! Use a technique such as New, Feasible, Useful or closing questions.
- Mind-mapping is a great way to ideate on your own and many people find that putting thoughts to paper stimulates better ideas. You can use pen and paper, or one of the many tools available online and as apps.

Now that you've tried several techniques for ideation you have likely generated a lot of ideas.

At this point you need to select the best ones to move forward to the prototyping stage, try the 'New, Useful, Feasible' activity below. Alternatively, you can ask closing questions such as: Which of these is most likely to succeed?

Which idea is most likely to delight users?

Is this idea feasible?

How can we prioritize these ideas?

Whether you use these techniques or something else it is important to provide closure to the group to help you move forward. This is part of the diverge/converge cycle where you think broadly and open up many new possibilities, but then converge back to a few key ideas.

This can help to reduce the feeling of being overwhelmed with options and can provide focus for the next phase. As a group decide on your top 3 ideas, and get ready to move onto prototyping during the Create Step.

New, Useful, Feasible

You've now developed multiple potential solutions to your problems, but need a strategy to decide which ideas to take forward. The New, Useful, Feasible categorization technique is a quick and easy reality check and prioritizer.

Begin by writing a list of your ideas in one column down the side of chart paper. In the columns beside it place the headings 'new', 'useful', and 'feasible'. As a group you will quickly score each idea from 1-10 on these criteria:

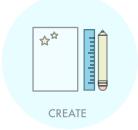
New: Has the idea been tried before? An idea will score higher here if it is significantly different from approaches that have come before it. A new idea captures attention and possibility.

Useful: Does this idea actually solve the problem? An idea that solves the problem completely without creating any new problems will score better here.

Feasible: Can it be done? A new and useful idea still has to be weighed against its cost to implement. Ideas that require fewer resources and effort to be realized will score better here. Also, look for any show-stoppers, any other reasons why it wouldn't work in the real world. Remember, this is meant as a quick 'gut-check', so plan 15-30 minutes for the entire process. After scoring each idea in all 3 categories tally the scores.

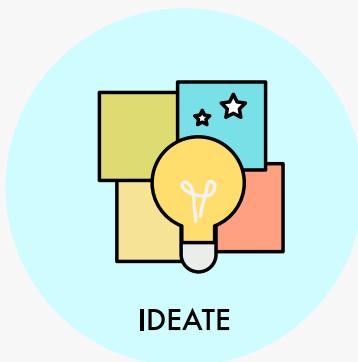
This process can identify weak areas in some ideas that are otherwise good and allow you to refine and strengthen them.

This activity is from the book 'Gamestorming: A Playbook for Innovators, Rulebreakers and Changemakers'.

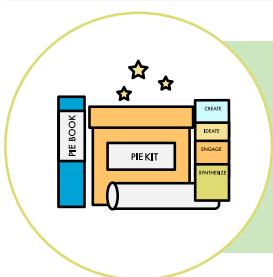




Prepr Toolkit: Next Steps



1. Use the **Ideate Task Outline** to review your instructions and next steps.
2. Complete the **Ideate Worksheet** and submit it on Prepr.org to track your progress.



Like PIE so far? Get a PIE Kit.

A PIE Kit includes your own hard copy of the PIE Book, PIE Workbooks, PIE Loop & Canvas, PIE Method Cards and more. To learn more, visit <http://prepr.org/pie-kit>

Ideate: Additional Resources & References



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David Kelley, How to Build Creative Confidence (March, 2012) Watch at: https://www.ted.com/talks/david_kelley_how_to_build_your_creative_confidence?language=en

Kevin Systrom and Mike Krieger (Instagram), Combine and Share Ideas. (May 11 th , 2011) Watch at: <http://ecorner.stanford.edu/videos/2742/Combine-and- Share-Ideas>

Richard Turere, My Invention That Made Peace With Lions (February 2013) Watch at: http://www.ted.com/talks/richard_turere_a_peace_treaty_with_the_lions

Bubbl Us - <https://bubbl.us/>



Mind Meister - <https://mindmeister.com/>

Simple Mind - <http://simpleapps.eu/simplemind/>

Mindomo - <https://mindomo.com/>

Mindjet - <https://mindjet.com/>

3.4

Innovation: Create

Now it is time to create! In the last Step you defined a problem and generated many potential solutions, now you need to select several of the best ideas to turn into prototypes. Focus on creating an experience for the user, this will help you generate the most useful feedback.

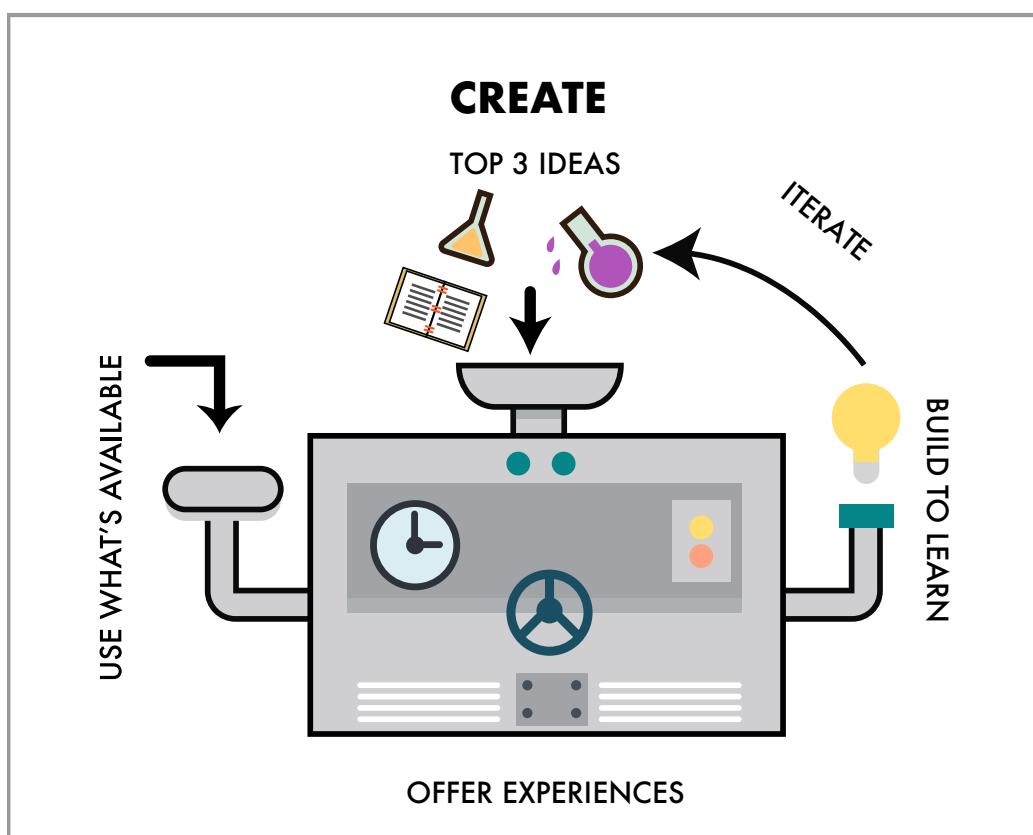


Figure 3-4A. In order to create prototypes you start by identifying your top 3 ideas. You then use what is available to rapidly prototype, a process that can help you better understand the problem and improve the solution. Make your prototypes interactive so that your testers can experience them

The Idea

Creating is a key step in the innovation cycle. While ideas are valuable, tangible products and experiences will generate more useful feedback. During the Create Step you will learn techniques for rapid prototyping, both physically and digitally. A prototype is anything you can physically build to turn ideas into experiences, and ultimately test your hypotheses.

In the early stages of design you will want to bring your ideas to life quickly and cheaply. Through rapid prototyping you can test multiple models and increase your chances of identifying the core functionality needed by your users. It can also help you understand limitations and figure out ways to get around them. Use building as a way to clarify and deepen your understanding of your user's problem. This rapid prototyping is often referred to as low-fidelity prototyping. It is a way of presenting your ideas in a raw form that allows you to quickly learn what your users value and open the conversation to better understand their needs and refine your challenge statement.

In contrast to low-fidelity prototyping is high-fidelity prototyping, which often requires more time, specialized skills and more resources. High-fidelity prototypes are used once you have validated your idea with low-fidelity prototypes and user feedback, and have confirmed that there is a market for your solution. These prototypes bring you closer to the real-life solution and allow for highly realistic user interaction. For example, in software development a fully-clickable design with colour, texture and graphics would be a high-fidelity prototype. During the Create Step we will focus solely on low-fidelity prototypes because you have yet to validate all necessary assumptions.

Successful prototypes help you get useful feedback from users and your team, and can be as simple as a post-it note wall, a website, or 3D printed model. The best prototypes are interactive and experiential, eliciting an emotional response from users and bringing them closer to the intended experience of using the new product or service.

Think about these experiences, how do they differ, how do they make you feel?

- Apple Store vs BestBuy
- Mint.com vs Credit Card Statement
- One-pager website
- 3D printing

Envision what you would like your user to see, experience, feel – and use that to guide the creation of your prototypes.



The Value

The process of creation can be very informative, helping your team to:

Learn: As a team you have engaged with your users and defined your challenge, but there are still nuances to the problems you are learning. Through creating you can ‘build to think’ with your team and deepen your understanding of the problem.



Experiment: Try new things! This is a chance to explore and test ideas, with low costs the only consequences of failure is learning. This is a great outcome in itself.



Communicate: Sometimes it’s hard to explain an idea in words. Use prototyping to show your team and users what you mean. It can also be used to inspire, start a conversation and even solve disagreements.



The Tools



The goal of your prototype is not to be right, but to test your ideas. You can begin creating right away using materials and equipment you have on hand. Remember – it’s more important to build than to plan. While prototyping, focus on the user – how can you make the essence of your idea tangible to them so that they can give the best feedback? You should also think about what question you are trying to answer before you begin creating. For a first prototype it could be as simple as, “Is this the right thing to build?” In later iterations as you refine the solution, the questions will likely become more complex.

Before deciding on a technique look around your workspace for everyday tools you can use to build your first version – consider things like tape, scissors, paper, post-its and any other objects in the area. What your first prototype looks like will depend largely on the idea and questions you want to test. Try out different prototyping ideas below:

Sketching – Taking your abstract idea and communicating it visually can be a great first step. Rough sketching will do the trick, artistic skill is not required! Have fun with it, use the process as a brainstorming tool as well by always challenging assumptions to ask, “what if...”

Building Physical Objects – Creating something users can see, touch and feel makes the experience more tangible for users and will improve the feedback you get. Building is also a great way for you to learn about the limitations of your idea and to continue to evolve it while creating.

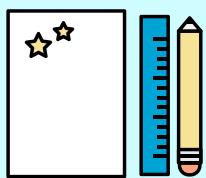


Paper Prototyping – Primarily used for web-based products, tools such as Balsmiq and Prototype-on- Paper (POP) let you turn a paper prototype into a functional, clickable experience.

Role Playing – If you are considering a service based option, role playing can help you think through what a real world scenario would look like while getting feedback from potential users.

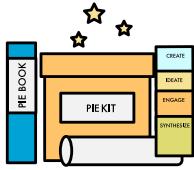
As your idea develops, the resolution of your prototypes will increase too. For now we are in the early stages so quick and cheap is ideal. Bottom line: you can prototype with anything, the only important thing is that you DO prototype.

Prepr Toolkit: Next Steps



CREATE

1. Use the **Create Task Outline** to review your instructions and next steps.
2. Complete the **Create Worksheet** and submit it on Prepr.org to track your progress.



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Create: Additional Resources & References



iThrive: Prototyping and User Testing. (December 15th, 2011) Watch at: <https://www.youtube.com/watch?v=b0t35M8VByk>

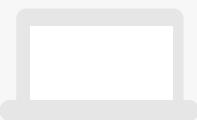


Diego Rodriguez. 3: Always ask: "How Do We Want People to Feel After They Experience This?" Read more at: <http://metacool.com/3-always-ask-how-do-we-want-people-to-feel-after-they-experience-this/>

Diego Rodriguez. 5: Anything Can Be Prototyped. You Can Prototype With Anything. Read more at: <http://metacool.com/anything-can-be-prototyped-you-can-prototype-with-anything/>

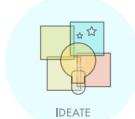
Lyndon Cerejo. Design Better and Faster With Rapid Prototyping. (June 16 th , 2010) Read more at: <http://www.fastcodesign.com/1663968/wanna-create-a-great-product-fail-early-fail-fast-fail-often>

Jeremy Jackson (Fast Co.Design), Wanna Create A Great Product? Fail Early, Fail Fast and Fail Often. (June 1 st , 2011). Read more at: <http://www.fastcodesign.com/1663968/wanna-create-a-great-product-fail-early-fail-fast-fail-often>



Balsamiq (Web Prototyping Tool) - <https://balsamiq.com/>

Smashing Magazine (Design Resources) - <https://www.smashingmagazine.com/>



3.5

Innovation: Evaluate

Evaluating your ideas and prospective solutions requires you to talk to users, ask for feedback and observe the way people interact with your prototypes. Use this data to refine your challenge statement, reassess your product or solution and improve the output.

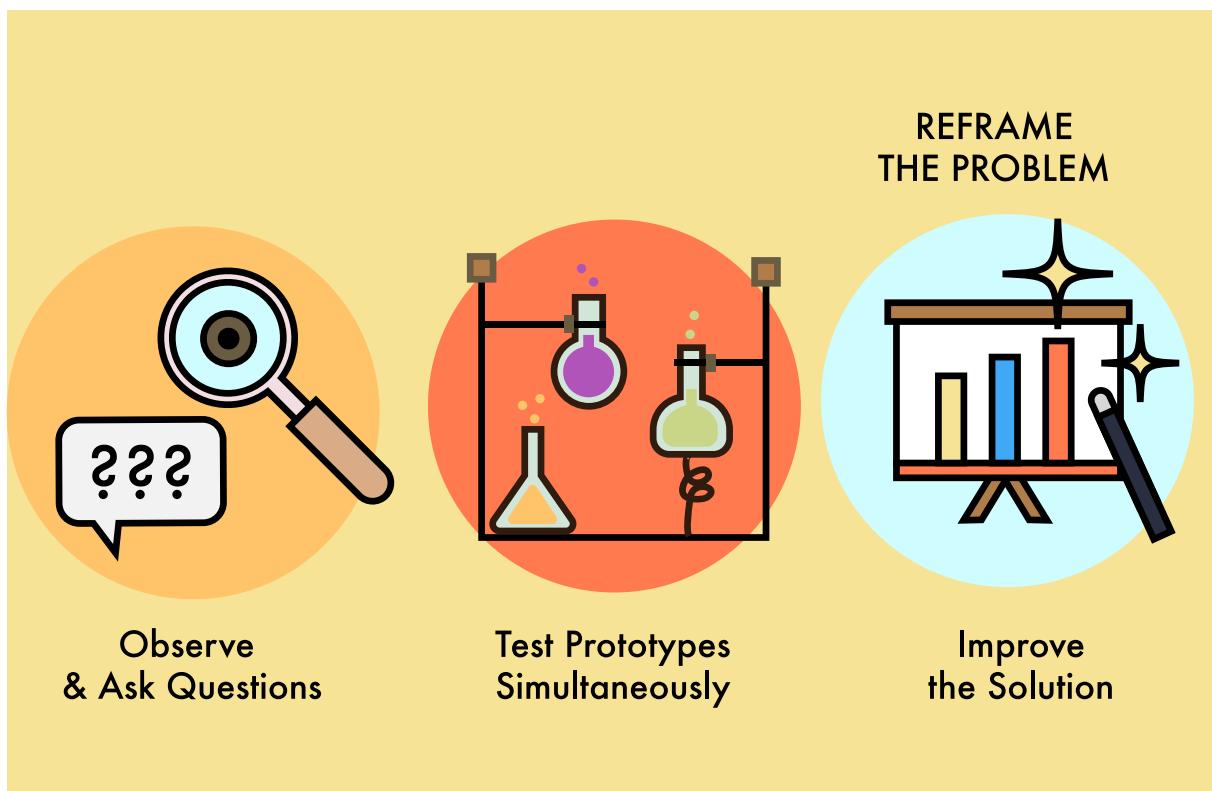


Figure 3-5A. During the Evaluate Step you will observe and ask questions of your users, test multiple prototypes and reframe the problem. Your ultimate goal is to improve the solution.

The Idea

"Prototype as if you're right, listen as if you're wrong." ~ Diego Rodriguez

This is your opportunity to learn more about your solution and your users. Seek feedback on early prototypes, listen carefully and ask questions. Like you did during the Engage Step, observe the user and the way they interact with the prototype. Are there ways you can improve it? Continue asking 'why?' and getting to know your users better. Even if they are satisfied, continue to look for opportunities to improve the core function and usability.

Evaluating should be an ongoing process and will take on different forms depending on your stage in the design process. Early tests with small groups allow you to collect large amounts of qualitative feedback, finding ways to get your product into the hands of users is key.

Some of your prototypes will resonate with users, while others will not. This is a natural part of the evaluation process and it is important to learn to let go of the ideas that don't satisfy your users. It can be painful letting go of your ideas, but the reality is that it's better to fail now than to figure it out 2 years and \$500,000 later.

The Value

Iteration is a core principle of innovation, through rapid prototyping and testing you can improve your offering quickly without putting significant time and resources into a solution that is not viable. But, this only works if you are getting the right feedback. Consider this an opportunity to re-engage with your user. You can learn more about them, refine your problem statement and improve your solution. Evaluation is how you turn an average solution into a 'must-have' for your users.

The Tools

Your users are your most valuable tool. When testing, try to make the situation as realistic as possible. If you are creating a product to be used in someone's home, take the prototype to them and watch them use it in the real world. Focus on creating the experience – the more realistic you can make a situation the more you will learn. For instance, try giving them something physical to interact with as opposed to explaining what the product would look like.





If you have created multiple prototypes bring them all and give the users two or more to compare at once. This can help you resolve subtle needs and desires, as well as helping you focus on what core functionality they expect.

Evaluate early and often to create exceptional solutions.

Prepr Toolkit: Next Steps



1. Use the **Evaluate Task Outline** to review your instructions and next steps.
2. Complete the **Evaluate Worksheet** and submit it on Prepr.org to track your progress.



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Evaluate: Additional Resources & References



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Stanford Graduate School of Business. Steve Blank: Why You Must Test Your Hypotheses. (November 12 th , 2008). Watch at: https://www.youtube.com/watch?v=_w-NUOjwMto

Harvard Business Review. Innovate Like Google. (May 27 th 2008) Watch at: <https://www.youtube.com/watch?v=QOioQxtJ4gl>

Jeff Hawkins (Numenta). Product Development: Importance of Customers and Testing. (October 23 rd , 2002) Watch at: <http://ecorner.stanford.edu/videos/59/Product-Development-Importance-of-Customers-and-Testing>

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Samuel Hullick. Talking To Customers Is Killing Your Company. (June 2 nd , 2013). Read more at: <https://medium.com/designing-for-results/talking-to-customers-is-killing-your-company-8d8312230480#.g6e7x77mn>



50 Problems in 50 Days (Design Examples) - <http://50problems50days.com/>





3.6

Innovation Pitch

Now that you have completed the 5 Steps of Prepr's Innovation Cycle, you've learned to understand problems, engage with those affected by the problem, brainstorm ideas and use prototyping to rapidly test new solutions. You have also started to collect feedback and begin your continuous iteration cycle as you learn more about your ideal customer and end-user.

With that said, you should have completed the 5 worksheets associated with each Step of the Innovation Cycle. These worksheets relate back to the challenge you chose to work on as a team, and will form the basis of your presentation.

Task: Create your Innovation Pitch that summarizes the 5 worksheets you completed for each Step of Innovation. It should be a visual presentation, but you may choose whatever tool makes the most sense for your team.

Requirements: Your presentation should explain the ideas and outcomes that emerged from completing the Innovation Phase. At minimum, you should expect to have one content slide for each Step. Use the questions below as a guide:

1. **Engage:** Who are your users? What challenges do they face? What are their pain points? How many users did you observe and/or interview? What insights did you gain?
2. **Synthesize:** What is your challenge statement?
3. **Ideate:** What are your top 3 ideas? What were the advantages and drawbacks to each?
4. **Create:** Show us pictures of your prototypes. What did you learn through the creation process?

5. **Evaluate:** What did you learn from watching users interact with your prototypes? How will you move forward? Will you continue to iterate on one idea, or combine more than one into a new solution?

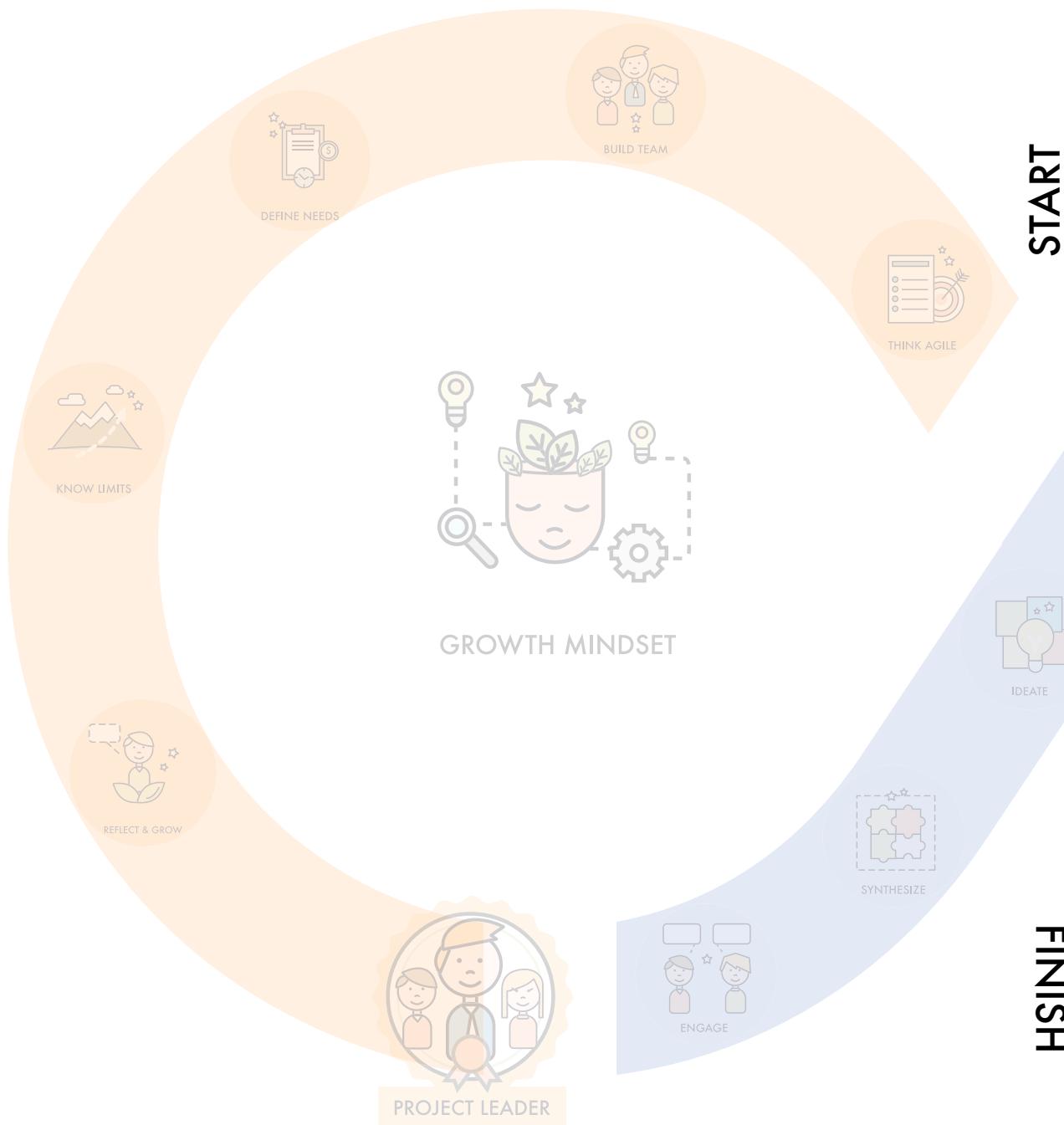
You will receive the Innovator badge for successfully completing all of the requirements.



Entrepreneurship

Take your new or existing solution to market. Start with understanding value propositions, the customer lifecycle and markets and revenue. Learn to focus on what matters by setting key metrics.

4



Project Leadership

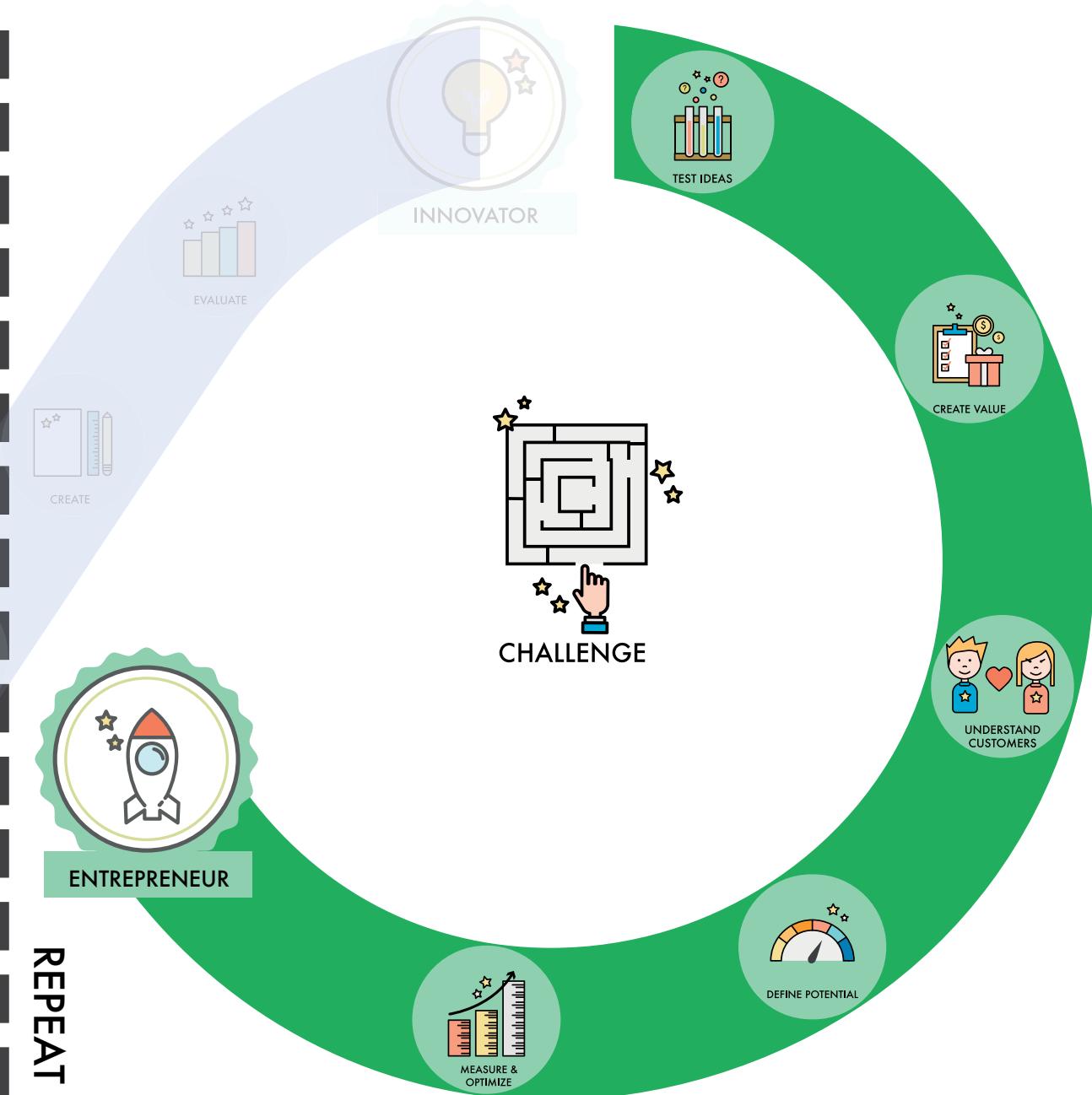


Innovation



Entrepreneurship

pie®



4.0 Entrepreneurship Overview

In the Entrepreneurship Phase you are trying to establish product-market fit, or in other words, figure out who is willing to buy your product, how much they are willing to pay for it and how you can reach them. We also differentiate between customers and users, where customers are the people or businesses that pay for the solution. Users may or may not be the customers as well.

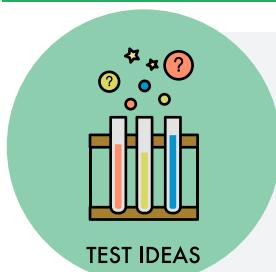
Understanding these things forms the basis of your business model and is essential to the long-term success of your product or service.

Introduction to Entrepreneurship

Having gone through the **innovation cycle** your creation journey has already begun, probably with a prototype of a product or service that a group of people wants and/or needs.

Now comes the harder part, taking your idea from concept to reality by finding a sustainable business model. Entrepreneurship has generally been considered a risky venture – with more than 75% of startups failing it can seem like a daunting pursuit, or one that requires a lot of luck and talent. However, in the last few years a new way of thinking has emerged – treat your startup like an experiment and test the riskiest parts first. These ideas were developed by

Entrepreneurship Steps



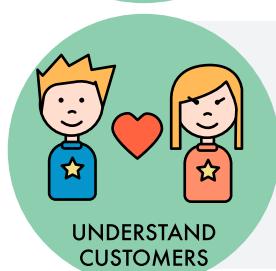
Step 1: Test Ideas

Test Ideas sets the stage for the rest of the entrepreneurship steps. This is because in entrepreneurship (or in taking a new solution to market), the biggest challenge is dealing with the many unknowns. In this Step we help you identify the major risks to success, and implement a plan to test your ideas.



Step 2: Create Value

In this Step you will develop your value proposition and explore product market fit. We will discuss desirability, viability and feasibility of your solution and the importance of each. You will also learn the difference between users and customers, how to segment them and how to develop user personas. Lastly, you will think critically about your solution and what represents a Minimum Viable Solution (MVS).



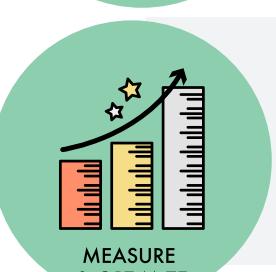
Step 3: Understand Customers

The customer lifecycle includes the initial purchase journey, as well as the loyalty and advocacy phases that follow. You will learn about the various channels for reaching prospective customers and develop a persona flow to map their journey from awareness to interest to consideration and finally buying. Lifetime Customer Value (LTV) and Customer Acquisition Cost (CAC) are also explored.



Step 4: Markets and Revenue

Understanding the type of market you are operating in is essential for developing a marketing strategy, assessing viability and determining the amount of ramp up time you need. You will identify your market type as well as the size of the total, target and available markets. You will also learn about the risks of each market type and how to mitigate them. Revenue strategies and pricing tactics are also considered.



Step 5: Measure & Optimize

Having a one metric that matters (OMTM) helps you narrow your focus and assess your progress. In order for that metric to be effective it needs to represent a metric that has a direct impact on your business objectives. You will learn to be weary of vanity metrics that make you feel good, but mean nothing for your business. We will help you develop an internal culture of measuring, testing and optimizing.



Entrepreneurship Pitch

In order to complete the Entrepreneurship Phase you will need to create a Pitch that summarizes your work in each of the 5 Steps as outlined above. Completing this will earn you the Entrepreneur badge.

pioneers such as Steve Blank ([Startup Owner's Manual](#)), Alexander Osterwalder ([Business Model Canvas](#)), and Eric Reis ([The Lean Startup](#)).

With this experimentation approach we reconsider the old business development model that required years of development, venture funding, and a hefty business plan. Instead, we tackle the riskiest parts first by focusing on product-market fit (Am I creating something people need?), early customer acquisition (Are people willing to pay for this need?), and agile development (Can we create valuable working solutions quickly?). As Steve Blank said, “No business plan survives its first encounter with reality,” so why invest so much on untested ideas and plans?

In this next section we've taken the best ideas about building a startup and turned it into a process to help you do it too. During the Innovation Phase you defined a problem, talked to users, prototyped and tested your ideas – this puts you ahead of the game! (Note: if you haven't completed the [Innovation Phase](#), we recommend you do so now) By engaging and empathizing with users you learned a lot about their needs and desires and were able to translate that into a useful product or service. This activity – providing value – is central to your success.

However, the challenge isn't over yet, now you need to [create hypotheses](#) about your business, refine your [value proposition](#), and [build relationships with your customers](#) through the right channels. Finally, you need to think about your [revenue strategy](#) and how you will [measure success](#). Get started with the first Entrepreneurship Phase: [Test Ideas](#).

4.1 Entrepreneurship: Test Ideas

In this section you will identify the riskiest parts of your project and use the Prepr Problem Solving Framework to test your theories. We will give you a repeatable process for experimenting and applying your learning to improve your project. You will also begin to think about your customer segments and the value proposition for each.

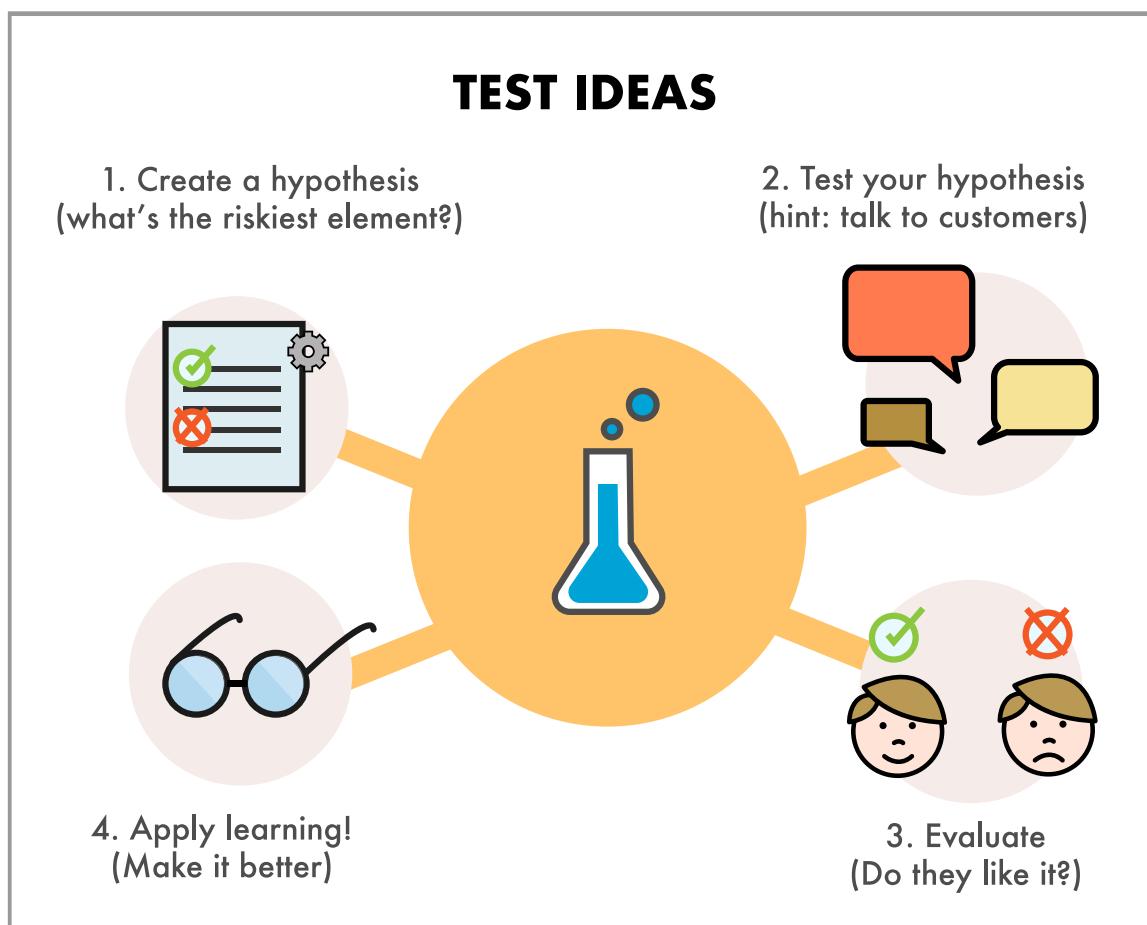


Figure 4-1A. Testing Ideas is a continuous cycle. Start by creating a hypothesis (1), then talk to your customers to understand their perspective (2). Once you've gathered enough evidence (3), it is time to make a decision by either optimizing or pivoting your solution (4).

The Search: Finding a business model that works for your startup

This section introduces you to the strategies and tools you can use to manage the risk of attempting to solve a challenge, create a project, and ultimately find a business model that works.

What is a business model?

A business model is how a venture creates value for its customers and itself while delivering products or services. One of the core elements is solution-market fit. This asks, what value are you creating, and for who? Is someone willing to pay to have this product or service delivered? This is one of the most challenging aspects of a project to get right, meaning you may have hunches about what your customers want, but nothing concrete yet. In other words, you are still searching for an appropriate, repeatable, scalable business model.

There are different methods you can use in your search for the right business model, but we designed the Prepr Experimentation Framework to help you systematically test your ideas and turn them into facts. As opposed to a large, traditional business plan, each worksheet you complete will tackle a key element and help to shape your project. We suggest keeping a copy of all of your assignments together with any notes you took during each Phase of your project life cycle. You can return to these worksheets and update them as you get more information.

The Problem Solving Framework: Mapping your ideas

As you are aware the Prepr Problem Solving Framework divides evenly into three Phases: Project Leadership, Innovation, and Entrepreneurship. During the Innovation Phase, you listen to your users in order to better understand their challenges. You then ideated and created prototypes, which were your best-guess solutions to their needs. However, you did not stop there – you went on to evaluate your hypotheses and improved your solution as a result.

In Entrepreneurship, we can apply a similar process to test ideas about what kind of business model will be viable for our new solution. The first step of this is to write down your ideas about each Step of Entrepreneurship, which can then be converted into hypotheses later. If

some of these terms are unfamiliar to you that's okay. During the coming Entrepreneurship Phases you will learn more about each and how to test your ideas around it. This exercise is just a chance to create a 'best-guess' to use as a starting point.

Below you will find a brief description of each Step, take a moment to jot down your ideas for each one:

Test Ideas – What aspect of your project worries you the most? Is there anything related to delivering the solution that concerns you? Are there any risks associated with your team's ability to deliver? Are there any project management risks, namely scope, time or cost?

Create Value – Who are your customers, and why would they buy from you? What makes your offering unique and a must-have for them? What is your value proposition?

Understand Customers – How are you going to reach your customers? What channels will you use? Once you acquire them how will you keep them and turn them into loyal customers? Is there a viral factor you can use?

Define Potential – What kind of a market are you in: existing, re-segmented, new or clone? Who are your competitors? How will you make money? Is yours a single or multisided market?

Measure & Optimize – You don't need a hypothesis here, you will return to this at the end of Entrepreneurship to reflect on your progress and lessons learned.

Managing Risk: Test ideas than optimize or pivot

So now you have written down your ideas, however with some reflection you will realize that these are based largely on untested assumptions. In order to succeed we need to treat our new venture like an experiment, testing each link and replacing the weak ones. Which ones do we test first? Just like you would test the rusty link in the chain first, there are certain elements that hint at risk most – such as finding and delivering our value proposition to customers.

Over the next few sections we will test each hypothesis, turning our ideas into facts. The order we have laid out – Value Creation, Customer Lifecycle, Markets and Revenue will be effective for most projects. However, if there is a nagging issue that is keeping you up at night then test it first, your gut is alerting you to the risk, so test that first.



We keep referring to idea testing as a critical activity, but what does that really mean?

Essentially, the process is:

Create a hypothesis. In order to test your project assumptions, you need to create an educated guess of how things work, a hypothesis. You can write it using the following form: "If _____ [we do this] _____, then _____ [this] _____ will happen". Your hypothesis should be something that you can actually test.

Develop and implement a strategy to **test whether the hypothesis is true**. Usually this requires you to talk to customers directly and ask them for their feedback. However, as your project progresses and you have users interacting with your solutions or purchasing it, then quantitative metrics can help you optimize too.

Evaluate the evidence. After talking with a large number of customers you will begin to predict their praise and criticism before they offer it. At this point you usually have enough evidence to take away key lessons and improve your offering to suit their needs and desires.

Apply what you learned to make your product better by either optimizing, or pivoting. Continual testing and learning is great, it's what gives you an edge. However, it is only useful if you can apply what you have learned to improve your original ideas. There are two types of changes you can make:

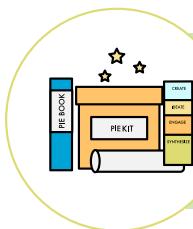
Optimize - This is like polishing or tweaking an idea. You are making it better, but it is an incremental rather than fundamental improvement.

Pivot - This is a fundamental shift to an idea. Rather than better understanding your customer segment, you realize you had the wrong customer segment altogether! So, you pivot and find the customer segment that is a better fit for your offering. This kind of a change in course can be scary at first, but is necessary for success.

Prepr Toolkit: Next Steps



1. Use the **Test Ideas Task Outline** to review your instructions and next steps.
2. Complete the **Test Ideas Worksheet** and submit it on Prepr.org to track your progress.



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Test Ideas: Additional Resources & References



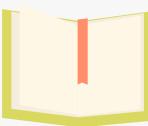
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4.2 Entrepreneurship: Create Value

In this Step, we explore solution-market fit, and the 3 primary factors to look for in attaining it: desirability, viability and feasibility. We go on to learn about value propositions and how understanding our customer segments is crucial to addressing their pains and gains. Finally, you will learn about what to include in a Minimum Viable Solution (MVS).

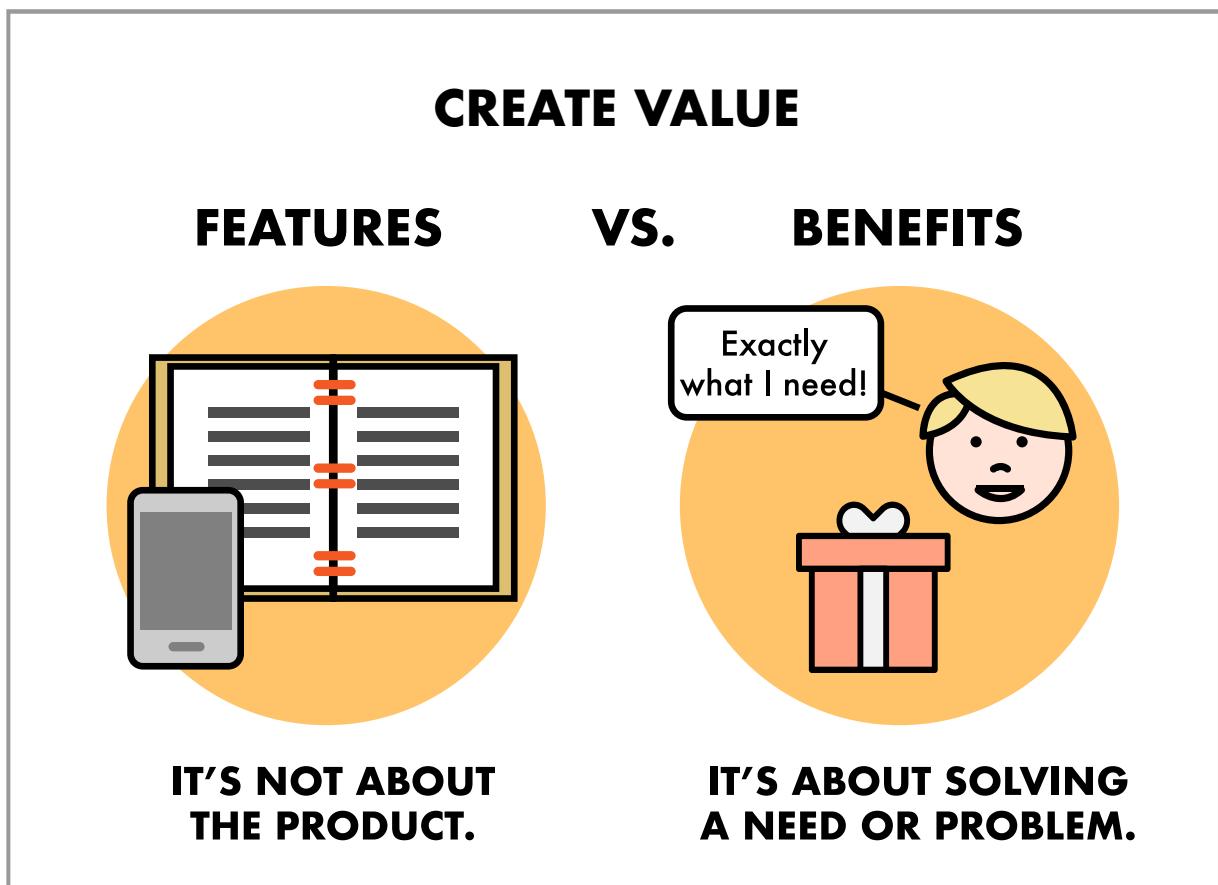


Figure 4-2A. Creating Value is all about putting the needs of your customers first and prioritizing what matters to them. Solve their problem, and then add features.

Product-Market Fit: Getting the right product to the right people

In the previous Step we talked about the importance of managing risk by validating our assumptions early as we build out our new solution. Ideally we will focus on testing the riskiest assumptions first. For the majority of businesses the risk is not whether we can deliver on the final solution or not (unless you are trying to cure cancer), but rather will anyone want what we are delivering. This brings us back to the concept of solution-market fit.

Solution-Market Fit

The term was originally coined by Marc Andreessen to mean the time when a company is in a “good market with a product that can satisfy it”. Steve Blank and Eric Reis have adopted the term and added a more strict definition of when a “repeatable/scalable sales model” is found.

There are two elements to establishing solution/market fit. The first is about the market and desirability, or “Do I have a problem worth solving, and is it something customers want?” If there is no market then your solution, no matter how good, is dead in the water. The second element deals with viability, “Is the market willing to pay for it?” The third and final element of solution-market fit is about the product feasibility, “Can I create a solution to this problem?”

In order to answer these questions effectively you will need to talk to potential customers! There are no shortcuts through this process; you and your project team must do the testing because only you have the power to act on your observations.

During this Step you are testing your earlier hunches and trying to find new insights and facts. When you’re doing experiments and you realize your hypotheses do not match reality, it’s time for a change. We call this a pivot; it represents a significant change in an attempt to find a better plan. Learning how you can best serve your customers is key. How do you know when you are done learning and ready to move forward? When you can reliably predict your customers’ answers to questions, anticipating their pains and gains, and can offer a solution they are excited about and willing to pay for.

The next section will tackle creating value propositions, and in order to do that we need to



understand your user and customer needs and desires, or their “pains and gains.”

Value Proposition: Solving pains and gains for your customer

So what is a value proposition?

It's the reason your customers will want to buy your product or service. And their reason often extend beyond what you might think you are offering – extending to the entire experience around the purchase. If you are selling a product, what kind of service do you provide with it?

With Zappos, the founders saw a potential market for online shoe sales. However, the reason their business model works is because they don't just sell shoes, they sell peace of mind with their great customer service and their easy return policy. This service is not an addition to a core offering, it's an important piece of it so that potential customers don't need to worry if the fit isn't right. Without the service there would be no Zappos.

Your value proposition needs to solve a customer problem – by either offering a GAIN (added benefit to customer) or by solving a PAIN (customer need).

Customer Segments

In order to write a compelling value proposition you need to understand your customers and have validated persona(s) to guide you. In many businesses you will have more than one customer segment, in which case you will also need a different value proposition to meet each of their unique needs.

While it can be tempting to think about your customers in an abstract sense, they are real people with names, jobs, families and experiences. The more you can understand who these people are the more easily you will be able to attain solution-market fit and create a compelling value proposition. You have already begun to learn about your customers by talking to them during the Innovation cycle – use that as a place to start. Post a picture, give them a name and describe their life to help understand them. You will refine this over time by talking to customers and by using other available data, it's a hypothesis to start.

When doing customer segmentation research, tools such as Nielson Prizm can provide rich data on customer spending and habits:

- What's their role?
- Who are they?
- How do they buy?
- What matters to them?
- What gain are you providing, what pain are you alleviating?

When crafting your value proposition, think about the jobs you are trying to get done with your offering for each customer segment:

- What is the customer segment trying to get done?
- What functional or social jobs are getting done?
- What emotional needs are being met?
- What basic needs are you helping your customer satisfy?
- Is it a problem or a need?

Once we understand what they are trying to do we need to ask how important are the jobs? How often do they occur? This will also tell us about their pains and gains and what value we need to focus on providing to our customers. To organize your thoughts and develop your value propositions you will use the Create Value worksheet that you can adapt and refine over time. If you want more information about developing a value proposition, consider using the Value Proposition Canvas by Alexander Osterwalder.

Minimum Viable Solution: Getting it out the door sooner

So now that you understand what the customer's pains and gains are, you can establish the necessary features in a minimum viable solution. Your MVS needs to have the minimum features to alleviate pain and create gain, while allowing you to collect feedback. This is the new way of building companies; it's fast and agile allowing you to create something of immediate, tangible value to your customers. Need a refresher on Think Agile? You can revisit the first Step of Project Leadership for a quick review.

It's important to recognize that an MVS is not an alpha or beta, and it's not a poorly executed



prototype with tons of features. As the folks at 37Signals put it, “build half a product, not a half-asked product.” This works to your advantage because it forces you to focus on the essentials, build a stronger core and know what your customers really need.

Once you have created your MVS, go talk to people again! Find out if your customers like what you’re offering, find out how to make it better and use that to quickly iterate and test again. When it comes to adding ‘more’ features, look for patterns. The important features and additions you will remember because your customers will keep reminding you they need them. If only one person is interested, it’s probably not worth your time, but if you are repeatedly asked for the same feature, you know it’s something to build into future releases.

Make sure your product is built around ‘must-haves’, not ‘nice to haves’. Consider going back to the Innovation Phase and reviewing the Create Step. Think of your MVS as an advanced prototype. If it’s a physical product, make sure you build something for the customer to interact with, if it’s web/mobile again a low-fidelity prototype will do, but make sure it is user-friendly and interactive.

Prepr Toolkit: Next Steps



1. Use the **Create Value Task Outline** to review your instructions and next steps.
2. Complete the **Create Value Worksheet** and submit it on Prepr.org to track your progress.

Create Value: Additional Resources & References



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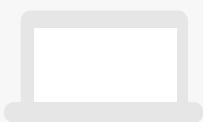


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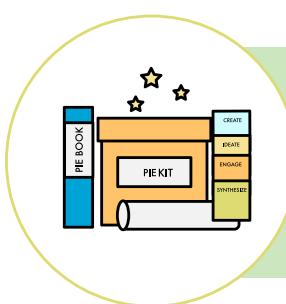


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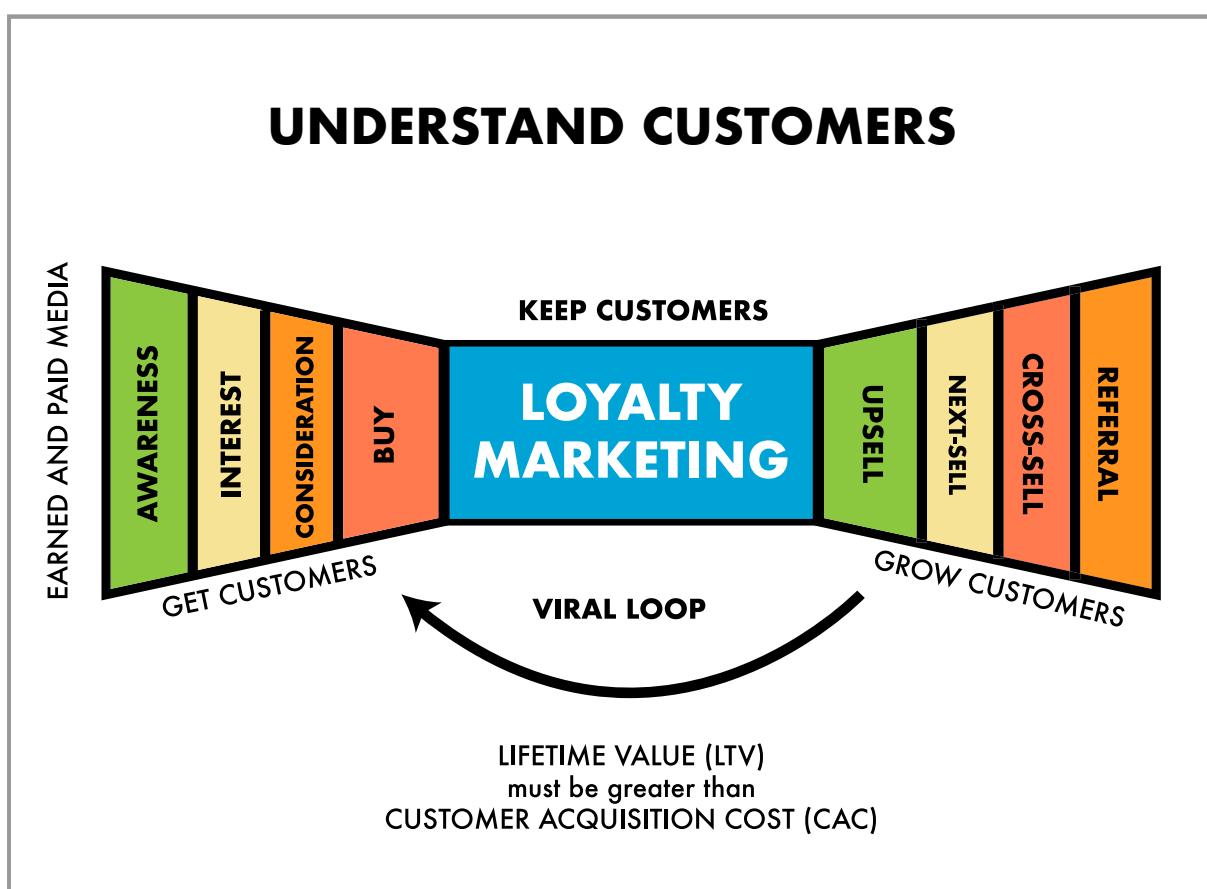


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4.3 Entrepreneurship: Understand Customers

How do our customers want to be reached? What channels are appropriate for each customer segment? When we are acquiring customers, what is the process they go through and what is the cost to us? Given the high cost to acquire customers we also need to understand the value of loyalty programs and how to drive a viral loop.



↑ **Figure 4-3A.** The customer lifecycle maps the purchase journey (getting customers) through to loyalty and advocacy stages (growing customers). Ideally you will enter a viral loop where your existing customers advocate on your behalf and raise awareness and interest in your brand.

Channels: How are you going to reach your customers?

In this section we deal with the customer lifecycle; from what channels we use to get our product to our customers, to how we get, keep and grow our customers.

Channels

There are two questions you need to ask when mapping the channel strategy, first “how do we communicate our value proposition to our customer?” And second, “how do we support the evaluation and purchase of our solution?” The funnels shown in Figure 4.3A above show the different parts of the purchase journey, and we need to be aware of the ways customers want to be communicated with during each stage in the journey.

When evaluating which channel to use we need to consider:

- How do our customers want to be reached?
- Which are the most cost effective options?
- Which offer the highest level of customer service?

The channel options divide into several broad categories, including owned vs. partner and physical vs. virtual. In owned channels you connect with a customer directly, often through a sales force or a web site, and in some cases indirectly through an owned store. There are higher margins with this arrangement, but also a higher cost to operate. It may also be useful to think about the complexity of your solution and how that influences sales and contact time.

In a higher cost, lower volume business the hands-on approach is often more effective.

In contrast, partner channels can offer greater exposure and reach through wholesale distribution or partner stores, in exchange for lower margins. Whether you go through owned channels or partner, think about how your customers would prefer to access your product will a virtual sales and distribution strategy work, or would they prefer buying through a physical channel?

Channel Economics

Finding the right balance between excellence in service and cost-effectiveness is key. When it



comes to calculating the cost effectiveness of the channel there are a few important numbers we need to consider:

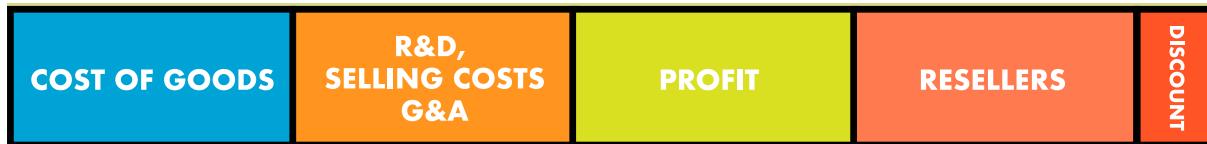


Figure 4-3B. Channel economics requires you to understand all of the elements that contribute to the final purchase price of your product. For each channel it is important to understand the selling costs and the general and administrative costs (G&A) as they fluctuate from one channel to another. You also need to consider the profit margin the reseller expects to make.

Cost of goods (COGS) is the cost of raw materials, labour, transport and any associated overhead. Next is the category that includes research and development (R&D), selling costs and general and administrative costs (G&A), these costs will fluctuate depending on whether the goods are sold through direct or indirect channels. Your selling costs include marketing and acquisition costs. Your revenue is the cost of these categories combined with your profit.

The final price includes all of the above, as well as the reseller costs and discounts. It is important to work out the numbers for several viable channels and determine which is most cost effective. When making these calculations it is important to consider capacity. Using your direct sales force will you be able to sell the same number of units as if you partner with a reseller? What is your profit in each scenario?

Building Relationships: Get, keep and grow customers

Customer Relationships

What kind of a relationship do we need to establish and maintain with our customers? How does that differ between customer segments? What is the cost of acquiring them, and how do we convert them into loyal customers? In more simple terms, it is about how we get, keep and grow customers.

In this section we will return to the idea of the customer personas, you established your customer segments earlier and started to think about their pains and gains, and even started to paint a picture of their everyday life. Where do they shop, what do they do? But more

importantly – what do they value? And how can you create a marketing funnel to speak to them?

Because you have been following this framework you have created an MVS that is desired by your customer segment, your users WANT this product. Now your job is to communicate the value you are offering and drive them through a marketing funnel where you acquire them, drive consideration and facilitate a purchase. The exact number and naming of steps will depend on the channels you are selling through, and the nature of your business, for instance is it a physical store, or online? However, in general this customer purchase funnel is a good way to visualize your customer conversions.

How do we get customers? (Acquisition)

Two strategies emerge for creating demand – paid and earned. One way to get interest is by paying for it through advertising (print and online), space at trade shows, mail campaigns, and search engine mechanisms. The alternative is earning interest and followers by providing value through social media, writing blogs and guest articles, or speaking at events and conferences. The earned strategy is most effective if you can use your tactics to inform and entertain people. Teaching others what you know can develop a loyal audience who support and promote your solutions. In this way, earned media is more likely to create a viral loop where customers refer you to their networks.

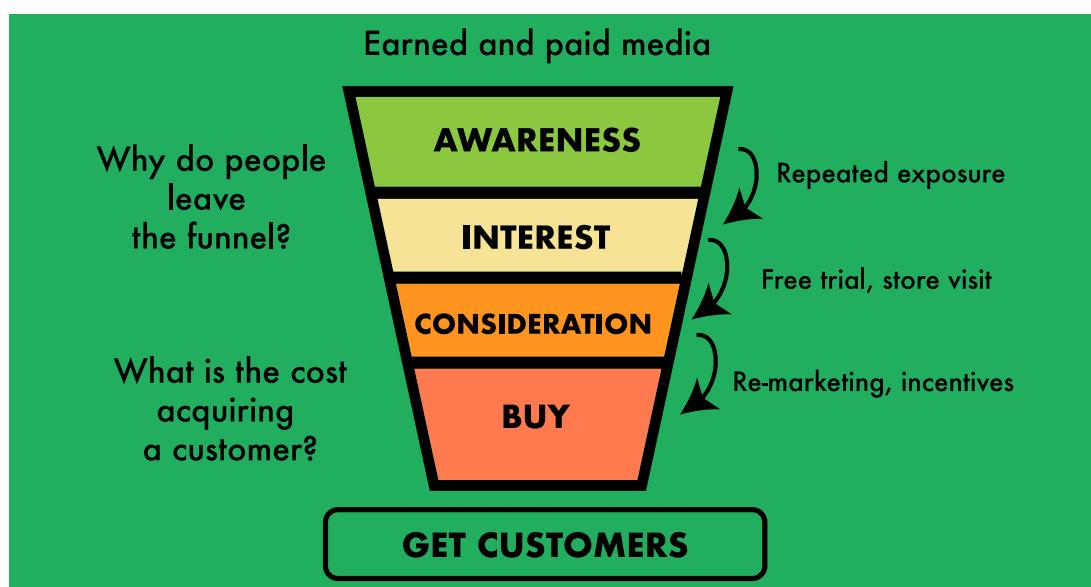


Figure 4-3C. Customer acquisition funnel. Here we see the four phases that a prospective customer would move through when making a purchase. They include awareness (I have a need), interest (this might be something I might want), consideration (let me sign up for a free trial, or see the product in store), with the final phase of completing the purchase.





Getting customers is not as simple as pitching them, or showing them an ad once and expecting them to buy. Potential customers move through several phases, initially they become aware of your product and potentially become interested. Of the customers that become interested, with some repeated exposure a percentage will move into the consideration (physical) or activation (web) phase. For physical products they may visit a store that sells it, or read reviews about it while contemplating the decision. With a web product, this may mean signing up for a free trial, registering to learn more, or otherwise engaging with the product. Re-marketing to them during the consideration phase while emphasizing the benefits can help to drive them through the final stage in the funnel, purchasing. Once a customer is in the marketing funnel you can optimize for conversions by seeing where they are leaving the funnel and asking questions to learn why.

How do we keep customers? (Loyalty)

The cost of acquiring customers is high, so it makes sense to keep the ones you already have! This means doing what you can to keep them happy, which begins with providing a high level of customer service and improving your value offering through product updates, loyalty programs, contests/events, blogs/emails, and social media. Ideally, you want to minimize the number of customers lost after acquisition, this is your churn.

How do we grow customers? (Advocacy)

On the opposite side of the acquisition/purchase funnel is where you grow your customers by re-selling to established customers and generating referrals. Can you up-sell them a better version? Can you sell them another piece of a solution? Or can you sell them additional unlocked features. An alternative of re-selling to your current customers is to convince them to refer you to their networks. Referrals go hand-in-hand with the loyalty program and viral factor. What do your customers get for helping you get new customers? A recent example of referral marketing is Sanebox, they made it a simple, easy process to refer friends and in exchange you got \$5 toward your subscription. If a new customer thinks your product or service is so great that they can't wait to tell everyone else about it, then you have a viral loop!

This is an ideal situation, and while some products lend themselves more to this kind of word of mouth, good service and happy customers can help you accelerate it.

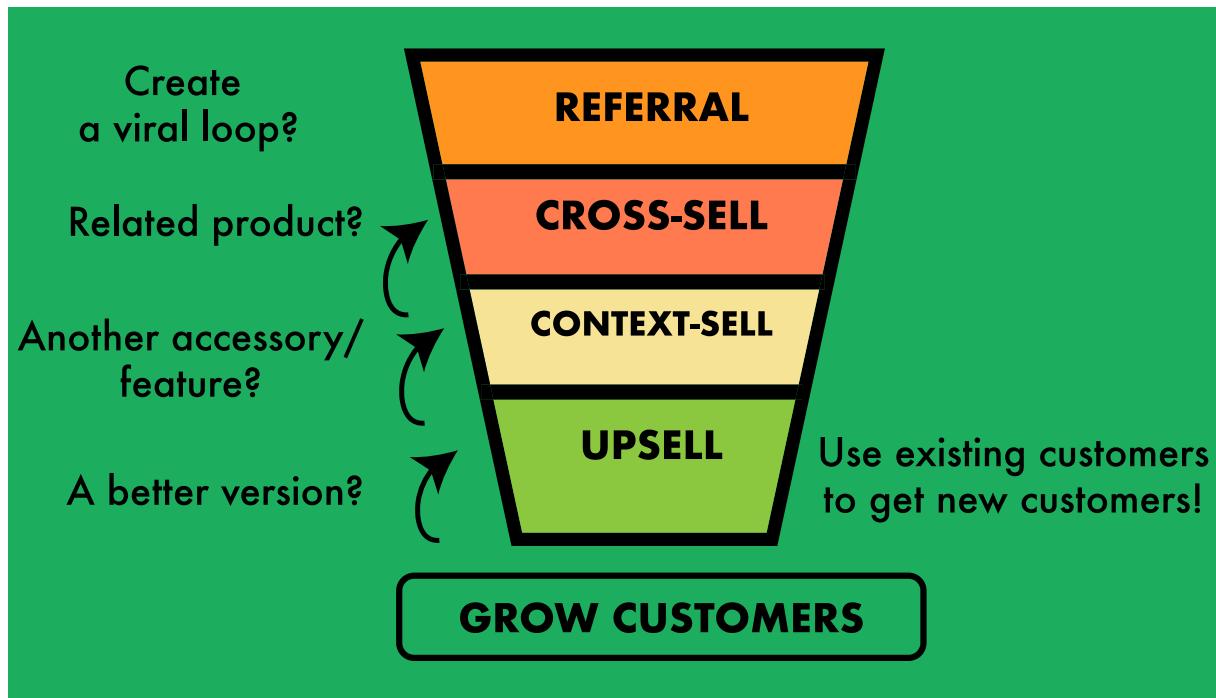


Figure 4-3D. Advocacy and Referrals. You already have them as a customer, what can you do to have them buy something new? Or tell their friends and colleagues about it? This funnel includes the up-sell (buy the latest version), next-sell (extend the functionality with this accessory), cross-sell (you have this, so you may want to try that) and lastly referral. Unlike the purchase or customer acquisition journey, this one is less likely to be linear.

Metrics: Making it make cents

Customer Lifecycle Metrics

How much will a customer spend with you from beginning to end? This is the lifetime value (LTV), and how does it compare to the customer acquisition cost (CAC)? Ideally you need the LTV to be 3 times greater than the CAC to create a sustainable lifecycle. This can be achieved through effective loyalty marketing, and by driving a viral loop. In order to understand the viability of your current business model you need to calculate both CAC and LTV, you can use the example below for reference.

What is the customer acquisition cost (CAC) for an activated customer in a web-based startup? Recall, an activated customer is one that has taken a defined step in the marketing funnel and demonstrates that they are interested, for example a customer that registered for a free trial is an activated customer. When that customer decides to start paying for the service



they have been acquired.

Depending on your keywords you will spend \$0.20-2.00 per click on Google Adwords, let's say you choose keywords at a cost of \$0.80 per click.

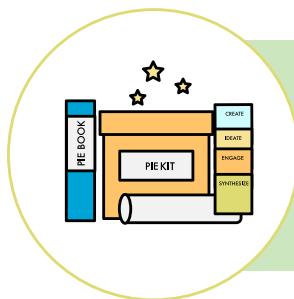
If you get 10,000 clicks, that will cost \$8000. This is your activation cost, but not your acquisition cost – so now we need to consider how many sign up for the free version? In our example 1000 users sign up for a free trial, but only 200 go on to sign up for the premium version. This means our cost to acquire customers is actually \$40/person. How does this compare to the lifetime value? Is our lifetime value greater than \$120? If so, we may have a viable business model.

In this Step, we have hypothesized which channels offer the greatest value to our project, as well as developed strategies for getting and keeping customers. Now you need to go out and test your ideas. Will the strategies you've planned work well in reality?

Prepr Toolkit: Next Steps



1. Use the **Understand Customers Task Outline** to review your instructions and next steps.
2. Complete the **Understand Customers Worksheet** and submit it on Prepr.org to track your progress.



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Understand Customers: Additional Resources & References



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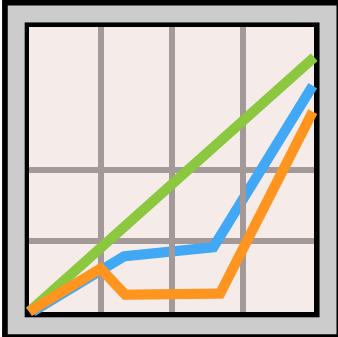
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4.4 Entrepreneurship: Define Potential

Knowing your market type and your competitors is important because external factors can influence the success of your company. Through this section you will learn how these factors affect the risk of your venture, and how to mitigate those risks. We will also consider several revenue models.

DEFINE POTENTIAL



What kind of MARKET are you in?

Legend:

- existing
- new
- re-segmented





Figure 4-4A. There are four key market types to consider: existing, new, re-segmented and clone (not shown). Based on your market you will need to develop a strategy for gaining market share. Think of the entire market as a pie, how big is the total market? Within that larger market, how big is the target market? Lastly you will need to make a realistic estimate of how much market share you can gain.

Market Size: How big is your slice going to be

The previous three Steps dealt with factors internal to your business, or things that are within your control. However, your project doesn't exist in a vacuum and you need to be aware of external factors such as market opportunities and key trends. This section deals with markets and their impact on revenue streams. We also touch briefly on revenue models, including single and multi-sided markets.

So how do you know you have an optimal market for your solution? First you need to assess your potential market by answering these questions:

1. How big is the total available market? Or how many people want your solution? You can learn about the total available market through industry reports, often created by firms like Gartner and Forrester Research.
2. How big is the served available market? Or how many have the means to acquire, and the desire to buy my solution? Need to talk to prospective customers to find out.
3. How big is the target market? Or how many people will actually buy in years 1, 2, and 3? Again, you need to talk to customers to get a sense of the potential.

Taken together these metrics give you a sense of your slice of the pie – is it going to be significant enough to warrant further investment? Beyond basic market size analysis you need to consider the type of market your solutions is in and the effect that will have on your projected revenue.

To understand the market climate better we look to our competitors – who is offering a similar solution? Or what solution are our potential customers currently using? If there are no competitors, maybe you haven't looked hard enough, or maybe there is a non-starter that you've missed. In that case, talking to customers and asking them what solutions they have used in the past can be revealing. If they tell you that yes there have been multiple competitors and they all went belly up, it may be time to reconsider, unless you know you have a competitive advantage that they lacked. Another question to ask is why is this a hard problem to solve? This will also help you identify your competitive advantage (or get you thinking about how you can create one).



Know Your Market Type: Existing, re-segmented, new or clone

As you become more aware of your competitors you will also learn what kind of a market you are in: existing, re-segmented, new or clone.

An *existing market* is a well-established market with many competitors and customer familiarity. In order to sway customers you need to deliver an exceptional new product that delivers higher performance, or provide a higher level of customer service. Entry and growth curve in existing markets tend to be linear and steady, however competitors will defend their turf and often have considerable resources invested in marketing and on-going innovation.



Figure 4-4B. Existing Market. In an existing market you are competing with many competitors and customers are very demanding. However, if you are able to deliver a competitive product, you can profit quickly. Uber is a great example.

In a re-segmented market, you find an un(der) served niche within an existing market. For instance, Whole Foods built a large food chain around sustainability and eco/health conscious foods. Think about how you can provide additional value to consumers – is it by better serving their desires, or by cutting costs? Can you create an entirely new service around an existing product? The growth curve of these businesses is often more complex, increasing in early years as visionaries adopt and then levelling off before accelerating.

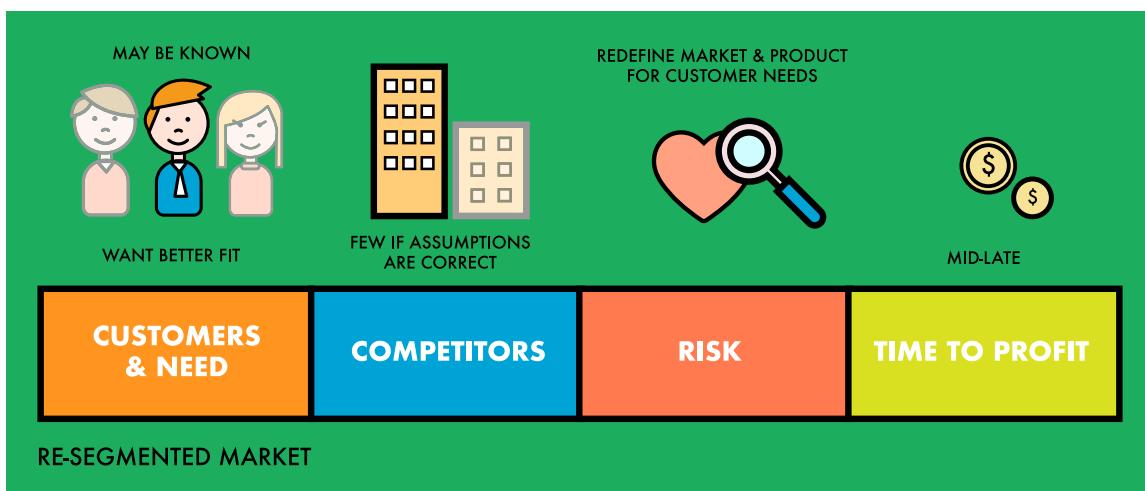


Figure 4-4C. Re-Segmented Market. Here you will find a segment of customers that are not 100% satisfied with the status quo. They represent a niche, underserved market. If you can address their needs and raise awareness, this can be a profitable endeavour. Whole Foods is a prime example.

The third type is a new market. As its name suggests, a new market does not have any existing customers, providing both many opportunities and many challenges. On the positive side you will not have any competitors (yet), but that also means the burden of establishing the market and gaining acceptance will fall to you as well. Initially growth may seem very positive with early adopters and visionaries getting on board, but then little growth until tipping point (if it occurs). After the early acceleration many companies experience a lull until the mainstream begins recognizing the value being offered. This is the primary challenge of new markets, to be able to raise awareness of the need you solve and the value you provide. Traditional marketing will likely be too slow, need to consider guerrilla marketing activities.

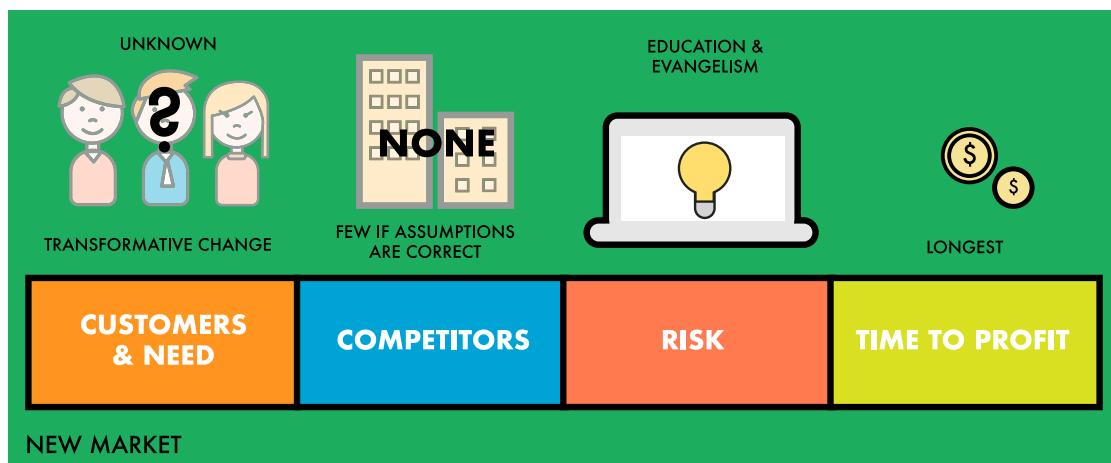


Figure 4-4D. New Market. The most challenging to enter, no competitors, and many hypotheses. Long time to reach profitability due to significant awareness and education campaigns needed.

Lastly, the clone market is when a company adapts a foreign business model to local conditions. In order to be successful you require knowledge of local factors, including language, culture, and trade regulations. This can be a very effective means to create a new business.

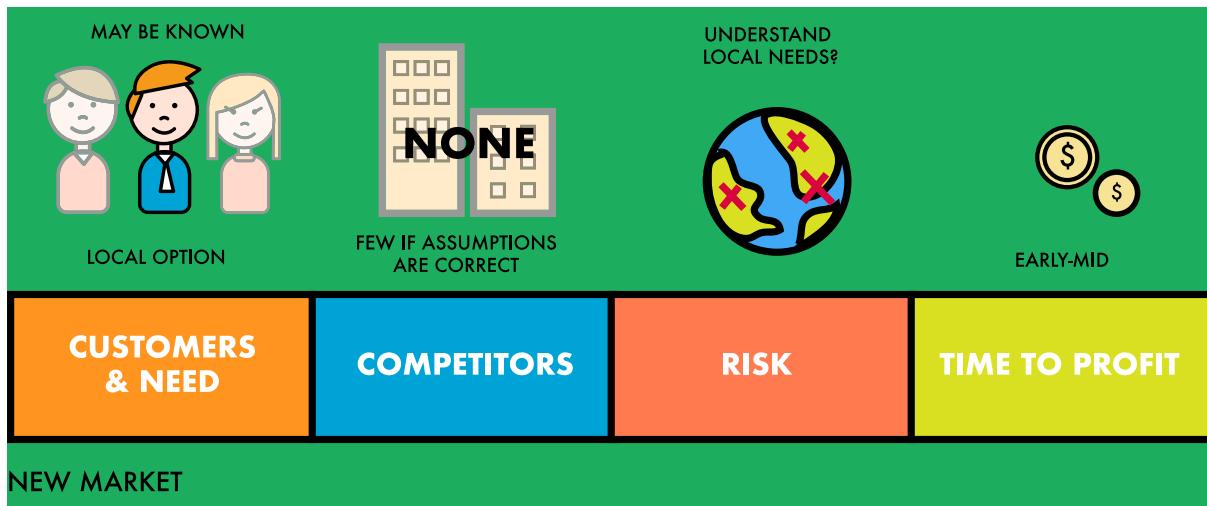


Figure 4-4E. Clone Market. Take an idea and replicate in new, un-served market. High growth potential, but it is important to fully understand the local needs and culture to succeed.

Revenue Model: What value are your customers paying for?

One of the last building blocks for the business model for our project is the revenue model. Essentially it is the strategy you use to make money. Need to think about the revenue model for each customer segment. Also, what value are they paying for?

This is a key question because it helps to determine the price you can set – even if the cost to you is low, if it solves a large customer pain, or provides considerable gain you should set your price accordingly. Initially your pricing tactics may be a guessing game, but with on-going customer interviews it becomes clearer.

As you talk to customers about pricing you are trying to learn about their current habits, and their perception of value. If you are entering an existing market, what products are they paying for today? And are your users the payers? Do they have the capacity to pay? As we discussed earlier the market type can influence your decisions, in this case the pricing is affected by competitors. They will react to your entrance into the market – what will get

their attention most? What can hurt them the most? This won't always be to drop prices and compete on value, it can also be to offer a 'high touch' service with your product.

Another key consideration is whether your business is a single- or multi-sided market. In a single-sided market the users and payers are the same, and revenues are more important than number of users. In a company with a single-sided market you need to think about revenue per month, and how quickly can it grow?

A multi-sided market, on the other hand has users that are distinct from payers. Google is the most prominent example of this as they give away a large number of services free of charge to satisfy users to whom they will then serve ads and collect revenues. In this business you need to be able to grow a large user base. How many do you need to satisfy payers? How much will the payers actually pay? Both sides are customer segments; therefore, make sure you talk to payers and users.



Prepr Toolkit: Next Steps



1. Use the **Define Potential Task Outline** to review your tasks and instructions.
2. Complete the **Define Potential Worksheet** and submit it on Prepr.org to track your progress.



Define Potential: Additional Resources & References



Geoff Yang (Redpoint Ventures). Defining an Attractive Market. (October 17 th , 2012).

Watch at: <http://ecorner.stanford.edu/videos/3013/Defining-an-Attractive-Market>

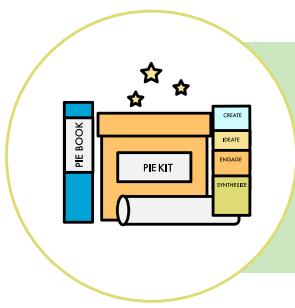
Scott Kriens (Juniper Networks). Market Selection. (December 18 th , 2006) Watch at:

<http://ecorner.stanford.edu/videos/1633/Market-Selection>



Mandy Porta. How to Define Your Target Market? (June 2010) Read more at: <http://www.inc.com/guides/2010/06/defining-your-target-market.html>

Peter Cohan. HBS's Howard Stevenson: How Start-ups Gain Market Share. (November 13 th , 2011). Read more at: <http://www.forbes.com/sites/petercohan/2011/11/13/hbss-howard-stevenson-how-start-ups-gain-market-share/#4823407c57b7>



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4.5 Entrepreneurship: Measure & Optimize

Metrics matter because they allow you to make informed decisions and optimize for success. By understanding metrics and how to use them you can build a culture of measuring, testing and optimizing. Some questions to consider: what metrics indicate success in each sub-segment of your project? What is your One-Metric- That-Matters?

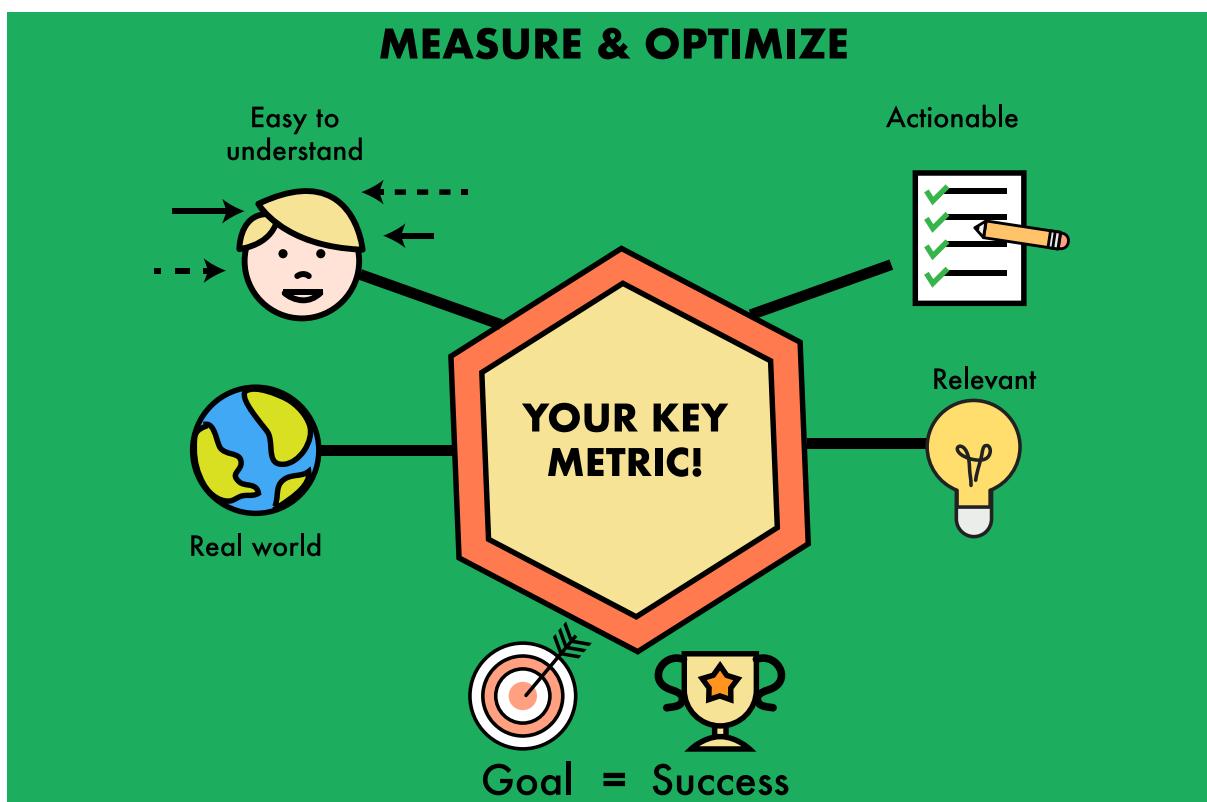


Figure 4-5A. There are four key market types to consider: existing, new, re-segmented and clone (not shown). Based on your market you will need to develop a strategy for gaining market share. Think of the entire market as a pie, how big is the total market? Within that larger market, how big is the target market? Lastly you will need to make a realistic estimate of how much market share you can gain.

Focus: The one metric that matters (OMTM)

First off, what are metrics? Simply, they are tools we use to measure our project's activity and performance, and the data that results. These metrics will ultimately help to accelerate learning.

However, they are also proxies, which means that we typically can't measure what's important directly, so we use these as the closest thing. For instance, if you're interested in converting users in a freemium model to paying customers you could look at upgrade rates for all users, however this doesn't tell you how to increase conversions or improve the experience. How can you get closer to understanding reality? By understanding your users and grouping them by behaviour (customer segments). Within the customer segments we can then look at data about when users convert – is it after using the free service for a certain period of time? Is it after receiving email marketing? Is it after being incentivized with a discount or loyalty offer?

Metrics can launch you to the next level by helping you understand your customers better – if you choose the right one. In the early stages before you have a solution (or prototype) it's very hard to measure anything. But what you can do during customer development is to understand the problem very well, which will help you know what to measure later. As you begin to develop your project further, metrics will hold more value for you, if you can use them to accelerate learning.

The One Metric That Matters

This brings us back to the reason for metrics – learning – and solving problems. From Lean Analytics the concept of the ‘One Metric That Matters (OMTM)’ emerged. The OMTM can and will change over time; however, the concept is valuable because it demands focus on one

problem, and one goal. So, what value does focusing on one metric offer?

1. Answers Your Burning Question - At any given time you have multiple challenges as a startup and are juggling multiple risks. By choosing one metric you take a stand and decide what is most important to you today.

2. Encourages Experimentation - Testing hypotheses, as we've discussed, is important for rapid progress but having too many hypotheses to test can be paralyzing. By having only

one metric to optimize you can focus on making the most of it, rather than spreading your resources too thin.

3. Requires Clear Goals - It can be difficult to track multiple metrics and maintain clarity and focus. By choosing one you can set a goal and keep your eye on the prize. You may have to adjust over time, but you are doing so with intention and thought.

As an aside, as your project develops and grows the number of metrics that matter will likely grow with it, but keeping a few at the forefront can drive progress.

Choosing your OMTM: What makes a good metric?

What Makes a Good Metric?

1. Relevant: Is this what matters to your company most today?

2. Easy to Understand: Often a rate or ratio that you can compare month to month.

3. Actionable: In order to be effective it has to propel you to make a change, run experiments and iterate.

4. Connect to Real World: A good metric needs to connect users and behaviours, even if it doesn't directly tell you why, you need to be able to gather qualitative data and combine that to gain insight.

The Danger of Vanity Metrics

These are metrics that make you feel good, but they don't compel you to act. As discussed above, a good metric is actionable. Examples of vanity metrics include number of page views, followers, or likes.

How do you choose the OMTM?

Following the Lean Analytics approach there are three factors to consider: the type of business, the stage of growth and the audience. However, all of these relate back to the main consideration: what is your biggest challenge today? Below you will see many of the key startup metrics.



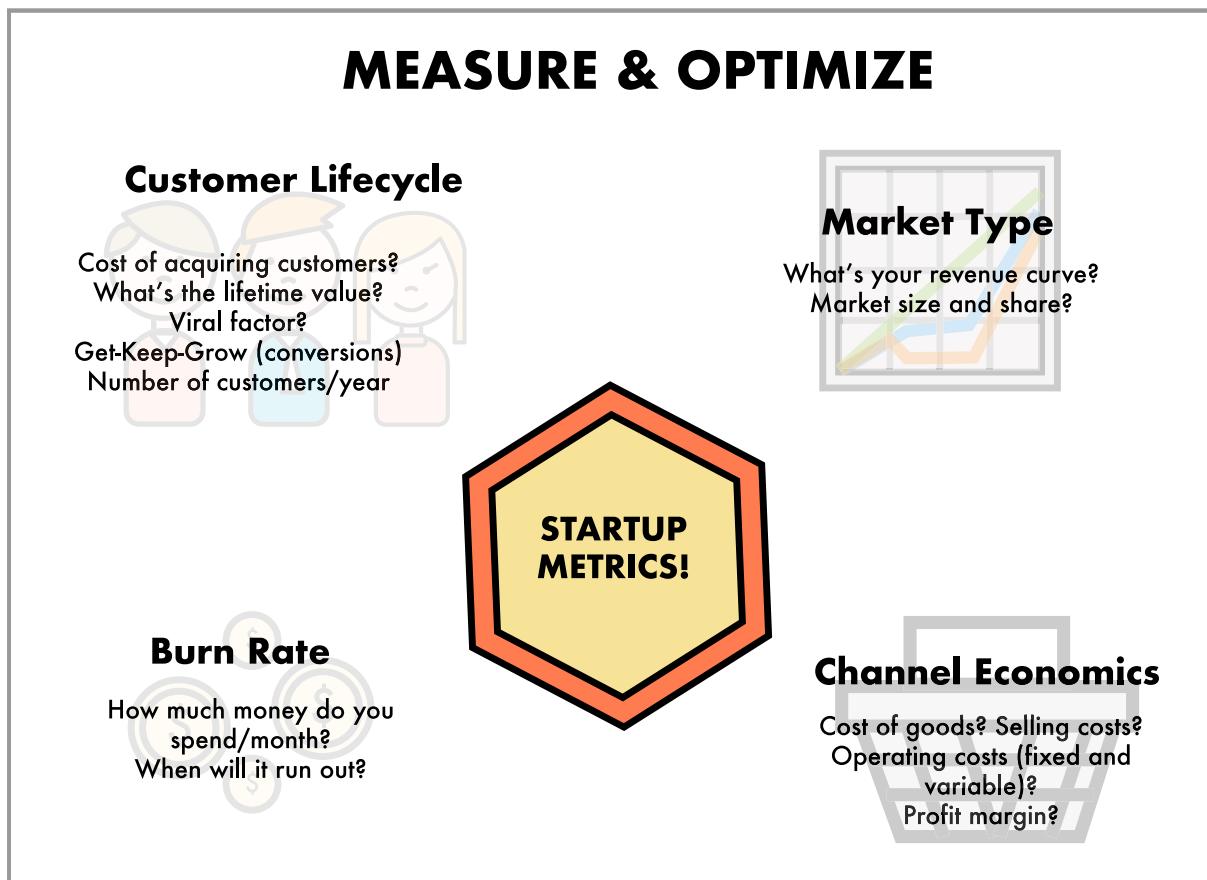


Figure 4-5B. Metrics are most useful if they are easy to understand, have real-world relevance, are actionable, and are tied to business goals.

Prepr Toolkit: Next Steps



1. Use the **Measure & Optimize Task Outline** to review your instructions and next steps.
2. Complete the **Measure & Optimize Worksheet** and submit it on Prepr.org to track your progress.

Measure & Optimize: Additional Resources & References



Rockstart. Startup Metrics That Matter: 5 Points to Learn Faster & Not Get Lost in Numbers. (April 16 th , 2013). Watch at: https://www.youtube.com/watch?v=gqYsl1eq_6Y

MaRS Global Leadership. Lean Analytics: Using Data to Build a Better Startup Faster by Alistair Croll. (April 4 th , 2013). Watch at: https://www.youtube.com/watch?v=_CB4w_OtrKw

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Jessica Mah (inDinero). Avoid Vanity Metrics. (November 30 th , 2011) Watch at: <http://ecorner.stanford.edu/videos/2856/Avoid-Vanity- Metrics>



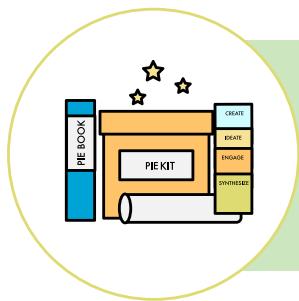
Lean Analytics. The One Metric That Matters. Read more at: <http://leananalyticsbook.com/one-metric- that-matters/>

Kissmetrics. How to Use a Single Metric to Run Your Startup. Read more at: <https://blog.kissmetrics.com/single-startup- metric/>

The Wall Street Journal. Discussion of the Week: Measuring Success (Aggregated Resources). (October 30 th , 2013). Read more at: <http://blogs.wsj.com/accelerators/2013/09/30/discussion-of- the-week- measuring- success/>



Croll, A., & Yoskovitz, B. (2013). Lean analytics: Use data to build a better startup faster. Sebastopol, CA: O'Reilly. Learn more at <http://leananalyticsbook.com>.



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4.6 Entrepreneurship Pitch

You have just completed the 5 Steps of Entrepreneurship! During this Phase you have learned about testing your ideas, developing value propositions and designing minimum viable solutions. You also learned how to get customers and turn them into brand advocates. In the fourth Step you explored various market types and revenue models, and you finished by learning about setting goals and selecting actionable, relevant metrics.

As part of that work you should also have completed the 5 worksheets associated with each Step of Entrepreneurship.

Task: Create your Entrepreneurship Pitch that summarizes the 5 worksheets you completed for each Step of Entrepreneurship. It should be a visual presentation, but you may choose whatever tool makes the most sense for your team.

Requirements: Your presentation should explain the key information you discovered about your business. At minimum you should expect to have one slide for each Step in the Entrepreneurship Phase. Use the questions below as a guide.

1. Test Ideas: What are the riskiest parts of your projects? What areas do you need to focus on validating?

2. Create Value: What is your value proposition(s)? What are the key benefits of your solution?

3. Understand Customers: How do you get customers? How do you develop loyalty? How do you turn existing customers into advocates or repeat customers? What are the Lifetime Value (LTV) and Customer Acquisition Costs (CAC)? How do the channel economics break down?

4. Define Potential: What is the market type for your business? What are the associated risks? What is the total, target and available market for your solution? What is your

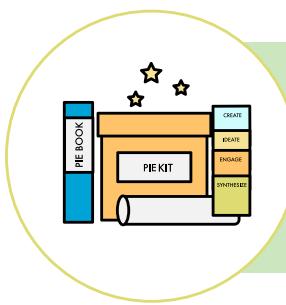
revenue model?

5. Measure & Optimize: What are the key metrics that you plan to measure? What are the associated business goals? Have you made progress on these metrics, if so over what period?

You will receive the Entrepreneur badge for successfully completing all of the requirements.

Complete Project Leadership

If you haven't completed the final 3 Steps of Project Leadership, please return to do so. Those include, Define Needs, Know Limits, and Reflect and Grow. These sections will provide direction as you continue to develop your product and the business process around it. If you have completed Project Leadership, including the Project Leadership pitch presentation you may proceed to the PIE Project Pitch Story.



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5.0 PIE® Project Pitch Story

Congratulations, you have completed the three Phases of the PIE® Program! The final requirement to earn your PIE Certification is to complete your Project Pitch Story. This presentation will capture the key information from each of your Project Leadership, Innovation and Entrepreneurship pitches.

Task: Create a Project Pitch Story that you could use to explain your project to key stakeholders. This is the culmination of all of your work in the PIE Program, make it compelling and remember to tell a story.

Requirements: Your Pitch Story should clearly explain the problem you are addressing and why your team is the best group to tackle it. Show the research and testing you've done so far. Demonstrate a strong understanding of the market and how you plan to move forward. Below is a suggested structure, but you are welcome to modify it as you see fit.

Good luck!

- 1. Identify the Problem/Opportunity** (Innovation)
- 2. Show the Solution** (Innovation)
- 3. Demonstrate Product-Market Fit** (Entrepreneurship)
- 4. Chart Competitive Landscape** (Entrepreneurship)
- 5. Key Metrics and Traction** (Entrepreneurship)
- 6. Introduce the Team** (Project Leadership)
- 7. Show Product Roadmap** (Project Leadership)
- 8. Additional Information** (optional)

Good luck with your PIE pitch story! We're sure you're up for the challenge.

Project Pitch Story



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6.0 Final Remarks

Congratulations! You have worked hard over the last few months to turn your ideas into a reality. You have followed the 15 Steps of the PIE Program and have successfully completed the 3 Pitch presentations for Project Leadership, Innovation and Entrepreneurship, leading to the creation of your Project Pitch Story. During this time you have learned a great deal about yourself, your team, your project and how to build great solutions that people actually want.

But the journey isn't over yet. This is just the beginning. As you go forward always remember the principles, processes and mindset you learned here. If you take nothing else, remember this:

1. Test your ideas and challenge assumptions. Use hypothesis testing to tackle your tough challenges and get more data before making a decision. That said, if there's a well-established best practice, don't waste time testing it. Fix it, and then test something else.

2. Use the innovation process to solve problems, big and small. Talk to the people affected, define the problem, brainstorm ideas, prototype and test them. Simple and effective, and scalable.

3. Solution-market fit is mission critical. Figure out if there is a market (read: paying customers) for your product, and if there is room in the competitive landscape. Figure out what your key differentiators and value propositions are, and confirm it through testing.)

4. Stay agile. Deliver value above all else, adapt as new information becomes available and prioritize working products over documentation. Develop good habits and team workflow.)

5. Create a culture of collaboration. Your team, the people you surround yourself with every day, have a profound impact on your ability to rise to the next level or stagnate. Build a culture of continuous improvement and push each other towards greatness.)

6. Maintain a growth mindset and never stop learning. The world is changing faster

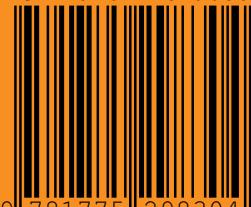
than ever before. If you adopt the mindset of continuous learning and improvement, you will always be ahead of the game. We're here to help, continue your learning journey with Prepr as you work towards the next level of mastery.

The best of luck to you and your team as you continue your journey. Remember the PIE Program is always here as a resource should you need a refresher. Use it for future projects as your framework for success.



PIE®, is an interdisciplinary problem-solving framework: a 3-phase method combining project leadership, innovation and entrepreneurship to help build agile teams and take ideas to market in 15 steps, under 90 days.

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