THE INNOVATION PLAYBOOK

Three Lenses of Innovation

Desirability | Viability | Feasibility

BIM Ireland's Seafood Development Agency

Contents

Introduction

Purpose of this Playbook

To be a successful innovator you must develop and launch commercially viable products and services. The BIM Innovation Playbook is a practical guide to help you do 'hands-on innovation'. The playbook will give you an overview of the BIM innovation framework and how it can be applied to turn customer needs, pain points, and desired gains into a successful commercial venture. The framework helps you build and evolve a business case for investment and ultimately for a successful commercial launch.

How to use it

The playbook is designed to be used sequentially and is anchored around the BIM innovation framework. It can also be used to suit your needs depending on the project and level of expertise. You can dip in and dip out for information, framework guidance or an innovation tool. The Innovation framework is enabled by a library of thinking tools (e.g. Challenge Brief, Customer Journey Map) which you can think of as the atoms of the innovation framework. These can be remixed and mashed up just like music playlists to suit the need of the project. We'll discuss this further in the ***What to do next?*** section.

Although you can use the playbook however you like we suggest it is ***useful for three things***.

1. Defining the Challenge

A successful innovation begins with a great challenge – it can be a problem or an opportunity. Before you begin thinking of a solution take time to choose a worthy challenge to tackle. The Challenge Briefs and the tools in Stage 0, Hunch and Stage 1, Define help you refine and describe your worthy challenge to tackle.

2. Planning the Innovation Project

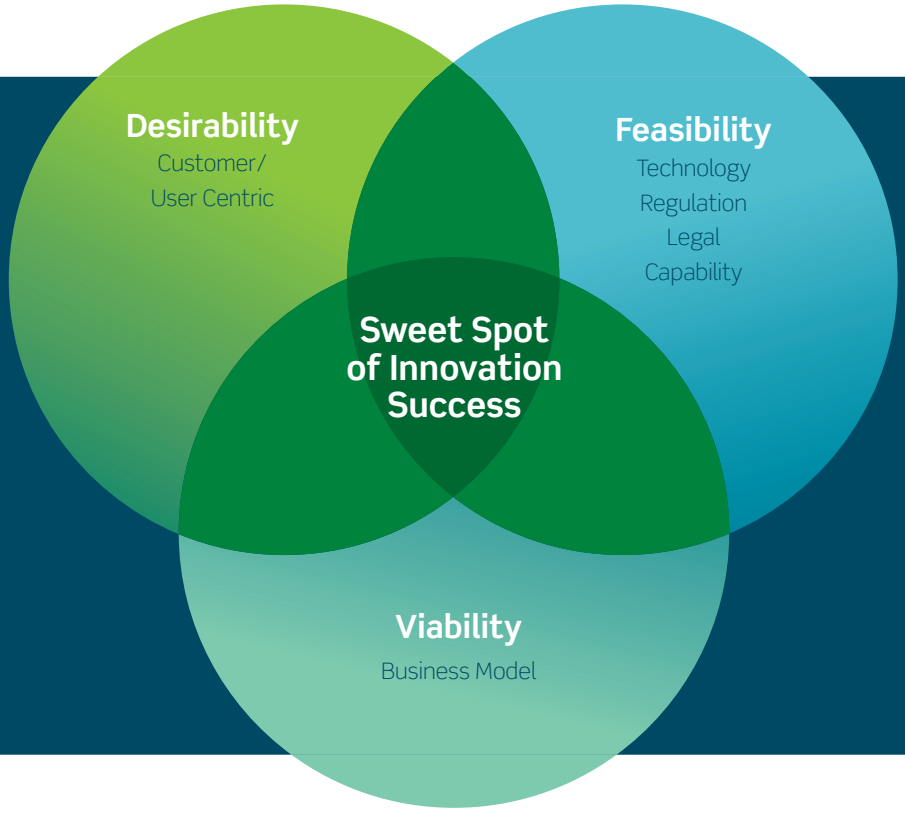
Every challenge is different, so even with this playbook you'll need to take time and plan your project. The sequence in this playbook will help you understand the path you need to plot to deliver a commercially successful innovation. However, you should look at stages, tools and resources required, and plan ahead as to what you need and when.

3. Executing the Innovation Project

Innovation is all about a bias for action, rooted in doing. It's important to deliver results. Each stage has a set of entry and exit criteria based on results and evidence you collect as you execute each stage. This playbook is your guide to executing innovation as you tackle your customers challenge.

The Innovation Mindset

Before we get into the details of the BIM innovation framework it's beneficial to reflect on the Mindset required.



The Three Lenses of Innovation

(adapted from Ideo Design Kit)

Innovation happens at the intersection of these three lenses, the sweet spot of innovation success.

You can start an innovation with a customer/user problem (Desirability) or a technology (Feasibility). However, the key to successful innovations is viewing the challenge through all three lens: Desirability, Feasibility, and Viability.

To create real impact, successful innovations are desirable, feasible and viable.

Desirability

Ideally start with the customer to understand their context, their hopes, fears and needs, and you will quickly uncover what's desirable. Here the focus is on deeply understanding the intended customer for your innovation. Are you able to describe their unmet need (a pain point or a desired improvement) in their language and would they recognise it, and agree with you?

Feasibility

You probably have a solution hunch or at least an idea of the key elements that will make a solution. Once you've generated a range of solution ideas that you believe could solve the customers problem then you need to home in on what's feasible technically, operationally, legally and capability-wise to develop and implement a solution.

Viability

For your innovation to be successful it must deliver business value and be financially viable. It must be of intrinsic value to your end-user. If your customer is a business, it must help them either save or make money and you must be able to do it profitably. The focus of this lens is to look at the economic potential of the opportunity which will be a key motivation to drive it forward. Seek to understand existing commercial models and use this as a foundation to create new ones.

Customers and End-users

Who are customers? A customer is someone who pays you money. An end-user is someone who uses your solution but does not necessarily pay you. All businesses need end-users, or they don't have a business – the end-user and the customer can be the same person – but aren't necessarily so. Let's illustrate with an example with the travel website TripAdvisor.

The customers of TripAdvisor are the travel industry. They pay TripAdvisor for advertising and commission on sales of tickets, accommodation and tours.

The end-users for TripAdvisor are the travellers who use the site free of charge. They use it to research where to go, how to travel, where to stay, what to do and the best options for eating and entertainment. In this case end-users do not pay TripAdvisor. However, if TripAdvisor does not deeply understand it's end-users and solve a problem for them it does not have a business. They focus deeply on solving traveller end-user problems. They then sell travellers time and attention to the travel industry.

Note

For the rest of the Playbook we will simply refer to customers as a general term encompassing both customers and end-users.

Empathy, Ideation and Iteration

As you cycle through Desirability, Feasibility and Viability there are three key perspectives to keep in mind – Empathy, Ideation and Iteration.

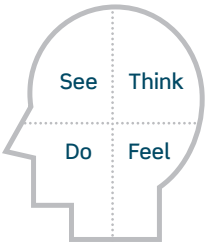
Empathy

Empathy is the capacity to step into the other person's shoes, to understand their context, their perspective and start to identify their pain points and desired gains. To gain empathy for your customer you need to go where they are, interview and observe them in their context.

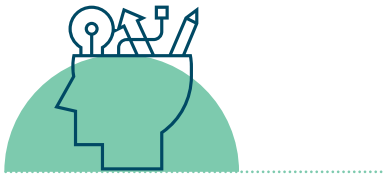
"Get out of the building – the truth is out there!"

STEVE BLANK, *Serial entrepreneur and author of The Start-up Owner's manual*

By putting yourself in your customer's shoes you can start to see the world from their perspective – how they think, see, feel and do. Empathising with the people you're designing for is the best route to truly grasping the context and complexities of their lives.



To gain empathy for your customer you must understand how they tick.



Ideation

Once you've understood your customer and defined the challenge, you need to generate lots of ideas on how to solve the problem for your customer. There are many techniques from formal brainstorming to individual sketching (which are included in this guide) to generate interesting ideas. It's worth becoming familiar with them and to apply them to generate a wide range of ideas. Look broadly for inspiration beyond your industry, seek alternative perspectives and challenge convention.

"There's no use in trying," said Alice. "One can't believe impossible things."

"I daresay you haven't had much practice," said the Queen. "When I was your age, I always did it for half an hour a day. Why, sometimes I've believed as many as six impossible things before breakfast."

LEWIS CARROLL, *Through the Looking Glass*

Iteration

Then you need to begin to make these ideas real – but don't go straight to developing and building a solution because likely your initial ideas are probably not the right solution. Instead create inexpensive prototypes to test your solution concepts early and directly with customers to quickly figure out what works, does not work and what you've missed. When you're innovating at speed with few resources and not much cash its best to make your dumb mistakes right away, cheaply. As you go through feasibility you continue at pace to experiment and iterate to the right solution.

"A person who never made a mistake never tried anything new."

ALBERT EINSTEIN

Defining Innovation

There are many definitions of innovation, you just have to type 'Define Innovation' into your favourite search engine and see how many results are returned. It has become an overused and sometimes abused term. A practical and useful definition is provided by Bill Aulet in his excellent book 'Disciplined Entrepreneurship'.

Innovation = Invention * Commercialisation

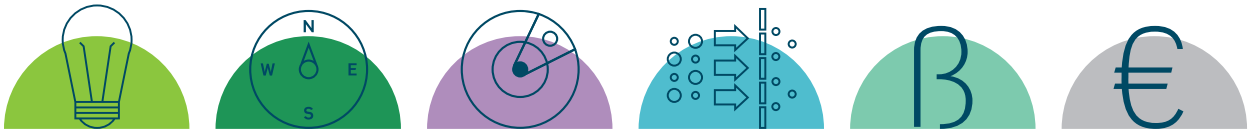
Innovation is a product of invention and commercialisation. If there is invention but no commercialisation (commercialisation = 0), or commercialisation but no invention (invention = 0), there is no innovation.

The invention (an idea, a technology, some sort of IP) is important but the innovator does not need to create the invention – they need to commercialise it. When we say 'invention' it does not always need to be new to world, but it should be new to the challenge context to solve it in a new value-added way.

The 5 stages in the BIM innovation framework will help you create a sustainable, innovation-based business. The following chapters go into each stage, in detail to help you apply it.

The BIM Innovation Framework

There are 5 stages in the BIM innovation framework. It all starts with a Hunch. Ideally each stage should be completed in sequence. However, innovation is not a perfectly linear process. Understanding that in each stage, you will learn things that may prompt you to revise the work you have done in earlier steps. These stages will help you create a sustainable innovation-based venture.



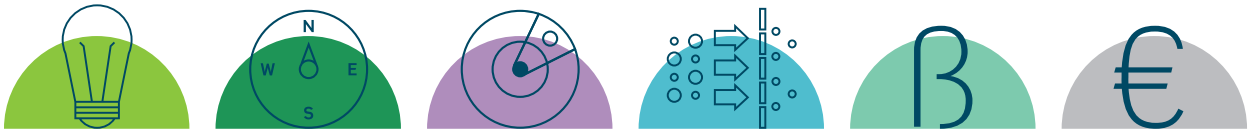
0. Hunch | **1. Define** | **2. Discovery & Insights** | **3. Prototype** | **4. Pilot** | **5. Commercialise & Scale**

There is a view that innovation is chaotic and unpredictable and therefore does not need a methodology. Precisely because it can be chaotic and unpredictable, is why an innovation framework to tackle challenges in a systematic manner is extremely valuable.

Framework Overview

We start with a Hunch and ideally end with a scaled, sustainable, profitable business. The framework deals with key questions, one for each stage which you can see in the diagram below. These key questions provide guidance as to what the team should be endeavouring to answer at each stage.

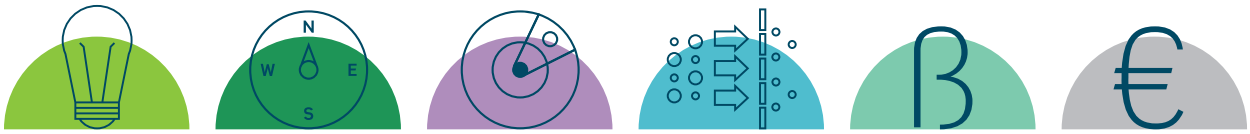
Key questions at each stage



0. Hunch	1. Define	2. Discovery & Insights	3. Prototype	4. Pilot	5. Commercialise & Scale
What's my hunch?	*What's my idea?*	*What is?*	*What's possible?*	*What works?*	*What scales?*

The BIM innovation framework is designed as an iterative stage gate methodology with a set of criteria to meet in order to exit each stage. The exit criteria are summarised the diagram and table below.

Stage exit criteria



0. Hunch	1. Define	2. Discovery & Insights	3. Prototype	4. Pilot	5. Commercialise & Scale
Approved Challenge Brief	*Identified customer Challenge Market and Commerciality*	*Research plan executed, Design Criteria defined*	*Validated Solution Concepts & Market*	*MVP developed and pilot market validated*	*Transfer to steady state*

Below is a table summarising the stage exit criteria.

Stage	Exit criteria	Detail
0. Hunch	Approved Challenge Brief	Initial opportunity identified and approved by BIM Innovation Team.
1. Define	Identified customer, challenge, market and commerciality	Deep dive on the challenge space, challenge workshop completed and the following approved by BIM Innovation Team — Challenge defined — Market sized — Beachhead market identified — Business Model Canvas (BMC) Rev 1.0 — Initial P&L 1.0 — Discovery research plan
2. Discovery & Insights	Research plan executed and evidence generated, and Design Criteria defined	Research plan executed. Associated facts and primary customer research gathered. Insights workshop conducted to extract key insights from the research and the following approved by BIM Innovation Team — Challenge and magnitude validated with customers. — Design criteria defined. — BMC 2.0 — Updated P&L 2.0
3. Prototype	Validated Solution Prototypes, Markets and MVP specification defined	Ideation workshop executed, many ideas generated, clustered into concepts, high potential concepts selected and tested directly with customers. Validated solution concepts developed into prototypes. Tested directly with customers to validate what works and does not work. Once you've settled on a design that works develop a Minimum Viable Product (MVP) specification to launch a market test of a production worthy version of your product. BMC 3.0, P&L 3.0 shared with and approved by BIM Innovation team.
4. Pilot	MVP developed, and pilot market validated	An initial production version of your solution with the minimum feature set to deliver value for customers/users. A Minimum Viable Product (MVP) made available for a subset of the market (e.g. one customer, one geography etc.) to validate what is required to operate at scale. Share validated learnings from the pilot testing and BMC 4.0, P&L 4.0 with BIM Innovation team to demonstrate your solution solves the customer challenge, customers will pay and there is a lucrative market.
5. Commercialise & Scale	Transfer to steady state	Full market launch and commercialisation. Scale assessment, investment required, product roadmap and steady state transition plan shared with and approved by BIM Innovation Team.

Stage 0. Hunch

What is Stage 0, Hunch?

This is your starting point – typically an idea, a technology or a passion according to Bill Aulet. Use the Challenge Brief to capture and expand your initial thoughts to shape your innovation proposal.

— **Have an Idea** You have come up with an idea that can make a positive impact, or something that can improve an existing process you're familiar with (e.g. how to automate a portion of a fish processing line) and you want to implement it. It can be a problem or an opportunity – what in the playbook is referred to as – a challenge.

— **Have a Technology** You have developed or have learned about a technological breakthrough and want to commercialise it (e.g. have a technology that extracts vitamins and minerals from fish waste).

— **Have a Passion** You have a passion and are driven to pursue it (e.g. you are passionate about people eating fish 2 to 3 times a week from sustainable economic sources). You believe you have the skill, drive and commitment to make a positive impact.

Hunch Process

Document your original 'hunch' using the Challenge Brief and review with BIM Innovation Team to gain approval to greenlight it as an innovation project.

Start by reflecting on your idea, technology or passion and who might benefit from its implementation. Use the Challenge Brief to capture your initial thoughts.

STEPS

1. Complete the Challenge Brief

To capture and document your innovation proposal. Complete as much of the template as you can. You may not be able to complete it all. For those sections you are unable to complete – ask yourself who can I talk to, or where is there a source of information to help me complete it.

2. Share and enhance

Share your Challenge Brief with colleagues, customers, end-users and other knowledgeable people in the ecosystem to help enhance your proposal. In addition, it's worth doing some secondary research to understand if someone has already identified and/or tackled a similar challenge to this elsewhere in the world.

3. Review with BIM Innovation team

Review the Challenge Brief with the BIM innovation team to see if it's suitable to enter the innovation framework.

Key Tool For Hunch

The Challenge Brief

CHALLENGE BRIEF

The Challenge Brief is to be formulated by Key Account Managers or anyone who wants to enter a project into the Innovation process for evaluation. This challenge brief will be used to evaluate the project for suitability and help prepare the initial challenge workshop. Answer each question with clarity, so that everyone can understand what you are trying to suggest. Be brief and detailed at the same time.

Does your Project do any of the following. Please tick

- Expand the Raw Material Base ☐
- Decrease Costs of Goods Or Services ☐
- Increase the Mark Up Price ☐

BIM

INTRODUCTION

Background of the project

COMPANY PROFILE

Company Information (values, vision, mission...) Please attach any Vision notes from the Growth workshop

SECTORS & MARKET PROFILE

What Sectors and Markets do the current company work in?

CUSTOMERS & MARKETS

Who are the customers you want to target and in what Markets?

NEEDS

What are the customer needs?

TRENDS

What trends are affecting your industry?

TECHNICAL FEASIBILITY

Has the company the technical capability to carry out this project? Are there additional technical requirements needed?

PROJECT OBJECTIVE

What is the goal of this project? Detail the scope of work.

COMMERCIAL VIABILITY

Has an initial financial study been conducted? What is the expected outcome of this project (additional revenue, NPV)?

PROJECT DEADLINES

Are there any deadlines that will influence the success of the project?

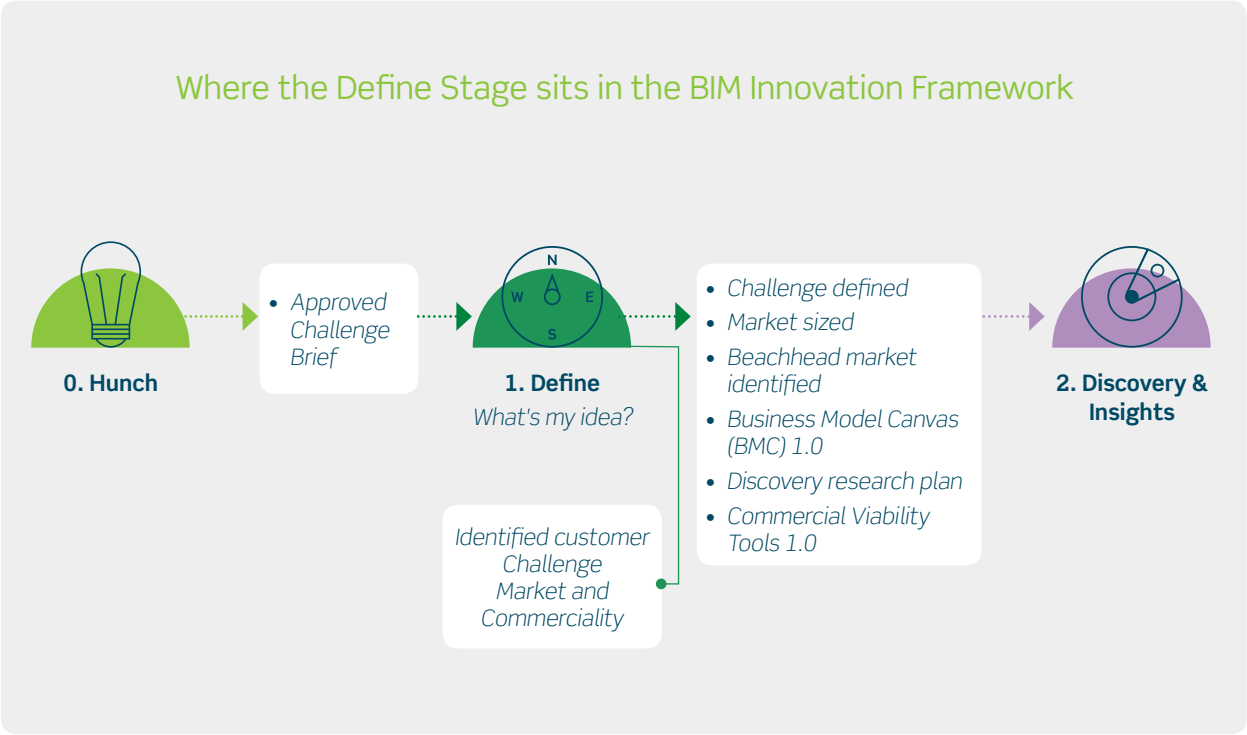
BUDGET RESORUCES

What will be the maximum project budget? What resources will be utilised?

Stage 1. Define

What is Stage 1, Define?

The Define stage sits between Hunch and the Discovery & Insights stages. The input to this stage is the initial hunch captured in the Challenge Brief. At this point you are at a very early stage and initial hunches are typically too raw to test and (in)validate with potential customers. The Define stage is an opportunity to dig deeper and expand your understanding of the challenge space. Who has the problem? What are their key pain points and desired gains? Who would use and benefit from your idea?



You will identify high potential customers and market segments for your hunch. In this stage you will use tools to create business models, develop value proposition(s) and establish initial P&Ls. As these will be your initial assumptions and smart guesses you will exit the Define stage with a research plan to turn your hypotheses into validated learnings during the Discovery & Insights stage.

The Define Process

As mentioned in the introduction the atoms of the innovation framework are the Tools. These can be remixed and mashed-up to best suit the need of a specific project or context. A typical playlist for Define would be:

— Challenge Diagram
— Project Vision and Challenge Statement
— Market Segmentation
— Total Available Market (TAM) estimation
— Business Model Canvas (BMC)
— Value Proposition Canvas (VPC)
— Profit & Loss Statement (P&L)
— What we know/don't know
— Discovery Research Plan

Below is a more detailed description of a standard Define Playlist, followed by a summary of each tool.

It is recommended to design and run a Challenge Workshop with the project team and key stakeholders (e.g. client company, market experts, customer experts etc.). The Challenge Workshop is a culmination of the key steps outlined below.

You will reflect on and identify what you know, and don't know about your potential end-users and customers (Desirability), required technology and solution elements (Feasibility) and commercial models (Viability). You will then design a research plan to turn your assumptions and hypotheses into facts.

Each of the steps outlined below is centred around key tools which are summarised in the Key Tools section.

STEPS

1. The Challenge Diagram

Summarise your challenge brief as a simple diagram. This is a very useful tool to communicate and test your challenge with customers and key stakeholders. The act of creating a diagram will force you to summarise the essence of your challenge. This 'executive summary' diagram is a very useful summary tool to communicate and test your challenge with customers and key stakeholders. A picture is worth a thousand words and reduces the chances for different interpretations. There are many types of diagrams you can use including:

— Journey Maps
— Value Chains
— Problem Maps
— Context Maps

2. Project Vision and Challenge Statement

Review the Challenge Brief and the Challenge Diagram to make sure the team and key project stakeholders understand it. Extract the essence of the Challenge and capture it in the Project Vision and Challenge Statement Template. Key points to capture:

— End goals
— Measures of success
— Big constraints and risks
— Timeline for implementation
— Refined Challenge Statement

3. Customer Segmentation

There are likely to be many customers you could focus on. However, in an innovation project you are typically short on time and resources so it's critical you decide on your highest potential initial customer segments to focus on. ***Focus is critical as you can do many things, but you can't do everything***. In this step you will:

1. Brainstorm all potential customer segments
2. Evaluate and score each segment
3. Rank the segments based on score
4. Choose the top 1 to 3 segments to be your initial focus and the anchor of your research plan.

4. Total Available Market

For the top 1 to 3 market segments estimate the market size of each. This is called the Total Available Market (or TAM) which is 100% of the revenue available in the market segment and needs to be large enough to be of interest. It's unlikely you'll achieve 100% of the Total Available Market, it will be some percentage of this – so to be commercially relevant the market must be big enough to be interesting.

5. Business Model Canvas

At this point in the Define stage you have generated a Challenge Brief, Challenge Diagram, Project Vision & Challenge Statement, selected your top 1 to 3 markets and estimated their market potential. Now is a good time to step back and summarise the big picture of the business using the Business Model Canvas.

The Business Model Canvas (BMC) summarises the 9 key elements needed to turn a customer need/pain point into a profitable venture. It gives you the structure of a business plan without the overhead of having to spend months writing one, and the brevity and flexibility of a 'back of the napkin' sketch.

It is a very useful tool to capture the big picture of your business idea. In addition, you can then risk assess each element, and this then helps you decide what you know and what you don't know to inform the design of the research plan.

6. Value Proposition Canvas

It's important to deeply understand your customer's needs and design products and services they want. The Value Proposition Canvas works in conjunction with the Business Model Canvas. It is, in fact the next level of detail on the Value Proposition and Customer Segment elements of the Business Model Canvas. The Value Proposition Canvas helps you frame what you believe your customer's key Pain Points and desired Gains are. This in turn helps you design products and services your customers want.

7. Profit and Loss Statement (P&L)

Create an initial P&L to summarise initial estimates of revenues, costs and expenses incurred. This will help you understand what needs to be true for the innovation to be commercially viable. In addition, you will be able to identify key assumptions that will feed into your Discovery Research Plan.

8. What do we know/don't know?

This is where you bring together and analyse the Business Model Canvas and the Value Proposition Canvas to holistically and truthfully understand a) what you know and b) what you don't know. Use the template to capture your conclusions

9. Discovery Research Plan

Now that you have narrowed your market opportunities to the top 1 to 3 market segments it is time to plan your Discovery Research Plan by

- **Desirability:** talking directly with and observing customers to validate or invalidate the opportunity and get a sense of which market is best. The goal is to understand all facets of your customer.
- **Feasibility:** if there are initial ideas about what technology could be used, developed or acquired, do a 1st pass research study to understand what's available, its capabilities and applicability to your challenge.
- **Viability:** As you learn about how customers solve this challenge today, understand the commercial models and their strengths and weaknesses to give you a baseline from which to create new models.

To familiarise yourself and get the lay of the land – as well as to begin to identify some of the major trends that may impact your opportunity – it's useful to start with secondary research. This will help you better design and plan your primary research. It will help you decide who to recruit to interview and directly observe. In addition, you should get a sense of the existing and emerging technologies impacting your opportunity space as well as the commercial models.

Key Tools for Define

Challenge Diagram

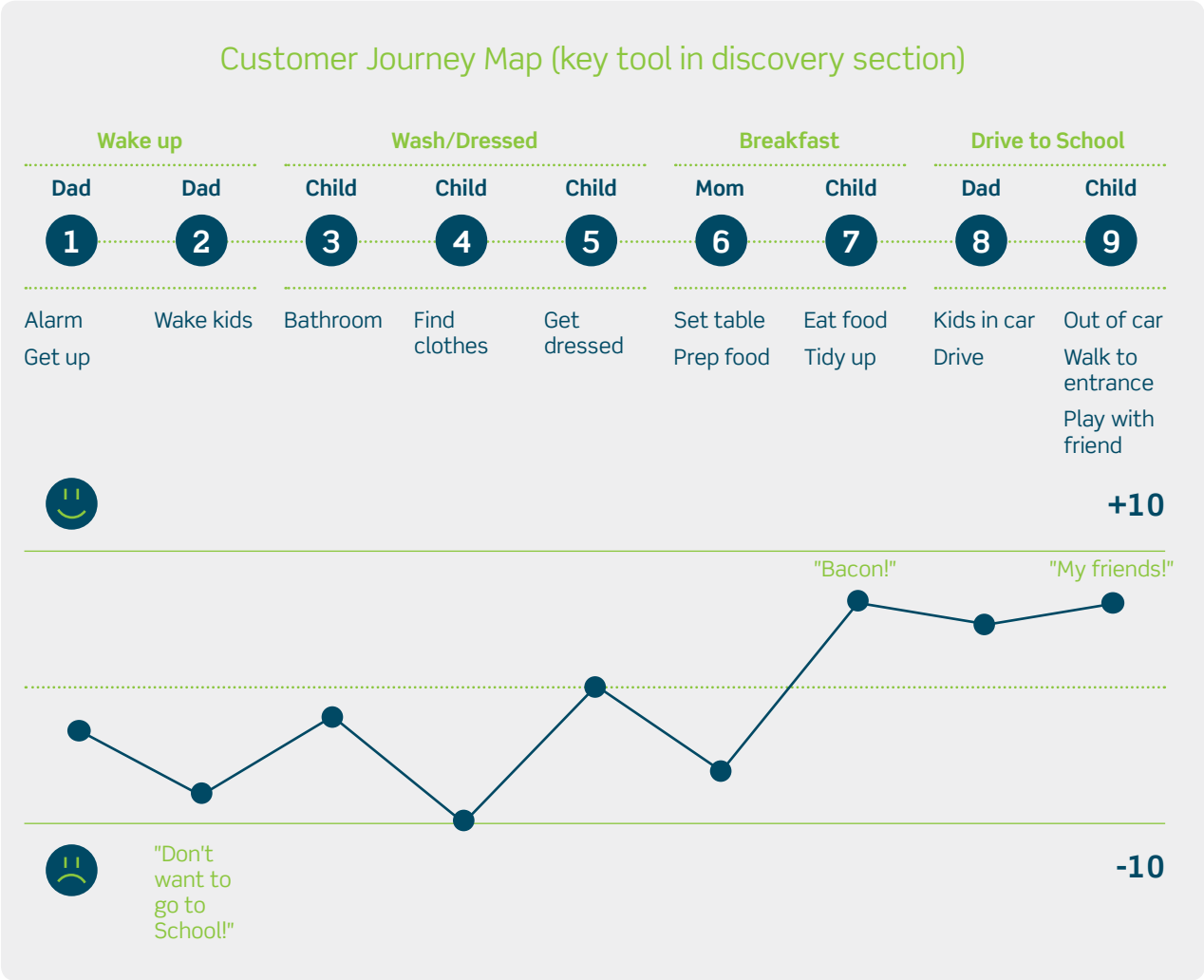
A picture is worth a thousand words!

A complex idea represented by a diagram typically conveys its meaning and essence more effectively than a verbal or written description does. A diagram minimises the risk of interpretation and helps align the team around a common understanding of the challenge at hand. A diagram also facilitates interaction and collaboration, as when shared (digitally or physically), other people can interact with it and add notes to enhance and refine the understanding.

At this stage you have a written description of your challenge from the Challenge Brief. Translating it to a diagram requires intellectual effort, and it is so worth it. You'll discover that you, yourself will learn so much more about what you know, and don't know about the challenge by drawing it. In addition, it will be much easier to share, enhance and refine with others (the team, customers and key stakeholders).

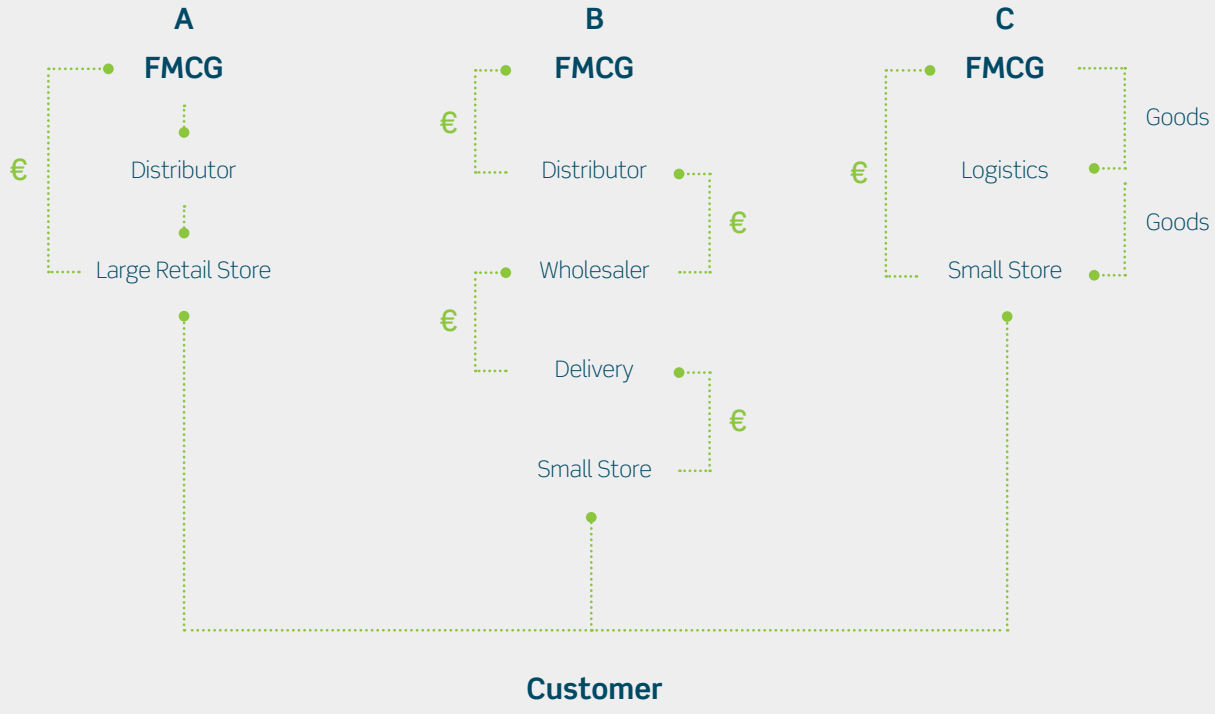
How to create a Challenge Diagram

Draw a diagram to visually communicate your challenge. It can be a journey map, a value chain, a flow chart and flow diagram, a context diagram or whatever you think best describes the problem and highlights the key pain point for your customer and/or user. Some examples below



Problem Map: The supermarket fish buying experience

Context Map: Different distribution chains



Value Chain Analysis (Shoe manufacturer example)

	Key Inputs	Manufacturing					Distribution	Sales	Service	End User
		Cutting	Sewing	Assembly	Packaging	General Control				
Key Activities	• This season's designs	• Cutting the component parts required to make shoes • Sorted into assembly kits	• Sewing together cut upper piece parts to make stitched upper	• Assemble modules (gluing, sewing) to make a complete shoe • Lasting – set the shape of the shoe • Finish by placing bed in shoe	• Packaging the shoes in individual boxes and grouping in order pallets	• Scheduling • Resource allocation • Quality control	• Pallets loaded on trucks and sent to warehouses • Warehouses distribute to Stores	• Stores place order via secure web channels • Consumer buys from stores • Consumer can research shoes on-line at company website	• Online community • Customer service via web/phone	• Standard pair of stylish shoes
Key Technology/Equipment	• Leather • Nylon • Metal eyelets • Plastic • Rubber • Adhesive • Soles • Thread • Laces	• Cutting presses • Cutting dies (for each shoe pattern and size)	• Electric sewing machines	• Toe box • Heel counters • Lasting machines • Heat control • UV tunnel	• Packaging machines • Manual labour	• Centralised production control and ERF system • Combination of automated and manual data collection • Statistical analysis providing data for management decision making	• Warehouses • Logistics management software • Trucks • Forklifts	• Order management software • Merchant web channel • Consumer facing web presence	• Online web help • Shared services centre	• n/a

Project Vision and Challenge Statement

Building on the Challenge Brief and Challenge Diagram extract and refine with your project team and key stakeholders the essence of the opportunity. Use the template to capture:

- End goals
- Measures of success
- Big constraints and risks
- Timeline for implementation
- Refined Challenge Statement

PROJECT VISION & CHALLENGE STATEMENT

END GOALS

What are the long term goals of the project?

MEASURES OF SUCCESS

What will be measured against at the end of this project. How will we know we have been successful?

BIG CONSTRAINTS/RISKS

What will be the big constraints for this project? What are the big Risks

TIMELINE FOR IMPLEMENTATION

Draw out a timeline for the project with the major tasks to be completed

CHALLENGE STATEMENT

Take all the above and define a Challenge Statement for the project

Customer Segmentation

In the Discovery & Insights stage you are seeking to answer, "Who is my customer?" In the Customer Segmentation step, you begin the framework of identifying which customer segment (i.e. market) you should focus on 1st, because you need to focus, as you're short on time and resources.

What is Customer Segmentation?

Figuring out how your idea or technology can serve a variety of potential customers and clustering similar ones into customer segments (markets).

Why do Customer Segmentation?

When you're in start-up mode (project or company) you are short on time and resources. Entrepreneurs see lots of opportunity and can do many things, but due to constraints they can't do everything. That's why, it's critical to focus on the best initial customer segment for your idea/technology and avoid being spread too thin across too many possible markets.

To choose the best initial customer segment to focus your efforts on, you will brainstorm many possibilities, apply criteria to identify the top ones and design a research plan to help deeply understand your initial customer segment, commonly referred to the Beachhead Market (i.e. your first focus).

How to do Customer Segmentation

Focus on end-users, not just customers. You will need a critical group of committed end-users to have a sustainable business. If there is no end-user, there will be no economic buyer. In general focus on real people not just industries. *Refer to the TripAdvisor example in the 'Customers and end-users' section of Page 4.*

You already have an idea or technology which is a great starting point. However, it often does not describe the world through your customer's eyes. You need to articulate an unmet or poorly met customer/end-user need. A need that is so deep that a group of customers are willing to pay you to solve it. The steps below are based on those developed by Bill Aulet in his book Disciplined Entrepreneurship.

STEPS

1. Brainstorm a wide array of potential end-users and customers

For your business. Broaden the world of possible end-users and customers. Consider who might benefit from your idea/technology. Wild ideas are encouraged and welcomed at this point. Use the Brainstorm Tool to help you (see Ideation Key Tools).

When brainstorming what your project can do, consider these questions:

— What is my idea or technology?

— What industries could my idea/technology apply to? What would they use it for?

— What end-users could my idea/technology apply to? What would they use it for?

— What customer could my idea apply to? What would they use it for?

2. Narrow

Now that you have lots of ideas, it is time to start narrowing down the field to eliminate from consideration market segments that would be poor options for your project. Narrow your list down to your top 3 or so customer segments to get to a manageable list so that later you can do a deeper analysis on a small number of segments before you choose your Beachhead Market. Use the 7 questions in the Customer Segments Matrix to rate, rank and narrow your selection.

Customer Segments evaluation criteria

Below are 7 criteria which will help you decide if a target market is the right one.

1. **Is the target customer well-funded?**
   The customer needs to have the ability to buy your product at the required profitable price.

2. **Is the target customer readily accessible to you?**
   In the beginning you want to deal directly with end-users and customers rather than third parties to understand their context, pain points, desired gains and existing alternative to your product. Because your solution is likely to go through many rapid iterations based on end-user and customer feedback - you need to hear and respond to this first hand.

3. **Does the target customer have a compelling reason to buy?**
   Does the end user and/or customer have a deep unresolved pain point or desired gain? Are they highly motivated by your value proposition, that they are willing pay for it? Are there easy to purchase alternatives? Are they 'happy enough' with the status quo?

4. **Can you develop and deliver a whole solution?**
   Can you with the help of partners deliver the complete solution? An example here would be most consumers don't want to buy an engine to install in their car, even if it's much better than their current one. They want to buy a car. That is, they want a whole solution that incorporates your product, which means you may need to work with manufacturers and distributors to convince them that your product is worth integrating into their workflows.

5. **Is there entrenched competition that could block you?**
   Rare is it the case that there are no other competitors vying to solve an identified need. How strong are those competitors from the customer's viewpoint (not yours)? Can the competition block you (e.g. drop price)?

6. **If you win this segment, can you leverage it to enter additional segments?**
   What are the adjacent/follow-on markets where you can sell your product with only minor modifications? Or will you need to make radical changes to your product to sell to adjacent markets?

7. **Is the market consistent with the values, passions, and goals of the project sponsors?**
   It's important that the values and passions of the project sponsors don't take a back seat. For example, if a strong value of a project sponsor was environmental sustainability and a market opportunity arose that would significantly compromise that, then it may not be the right opportunity.

(Source: Bill Aulet, Disciplined Entrepreneurship)

Start by asking these questions at an industry level. Then consider what the answers would be for the end user of your solution and who the human customer would be. Your limiting factor is time – you will research the top 1 to 3 markets in depth during the Discovery & Insights stage.

Score each target market on the Customer Segments Matrix on a scale of 1 to 5. Where 5 is the best and 1 the worst. Add up all the scores horizontally for each potential market segment to get a rating. Order the segments from highest rating (rank #1) to lowest. Choose the top 3 or so (less is more here) to develop a Primary Market Research Plan which is what we will do as the final step of this stage.

Customer Segments Matrix

Industry	End user	Human Customer	Target customer well-funded?	Target customer's readily accessible to sales force?	Target customer's compelling reason to buy?	Can you deliver a whole solution?	Is there entrenched blocking competition?	Can you leverage this segment to enter others?	Consistent with values and passion of the sponsors?	Score (Rank)
			Score 1—5	Score 1—5	Score 1—5	Score 1—5	Score 1—5	Score 1—5	Score 1—5	

Total Addressable Market

What is Total Addressable Market (TAM)?

TAM is a tool to estimate the total revenue you could achieve (in Euro per year) in your chosen customer segment if you achieved 100% market share. You will do this for your top 3 market segments. The TAM needs to be the right size for your innovation. Too small and its uninteresting and it won't deliver enough sustainable revenue. Too big and you won't be able to mobilise enough resources to compete.

At this point in time it will be an initial rough estimate to help guide which markets to prioritise a deeper dive on in the Discovery & Insights Stage.

Calculating Total Addressable Market

The TAM calculation will be a guide in helping you determine if your market is too small or too big. Remember it is a general estimate and when communicating your TAM always include the assumptions made to perform the calculation.

STEPS

1. Estimate the number of end-users in the market segment

Use a combination of top-down analysis (based on secondary research and market reports) and bottom-up analysis, counting the number of end-users in the market segment one-by-one.

2. Estimate annual revenue per end-user

This part is tougher. You are not estimating the price of your product/service. You are estimating the customers' ability and willingness to pay for a solution. The guideline here is not to focus on precision but an order of magnitude approximation.

Elements to consider are:

— What the end-user currently spends to solve this challenge or on a solution.

— The customers available budget? What portion is available to spend on your solution?

— What are customers paying for similar products?

After you have collected the various data points, triangulate them and come up with your best approximation, your smart guess, as to what the annual revenue per user is.

3. Calculate the TAM

TAM = # of customers * annual revenue

4. Is the market segment the right TAM size?

Here is a checklist to help you assess if the market segment is the appropriate size

— Is the market big enough to be interesting? Y/N

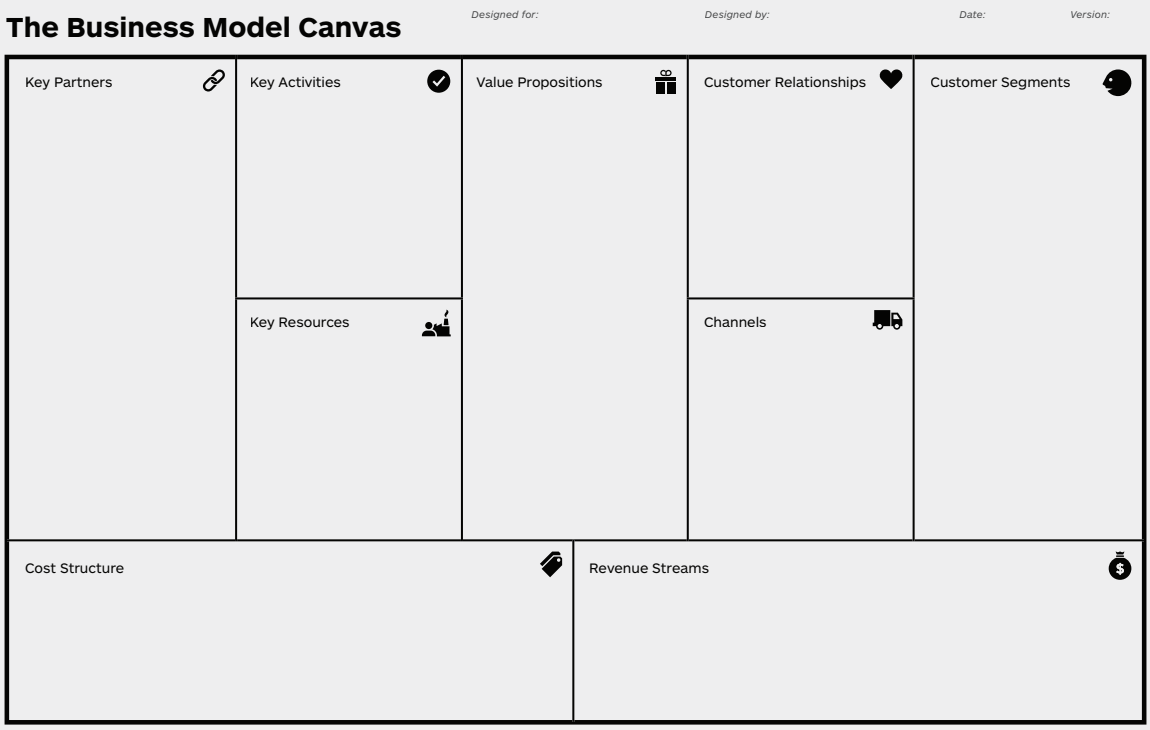
— Is it a manageable size for you to achieve meaningful word of mouth, i.e. not too big? Y/N

— Will you achieve positive cash flow in a reasonable period of time? Typically, 3 years for a start-up, but it might be shorter or longer depending on your segment or business.

The Business Model Canvas

The Business Model Canvas (BMC) summarises the 9 key elements needed to turn a customer need/pain point into a profitable venture. It gives you the structure of a business plan without the overhead of having to spend months writing one, and the brevity and flexibility of a 'back of the napkin' sketch. The creator Alex Osterwalder explains it well in this video **https://strategyzer.com/canvas/business-model-canvas.**

The Business Model Canvas has 9 elements



It is a very useful tool; the 9 elements provide a comprehensive and coherent overview of an opportunities key business drivers.

At this point in the Define stage you have completed the Challenge Brief, Challenge Diagram, Customer Segmentation and estimated the TAM for your top one to three markets. Now is a good time to step back and summarise the big picture of the business by using the Business Model Canvas. This will give you a holistic view of the overall business opportunity which you can then evaluate to inform 'What we know and What we don't know'.

Creating a Business Model Canvas

Capture the 9 key hypotheses (smart guesses) of the venture in the Business Model Canvas template to get a comprehensive overall view on your current thinking about the opportunity.

A new opportunity is the search for a sustainable profitable business model and the canvas helps us comprehensively capture the current state of the venture, risk assess each element and enable prioritisation of what to do next. Our recommendation is to create a business model canvas for each customer segment as their needs and pain points are likely to be different. In addition, you should update your canvases at every stage to continuously assess progress.

A good way to create a canvas is to print it out/or draw it out big and large and stick it to a wall. Bring the key people from the project together and use Post It notes to fill out the elements of the BMC and then ask yourself 'Does this make sense?' Complete the canvas template in the order below

STEPS

1. Customer Segments

Who is the customer(s)? What is the challenge (need, pain point, opportunity) they face? It can be useful to capture both customers and end-users here – if appropriate for your market segment. You've already identified the top 3 customer segments – enter them here, or better still have a separate canvas for each customer segment.

2. Value Propositions

What's compelling about your value proposition? How does it resolve a customer need/pain point/opportunity? What is the benefit your customer gets? (i.e. not features).

3. Channels

How do you get your value proposition to your customers/ end-users? How are your solutions sold and delivered?

4. Customer Relationships

How do you engage your customers? How do you get, keep and grow your business with them?

5. Key resources

What are the most important assets to deliver the value proposition and make the business model work (physical, financial, intellectual or human)?

6. Key Activities

What are the key processes or methods required to deliver on the value proposition and make the business model work (e.g. development process, supply chain model, innovation process...)

7. Key Partnerships

Decide what is core for the company to deliver and add value. All the rest you will develop into a network of suppliers and partners to deliver the value proposition and make the business model work.

8. Revenue Streams

How does the business generate revenue? What is the economic logic? What are the expected annual returns?

9. Cost Structure

Describe the key costs incurred to develop and operate the business model.

10. Sense Check

Reflect on your BMC and ask yourself the following questions

— Does it make sense?

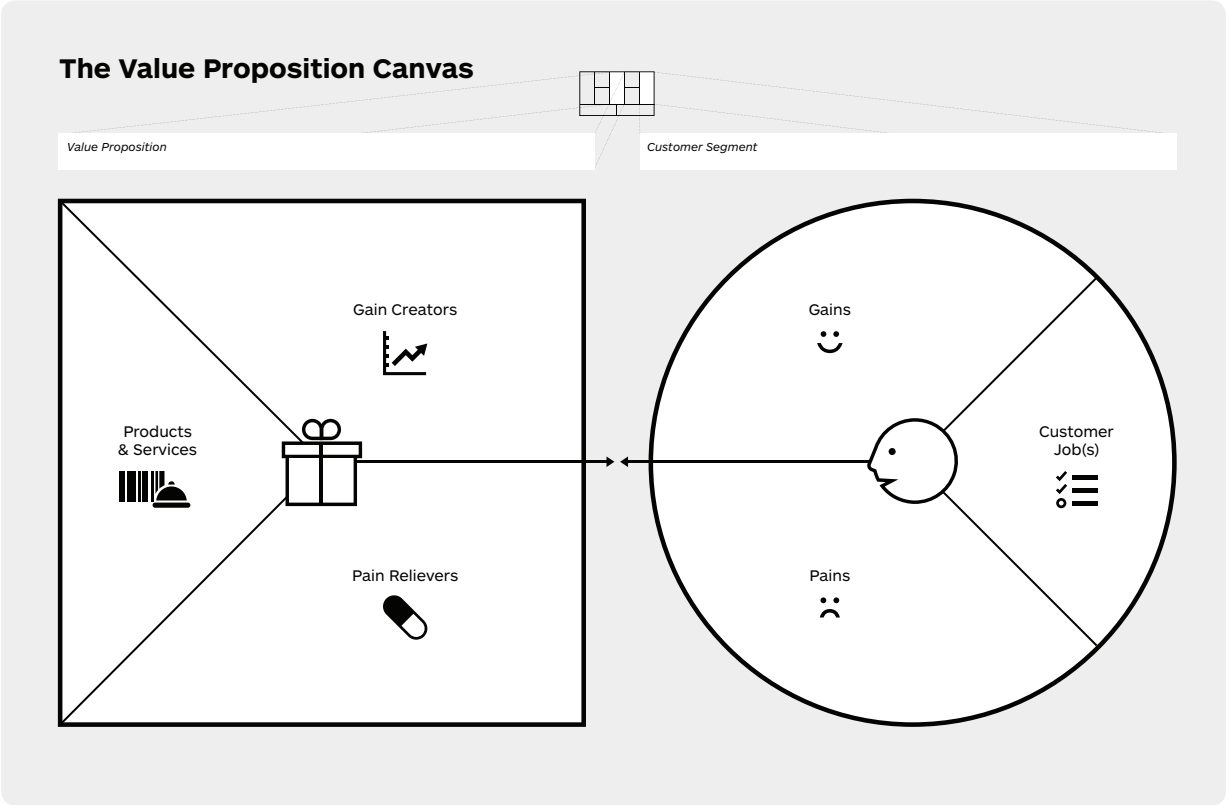
— Could it be better?

— Can it be profitable?

Value Proposition Canvas

The Value Proposition Canvas is a deeper dive on the Value Proposition and Customer Segments elements of the Business Model Canvas and helps you design, develop and test compelling customer value propositions. The creator Alex Osterwalder explains it in this video https://youtu.be/aN36EcTE54Q.

The Value Proposition Canvas enables you to describe your Value Propositions and target Customer Segments in more detail. Once you've done this you can test and evaluate how good a match your value proposition is at creating value for your customer. You'll do this in one of two ways a) relieving pain or b) enabling desired gains.



Creating a Value Proposition Canvas

A good way to create a canvas is to print it out/or draw it out big and large and stick it to a wall. Bring the key people from the project together and use Post It notes to fill out the elements of the canvas and then ask yourself 'Does this make sense?' Complete the canvas template as outlined below.

STEPS

1. Customer Jobs

Start here. Describe what jobs a specific target customer of yours is trying to get done. Create a Post-It note for every major and ancillary job you intend to help your customer get done.

2. Add Pains and Gains

Capture every pain your customer experiences or could experience on a separate Post-It note and place it in the Pains box. In the same vain capture every benefit the customer expects, desires or would be surprised by and place these in the Gains box.

3. Describe your Product or Service

List all the elements of your product and services and capture them in the Products and Services box.

4. How will you create value?

Describe how your solution will create value by either killing customer pain or creating customer gains.

5. Sense Check

Use the canvas as a starting point to assess what you know and don't know. This is a useful tool to help you design what to prioritise in your Research Plan. Reflect on your Value Proposition Canvas and ask yourself the following questions

— Does it make sense?

— Do you really understand what jobs are most important to your customer?

— Do you really understand what the related pains and desired gains are from your customers point of view?

— What assumptions are you making about how your solution addresses the customer's pain points and desired gains?

— Could it be better?

What We Know and Don't Know

Review and reflect on your Business Model Canvas, your Value Proposition Canvas and your initial P&L.

Review each element and ask

- What is a fact?
- What is an assumption?
- What must be true to proceed?

Remember to reflect on Desirability (Customers, Value Proposition, Channels and Customer Relationships), Feasibility (Key Resources, Key Activities and Partners) and Viability (Costs. Revenue Streams) to surface all key assumptions and facts.

Capture the key verified facts in the 'What do we know?' box and key assumptions in the 'We do not know?' box. The 'We do not know?' box becomes the foundation of your research plan where you seek to turn assumptions into facts. Use the templates below.

WHAT DO WE KNOW/DON'T KNOW CUSTOMER NEEDS

ENVIRONMENT MAP

Use the Environmental map to understand the external landscape

VALUE PROPOSITION

Use the Customer Profile and Value Map to define the Value Proposition for your product or service

WHAT DO WE KNOW?

WE DO WE NOT KNOW?

WHAT DO WE KNOW/DON'T KNOW
TECHNICAL & OPERATIONAL FEASIBILITY

BIM

TECHNICAL SOLUTION

Draw the Technical Solution in as much detail as possible identifying what we know and don't know

INTERNAL OPERATIONAL FEASABILITY

What is the internal operational requirements needed to deliver the technical solution within the company?

WHAT DO WE KNOW?

WE DO WE NOT KNOW?

WHAT DO WE KNOW/DON'T KNOW
VIABILITY

BIM

SKU P&L

Using the template provided build the Sku P&L

- What are the retailer price per kg?
- What is the retailer margin?
- What are the Prime costs?
- What are the Processing costs?
- What are the Wholesale costs?
- What are the Distribution cost?

5 YEAR P&L

Using the template provided build the 5 year P&L

- What is the volume in year 1
- What is the volume growth for years 2-5
- What is the cannibalisation?
- What is the capex required?

WHAT DO WE KNOW?

WE DO WE NOT KNOW?

Discovery Research Plan

When it comes to innovation our inspiration comes from data. The goal is to understand your customer, existing solutions/technology and commercial models. You need to understand your customer from all dimensions: contextually, emotionally, economically, socially, culturally and more. Walk a mile in their shoes and deeply understand their context and perspective. The customer is the expert of their problem.

Creating a Research Plan

We need facts and figures that help us size the opportunity, understand how it is solved today and what the existing commercial models are. In addition to data to help us understand the current situation we also need to perform direct customer research through customer interviews and direct observation to have a complete picture of the innovation challenge. Below is a summary of the key steps followed by a Discovery Research Plan Template, inspired by Jeanne Liedtka and Tim Ogilvie's Designing for Growth.

STEPS

1. List Key Assumptions

Identify and review your assumptions through each of the innovation lenses, Desirability, Feasibility and Viability (DFC). Use the research plan template to design and manage your research plan – leverage the DFV prompts in the template to identify your key assumptions.

2. Define the Research Goals

For each assumption ask yourself – what are the key questions I need to answer? This becomes the research goal. Ask yourself "What do I need to know?" to prove or falsify this assumption.

3. Start with secondary research

It's worth starting with secondary research first. Do some homework so you get the basics of the customer's context, the existing solutions, the industry, market and commercial models. This will equip you with some knowledge, so you can engage more effectively with customers and other stakeholders when you are doing primary research.

4. Decide the primary research method

For each assumption/goal decide on what the research method is, and the number of data points required. For example, it could be, interview 10 supermarket consumers, observe the payment approach of 5 small fish processors, gather data directly on the weekly catch statistics for a fishing co-op. Capture this in the template.

5. Assign owners and due dates

Agree who will own each research element, when it needs to be complete and track progress in the status column.

6. Review results

Review the outcomes of each research element and decide whether the assumptions were validated or invalidated. Decide the way forward – whether that means:

— Revising the challenge, customer or work, you did earlier

— Conducting additional research based on findings

— Proceeding to the next stage

— Changing direction

— Killing the idea

Let the evidence guide your decision making.

Discovery Research Plan Template

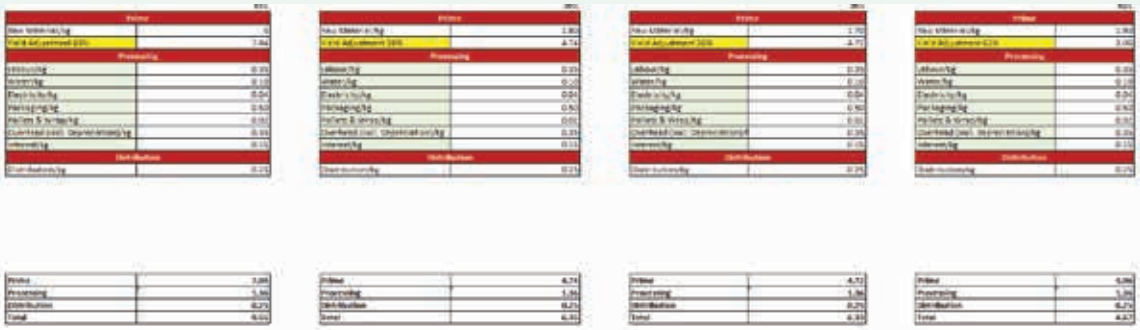
Innovation Lens	Assumption	Research goal	Secondary research sources	Primary research technique	Owner	Due date	Status
Desirability: • Customer persona • User persona • Job to be done • Pain points • Desired gains • As-is solution VP • As-is usage state • As-is customer acquisition • Future state ideas							
Feasibility: • As-is solution / workaround • As-is technology • As-is enabling technology • As-is process • Existing solutions • Emerging technology							
Viability: • Validate TAM • Validate TAP • As-is price • As-is commercial model • As-is solution provider costs • As-is customer acquisition costs							

Commercial Viability Tools

STEPS

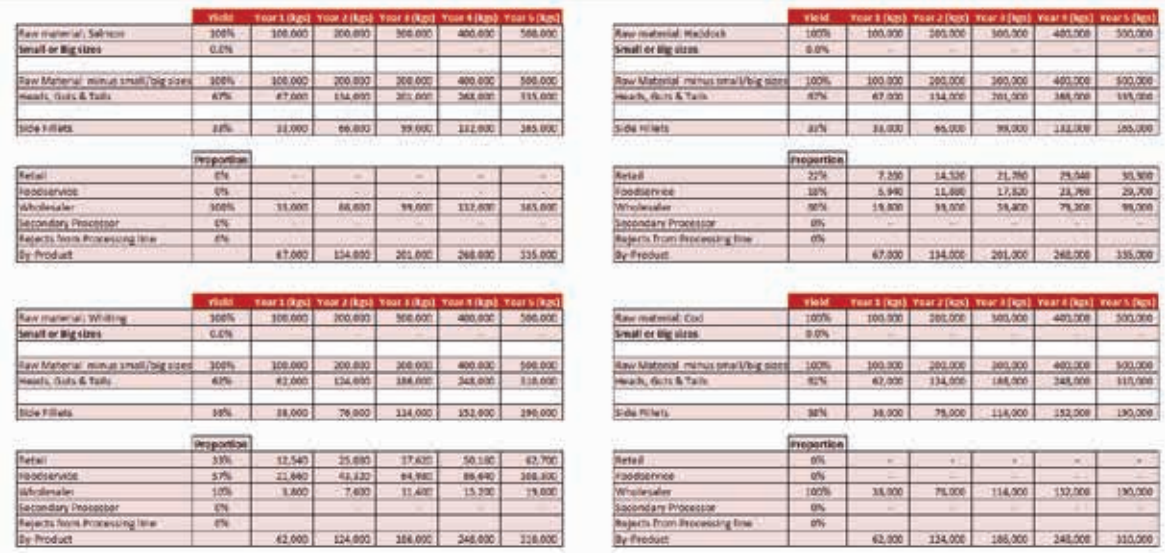
1. Cost Analysis

The first step of determining if your project is financially viable or not is preparing a detailed analysis of input production/processing costs required.



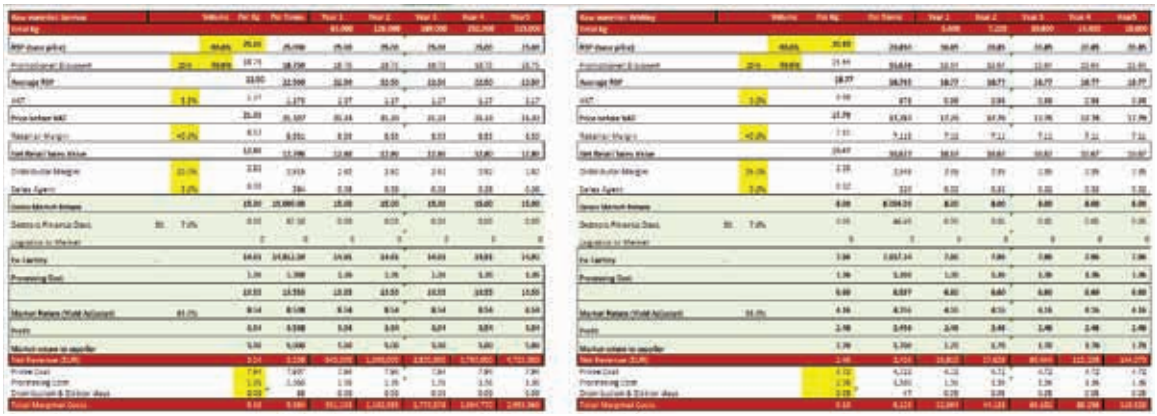
2. Volume Analysis

Analysis of volume availability, volume flow and identification of market channels



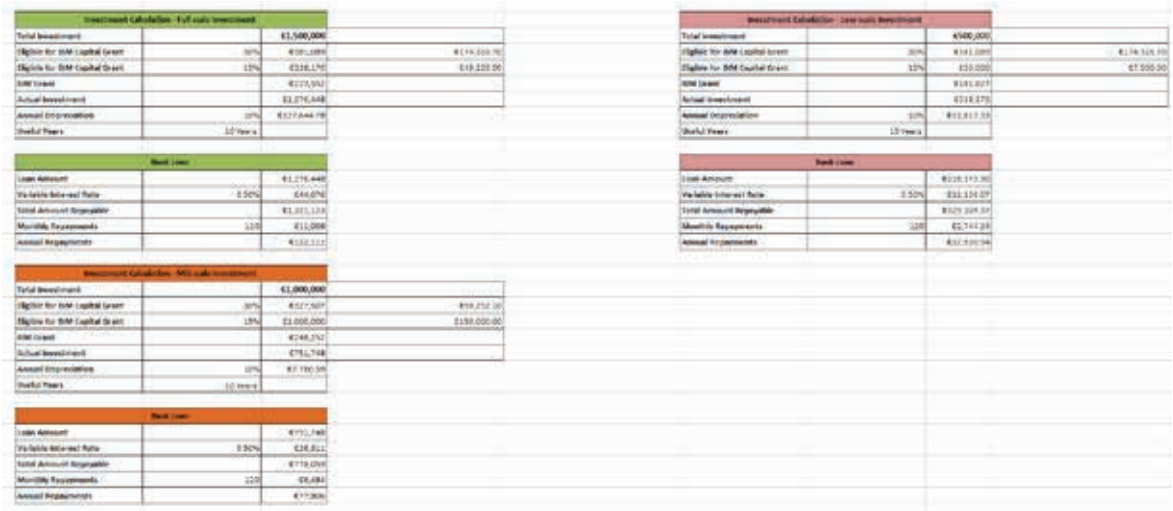
3. SKU P&L Analysis

Detailed analysis of value chain from raw material to market. Net revenue, marginal costs and marginal contribution calculated. Projected sales over 5-year period.



4. Capital Investment Analysis

Detailed analysis of investment required for project implementation. Projections of different scales of investment to predict funding method and level required.



5. Cashflow Analysis

Determining the operational cashflow requirement for the project to function

2019				2020				2021				2022		
	Volume (tonnes)	Raw Material Value (€)	Processing Cost		Volume (tonnes)	Raw Material Value (€)	Processing Cost		Volume (tonnes)	Raw Material Value (€)	Processing Cost		Volume (tonnes)	Raw Material Value (€)
Jan	9	47,120	12,817	Jan	19	94,241	25,633.51	Jan	28	141,361	38,450.26	Jan	48	407,681.91
Feb	16	78,534	21,361	Feb	31	157,068	42,722.51	Feb	47	235,602	64,083.77	Feb	80	679,469.84
Mar	24	117,801	30,123	Mar	47	235,602	60,246.00	Mar	71	353,403	90,369.00	Mar	119	1,019,204.76
Apr	14	70,681	20,180	Apr	28	141,361	40,360.00	Apr	42	212,042	60,540.00	Apr	72	611,522.86
May	13	62,827	44,457	May	25	125,654	88,914.97	May	38	188,482	133,372.46	May	64	543,575.87
Jun	16	78,534	33,658	Jun	31	157,068	67,316.00	Jun	47	235,602	100,974.00	Jun	80	679,469.84
Jul	24	117,801	49,568	Jul	47	235,602	99,136.00	Jul	71	353,403	148,704.00	Jul	119	1,019,204.76
Aug	31	157,068	54,879	Aug	63	314,136	109,758.00	Aug	94	471,204	164,637.00	Aug	159	1,358,939.69
Sep	39	196,335	53,403	Sep	79	392,670	106,806.28	Sep	118	589,005	160,209.42	Sep	199	1,698,674.61
Oct	39	196,335	53,403	Oct	79	392,670	106,806.28	Oct	118	589,005	160,209.42	Oct	199	1,698,674.61
Nov	60	298,429	79,456	Nov	119	596,859	158,912.00	Nov	179	895,288	238,368.00	Nov	302	2,581,985.40
Dec	16	78,534	21,361	Dec	31	157,068	42,722.00	Dec	47	235,602	64,083.00	Dec	80	679,469.84
Annual	**300**	**1,500,000**		**Annual**	**600**	**3,000,000**		**Annual**	**900**	**4,500,000**		**Annual**	**1528**	**12,977,874**

Jan	Income Deficit	60	1910	3.14%
Feb		100	1910	5.24%
Mar		150	1910	7.85%
Apr		90	1910	4.71%
May		80	1910	4.19%
Jun		100	1910	5.24%
Jul		150	1910	7.85%
Aug		200	1910	10.47%
Sep		250	1910	13.09%
Oct		250	1910	13.09%
Nov		380	1910	19.90%
Dec		100	1910	5.24%

6. Profit and Loss Statement (P&L):

A profit and loss statement (P&L) is a financial statement that summarises the revenues, cost and expenses incurred during a specific period of time, usually a year. A P&L at the beginning of an innovation endeavour is full of assumptions as to what's required to have a commercially successful business.

Below is a screen shot of a simple P&L provide in the BIM P&L Spreadsheet tool.

Seafood Company- 5yr P&L

P&L Impact		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
		1000's	1000's	1000's	1000's	1000's	1000's	1000's
Inflation								
COGs inflation			1.000	1.000	1.000	1.000	1.000	
Volume Increase (Estimated)			0.0%	0.0%	0.0%	0.0%	0.0%	
Cannibilisation			0%	0%	0%	0%	0%	
'000's								
Gross kg			151,400	302,800	454,200	605,600	757,000	2,271,000
Gross Net Revenue	11.12		1,683,437	3,366,895	5,050,432	6,733,969	8,417,487	25,252,460
Gross Trading Contribution	1.46		220,764	441,528	662,293	883,057	1,103,821	3,311,463
Incremental Volume			151,400	302,800	454,200	605,600	757,000	2,271,000
Incremental NR	11.12		1,683,437	3,366,895	5,050,432	6,733,969	8,417,487	25,252,460
Incremental TC	1.46		220,764	441,528	662,293	883,057	1,103,821	3,311,463
Other Product related costs	Minus							0
A&P	Minus		0	0	0	0	0	0
Development costs	Minus							
Depreciation - New Plant			0	0	0	0	0	0
Operating Profit		**0**	**220,764**	**441,528**	**662,293**	**883,057**	**1,103,821**	**3,311,463**
Taxation			353	(32,679)	(64,899)	(96,516)	(127,681)	(321,423)
Profit after Tax		**0**	**221,117**	**408,849**	**597,393**	**786,541**	**976,141**	**2,990,041**
Interest			(34,764)	(25,763)	(10,840)	10,142	37,358	(23,867)
Earnings		**0**	**186,352**	**383,086**	**586,554**	**796,682**	**1,013,499**	**2,966,174**

Cashflow Impact	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
	1000's	1000's	1000's	1000's	1000's	1000's	1000's
Operating Profit	0	220,764	441,528	662,293	883,057	1,103,821	3,311,463
Capital Investment	(1,276,448)						(1,276,448)
Depreciation/Write Offs	0	0	0	0	0	0	0
Taxation	16,590	16,766	(16,163)	(48,789)	(80,708)	(112,098)	(224,403)
Cashflow	(1,259,858)	237,530	425,365	613,503	802,349	991,723	1,810,613
Real DF (5% Nominal)	1.00	0.95	0.91	0.86	0.82	0.78	
Discounted Cashflow	(1,259,858)	226,219	385,819	529,967	660,095	777,041	1,319,283
NPV	******	*******	**(647,820)**	**(117,853)**	**542,242**	**1,319,283**	**1,319,283**
Cumm DCF	(1,259,858)	(1,033,639)	(647,820)	(117,853)	542,242	1,319,283	1,319,283
Periods to payback	12	12	12	12	2	0	
Discounted Payback (Years)	**3.9**						
IRR	24%						
Launch Periods	**12.0**						

1) Tax Computation	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Profit before Tax	0	220,764	441,528	662,293	883,057	1,103,821
Add Depreciation	0	0	0	0	0	0
Asset Write Down	0	0	0	0	0	0
Profit attributable to tax	0	220,764	441,528	662,293	883,057	1,103,821
Capital Allowances	31,911	25,529	20,423	16,339	13,071	10,457
Tax @ 12.5%	0	(27,596)	(55,191)	(82,787)	(110,382)	(137,978)
Tax Relief on Interest	1,268	2,419	2,089	1,549	795	(160)
Tax (P&L)	**33,180**	**353**	**(32,679)**	**(64,899)**	**(96,516)**	**(127,681)**
Tax (Cashflow)	**16,590**	**16,766**	**(16,163)**	**(48,789)**	**(80,708)**	**(112,098)**

2) Funding	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Opening Debt	0	(1,277,575)	(1,071,455)	(668,070)	(63,118)	743,416
Capital Expenditure	(1,276,448)	0	0	0	0	0

7. Financial Summary

Determining if the project is financially viable by calculating the Net present Value, Payback Periods and Internal Rate of Return.

Financial Summary				
Project Name: Seafood Company Project				
BASED ON LATEST BUSINESS CASE				
Gate Criteria Matrix	Multinational	PLC	Seafood Company	Result
5 year NPV €'000s	> 0	> 0	> 0	1,319,283
Payback period Years	<2 years	< 3 years	3 - 5 years	4
IRR	>15%	> 10%	> 5%	24%

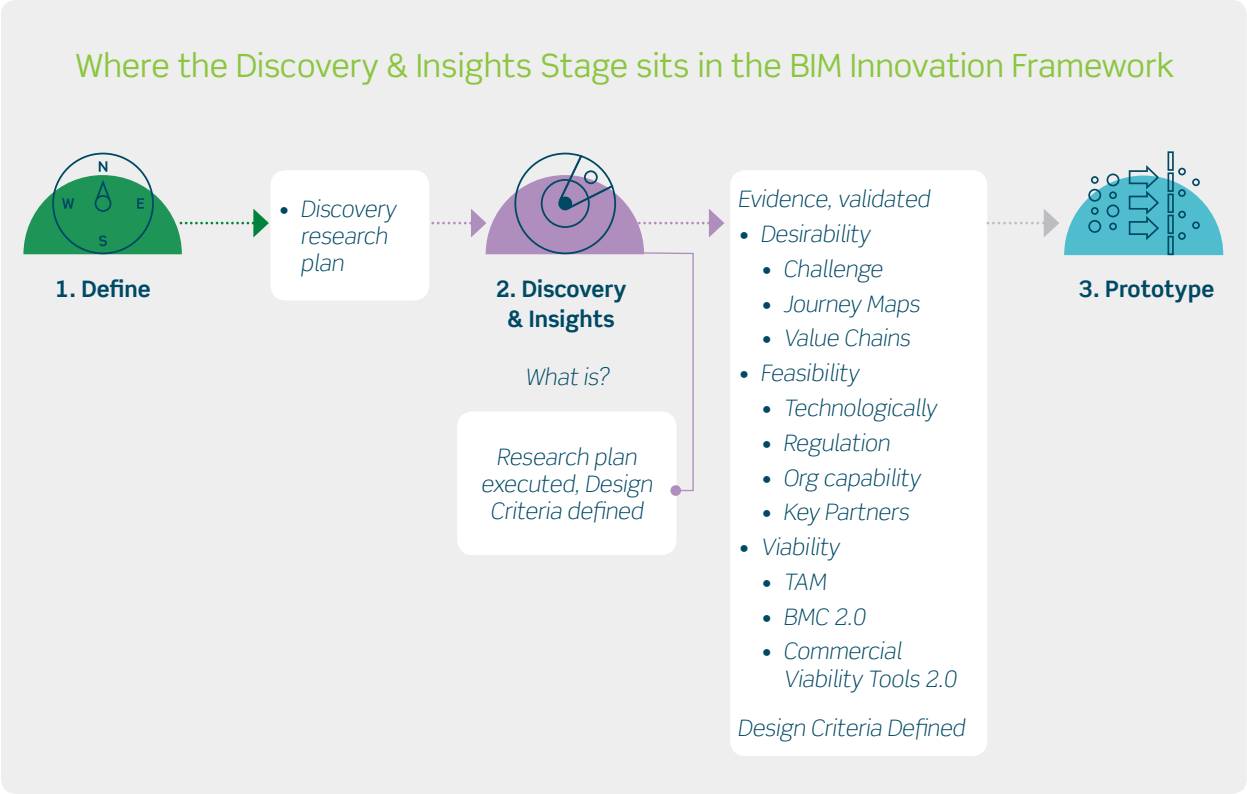
Stage 2: Discovery & Insights

What is Stage 2, Discovery & Insights?

In this stage we execute the Discovery Research Plan, review findings, extract insights, reframe the challenge statement and set design criteria in order to generate solution ideas in the next stage (Prototype). In addition to collecting and analysing data about existing technology and commercial models you will directly interact with and observe your customers.

It is recommended not to outsource your initial primary customer research. It's vital you hear directly from customers and see the 'whites of their eyes' when they are giving feedback. No one is as invested in the innovation project, and its success as the core project team. So, at the start all the primary direct customer research should be done by the core project team. Never outsource your eyes.

To extract insights, review all the data and information gathered during research about the challenge. The goal here is to establish a unique Point of View of the challenge and set Design Criteria in order to generate ideas in the next stage.



Key Tools for Discovery & Insights

There are two primary perspectives to consider when thinking about your challenge. One 'Facts and Figures' and other 'Observation'. Facts and Figures are the data and facts that exist to describe the challenge you are tackling, it's the quantitative perspective. Observation is talking to your customer, getting to know them, watching what they do to figure out what could be improved, it's the qualitative perspective. Think of it as bringing the 'whole-brain' to the challenge, left brain being Facts and Figures and right brain being Observation. Looking at the challenge from these two macro perspectives gives you a more holistic view and deeper understanding of the challenge at hand.

As mentioned in the introduction the atoms of the innovation framework are the Tools. These can be remixed and mashed-up to best suit the need of a specific project or context. A typical playlist for Discovery & Insights would be:

- Facts and Figures
- Direct Customer Research (interviews, observational research, immersion)
- Stakeholder Mapping
- Persona
- Card Sort
- Problem Interview
- Customer Journey map
- Value Chain Analysis
- Insights Workshop
    - Science Fair
    - Make Sense
    - Identify Insights
    - Point of View
- Design Criteria

Below are the key tools to use to deeply understand your customers and their challenge.

Facts and Figures

A good place to start is to collect, organise and analyse data to help describe the current situation with respect to the challenge you are tackling. Ask yourself "What data exists and what does it tell me?" Seek data to answer such questions as:

- How big?
- How small?
- How often?
- Number of defects?
- Number of customer complaints?
- Size variation?
- Etc.

Once you've collected the data and organised it, it's best to represent it in a chart to aid interpretation.
See examples to standard charts below.

Typical data charts used to understand and interpret data

Direct Customer Research

There are several methods that can be used for direct customer research below are the key ones:

1. **Customer interviews:** These should be designed and are the most common way to engage and understand customers. A key tool for this is the Problem Interview which is outlined below. Some key pointers to any successful customer interview are:

   — Be completely in, inquiry mode **and never in sales mode**. This is key. If your customer feels they are being sold to, they are unlikely to give you comprehensive and honest feedback. In addition, it's amazing what you learn from customers when you are not in sell mode.

   — Bring an artefact – it can be a simply as a diagram – to test something and get customer feedback. This increases the effectiveness of the customer interview enormously beyond simply having a conversation. The artefacts can be something to represent the challenge, a root cause or a solution idea. As the old adage goes, "A picture is worth a thousand words". See the Challenge Diagram tool in the hunch section for examples of artefacts you can use.

   — When possible always have at least two people conduct the interview. One to lead and conduct the interview and the other to capture notes, photographs and video.

2. **Observational Research:** Watch customers work, play, shop, living their lives. Seek permission to video and take photographs. You can accompany them in the passenger seat as they do their job, live their lives. Carefully observing and asking questions while making sure not to change their behaviour through your actions or questions.

3. **Immersion:** Perform the customers activity and fully experience all the dimensions of what they are doing in a way that will give you an understanding that is deeper than just observation.

Stakeholder Mapping

Stakeholder Mapping is the first step in Stakeholder Management, an important process to win support from others for your innovation project. Managing stakeholders helps bias the likelihood that your project will succeed where others might fail.

The Stakeholder mapping Process

Identify who your stakeholders are. Next, work out their power, influence and interest, so that you know who you should focus on. This is important so as not to waste your time on stake-less stakeholders even if they have loud voices! Finally, develop a good understanding of the most important stakeholders, so that you know how they are likely to respond, and how you can win their support.

When you've completed your mapping, then work out how you'll communicate with each stakeholder.

STEPS

1. Identify

Start by brainstorming who your stakeholders are. As part of this, think of all the people and organisations who are affected by your project, who has influence or power over it, or have an interest in its successful or unsuccessful conclusion.

The table below identifies some of the people who might be stakeholders in your projects:

Your boss	Trade associations	Users
Shareholders	Co-workers	Prospect customers
Government	Suppliers	Senior sponsor
Senior Executives	Innovation Team	Investors/funders
Value chain players/partners	Customers	Employees in customers

Stakeholders can be both organisations and people, but ultimately you must communicate with people. Be sure to identify the correct individual stakeholder within an organisation.

2. Prioritise and map

You now have a list of people and organisations that are affected by your project. Some of these may have the power either to block that work or to advance it. Some may be interested in what you are doing, while others may not care, so you need to work out who you need to prioritise to connect and communicate with.

Map out your stakeholders and classify them according to their power over your work and their interest in it, on a Power/Interest Grid (see below).

3. Understand

You now need to discover how your key stakeholders feel about your project. You also need to work out how best to engage them, and how to communicate with them.

Key questions that can help you understand your stakeholders include:

— What financial or emotional interest do they have in the outcome of your work? Is it positive or negative?
— What motivates them most of all?
— What information do they want from you, and what is the best way of communicating with them?
— What is their current opinion of your work? Is it based on good information?

— Who influences their opinions generally, and who influences their opinion of you? Do some of these influencers therefore become important stakeholders in their own right?
— If they aren't likely to be positive, what will win them around to support your project?
— If you don't think that you'll be able to win them around, how will you manage their opposition?
— Who else might be influenced by their opinions? Do these people become stakeholders in their own right?

Set up a meeting with your key stakeholders to understand their perspective.

Once you've met your stakeholders categorise them as follows and place them on the Power/Interest grid.

— advocates and supporters in **green**,
— blockers and critics in **red**, and
— those who are neutral in **amber**.

Example Power/Interest Grid with stakeholders marked

Persona

A Persona is a person's profile. It is a representation of the needs, thoughts and goals of the target customer or user. Think of a persona as your typical or ideal user – who you are innovating for. Typical personas include very specific information to paint an in-depth and memorable picture.

The personas you create don't just represent a single individual either; they represent a segment. This allows you to condense your customers and users into just a few segments.

It also prevents you from falling into the pattern of thinking that your experience is the same as your target customer or user. Personas help you to empathise with individuals, so think of them more as a mini bio.

A Persona grounds innovation in reality. It forces the innovator to consider the goals, behaviours, and pain points of the people affected by your design decisions. Personas give you a person, a customer to connect with, someone to innovate for. If you know what's important to people, instead of what's important to you and your organisation, then it's possible to dream up much more powerful solutions for them.

The Persona Process

A persona is created using the data collected through research and observations of your customers and users, which is reviewed and analysed, and then depicted in the form of a person's profile – the persona.

Good personas are a meaningful description – not just a list of demographics and a fake name that allows innovators to make assumptions. Personas clearly illustrate the problem space you're dealing with and the people whose lives you'll affect.

STEPS

1. Gather research

Refer to earlier activities like interviews, observations and secondary research, and gather appropriate material to help you define your Persona(s).

2. Analyse and organise

Sort your research data into groups. Look for trends and patterns in your results — can you see any similarities among your participants? Can you begin to group some of your participants together based on shared goals, attitudes and behaviours?

After you have sorted your participants into groups, you can create your segments. These segments will become your draft Personas. Try to limit the number of Personas you create. Having too many can defeat the purpose of creating them in the first place.

3. Name/label your persona

Give your persona a memorable title or name. Assign an image or photo — it all helps to create a "real" person that your team can focus on and remember.

4. Fill out the persona template

Use the Persona template to capture and summarise your Persona. It contains the following sections:

— Short Bio: educational background, key experience, job roles

— Situation/background: briefly describe the current situation/context of the persona

— Quote:

— Think: What does the Persona think about the problem/opportunity space?

— Feel: How does the Persona feel about the problem/opportunity space?

— Pain points: What pain points does the Persona have with the current way they tackle this job?

— Wants/needs: What does the persona want and need day to day?

— Do (actions & behaviours): What does the persona do day to day?

5. Test and validate

Ideally you would conduct another set of customer/user interviews to validate your personas, though this is not always possible given certain project time-frames etc.

The Persona Template

Details	Empathy Map	
Name: Persona Type: Age: Gender: Location:	Motivations: What are their goals, desires, requirements? What drives them?	Thinks: What does the persona think about the problem / opportunity space?
Short Bio:	Behaviours: How does the persona act or conduct themselves in this situation?	Feels: How does the persona feel about the problem / opportunity space?
Situation / Background	Frustrations: What Pain Points does the persona have with the current way they tackle this job?	Says: What does the persona say about the problem / opportunity space?
Quote Capture their need in a single quote.		Does (actions): What Pain Points does the persona have with the current way they tackle this job?

Persona Template Example

Details	Empathy Map	
Name: Keith Duffy Age: 52 Gender: Male Location: Killybegs, Ireland	Motivations: What are their goals, desires, requirements? What drives them? • Keep the same level of revenue, margin and ideally grow the business.	Thinks: What does the persona think about the problem / opportunity space? • Unsure about what to do to grow the business. • Would ideally like to stay with existing high-volume, low fuss production model • Willing to explore all options and options that may have been
Short Bio: • CEO of leading pelagic processor • Inherited business from father. Worked his way up. • Went to 3rd level has Business degree • Has been CEO for last 22 years • Has 3 children who are being position to succeed him in the business	Behaviours: How does the persona act or conduct themselves in this situation? • Searching for opportunity and impatient for a solution. • Very much focused on extending what they know how to do rather than exploring different more involved product types.	Feels: How does the persona feel about the problem / opportunity space? • Apprehensive as has been producing high volume low fuss fish for years and perhaps new products and markets will require him to do things differently and add complexity.
Situation / Background: • Business has been very successful. • However facing significant headwinds in 2019 with reduced Mackerel quota, margin pressure from competition and Brexit limiting access to fishing waters	Pain Points: What Pain Points does the persona have with the current way they tackle this job? • Costs stable but price reducing. • Facing the prospect of reduced quotas of primary product which accounts for 80% of revenue and volume • Facing the prospect of reduced fishing waters with Brexit leading to less fish being caught. Officials say Irish fishermen catch 64 percent of their mackerel, 52 percent of their cod and 39 percent of their scampi in British waters.	Says: What does the persona say about the problem / opportunity space? • "Would like to grow profitability of existing business" • "I recognise the need to adapt to grow my business"
Quote: Capture their need in a single quote. "I need a new product / market opportunity to survive, never mind thrive."		Does (actions): What Pain Points does the persona have with the current way they tackle this job? • Margins eroding – becoming less profitable. • EU reducing quotas. • Brexit will likely reduce fishing area • Have been doing the same high volume, low fuss business for many years – may not be able to adapt to a multi-product, more complex process.

Card Sort

A tool to help you identify what's most important to the people you're designing for whether that's problem elements, impact, benefits or features.

The Card Sort Process

A Card Sort is a quick and easy way to stimulate discussion and validate about what matters most to the people and customers you're innovating for. By putting a deck of cards, each with a word, single image and simple phrase in someone's hands and then asking them to rank them in order of preference, you'll gain huge insight into what really counts. You can also use the Card Sort exercise to start a deeper conversation about what he or she values and why.

STEPS

1. Make

Your deck of cards. Use either a word, a picture and a simple phrase on each card, but whatever you select, make sure that it's easy to understand. Pictures are important to simply communicate and anchor the meaning.

2. Customise

Your deck of cards to your precise research objectives – what are you testing for – key pain points?, desired gains?, benefits? features?

3. Test

- Give the cards to the person you're innovating for and ask them to sort them according to what's most important.
- Ask are there any cards that don't apply and why?
- Give the person 'blank' cards and ask them to add items that are missing and add to the sorted ones.
- Once the person has sorted the cards, ask them to score each one starting with the left-most one – the most important and give is a score from 0 to 10. Where 10 is the maximum (pain, gain or benefit for example).

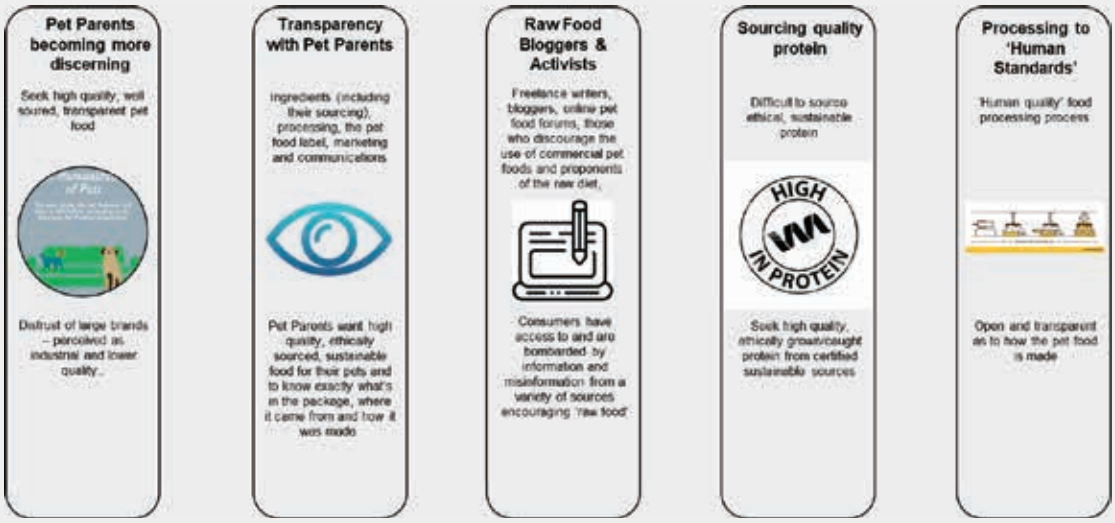
4. Variations

There are a couple variations on this method that work nicely: Instead of asking the person you're designing for to rank the cards in order of preference, ask them to arrange them as she sees fit. The results might surprise you. Another tweak is to pose different scenarios. Ask the person you're innovating for how they would sort the cards if she had more money, if they were a smaller company, if they were a multinational corporation.

Card Sort Example:

Below is an example of a card sort the SIH team used to understand the challenges Pet Food manufacturers face in running and growing their business. The objective was to understand what challenges Pet Food manufacturers faced and would there be an opportunity for an underutilised fish stock off the north west Irish coast. The team used these cards in problem interviews with 5 different national and international Pet Food manufacturers.

Card sort example: Proposed challenges faced by Pet Food manufacturers



Problem Interview

A problem interview is a form of a customer interview.

The goal of the problem interview is to test and validate or invalidate your understanding of the challenge by directly testing it with the customer.

You are specifically looking to test and learn about

- What is the challenge (problem or opportunity)?
- Who is the competition?
- What are the existing alternatives?
- How does the customer solve this challenge today?
- Who has the pain (or desired gain)?

The Problem Interview script has a flow as outlined below (adapted from Ash Maurya's Running Lean):

Creating a Problem Interview script:

Below is an outline template for a Problem Interview that you can use and adapt for your needs.

1. Welcome (set the stage)

Thank you very much for taking the time to speak with us today.

We are currently working on _____. We believe that companies are facing challenges with _____ and the impact is _____. Before proceeding too far down the road of tackling this problem space we wanted to test and validate that this problem (opportunity) is something you experience and is important to you. We want to share some early stage ideas and get your feedback.

The session will work like this: I'll start by describing the main problems (opportunities) we are tackling and ask if any of these resonate with you. Then I'll share some early stage solution concepts with you to seek your feedback on what works, does not work and what we could improve.

I'd like to emphasise that we do not have a finished product and our objective is to learn from you, not to sell or pitch anything to you.

Does that sound ok?

2. Collect information about the customer

Ask some introductory questions to collect background information in relation to the problem you are tackling

— Current state?

— Ambition, envisioned future state?

— Challenges to get there?

— How do they go about it today?

3. *Tell the Problem Story*

Let me tell you about the problem we are tackling

— We believe that ...

— This results in the key pain points (unrealised gains) of ...

— The impact of this is ...

— Share a visual artefact that makes the problem concrete and ask the customer to engage and comment. Seek to validate if the problem resonates with the client and understand the severity and priority for the customer to have this solved. See the Challenge Diagram tool in the Hunch section for examples of artefacts you can use.

— It can be beneficial to break down the problem in to problem components and/or root causes into individual cards and ask the customer to prioritise the pain/gain and to identify the customer reaction:

- "Right, I want to have this solved", (if a number fall into this category ask them to be rank ordered and assign a severity (1 to 10, where 10 is most severe).
- "Right, but it's just annoying.",
- "Right, but it doesn't bother me.",
- "Plainly wrong, this is not a problem.",
- "Missing, you've missed this key problem."

— Capture the feedback for reflection and synthetisation later.

4. *Demo – Test the solution concept*

Ask the customer to look at the artefact/prototype.

Go through each problem in turn and illustrate how the prototype/demo solves it.

— This is what our solution concept looks like right now. We are looking to validate what's important and which ideas we should take forward

- What part of the artefact/prototype resonated with you most? What problem did it solve for you? Why?
- Which part could you live without? Why?
- Are there any additional features missing? Why?

5. *Wrapping up*

We are done with testing – thank you for your time and expertise, it's very much appreciated.

As we continue our journey, we'd like to come back to you in the future to share with you an evolved version of our thinking. Would that be ok?

Is there anyone else in your organisation we should interview?

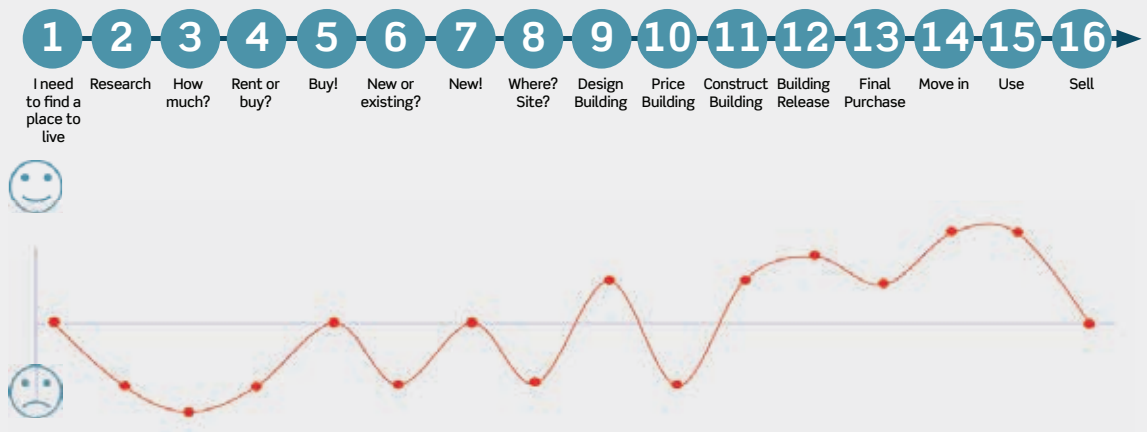
Thanks again for your time today it's been very helpful.

The Customer Journey map

Journey mapping is the representation, in a flowchart or similar graphic format, of the customer or user's experience as they work to accomplish the job they are trying to get done. These maps can depict the customers' actual or imagined ideal journey. This makes Journey Maps useful in testing both your understanding of the problem and solution ideas directly with the customer. In addition to capturing or imagining the steps a customer takes you can assess and overlay the delight or pain experienced in executing each step. This gives you a baseline for the actual journey and to test whether the envisioned new journey addresses your customer's needs.

Below is an example of a journey map of someone deciding to buy a house.

Journey Map example of buying and selling a house
(adapted from Jeanne Liedtka and Tim Ogilvie's Designing for Growth)



Creating a Customer Journey Map

Journey maps can be used throughout the innovation framework and are especially useful during Discovery & Insights as a method for documenting and validating customer's current reality.

STEPS

1. Select Customer

Select the customer whose experience you want to understand more fully. Spend some time upfront investigating their context and situation.

2. Map the end-to-end

Map the end-to-end framework from the customer's perspective. It's important to start before and extend after the specific time your product or service might be used. This will give you a more holistic understanding of the end-to-end customer journey and if there are any opportunities to go upstream or downstream from where you typically operate.

3. Plot each step

As per the example above, plot each step you've identified as a point on the journey. Label each step and who owns it.

4. Overlay delight and pain

Plot the customer's experience at each step of the journey. Think of the scale as +10 for maximum delight and -10 for maximum pain. Connect the points with a curve.

5. Delight Points

Select two or three of the experience delight points. Label each point with a short description about what made it a delight point.

6. Pain Points

Select two or three of the experience pain points. Label each point with a short description about what made it a pain point.

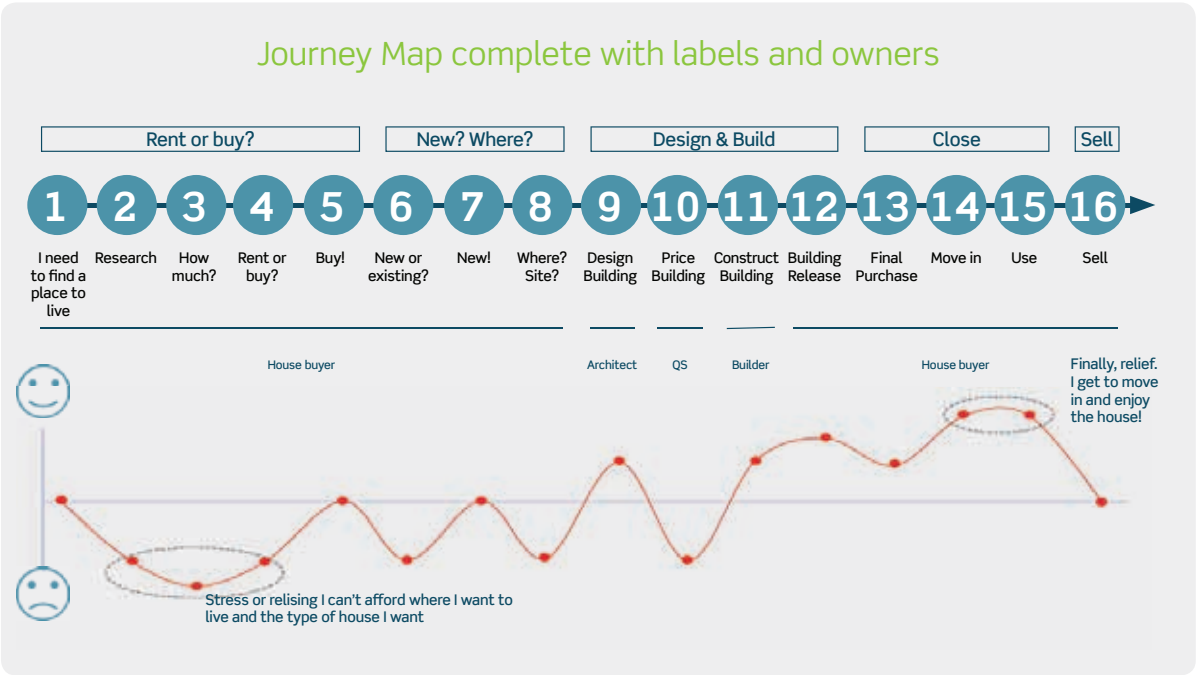
7. Validating Problems

Use the map to test your understanding of the challenge directly with your customer. Key elements you can test are:

1. Have you correctly captured and understood the process they go through? Are these the right steps? Are they in the right sequence? Have you missed any steps?
2. What are the delight and pain points associated with the process? Have you got it right? What would they change?

8. Imagining a better future

Imagine your customers perfect world. If everything went smoothly, what would be the best parts? Ask yourself is there a better, simpler process? Ask yourself how can you relieve or remove pain? Can you create new delight points? You can also use 'Imagined Journeys' as artefacts to test early stage solution ideas directly with your customer.



Value Chain Analysis

Value chain analysis is the study of your interaction with partners upstream and downstream of you. You plus your partners together create value and deliver your offerings to customers. From this analysis emerge important clues about your partners' capabilities and intentions, and your vulnerabilities and opportunities. It is the business-side equivalent of customer journey mapping, highlighting the 'pain-points' and 'opportunities' you have to collaborate or compete with upstream and downstream partners to deliver a solution.

Once you've created a Value Chain you can test with experts, customers and supply chain participants to (in)validate your assumptions.

See Coffee Shop chain value chain example below.

Value chain analysis for a Coffee Shop chain

	Key Inputs	Manufacturing	Distribution	Sales	Service	End Customer
Key resources	• Coffee beans • Tea • Milk	• Coffee roasting	• Stores • Barista • Logistics	• Barista • Point of sales in store • Pre-paid loyalty card	• In-store • Website	• Nice cup of coffe/tea
Who	• Coffee growers • Tea Growers • Dairy Company	• Coffee shop • Equipment supplier & maintenance	• Coffee shop • Logistics partner	• Coffee shop • Bank	• Coffee • Amazon Web Services	• End customer
Key Activities	• Supplier sourcing • Ordering Process • Payment process	• Roasting process control	• Order tracking	• CRM	• Customer service Process	• Order • Enjoy • Feel special
Who	• Coffee shop • ERP provider	• SW vendor	• DHL	• Salesforce.com • Coffee shop	• Coffee shop	• End customer

Creating a Value Chain

Value Chains can be used throughout the innovation framework and are especially useful during Discovery & Insights as a method for documenting and validating your current reality.

STEPS

1. Map your value chain

Draw the value chain for your business by identifying the key steps in the value chain. Work backwards from the end-point where you deliver value to your customers. An important (and often tricky) task is defining what constitutes a step in the chain. Remember that you are mapping key steps, not companies.

2. Key Resources

Identify the key resources (tangible things) needed to produce value in each step. What does each contribute to creating value? Identify you owns the key resource for each step.

3. Key Activities

Identify the key activities (the key processes) needed to produce value in each step. What does each contribute to creating value? Identify who owns the key activities for each step.

4. Evaluate who has the power

Evaluate the bargaining power and influence of each player. Who drives performance? How easy would it be to find a substitute? How much value does the end customer perceive is contributed by this player?

5. Identify opportunities

Determine the opportunities for improving your power, influence and profitability in the chain.

6. Assess vulnerabilities

Identify where you are vulnerable or have weaknesses. Other upstream or downstream companies may seek to gain an advantage by changing their footprint and compete directly against you.

7. Bringing it all together

— What is the potential value capture of different roles in the value chain?

- Who drives performance?
- Who has the customer's loyalty?
- For each key activity in the value chain, what skills and processes are needed to succeed?

— Positioning the business

- Where are we vulnerable?
- What possibilities exist to shift/strengthen our role in ways that improve our ability to create and capture value?
- What new capabilities do we need to develop or improve to do this?
- Who should our partners be?

Extracting Insights

To extract insights, review all the data and information gathered about the challenge so far. The goal here is to establish a unique Point of View of the challenge and set Design Criteria in order to generate ideas in the next stage.

For many people identifying insights can be the most difficult part of the innovation framework. Typically, you cannot expect a customer or end-user to come up with a deep insight and hand it to you. Insights emerge as you pore over the information you've gathered, looking for patterns.

This is best done as a team activity in the form of an Insights Workshop. The team will do a deep dive into the data collected to define the criteria for an ideal solution. In addition, this process aligns team members around the challenge and a unique Point of View (POV).

It is recommended to design and run an Insights Workshop with the project team and key stakeholders (e.g. client company, market experts, customer experts etc.). The Insights Workshop is a culmination of the key steps outlined below.

An insight has three elements

1. The capacity to gain accurate and deep understanding of someone or something
2. The ability to perceive clearly or deeply
3. A penetrating and often sudden understanding of a complex situation or problem

You will identify key insights through synthesising the gathered evidence, data and stories into powerful understanding and patterns.

STEPS

1. Pre-Workshop

Each data owner should create large visuals summarising what data they collected, the method used and the key learnings. These will be put up on walls for everyone to see. It's important to define some key roles for an optimum workshop. There are two in particular

— **The facilitator:** The person who runs the workshop, makes sure the right topics are being discussed and keeps the momentum going.

— **The Decider:** There are always many decisions to be made, which problem to tackle, which idea to pursue etc. In order to keep things on track appoint a senior business leader to be the Decider to make the key decisions to avoid endless looping and discussion.

2. Workshop Agenda

Design the Insights Workshop agenda per the outline below

a. Review: Review the Challenge (Brief, Diagram and Statement) to reconnect and ground the team on the challenge being tackled for whom.

b. Share – Science Fair: Via the large visual posters on the walls each data owner shares their learnings with the team. It's important each 'data owner' creates an executive summary of their research learnings and findings in the form of a poster to make it easily accessible and digestible by others. Individually browse and note data that you believe should inform the team's thinking.

c. Make Sense: Cluster all the information noted individually into themes on a wall using Post-It notes. Give each theme a descriptive label. This is the first step in the process of extracting meaning from the large quantity of diverse data you have gathered.

d. **Identify Insights:** Extract insights by developing insight statements. Review and synthesise the data you've heard and the key themes you've identified to create an Insight Statement for each theme. Test these insight statements for relevance and applicability to the challenge.

e. **Establish a Point of View (POV):** A POV is a meaningful actionable problem statement, which will allow you to generate better ideas. Your POV captures your innovation vision by defining the right problem to address.

f. **Generate Design Criteria:** Generate a set of design criteria, a succinct expression of the ideal end state of your innovation. Describe the ideal qualities or attributes of a great solution, but not the solution itself. The design criteria are the guardrails of your solution. They should be simple and memorable, guiding the ideation and prototyping in the subsequent stages.

3. Refresh BMC

Based on your insights and what you've learned revise the Business Model Canvas.

4. Refresh Commercial Viability Tools

Based on your insights and what you've learned revise the commercial viability tools.

Key Tools for Insights

Defining an Insight

Insights are difficult to extract from large quantities of diverse data. It's worth have a definition of what an insight is. Very useful to align the project team at the start of an Insights workshop

Insight

/'insʌit/noun: insight

1. The capacity to gain an accurate and deep understanding of someone or something.
2. The ability to perceive clearly or deeply.
3. A penetrating and often sudden understanding, as of a complex situation or problem.

An Insight is NOT:

- **Data**: alone it is not an insight. Need to analyse data to reveal the insight.
- **Observation(s):** incredibly important but alone they are just data. Need to understand the why, motivation, pain & gain points.
- **Customer or user stated wish/need:** don't just take it at face value. Always dig deeper. Understand the motivation and the why (x5).

A GOOD Insight:

- Synthesises and gathers evidence, data and stories into powerful understanding(s).
- Is a unique or rare understanding that is not widely held, thus giving you an advantage.
- Knowledge that you can leverage to tackle the innovation challenge.
- Considers - the context, the why motivation, pain points and desired ideal.

Science Fair

The Science Fair tool is a useful way to share large amount of diverse data and information. The key job the data owner (i.e. the person who conducted the research) conducts here is to create an executive summary of the key data and findings uncovered by the research in the form of a poster. This is vitally important to condense the research into to accessible and digestible information chinks for others.

The Science Fair is particularly useful post discovery where tons of data and information have been gathered. Here's how you share it with your team and others to put it to good use. The goal here is to establish the criteria to generate ideas in the prototype stage. Adapted from Jeanne Liedtka and Tim Ogilvie's Designing for Growth.

Now that you have a huge amount of data, notes, information and quotes it's time to start to understand them. This is best done by downloading your learnings to the team by first creating executive summary posters. Then one by one you will go around the room, review the posters and capture what you believe is important to inform your thinking and highlighting any missing or incomplete research. Pay close attention to your teammates' data, stories, learnings and hunches. This is a rich and powerful way to share what you've gathered, heard and seen and part of the goal is to convert individual learnings into group knowledge.

STEPS

1. Create Executive Summary Posters

Create visual posters of your learnings and put them up on the wall for everyone to see (larger is better – think Science Fair posters). Be as visual as possible. Represent data (facts & figures) as graphs. Communicate your observations via photos, diagrams (journey maps, value chains, flow charts, etc ...), video whatever best represents the information to make it easy to understand.

2. Download

Each individual (who owns that part of the research) takes turns sharing what they have learnt. They describe the research they conducted, the methodology, the facts gathered, who they met, what was observed and their impressions and experiences. Other team members need to pay close attention and ask any clarification questions but it's not an inquisition!

3. Browse

Individually (without talking to each other) review the posters and note any data/information that you believe should inform the thinking. There are two types of notes:

a) **Inform the thinking:** capture one idea per '**Yellow**' Post-It note, writing specifics from the posters rather than over-interpretation at this point in the process. Avoid writing down a single word, look for phrases that will mean something to others when they read them. Keep these notes to yourself for use later.

b) **Identify missing or incomplete research:** capture one suggestion per '**Red**' Post-It note and post it on the wall where the research in missing/incomplete. Write full sentences and be as specific as possible.

Make Sense

Here you organise, interpret and make sense of the data and information gathered during the Science Fair. This is the first step in the process of extracting meaning from the large quantity of diverse data you have gathered.

Ask yourself "What are the top ideas, data or observations sticking out to you right now?" Answering this question can help you uncover themes, isolate key ideas and reveal opportunities for design. You're seeking to uncover patterns or ideas and insights.

Use the questions below to help you.

- Have any patterns emerged?
- Is there a compelling insight you've heard/seen again and again?
- A consistent pain point that the customers/users face?
- A consistent gain that the customers/users you are innovating for crave?
- What feels significant?
- What surprised you?

STEPS

1. Privately group

Individually take 5 mins to sort through your Post-Its and group them into piles of related information.

2. 1st cluster

One team member starts by sharing one of their Post-It notes, reading it aloud and sticking it on the wall. One at a time, other team members then contribute any of their individual Post-it notes, also reading aloud, that relate to the same topic.

3. 1+n clusters

A second team member then starts a new cluster and the process continues and repeats until all Post-It notes have been added to the shared wall.

4. Label

Name each cluster – what is it about? These become your key themes.

Identify Insights

Critical for generating good ideas is plucking out the insights that will drive your innovation out of the huge volume of data and information you've gathered during discovery. Below are the steps to do this adapted from Ideo's Design Kit.

You've heard a lot from different people, downloaded learnings, captured key ideas and clustered them into themes based on the research.

The next step in the synthesis process is to identify insights and capture them as **Insight Statements**.

Synthesis involves creatively piecing the puzzle together to form whole ideas. Succinct sentences that will point the way forward. These are incredibly valuable in generating proprietary Points of View (POVs) and they will help frame subsequent ideation sessions in the next stage. It's not always easy to create them, and it will probably take some editing, arranging, rearranging, discussion and debate to get to the key insights that will help you drive towards solutions.

STEPS

1. 1st insight statement

Take a theme and rephrase it as a short statement. Push hard to transform the theme labels into 'so what' insight statements. You're not looking for a solution, merely transforming a theme into what feels like a core insight of your research. For example, a theme may be labelled 'Technology', ask "so what?" and perhaps the insight emerges as 'Technology makes it harder for people to do their job.' Or perhaps it could be 'Operators are not following the standard operating procedure in the processing plant.' But the insight might be: "Operators are not using the standard operating procedure manual while performing their work because it is too wordy and very difficult to use."

Sometimes you may find that more than one insight per theme. Each insight should be written on large Post-It notes and placed on top of each theme you identified in Make Sense.

2. 1+ n insight statements

Repeat for all themes.

3. Test insight statements

Test each insight statement for relevance and applicability to your challenge. Discard those that don't directly relate. You only want the key few insight statements that matter. Also check if the challenge needs to be refined/ reframed?

4. Reflect and refine

Bring all insight statements together. Take another pass at refining them. Make sure they convey the sense of a new perspective, unique understanding or possibility. Consider inviting other people (experts, stakeholders) who are not part of the project team to review the insight statements and see how they resonate.

Refine the Challenge Statement

Now that you have reviewed the data and extracted insights in the form of insight statements it's important to pause and reflect on the starting Challenge Statement and refine and/or reframe it and perhaps identify related challenges. Validating you are tackling the right challenge is crucial.

Refine the innovation challenge into a more specific set of problem statements. Combine your knowledge about the customer/user you are innovating for, their needs and the insights which you've extracted from your research. You need an actionable problem statement that will drive the rest of your innovation work.

STEPS

1. Review your Challenge Statement

Refer to your Challenge Statement, ask yourself "Is this still correct, given the insights so far?" You now know more about the challenge space so it's worth taking the opportunity to test it against your new knowledge. Refer to the insight statements.

2. Create re-framed Challenge Statements

It's good to generate a number of re-framed Challenge Statements so you have choice. Review and select a problem scope that is most appropriate to your mandate and capability. It should be actionable and have a sense of possibility. Ask yourself "Is there one overarching problem to solve? Or a focused problem in a specific moment?" Revise the Challenge Statement as required.

Consider the following to construct a good challenge statement:

— Make sure the problem or opportunity is worth solving – what would the benefit be if it was solved?
— Position the challenge as an inspiring problem/opportunity to be solved.
— Don't specify how the challenge might be solved.

Challenge Framing: Use the following as a guide.

Problem owner	Need	Deeper Desire	Barrier
As [a persona]	I want ...	so that ...	but...
	I need ...	because ...	yet...
	I desire...		since ...

Example			
As a pelagic fish processor CEO	I need to rethink my business to remain profitable and viable	Because margins are under pressure, the EU is reducing my quota and Brexit will decrease the area I can fish in	Yet I'm unsure how to redesign my business as I've essentially been focused on a single fish species and simple processing at high volume for the past 30 years

3. Test reframed Challenge Statements

Test each for relevance and applicability to your customer's context. Discard those that don't directly relate. You only want the key few Challenge Statements that matter. Make sure they convey the sense of a new perspective, unique understanding or possibility. Consider inviting other people (experts, stakeholders) who are not part of the project team to review them and see how they resonate.

Design Criteria

The design criteria describe the key attributes of the ideal solution. It is a concise list of relevant aspirations and constraints for the solution. The design criteria should be regarded as the guardrails of your solution. However, the criteria do not explain what you must do or build to complete your innovation project.

At the end of the Insights Workshop review and translate the key patterns, insights and POVs into Design Criteria per the Design Criteria template below (adapted from Jeanne Liedtka and Tim Ogilvie's Designing for Growth).

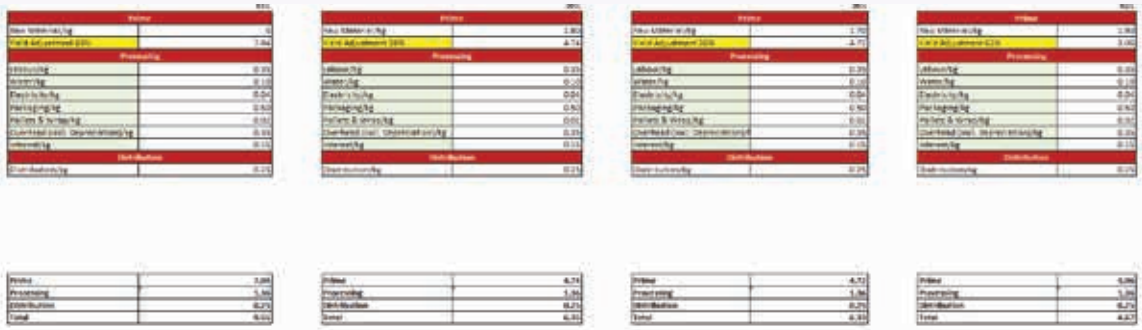
Design Criteria (prompts)	
Project Goal	— What have you learned about the target customer? — What needs (functional, emotional, psychological, social) does the project have to fulfil for the target customer? — Why is it strategically important for your company to address those needs? — Other ...
Customer's context	— How important is your proposed offering to the target customer's success and well-being? — Are there aesthetic attributes necessary to succeed with the target customer? — Does the target customer expect the solution to have certain ethical, ecological, or social attributes? — What does ease of use mean for the target customer? — Other ...
End-user's context	— How important is your proposed offering to the target user's success and well-being? — Are there aesthetic attributes necessary to succeed with the target end-user? — Does the target end-user expect the solution to have certain ethical, ecological, or social attributes? — What does ease of use mean for the target end-user? — Other...
Physical Attributes	— Does the solution need to be designed for use in specific environments or situations? — Are there weight or size considerations for lifting, using, or transport? — Are there memory, bandwidth, or connectivity issues? — Must the offering be able to capture, store, and/or transmit information about usage? — Other...
Functional attributes	— Does the design of the offering need to accommodate specific 'use-case' scenarios? List them in order of importance to the target customer and/or user — Does the design need to address compatibility or standards issues? — Other ...
Constraints	— Does the final solution need to be completed by a specific date? — Is there a specific price point the solution must meet? — What constraints does your current business impose (use existing manufacturing base, provide higher profit margins than current offerings, leverage proprietary technologies, etc ...) — Are there ecosystem and/or regulatory concerns? — Other...

Commercial Viability Tools

STEPS

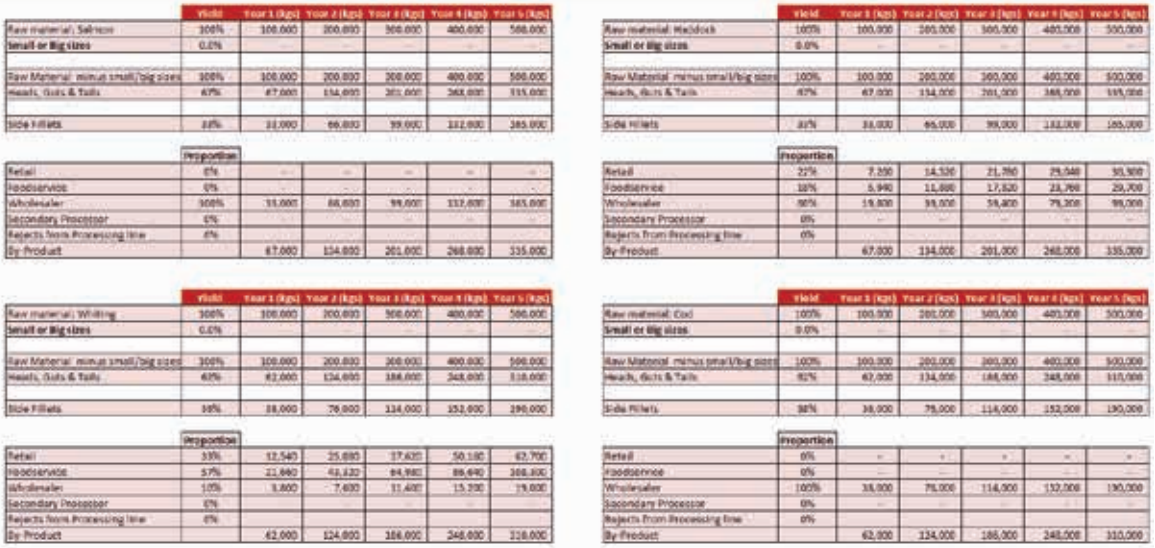
1. Cost Analysis

The first step of determining if your project is financially viable or not is preparing a detailed analysis of input production/processing costs required.



2. Volume Analysis

Analysis of volume availability, volume flow and identification of market channels



3. SKU P&L Analysis

Detailed analysis of value chain from raw material to market. Net revenue, marginal costs and marginal contribution calculated. Projected sales over 5-year period.

4. Capital Investment Analysis

Detailed analysis of investment required for project implementation. Projections of different scales of investment to predict funding method and level required.

Total Investment		£1,500,000	
Eligible for BIM Capital Grant	30%	£[illegible]	£174,[illegible]
Eligible for BIM Capital Grant	15%	£[illegible]	£19,[illegible]
BIM Grant		£[illegible]	
Actual Investment		£1,276,448	
Annual Depreciation	10%	£127,644.78	
Useful Years	10 Years		

Loan Amount		£1,276,448
Variable Interest Rate	3.50%	£44,676
Total Amount Repayable		£1,321,124
Monthly Repayments	120	£11,008
Annual Repayments		£132,112

Total Investment		£1,000,000	
Eligible for BIM Capital Grant	30%	£[illegible]	£[illegible]
Eligible for BIM Capital Grant	15%	£1,000,000	£150,000.00
BIM Grant		£[illegible]	
Actual Investment		£751,748	
Annual Depreciation	10%	£75,180.00	
Useful Years	10 Years		

Loan Amount		£751,748
Variable Interest Rate	3.50%	£26,311
Total Amount Repayable		£778,059
Monthly Repayments	120	£6,484
Annual Repayments		£77,806

Total Investment		£500,000	
Eligible for BIM Capital Grant	30%	£[illegible]	£174,[illegible]
Eligible for BIM Capital Grant	15%	£50,000	£7,500.00
BIM Grant		£[illegible]	
Actual Investment		£318,375	
Annual Depreciation	10%	£31,837.50	
Useful Years	10 Years		

Loan Amount		£318,375.00
Variable Interest Rate	3.50%	£11,143.07
Total Amount Repayable		£329,518.07
Monthly Repayments	120	£2,747.65
Annual Repayments		£32,970.94

5. Cashflow Analysis

Determining the operational cashflow requirement for the project to function

2019				2020				2021				2022			
	Volume (tonnes)	Raw Material Value (£)	Processing Cost		Volume (tonnes)	Raw Material Value (£)	Processing Cost		Volume (tonnes)	Raw Material Value (£)	Processing Cost		Volume (tonnes)	Raw Material Value (£)	
Jan	9	47,120	12,817	Jan	19	94,241	25,633.51	Jan	28	141,361	38,450.26	Jan	48	407,681.91	
Feb	16	78,534	21,361	Feb	31	157,068	42,722.51	Feb	47	235,602	64,083.77	Feb	80	679,469.84	
Mar	24	117,801	30,123	Mar	47	235,602	60,246.00	Mar	71	353,403	90,369.00	Mar	119	1,019,204.76	
Apr	14	70,681	20,180	Apr	28	141,361	40,360.00	Apr	42	212,042	60,540.00	Apr	72	611,522.86	
May	13	62,827	44,457	May	25	125,654	88,914.97	May	38	188,482	133,372.46	May	64	543,575.87	
Jun	16	78,534	33,658	Jun	31	157,068	67,316.00	Jun	47	235,602	100,974.00	Jun	80	679,469.84	
Jul	24	117,801	49,568	Jul	47	235,602	99,136.00	Jul	71	353,403	148,704.00	Jul	119	1,019,204.76	
Aug	31	157,068	54,879	Aug	63	314,136	109,758.00	Aug	94	471,204	164,637.00	Aug	159	1,358,939.69	
Sep	39	196,335	53,403	Sep	79	392,670	106,806.28	Sep	118	589,005	160,209.42	Sep	199	1,698,674.61	
Oct	39	196,335	53,403	Oct	79	392,670	106,806.28	Oct	118	589,005	160,209.42	Oct	199	1,698,674.61	
Nov	60	298,429	79,456	Nov	119	596,859	158,912.00	Nov	179	895,288	238,368.00	Nov	302	2,581,985.40	
Dec	16	78,534	21,361	Dec	31	157,068	42,722.00	Dec	47	235,602	64,083.00	Dec	80	679,469.84	
Annual	**300**	**1,500,000**		**Annual**	**600**	**3,000,000**		**Annual**	**900**	**4,500,000**		**Annual**	**1520**	**12,977,874**	

Jan	Energy Demand	60	1910	3.14%
Feb		100	1910	5.24%
Mar		150	1910	7.85%
Apr		90	1910	4.71%
May		80	1910	4.19%
Jun		100	1910	5.24%
Jul		150	1910	7.85%
Aug		200	1910	10.47%
Sep		250	1910	13.09%
Oct		250	1910	13.09%
Nov		380	1910	19.90%
Dec		100	1910	5.24%

6. Profit and Loss Statement (P&L):

A profit and loss statement (P&L) is a financial statement that summarises the revenues, cost and expenses incurred during a specific period of time, usually a year. A P&L at the beginning of an innovation endeavour is full of assumptions as to what's required to have a commercially successful business.

Below is a screen shot of a simple P&L provide in the BIM P&L Spreadsheet tool.

Seafood Company- 5yr P&L

P&L Impact		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
		1000's	1000's	1000's	1000's	1000's	1000's	1000's
Inflation								
COGs inflation			1.000	1.000	1.000	1.000	1.000	
Volume Increase (Estimated)			0.0%	0.0%	0.0%	0.0%	0.0%	
Canabilisation			0%	0%	0%	0%	0%	
'000's								
Gross kg			151,400	302,800	454,200	605,600	757,000	2,271,000
Gross Net Revenue	11.12		1,683,497	3,366,995	5,050,492	6,733,989	8,417,487	25,252,460
Gross Trading Contribution	1.46		220,764	441,528	662,293	883,057	1,103,821	3,311,463
Incremental Volume			151,400	302,800	454,200	605,600	757,000	2,271,000
Incremental NR	11.12		1,683,497	3,366,995	5,050,492	6,733,989	8,417,487	25,252,460
Incremental TC	1.46		220,764	441,528	662,293	883,057	1,103,821	3,311,463
Other Product related costs	Minus							0
A&P	Minus		0	0	0	0	0	0
Development costs	Minus							
Depreciation - New Plant			0	0	0	0	0	0
Operating Profit		0	220,764	441,528	662,293	883,057	1,103,821	3,311,463
Taxation			353	(32,679)	(64,899)	(96,516)	(127,681)	(321,423)
Profit after Tax		0	221,117	408,849	597,393	786,541	976,141	2,990,041
Interest			(34,764)	(25,763)	(10,840)	10,142	37,358	(23,867)
Earnings		0	186,352	383,086	586,554	796,682	1,013,499	2,966,174

Cashflow Impact	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
	1000's	1000's	1000's	1000's	1000's	1000's	1000's
Operating Profit	0	220,764	441,528	662,293	883,057	1,103,821	3,311,463
Capital Investment	(1,276,448)						(1,276,448)
Depreciation/Write Offs	0	0	0	0	0	0	0
Taxation	16,590	16,766	(16,163)	(48,789)	(80,708)	(112,098)	(224,403)
Cashflow	(1,259,858)	237,530	425,365	613,503	802,349	991,723	1,810,613
Real DF (5% Nominal)	1.00	0.95	0.91	0.86	0.82	0.78	
Discounted Cashflow	(1,259,858)	226,219	385,819	529,967	660,095	777,041	1,319,283
NPV	######	#######	(647,820)	(117,853)	542,242	1,319,283	1,319,283
Cumm DCF	(1,259,858)	(1,033,639)	(647,820)	(117,853)	542,242	1,319,283	1,319,283
Periods to payback	12	12	12	12	2	0	
Discounted Payback (Years)	3.9						
IRR	24%						
Launch Periods	12.0						

1) Tax Computation	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Profit before Tax	0	220,764	441,528	662,293	883,057	1,103,821
Add Depreciation	0	0	0	0	0	0
Asset Write Down	0	0	0	0	0	0
Profit attributable to tax	0	220,764	441,528	662,293	883,057	1,103,821
Capital Allowances	31,911	25,529	20,423	16,339	13,071	10,457
Tax @ 12.5%	0	(27,596)	(55,191)	(82,787)	(110,382)	(137,978)
Tax Relief on Interest	1,268	2,419	2,089	1,549	795	(160)
Tax (P&L)	33,180	353	(32,679)	(64,899)	(96,516)	(127,681)
Tax (Cashflow)	16,590	16,766	(16,163)	(48,789)	(80,708)	(112,098)

2) Funding	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Opening Debt	0	(1,277,575)	(1,071,455)	(668,070)	(63,118)	749,416
Capital Expenditure	(1,276,448)	0	0	0	0	0

7. Financial Summary

Determining if the project is financially viable by calculating the Net present Value, Payback Periods and Internal Rate of Return.

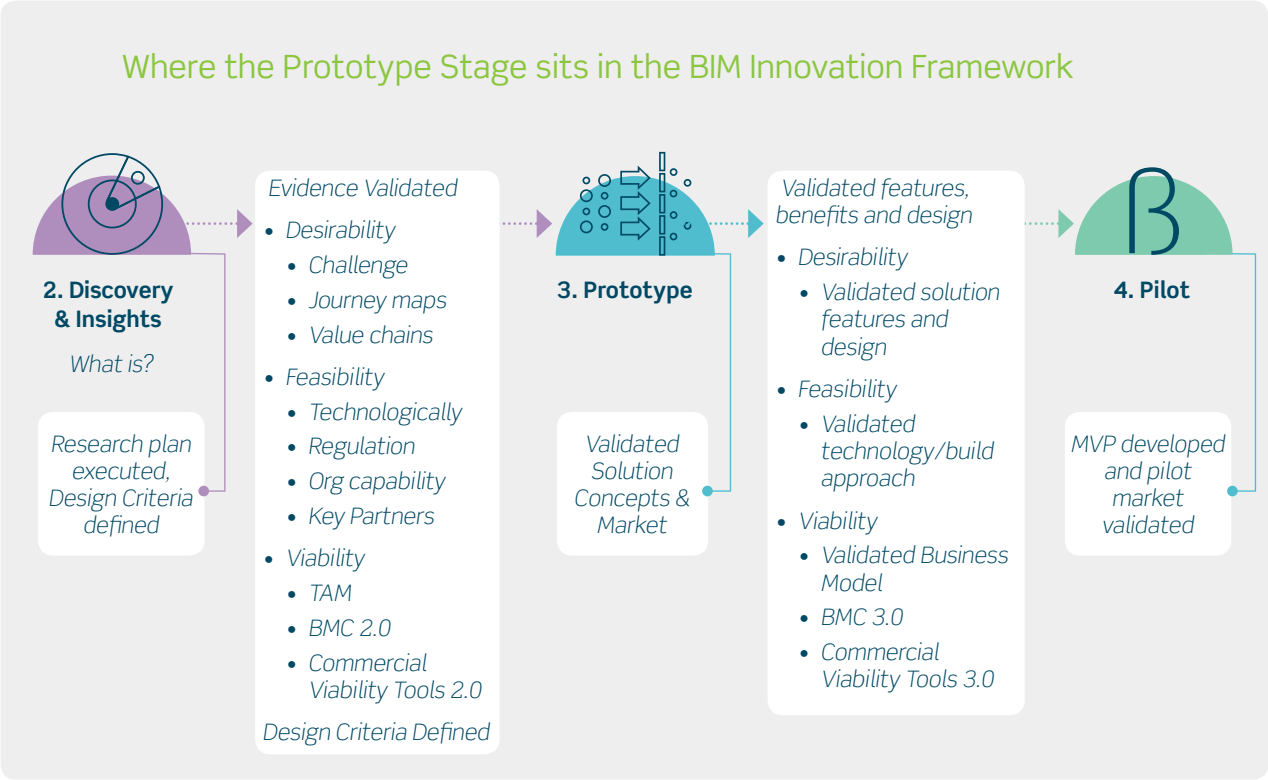
Financial Summary				
Project Name: Seafood Company Project				
BASED ON LATEST BUSINESS CASE				
Gate Criteria Matrix	Multinational	PLC	Seafood Company	Result
5 year NPV €'000s	> 0	> 0	> 0	1,319,283
Payback period Years	<2 years	< 3 years	3 - 5 years	4
IRR	>15%	> 10%	> 5%	24%

Stage 3: Prototype

Finally – time to generate ideas to develop solutions! The key question we are addressing in this stage is "What's possible?"

Generating ideas is a skill and it can be learned. If you have not being generating ideas recently or frequently it can feel a little difficult. There are many books written on generating ideas and the merits or otherwise of group brainstorming. Our recommendation is to blend group brainstorming with individual idea generation tools to ensure everyone generates ideas and you get the best out of your team and others. The goal is to generate lots of ideas, some of which you'll keep, and others you'll discard.

Once you've generated ideas, you'll cluster into concepts and select the most promising ones. The most promising concepts you will test directly with customers to understand what works, does not work and what could be improved. Then you'll evolve those ideas into prototypes.



As mentioned in the introduction the atoms of the innovation framework are the Tools. These can be remixed and mashed-up to best suit the need of a specific project or context. A typical playlist for the Prototype would be:

Generate Ideas

— Ideation Workshop
  - How Might We ... ?
  - Lightning Demos
  - Generate Ideas
    - Group Brainstorming
    - 4-Step Sketch
  - Select best ideas
  - Develop Concepts
  - Concept test plan
  - Napkin Pitch
  - Identify Key Assumptions
  - Solution Interview

— Refresh Business Model Canvas

— Refresh Commercial Viability Tools

Create and test Prototypes

— Surface key assumptions

— Choose type of prototype

— Make a prototype

— Solution interviews

— Summarise learnings

— Evolve prototype based on learnings

— Define the MVP

— Refresh Business Model Canvas

— Refresh Commercial Viability Tools

Key Tools

Ideation

To generate concepts and prototypes you first need to generate ideas.

The Ideation Process

It is recommended to design and run an Ideation Workshop with the project team and key stakeholders (e.g. client company, market experts, customer experts etc.). The Ideation Workshop is a culmination of the key steps outlined below.

The goal is to tap into a broad body of knowledge developed so far and the creativity of the team and others. You will generate lots of ideas, cluster them into concepts, create concept artefacts and test them directly with customers.

STEPS

1. Ideation Workshop Agenda

Design the Ideation Workshop agenda per the outline below

a. **Review:** Review the Challenge (Brief, Diagram and Statement(s)) and the Design Criteria to reconnect and ground the team on the challenge being tackled for whom.

b. **How Might We...?:** Based on the Challenge Statements and Design Criteria create How Might We? (HMW) questions. This is a very useful tool to turn problems into opportunities.

c. **Lightning Demos:** While we all might want to have that flash of inspiration, that Eureka! Moment to come up with the killer idea, it's typically not how it works. Great ideas are often built on existing ideas which get built on and repurposed for the challenge at hand. One method for collecting and synthesising ideas is a tool called Lightning Demos (Sprint, Jake Knapp, Google Ventures). The team will take turns giving 3-minute demos of their favourite inspirations related to the challenge at hand from other solutions, from different industries and from within your own industry.

d. **Generate Ideas:** Select a couple of ideation techniques and leverage the HMWs and the inspiration from the Lightning Demos to generate lots and lots of ideas to tackle the challenge.

e. **Select the best ideas:** Cluster ideas into key concepts. Select the most exciting and promising concepts to develop.

f. **Develop Concepts:** Create concept artefacts to bring the concept to life and to have something you can share with your customer to test and validate or invalidate what works, does not work and could be improved. Given the time limits of a workshop there may not be enough time to create the artefacts required and may have to be developed further after the workshop.

g. **Concept Test Plan:** Create a plan to test and (in)validate concept elements.

2. Test Concepts

Recruit customers and set up solution interviews with them to test your concepts.

3. Refresh BMC

Based on what you've learned revise the Business Model Canvas.

Defining Ideas and Concepts

What is an Idea? What is a concept? It's important the team has a shared understanding of what an idea and a concept is. Below is a summary of an Idea and a Concept.

Idea

1. a plan, suggestion, or possible course of action.
2. an opinion or belief about what something is like or should be like.
3. Initial ideas are typically too raw/incomplete to directly test and (in)validate with customers/users.
4. You want lots of alternate ideas to be able to select a few key promising ones.

Concept

- A concept is more or less a final form of an idea(s). It has gone through the process of fine-tuning, pruning and smoothing out its raw edges.
- Selecting the best ideas and assembling them into a solution sketch.
- Is an artefact that brings it to life and can be shared and tested with a customer/user.

A GOOD Concept

- Goes well beyond simplistic expressions of new possibilities (the kind of early stage ideas the initial part of a brainstorm might produce).
- Is robust and represented as an artefact (diagram, mock brochure, storyboard, video, simulation,...) that can be tested and (in)validated with a customer/user.
- It holistically describes the outline solution.

How Might We ...?

Translate your Challenge Statements and Design Criteria into opportunities for innovation by turning them into "How Might We?" questions. Steps below adapted from Jake Knapp's Sprint.

Creating How Might We (HMW) questions

By identifying and reframing Challenge Statements and Design Criteria you've identified problem areas within or related to your challenge. Now try turn them into HMW (How Might We ...? questions to translate them into opportunities for innovation. HMW questions are used because they suggest possibilities and because they stimulate people to answer in a generative way. A well framed HMW does not suggest a particular solution but gives you a great frame for innovative thinking.

It's best to do this as a team, part of a workshop.

STEPS

1. Review

Individually start by looking at the Challenge Statements and Design Criteria. Try rephrasing them as questions by adding "How might we" at the beginning. Grab a medium sized Post-It note and a marker. Use the shorthand HMW in the top left-hand corner and capture your HMW question on the Post-It. Create your own pile for organising later.

2. Privately group

As individuals take 5 mins to sort through your Post-Its and group them into piles of related information.

3. 1st cluster

One team member starts by sharing one of their Post-It notes, reading it aloud and sticking it on the wall. One at a time, other team members then contribute any of their individual Post-it notes, also reading aloud, that relate to the same topic.

4. 1+n clusters

A second team member then starts a new cluster and the process continues and repeats until all Post-It notes have been added to the shared wall.

5. Label

Name each cluster – what is it about?

6. Vote

Each person has 2 votes. Each person can vote for their own notes, or even the same note twice.

7. Integrate with Challenge Diagram

Move the HMWs with multiple votes to the Challenge Diagram – review and discuss.

8. Decider chooses

The primary How Might We's that align best to the target customer/user use case/event to focus the idea generation.

Clustering and voting for key How Might We's

Lightning Demos

To get the creative juices flowing start with inspiration. A review of existing impressive solutions and ideas that you can remix and improve is a great starting point. Lightning Demos is a technique used by Google Ventures to inspire a team before going into full ideation mode.

Running Lightning Demos

We all want a flash of divine inspiration that changes the world. We want to create something completely new. But it's rare for amazing ideas to happen like that. Often great innovation is built on existing ideas, repurposed to your focus.

To get inspired look at great solutions from a range of companies and organisations, including yours. Three minutes per demo. Capture good ideas from each demo with a quick sketch on the white board.

Each team member will give a three-minute demo of their favourite solutions: from other products, different domains, and from within their own company. This exercise is about finding raw material not about copying.

Search for the core idea behind the solution. Often the ideas that spark the best solutions come from similar problems in different domains/industries.

It's best to do this as a team, and/or part of a workshop.

STEPS

1. Make a list

Each team member will come up with a list of products and services to review for inspiring ideas. Think outside your industry of field. Every solution should identify something good you can learn from.

2. 3-minute demos

Each person gives a demo of what's so interesting/cool about the product or service.

3. Capture BIG ideas as you go

Ask "What's the BIG idea here that might be useful?" Capture a quick drawing, title it and note the source.

Lightning Demos

Group Brainstorming

In order to have good group brainstorming sessions it's highly recommended to use brainstorming rules to bring out the best ideas.

Most of us have been in Brainstorming sessions that have not worked and were really 'opinion-sharing' sessions. Peppered with phrases to kill idea generation like;

"That won't work!",

"We tried that last year, didn't work then either.",

"That's a crazy idea!".

Therefore, it's important to set the expectations up front about what you are trying to achieve and the rules to play by. The recommendation is to run a brainstorm session for at least an hour. Typically, all the 'obvious' ideas are generated within the first fifteen minutes. Afterwards, there will be a lull in the rate of idea generation. To generate new, fresh, alternative ideas, your team will need to push past this point. A good facilitator goes a long way to helping a team generate lots of ideas.

Over the course of your project you should not only conduct brainstorm sessions with the project team but also with partners, colleagues and customers.

Brainstorm Rules (from Ideo's DesignKit.Org)

1. **Defer judgement.** You never know where a good idea is going to come from. The key is make everyone feel like they can say the idea on their mind and allow others to build on it.
2. **Encourage wild ideas.** Wild ideas can often give rise to creative leaps. In thinking about ideas that are wacky or out there we tend to think about what we really want without the constraints of technology or materials.
3. **Build on the ideas of others**. Being positive and building on the ideas of others takes some skill. In conversation, try to use "*and*" instead of "*but*."
4. **Stay focused on the topic.** Try to keep the discussion on target, otherwise you can diverge beyond the scope of what you're trying to design for.
5. **One conversation at a time.** Your team is far more likely to build on an idea and make a creative leap if everyone is paying full attention to whoever is sharing a new idea.
6. **Be visual.** Write down ideas on Post-its and then put them on a wall. Nothing gets an idea across faster than drawing it. Doesn't matter if you're not Rembrandt!
7. **Go for quantity.** Aim for as many new ideas as possible. In a good session, up to 100 ideas can be generated in 60 minutes. Crank the ideas out quickly and build on the best ones.

Running a Brainstorming Session

We all want a flash of divine inspiration that changes the world. We want to create something completely new. But it's rare for amazing ideas to happen like that. Often a great innovation is built on existing ideas, repurposed to your focus.

To get inspired look at great solutions from a range of companies and organisations, including yours. Three minutes per demo (see Lightning Demos). Capture good ideas from each demo with a quick sketch on the white board.

Each team member will give a three-minute demo of their favourite solutions: from other products, different domains, and from within their own company. This exercise is about finding interesting ideas not about copying them.

Remember a Brainstorm is an idea 'generation' session. The goal is to generate as many ideas as possible. It's key you remind participants that it's **about generation and not evaluation**. Let participants know there will be plenty of opportunities to evaluate and critique ideas later – but for now, shut down the critique and focus on generation.

STEPS

1. Have a worthy challenge

Prior to a brainstorm session have a worthy challenge defined. A juicy challenge is a key ingredient to get participants attention, motivation and ideas.

2. Wall of Wonder

Have a wall space cleared or covered with flip chart paper as the location to capture the ideas as they are generated.

3. Review the rules

Review the Brainstorm Rules before you start.

4. Review the Challenge

Have the Challenge Statement and Challenge Diagram printed large and posted to a wall so all participants can see it. Review it so everyone is aligned.

5. Start Brainstorming

As each person generates an idea, have them capture it on a Post-It note, place it on the wall and verbally share it with the rest of the team. Keep going like this for at least sixty minutes.

6. Cluster ideas into concepts

Once you've got all the ideas out you need to group them into more tangible concepts. Start by clustering similar ideas into groups. Discuss the groups and identify the elements, give the group a name and capture it on a larger Post-it note and place above the group.

7. Select the most promising

Each participant gets 5 votes and they can place them on a concept or an individual idea that they believe will solve the challenge in a novel value-added way. They can vote for their own idea, place all 5 votes on one idea.

8. Decider decides

The Decider reviews the votes and decides what to bring forward to create tangible concept to bring more definition to the ideas and to have something to test with customers.

Vote on and select the most promising ideas

The 4-step Sketch

Often individuals working alone generate better ideas and concepts than groups brainstorming out loud. Working alone offers time to research, reflect, find inspiration, think about the problem and be bolder in coming up with radical, alternative ideas. The 4-step sketch approach (introduced by Jake Knapp in Sprint) combines both - working alone and together. Individually, everyone spends some alone time reviewing the challenge and the insights to generate some initial ideas and then shape them into an early stage concept. Then everyone shares their concepts and seeks to identify the best bits to combine and enhance into more robust concepts.

Initially you will be working alone, following specific steps to help you focus, generate ideas and make progress. When each person sketches alone, they will have time for deep thought. The whole team will be working in parallel and generate alternative and competing ideas without the groupthink that often comes with group brainstorming. The concept sketches you create will be shared with the team to select the best bits and together develop a stronger proposition. This will become the fuel for your innovation.

STEPS

1. Post the Challenge

Put the Challenge and Design Criteria, HMWs and the BIG Ideas from the lightning demos up around the walls of the project room.

2. Privately take notes

Walk around the room look at all the information – take notes as seeds for your personal idea generation. These are private notes you won't share with the team. Take 10 to 20 minutes to do this.

3. Initial ideas

Individually jot down some rough ideas, doodles, sample headlines, diagrams, stick figures – give form to your thoughts. They are likely to be messy or incomplete – don't worry they are private and won't be shared. Think of this as a scratch pad. Take 20 to 30 minutes to do this. Use the last 5 minutes to circle your favourite ideas, you'll shape these in the next step.

4. Crazy 8s

Rapidly sketch 8 variations of your strongest idea in 8 minutes. Force yourself to push past your first reasonable solution and make them significantly better or consider alternatives – tweak and expand your thinking.

— Take a sheet of A4 paper, fold in half 3 times to have 8 panels.

— You will have 60 seconds per panel to create 8 radical ideas in 8 mins.

— Go fast and scrappy – again these are private and will not be shared.

— Works best when you sketch several variations and alternatives of the same core idea – ask yourself "What would be another good way to do this?"

5. Solution sketch

This is your best idea put down on paper. It will be your solution idea, which will be shared with the whole team. Each sketch will be a 3-panel storyboard drawn on sticky notes showing what your customers/users see as they interact with your solution.

— Make it self-explanatory, needs to be standalone and readable by others.

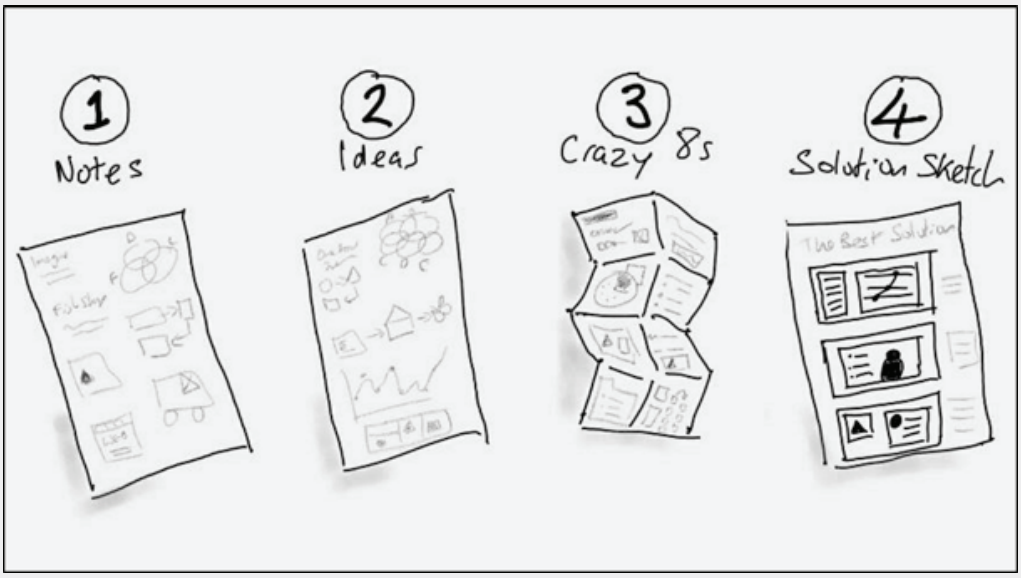
— Make it anonymous.

— Simple and ugly is ok. Your sketches do not have to be fancy – boxes, circles, arrows and stick figures and words are all you need.

— Words matter, strong clear writing is very important. Don't use 'lorem ipsum' or squiggly lines to indicate text – place meaningful words.

— Give it a catchy title. This is a way to draw attention to your big idea and concept and make in memorable.

The 4-step sketch



Idea Selection

After idea generation you should have a stack of solution concepts and ideas. This is great and exactly where you need to be. However, it's also a problem. You can't develop and test them all – you need to critique each one and decide which ones have the best chance of successfully solving your challenge. The steps below are adapted from Jake Knapp's Sprint book.

Your goal is to decide which ideas to develop into robust concepts and test with customers and users. This is designed to get the most out of the team's expertise and make it an easy as possible to come to a decision.

STEPS

1. Art gallery

All solution sketches on the wall for everyone to see.

2. Heat map

— Identify the most exciting ideas/parts - individually review each solution sketch in silence and use small dot stickers to mark the parts you like (if any). Put 2 or 3 dots on what you consider the most exciting ideas. There is no limit to the number of small 'sticky dots' each person can use.

— Capture concerns/questions: write it on Post-It note and place it below the solution sketch.

3. Speed critique

Quickly discuss the highlights of each solution sketch and use Post-It notes to capture **BIG** ideas.

— 3 minutes per solution sketch

— Facilitator narrates the sketch and calls out the standout ideas that have clusters of stickers by them.

— Team calls out standout ideas the facilitator may have missed.

— Capture standout ideas on Post-It notes and place them above the sketch.

— Review concerns and questions.

— Creator stays silent until the end and then explains any missed ideas and answers any questions.

4. Straw poll (non-binding)

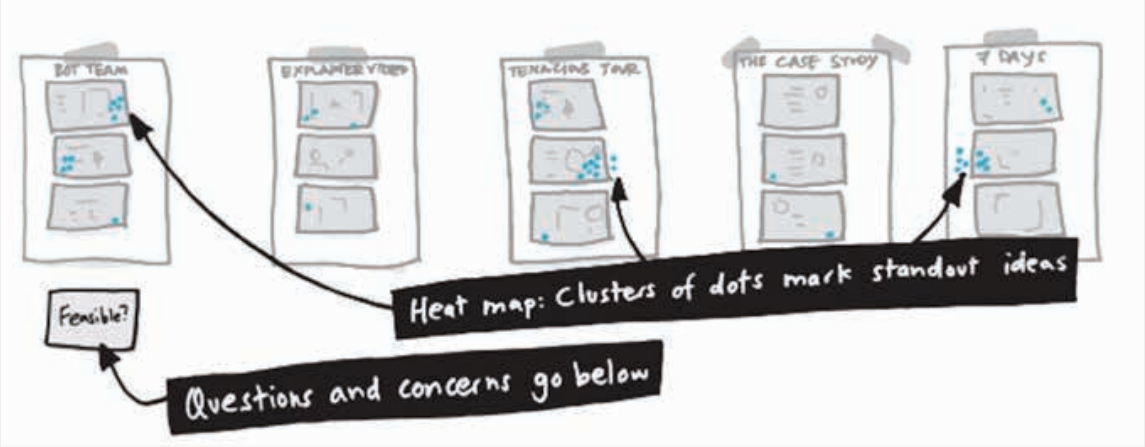
— Each person chooses 1 solution sketch and votes for it with a 'large' dot sticker.

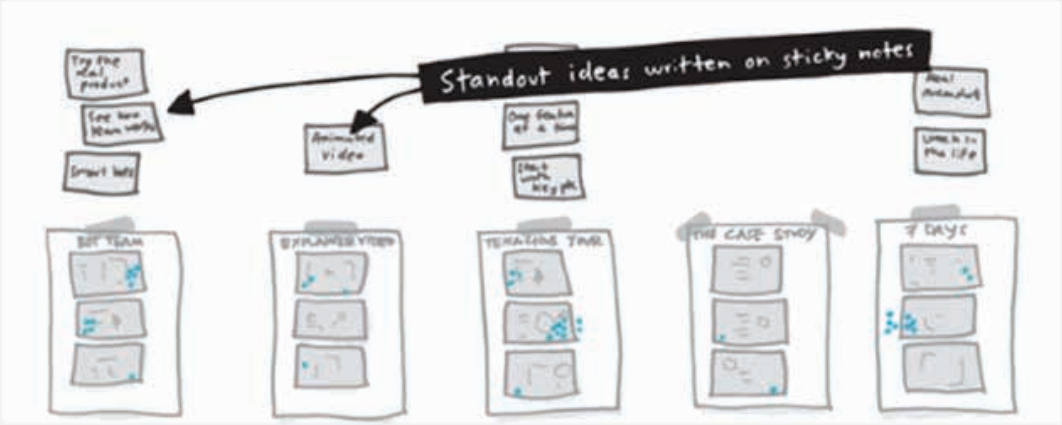
— Each person briefly explains his or her vote for 1 minute.

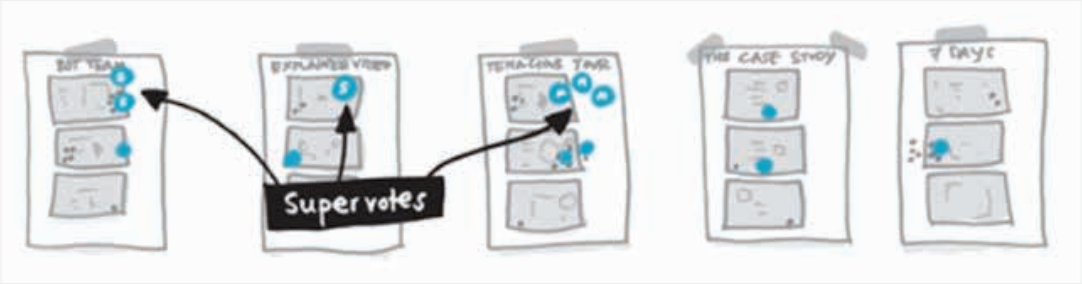
5. Supervote

The decider makes the final decision, with 3 large (initialled) dot stickers. Whatever the decider votes on will be developed as a concept(s). The votes can be spread or placed all on one idea. Separate the 'winners' from the 'maybe laters'.

Select the best ideas







Concept Development

You've got idea(s) for a great solution. Instead of taking weeks, months, even years building that solution it's best to develop simple concept artefacts that represent the solution idea that you can test with a customer or user. You're going to do it fast. Fake it till you make it!

Create a concept artefact that provokes honest reactions from your customers/users. Examples of concept artefacts are storyboards, product brochures, solution diagrams, PowerPoint mock-ups of websites, or mobile apps, role play etc...

STEPS

1. Napkin Pitch

Summarise the concept as a Napkin Pitch – helps to communicate to project sponsors the intent and potential of the concept.

2. Surface assumptions

Review the chosen concept sketches/ideas and surface key assumptions. Decide the best type of artefact to test and (in)validate the assumption(s). Use the Key Assumptions Table (see below). Use the three tests (the row headings) in the Key Assumptions Table (see below) to help identify the key assumptions of your concept. Identify the top two or three in each category.

3. Pick the right artefact

To test your hypothesis/assumption e.g.

— If it's on a screen use PowerPoint or Keynote

— If it's on paper (e.g. report, brochure, flyer, etc...) use PowerPoint, Keynote or Word

— If it's a service write a script and create a role play – perhaps video it and use to test with customers/users.

— If it's a physical space – modify an existing space

— If it's an object – modify an existing object

4. Make

The artefact.

5. Trial run

Do trial run of testing the artefact and iterate if needed.

6. Test the concept

Recruit, schedule time and test the artefact directly with customers and end-users (if required). Use the Solution Interview template below.

Napkin Pitch

The napkin pitch provides a simple, consistent format for summarising and communicating new concepts.

Napkin Pitch Template
(adapted from Jeanne Liedtka, Tim Ogilvie and Rachel Brozenske' The Designing for Growth Field Book)

Napkin Pitch	
Concept Name	
The Big Idea: • Describe the concept	**Desirability:** • What customer/user wants this? • What unmet need does it serve? • What is the benefit to the customer/user? • How does this solve the innovation challenge?
Feasibility: • Technology required/readiness? • How will you deliver? • What resources/capability does this require? • What partners do we need?	**Viability:** • What's the competitive positioning? • What's the economic model? • What is the Business Case?

Identify Key Assumptions

Use this table to help identify and capture key assumptions and select the type of artefact or prototype to test it.

Key Assumptions		
Concept Name:	**Assumptions**	**Choice of Artefact or Prototype**
Desirability Test		
• Pain Reliever		
• Gain creator		
• Customers want it		
• It helps them get their job done		
• We can acquire customers/users		
• We can get access to the channels		
Feasibility Test		
• Technology exists and mature		
• We can build it		
• We can operate the business		
• We can scale the operations with growth		
• We can assemble the required partners and suppliers		
Viability Test		
• TAM is big enough		
• Customer will pay the price required		
• We can acquire customers affordably		
• We can protect advantage		
• Advantages increase as business grows		
• Revenues exceed costs at scale		

Solution Interview

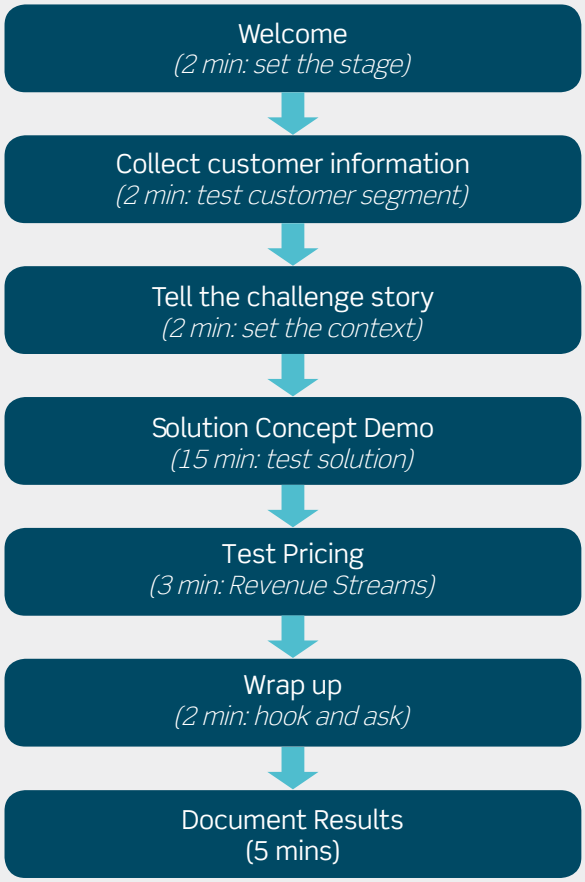
A solution interview (adapted from Ash Maurya's Running Lean) is a form of a customer interview. The goal of the solution interview is to test and validate or invalidate your solution concept (or prototype) and pricing. In the Problem Interview the focus is on validating the challenge, it's severity and importance to your customer, here the emphasis is on validating if your solution concept solves that problem in a meaningful, value added way for your customer and will they be willing to pay for it.

You do this directly with the customer. You will start by double-checking your learning from the Problem Interview. Specifically look to test and learn about

- Who has the challenge (problem or opportunity)? Identify early adopters.
- Test the solution. What is the minimum feature set needed to add value?
- What pricing model works? Will customers pay? What payment model? What price?

The Solution Interview script has a flow as outlined below:

Overview on the Solution Interview script



Creating a Solution Interview script:

Below is an outline template for a Solution Interview that you can use and adapt for your needs.

1. Welcome (set the stage)

Thank you very much for taking the time to speak with us today.

We are currently working on _____. We believe that companies are facing challenges with _____ and the impact is _____.

The session will work like this: I'll start by describing the main problems (opportunities) we are tackling and ask if any of these resonate with you. Then I'll share some early stage solution demo/concept with you to seek your feedback on what works, does not work and what we could improve.

I'd like to emphasise that we do not have a finished product yet and our objective is to learn from you, not to sell or pitch anything to you.

Does that sound ok?

2. Collect information about the customer

Ask some introductory questions to collect background information in relation to the problem you are tackling

Before I share the problem and solution with you I'd like to learn a little about you:

— Current state?
— Ambition, envisioned future state?
— Challenges to get there?
— How do they go about it today?

3. Tell the Challenge Story

(modify and adjust if you've already spoken with this person in the Problem Interview)

Let me tell you about the problem we are tackling

— We believe that ...
— This results in the key pain points (unrealised gains) of ...
— The impact of this is ...
— Share a visual artefact that makes the problem concrete and ask the customer to engage and comment. Seek to validate if the problem resonates with the client and understand the severity and priority for the customer to have this solved. See the Challenge Diagram tool in the Hunch section for examples of artefacts you can use.
— It can be beneficial to break down the problem into problem components and/or root causes into individual cards and ask the customer to prioritise the pain/gain and to identify the customer reaction:
  - "Right, I want to have this solved", (if a number fall into this category ask them to be rank ordered and assign a severity (1 to 10, where 10 is most severe).
  - "Right, but it's just annoying.",
  - "Right, but it doesn't bother me.",
  - "Plainly wrong, this is not a problem.",
  - "Missing, you've missed this key problem."
— Capture the feedback for reflection and synthetisation later.

4. Demo – Test the solution concept

Ask the customer to look at the concept/demo.

Go through each problem in turn and illustrate how the concept/demo solves it.

— This is what our solution concept looks like right now. We are looking to validate what's important and which ideas we should take forward
  - What part of the artefact/prototype resonated with you most? What problem did it solve for you? Why?
  - Which part could you live without? Why?
  - Are there any additional features missing? Why?

5. Test Pricing (Revenue Streams)

Finding the right price can be more art than science. Usually the right price is one the customer accepts, but with a little resistance. Test pricing with what you believe is a high-ish price for the value the customer receives. Don't do cost-plus pricing if at all possible. Never ask the customer for ballpark pricing. Instead, tell them your pricing model and gauge their response immediately afterwards. If they accept the pricing, make a note of whether they hesitated ore readily accepted.

A suggested script is:

> *So, let's talk about pricing next.*
>
> *We will launch the solution using a 'pricing model' (volume/tiered pricing, market pricing, subscription pricing, ...).*
>
> *We plan on setting the price as €xx. Would you purchase at this price?*

6. Wrapping up

We are done with testing – thank you for your time and expertise, and honest feedback, it's very much appreciated.

As we continue our journey, we'd like to come back to you in the future to share with you an evolved version of our thinking. Would that be ok?

Would you be interested in trialling the solution when it is ready?

Is there anyone else we should interview?

Thanks again for your time today it's been very helpful.

Summarise Key Learnings

As you conduct Solution Interviews you will validate and invalidate assumptions. It's important to capture these use the simple template below

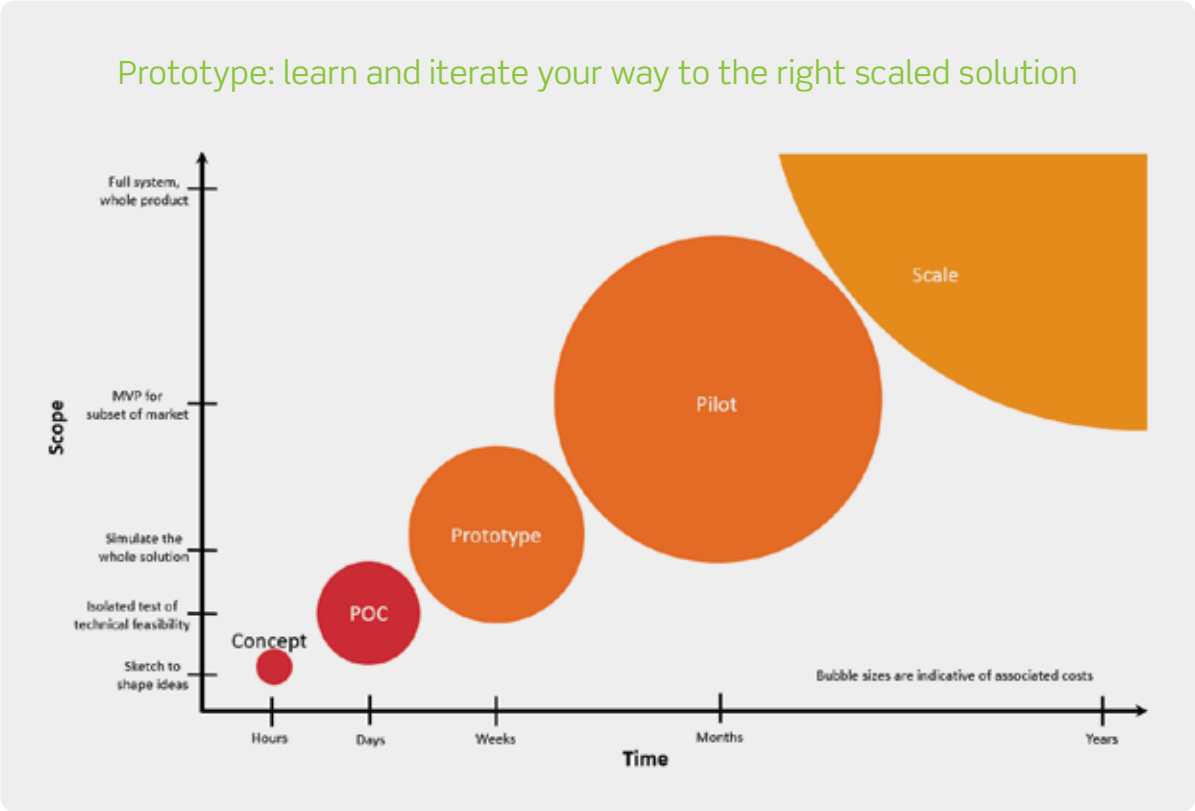
Validated	***Invalidated***
• ... • ... • ...	• ... • ... • ...

Prototyping

A cornerstone of innovation is rapid prototyping and iteration on the fly.

Prototyping is about bringing ideas to life. Make it to test it.

At each stage of the innovation journey, you will use different tools with different levels of granularity to bring your ideas to life and test them. Prototypes are more refined versions of your Concepts. Pilots (next stage) are initial versions of your solution. There are a number of related concepts associated with Prototyping and Pilot. It's worth reflecting on what the difference, and relationship is between Concept, Proof of Concept (PoC), Prototype, Pilot and Scale.



— **Concept:** is illustrating an idea as a diagram, a sketch if you will. Examples of diagrams: flow chart, journey map, value chain, data flow diagram.

— **Proof of Concept (POC):** is a test of a discrete design idea or assumption. The objective is to prove that a solution element is viable. A typical POC would be testing whether a technology works as assumed, e.g. can the new automated filleting machine increase product yield?

— **Prototype:** simulates the full system or at least a relevant part of it. While a POC shows that a technical element or feature can be done, a prototype explains how the complete solution will be done.

— **Pilot:** a productionised solution (a Minimum Viable Product, MVP) available for a subset of the market (e.g. one customer, one geography etc.). The reason for doing a pilot is to get a better understanding of how the product will be used in market and to refine the product before investing in Scale.

— **Scale:** In full production and the focus is very much on scaling the solution to as many customers and geographies as possible.

Prototype

What is a prototype? A prototype is a model of an idea. It's a way to make ideas tangible and be able to put in front of users and customers to test and see if it has value. You take risk out of the process by making something simple first; you always learn lessons from it. Innovators make prototypes because they believe in the power of tangibility. Making an idea real through a prototype reveals so much more than a theoretical idea.

A prototype is not the end-solution. The goal of a prototype is to make an idea 'tangible-enough' to be able to share it and test it. You will always throw a prototype away, what you will keep is the idea it validates. This idea will be taken forward, iterated and refined to ultimately deliver a solution.

Prototyping is about building to think. Making something is a fantastic way to think and brings into focus the feasibility of our ideas. The act of making something, reveals complexities and opportunities that we'd never have guessed were there. You build prototypes, so you can test them with colleagues, customers and end-users.

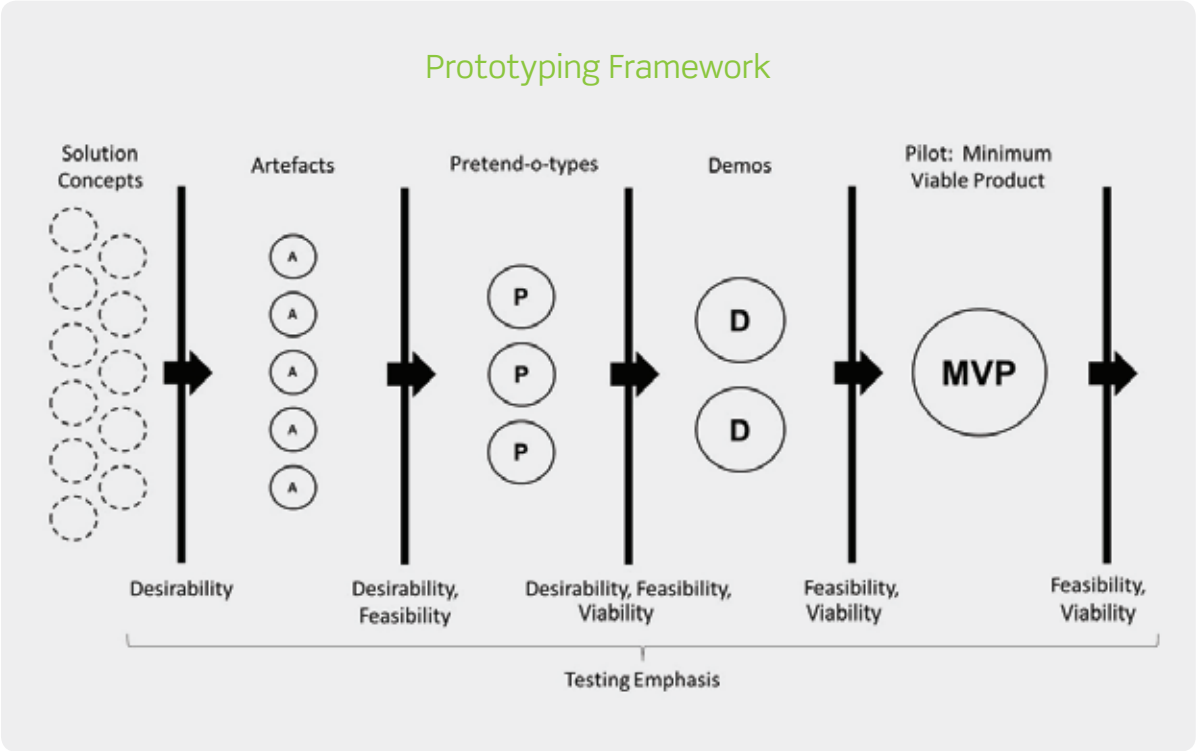
Iterate, Iterate, Iterate

Innovators adopt an iterative approach to solving problems. As innovators we know we rarely get the solution right first time. Or even the second time. Iteration, via scrappy, cheap prototypes affords us the opportunity to explore, to get it wrong, to follow and test our hunches, but ultimately to arrive at a solution that will be adopted and embraced by customers.

In addition, when you're innovating, you are usually short on time, resources and funding so it's important to rapidly learn, cheaply. Iteration helps you stay nimble, responsive and trains you to focus on getting the idea just right. If you aim for perfection each time you build a prototype you would spend a lot of time, and lots of money refining something whose value was still in doubt.

Prototyping Framework

You iterate to a solution apply the Prototyping Framework below. Start with solution concepts. Then select several concepts to create Artefacts, then Pretend-o-types, Demos and finally a Minimum Viable Product to pilot in the market.



Artefacts

An artefact expresses your concept as a well-structured mental image in which you outline the general shape of the solution. Ideally it is a diagram of some sort. The beauty of an artefact is that it's fast and cheap. You can test dozens in a week.

Examples include:

— Overview diagrams: Think of these like an initial sketch an architect would show a client to explain the design concept of their new home. Could be a sketch or artists impression of food packaging.

— Journey Maps: Great for illustrating the steps of a new solution and when pains will be relieved, and gains created.

— Storyboards: Think simple cartoon comic strips. These are great to visualise sequences and user interactions over time.

— Paper Mock-ups: You can create simple drawings of mobile phone screens, PC screens and sequence these to share and test with customers.

— Role Play: Role-playing, or experiential simulation, is a method that allows you to explore scenarios. Create a simple script and act out the scenario for your customer, even give the customer a role. It is good at bringing the idea to life and capturing and expressing the users' emotional experience of using a service.

— Scale models: are a great way to develop and test ideas when trying to communicate scale, space, aesthetic, form, experience. Good for mapping/re-mapping flow of users, employees and goods in a space.

Pretend-o-types

A Pretend-o-type is a "fake it 'till you make it" type of prototyping. You are basically simulating a solution to test whether customer's care. To develop a Pretend-o-type ask yourself the question "If I had to sell this solution today. How could I fake it in a way that it feels realistic?

Examples Include

— PowerPoint mock-up's of Web pages or Software applications with images and click-through hot spots.
— Higher fidelity role plays: Use props, visuals and a rehearsed scenario to simulate a service.
— 3-D printing: to generate a physical example.
— Existing products: Use and adapt an existing product to represent your idea in a realistic way.
— Video: Make a mini-film of how the product or service is used.
— Packaging: Empty food packages on supermarket shelves to test consumer response.

Demos

Typically this is an actual working model of a key component or all of the solution. It is usually built to actual size. It looks and feels very much like a solution – but all components may not be represented or partially as Pretend-o-types. You're focusing on using the Demo to test which features are most likely to drive customer purchases. You can use many Demos to test different feature sets to get multi points of useful feedback from target customers.

Examples Include:

— Working Models: actual working models that customers can interact with. Worth creating a couple of variations with different feature sets.
— Full scale models: Imagine a Cardboard Supermarket where a replica is created in a warehouse and populated with real staff and customers to test different layouts, use of technology, display cabinets etc.
— Early versions of working Software, Apps and Websites.
— Food packaged by hand in small batches to test distribution chain and consumer feedback.

Prototyping Tools

You can prototype anything at any stage, from a service model to a physical product and everything in between. The table below outlines various tools you can use to prototype.

Prototyping Matrix: Where to start to build your prototype

Product/Service	Medium	Prototyping Tool
Website/App/Software	Screen	Keynote, PowerPoint, Balsamiq, Website building tool (e.g. Squarespace, Wix).
Report, Brochure, Flyer	Paper	Keynote, PowerPoint, Microsoft Word.
Customer support, client service, concierge (i.e. a service)	Role Play	Write a script (like a mini-movie) and use colleagues as actors, capture on video for sharing with customers.
Physical Space (process line, retail store, office lobby, etc ...)	Modify an existing space	Tables, chairs, existing furniture, boxes, - mock up the new space. Simulate using it.
Object (Physical product, equipment, etc)	Modify an existing object (product, equipment ...) 3-D printing	Modify an existing product and/or 3D print a prototype or - prototype the marketing (digital or brochure) with Keynote or PowerPoint and photos of renderings of the object.

The Prototype Process

There are so many ways to prototype. First decide what to test and then what type of prototype you need.

Your idea/concept will have lots of components. You need to identify the key assumptions in your idea that you need to test. Asking yourself the question "What needs to be true?" can help you prioritise the critical elements to test and validate in your prototype.

STEPS

1. Surface Key Assumptions

Before we start building a prototype it's important to surface the key assumptions underlying your concept. A new concept is built on a set of assumptions (smart guesses) that must be 'true' in order to implement a successful solution. Many projects fail because reality turns out to be different than assumed.

Write down all key assumptions. Use the three tests (the row headings) in the Key Assumptions table (see Ideation key Tools) to help identify the key assumptions of your concept. Identify the top two or three in each category.

2. Choose the type of prototype

For each assumption think through what type of prototype makes the most sense to test your assumption with customers and/or end users. Different assumptions may require different approaches, and in order of priority. Always use the lowest-cost, lowest-risk approach to get the job done, starting with your most critical assumptions. Refer to the prototype matrix for a summary of different prototype types.

Key to remember is that this is about learning, not getting it right first time. Better to have a clear invalidation from an inexpensive scrappy prototype rather than take ages to make a beautiful, highly refined, expensive prototype.

3. Make

Prototypes – refer to the prototype matrix to select the type of prototype you should build.

4. Test Prototypes

Use the Solution Interview template to solicit feedback from your customers (at least 5). Capturing honest feedback and reactions is crucial. Assure customers that this is only a prototype which you are using to learn and that you welcome honest, even negative feedback as this will help ensure you design and build the right solution.

5. Capture Feedback

Capture the feedback you hear. What works, what does not work and what could be improved. Use the summarise key learnings template introduced in Stage 4.

6. Integrate Feedback and Iterate

Integrating the feedback you hear is key to evolve your solution. Once you've synthesised and reviewed the feedback build it into your idea and come up with an evolved prototype to refine it.

7. Define MVP specification

A Minimum Viable Product (MVP) is an initial production version of your solution with the minimum feature set to deliver value for customers/users. Refer to the Define the MVP method.

8. Refresh BMC

Based on what you've learned revise the Business Model Canvas.

9. Refresh Commercial Viability Tools

Based on what you've learned revise the commercial viability tools.

Define the Minimum Viable Product (MVP)

A Minimum Viable Product (MVP) is an initial production version of your solution with the minimum feature set to deliver value for customers/users. An MVP is made available for a subset of the market (e.g. one customer, one geography etc.) to validate what is required to operate at scale. The purpose of piloting your MVP is to determine the most scaled-down version of your product you can use to test whether your end user gets value from your product and whether your customer is willing to pay.

Once a product is shipped the stakes become much higher, but the quality of the feedback becomes so much better too – in particular, feedback about whether customers are willing to install, use and pay for your product. However, to reduce the risk, complexity and investment, don't build out an entire product first. Build an MVP that starts the 'real' feedback loop with your customers, de-risking your investment and reducing complexity.

When you've finished prototyping and validated as best you can Desirability, Feasibility and Viability it's now time for reality. But don't "bet the farm" build and test an MVP to de-risk your way forward.

Follow the process below:

Define the smallest set of functionality and investment needed to validate your product in the real world before a full product launch.

STEPS

1. Review MVP Objectives

While developing an MVP your goal is to do the least amount of work possible to achieve three key objectives:

— **Desirability:** The customer and user get value from your product – quantify the value proposition.

— **Feasibility:** Collect real, meaningful feedback from customers and users so you understand what works, what is missing and what needs to be refined before you do a full production launch.

— **Viability:** The customer pays for the product – validate the customer will pay – likely not profitable at this point – but will pay.

2. Define the MVP scope

Decide on the minimum set of segments, customers, geography, etc. to release your MVP. This is your test group.

3. Describe your MVP

Use the template to capture and describe the minimum benefits and features your MVP requires to meet the three objectives.

4. Minimise Investment

Is there anything in your MVP that can be done to reduce the initial investment required to achieve the objectives and/or decrease time to market with an MVP?

Considerations to reduce investment and complexity for your MVP:

Rather than build out an efficient or fully comprehensive solution that requires huge, time-consuming upfront investment, instead deliver a labour-intensive solution that can't scale when you get larger but requires no minimal or upfront investment. Or outsource a non-customer facing part of the solution. Capture this in the template.

Define the MVP Template:

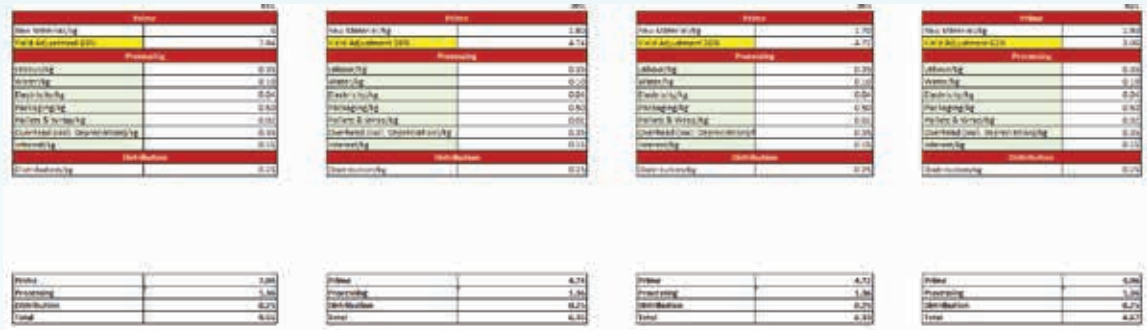
Objective	What minimum benefits of your product are required?	What minimum features of your product are required to deliver this benefit?
Desirability: The customer and user get value from your product – quantify the value proposition.		
Viability: The customer pays for the product – validating the customer will pay – likely not profitable at this point – but will pay.		
Feasibility: Collect real, meaningful feedback from customers and users so you understand what works, what is missing and what needs to be refined before you do a full production launch.		
Minimise Investment: What can you concierge?		

Commercial Viability Tools

STEPS

1. Cost Analysis

The first step of determining if your project is financially viable or not is preparing a detailed analysis of input production/processing costs required.



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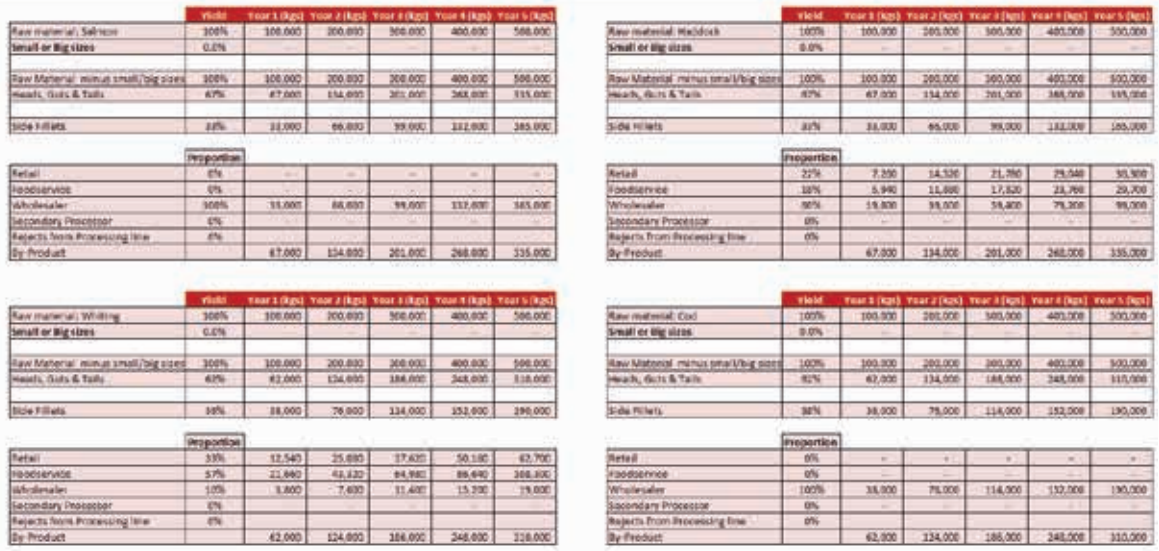
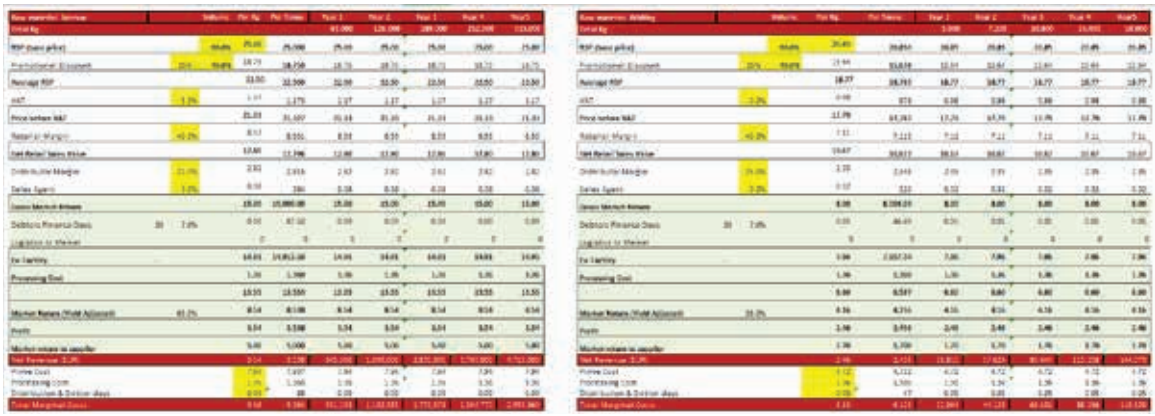
Analysis of volume availability, volume flow and identification of market channels



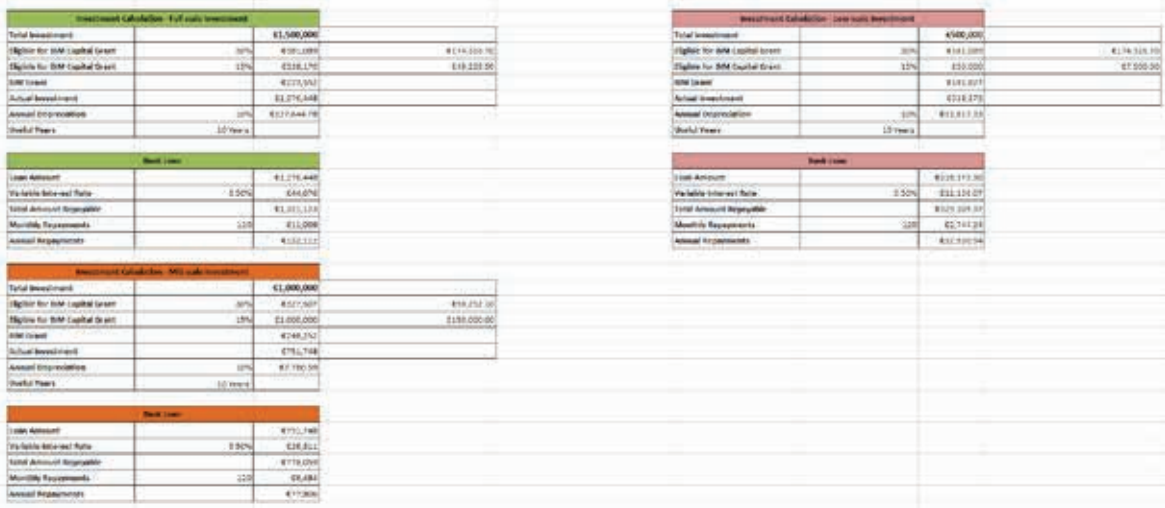
3. SKU P&L Analysis

Detailed analysis of value chain from raw material to market. Net revenue, marginal costs and marginal contribution calculated. Projected sales over 5-year period.



4. Capital Investment Analysis

Detailed analysis of investment required for project implementation. Projections of different scales of investment to predict funding method and level required.



5. Cashflow Analysis

Determining the operational cashflow requirement for the project to function

2019				2020				2021				2022			
	Volume (tonnes)	Raw Material Value (€)	Processing Cost		Volume (tonnes)	Raw Material Value (€)	Processing Cost		Volume (tonnes)	Raw Material Value (€)	Processing Cost		Volume (tonnes)	Raw Material Value (€)	
Jan	9	47,120	12,817	Jan	19	94,241	25,633.51	Jan	28	141,361	38,450.26	Jan	48	407,681.91	
Feb	16	78,534	21,361	Feb	31	157,068	42,722.51	Feb	47	235,602	64,083.77	Feb	80	679,469.84	
Mar	24	117,801	30,123	Mar	47	235,602	60,246.00	Mar	71	353,403	90,369.00	Mar	119	1,019,204.76	
Apr	14	70,681	20,180	Apr	28	141,361	40,360.00	Apr	42	212,042	60,540.00	Apr	72	611,522.86	
May	13	62,827	44,457	May	25	125,654	88,914.97	May	38	188,482	133,372.46	May	64	543,575.87	
Jun	16	78,534	33,658	Jun	31	157,068	67,316.00	Jun	47	235,602	100,974.00	Jun	80	679,469.84	
Jul	24	117,801	49,568	Jul	47	235,602	99,136.00	Jul	71	353,403	148,704.00	Jul	119	1,019,204.76	
Aug	31	157,068	54,879	Aug	63	314,136	109,758.00	Aug	94	471,204	164,637.00	Aug	159	1,358,939.69	
Sep	39	196,335	53,403	Sep	79	392,670	106,806.28	Sep	118	589,005	160,209.42	Sep	199	1,698,674.61	
Oct	39	196,335	53,403	Oct	79	392,670	106,806.28	Oct	118	589,005	160,209.42	Oct	199	1,698,674.61	
Nov	60	298,429	79,456	Nov	119	596,859	158,912.00	Nov	179	895,288	238,368.00	Nov	302	2,581,985.40	
Dec	16	78,534	21,361	Dec	31	157,068	42,722.00	Dec	47	235,602	64,083.00	Dec	80	679,469.84	
Annual	**300**	**1,500,000**		**Annual**	**600**	**3,000,009**		**Annual**	**900**	**4,500,000**		**Annual**	**1520**	**12,977,874**	

Jan	Energy Demand	60	1910	3.14%
Feb		100	1910	5.24%
Mar		150	1910	7.85%
Apr		90	1910	4.71%
May		80	1910	4.19%
Jun		100	1910	5.24%
Jul		150	1910	7.85%
Aug		200	1910	10.47%
Sep		250	1910	13.09%
Oct		250	1910	13.09%
Nov		380	1910	19.90%
Dec		100	1910	5.24%

6. Profit and Loss Statement (P&L):

A profit and loss statement (P&L) is a financial statement that summarises the revenues, cost and expenses incurred during a specific period of time, usually a year. A P&L at the beginning of an innovation endeavour is full of assumptions as to what's required to have a commercially successful business.

Below is a screen shot of a simple P&L provide in the BIM P&L Spreadsheet tool.

Seafood Company- 5yr P&L

P&L Impact		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
		1000's	1000's	1000's	1000's	1000's	1000's	1000's
Inflation								
COGs inflation			1.000	1.000	1.000	1.000	1.000	
Volume Increase (Estimated)			0.0%	0.0%	0.0%	0.0%	0.0%	
Cannibilisation			0%	0%	0%	0%	0%	
'000's								
Gross kg			151,400	302,800	454,200	605,600	757,000	2,271,000
Gross Net Revenue	11.12		1,683,497	3,366,995	5,050,492	6,733,989	8,417,487	25,252,460
Gross Trading Contribution	1.46		220,764	441,528	662,293	883,057	1,103,821	3,311,463
Incremental Volume			151,400	302,800	454,200	605,600	757,000	2,271,000
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Incremental TC	1.46		220,764	441,528	662,293	883,057	1,103,821	3,311,463
Other Product related costs	Minus							0
A&P	Minus		0	0	0	0	0	0
Development costs	Minus							
Depreciation - New Plant			0	0	0	0	0	0
Operating Profit		0	220,764	441,528	662,293	883,057	1,103,821	3,311,463
Taxation			353	(32,679)	(64,899)	(96,516)	(127,681)	(321,423)
Profit after Tax		0	221,117	408,849	597,393	786,541	976,141	2,990,041
Interest			(34,764)	(25,763)	(10,840)	10,142	37,358	(23,867)
Earnings		0	186,352	383,086	586,554	796,682	1,013,499	2,966,174

Cashflow Impact	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
	1000's	1000's	1000's	1000's	1000's	1000's	1000's
Operating Profit	0	220,764	441,528	662,293	883,057	1,103,821	3,311,463
Capital Investment	(1,276,448)						(1,276,448)
Depreciation/Write Offs	0	0	0	0	0	0	0
Taxation	16,590	16,766	(16,163)	(48,789)	(80,708)	(112,098)	(224,403)
Cashflow	(1,259,858)	237,530	425,365	613,503	802,349	991,723	1,810,613
Real DF (5% Nominal)	1.00	0.95	0.91	0.86	0.82	0.78	
Discounted Cashflow	(1,259,858)	226,219	385,819	529,967	660,095	777,041	1,319,283
NPV	######	#######	(647,820)	(117,853)	542,242	1,319,283	1,319,283
Cumm DCF	(1,259,858)	(1,033,639)	(647,820)	(117,853)	542,242	1,319,283	1,319,283
Periods to payback	12	12	12	12	2	0	
Discounted Payback (Years)	3.9						
IRR	24%						
Launch Periods	12.0						

1) Tax Computation	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Profit before Tax	0	220,764	441,528	662,293	883,057	1,103,821
Add Depreciation	0	0	0	0	0	0
Asset Write Down	0	0	0	0	0	0
Profit attributable to tax	0	220,764	441,528	662,293	883,057	1,103,821
Capital Allowances	31,911	25,529	20,423	16,339	13,071	10,457
Tax @ 12.5%	0	(27,596)	(55,191)	(82,787)	(110,382)	(137,978)
Tax Relief on Interest	1,268	2,419	2,089	1,549	795	(160)
Tax (P&L)	33,180	353	(32,679)	(64,899)	(96,516)	(127,681)
Tax (Cashflow)	16,590	16,766	(16,163)	(48,789)	(80,708)	(112,098)

2) Funding	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Opening Debt	0	(1,277,575)	(1,071,455)	(668,070)	(63,118)	749,416
Capital Expenditure	(1,276,448)	0	0	0	0	0

7. Financial Summary

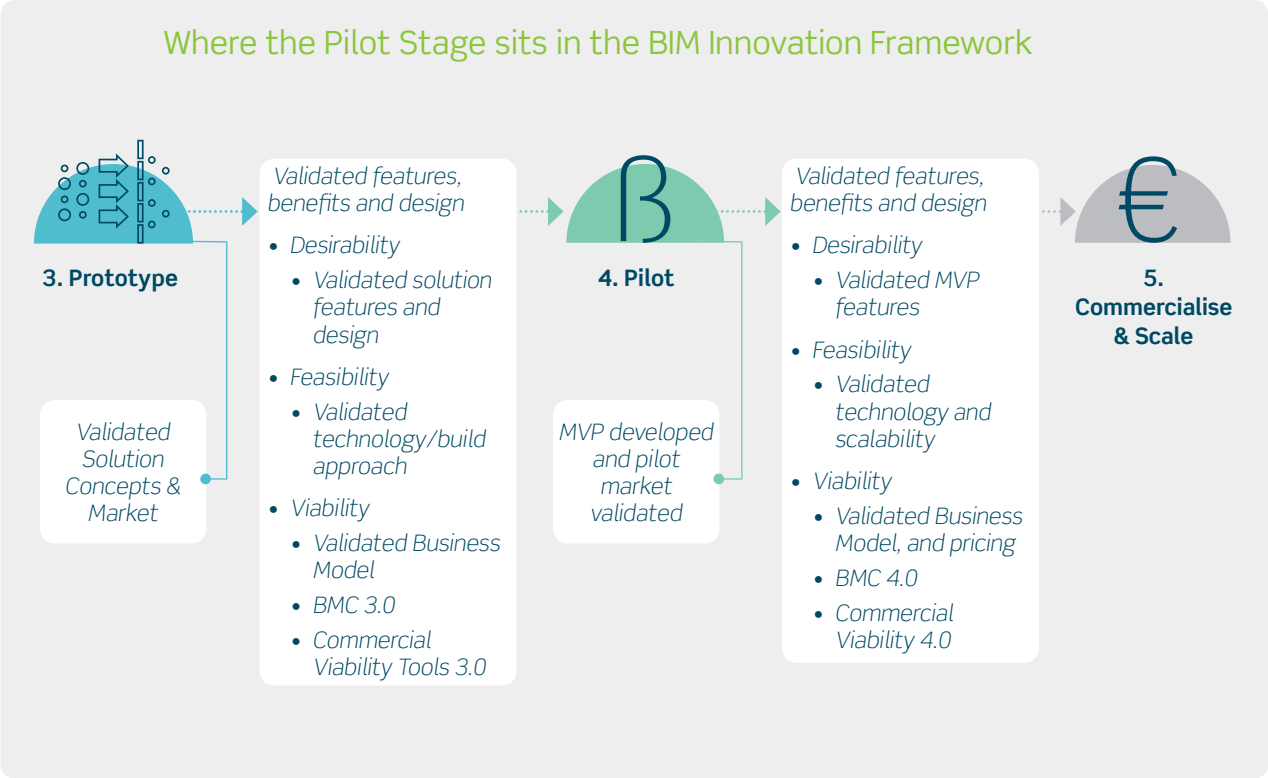
Determining if the project is financially viable by calculating the Net present Value, Payback Periods and Internal Rate of Return.

Financial Summary				
Project Name: Seafood Company Project				
BASED ON LATEST BUSINESS CASE				
Gate Criteria Matrix	Multinational	PLC	Seafood Company	Result
5 year NPV €'000s	> 0	> 0	> 0	1,319,283
Payback period Years	<2 years	< 3 years	3 - 5 years	4
IRR	>15%	> 10%	> 5%	24%

Stage 4: Pilot

A pilot is, by definition, a solution that is to be tested on a small scale that is seen to be complete in its own right. Piloting is the pre-scale phase of a new solution that focuses on validating quality, cost, customer acquisition, pricing, unexpected errors/issues, and initial short-term impact. The pilot is an initial production version of your solution with the minimum feature set to deliver value for customers/users. A Minimum Viable Product (MVP) is developed and made available for a subset of the market (e.g. one customer, one geography etc.) to validate what is required to operate at scale.

It's recommended you conduct a Pilot with your MVP before scaling it fully to the whole market or many markets. A Pilot is a restricted market test of your solution. This helps you ensure you have the whole solution to win with your customers.



Pilot

A Pilot is a 'real' market test. The solution should be robust. It's likely a minimum version of the solution with just enough features to solve the customer challenge. It should be 'production grade'. At this point you are not testing the idea, you are testing the whole solution. During the pilot you will fully execute your solution, finding out if it truly works the way you thought it would. Pilots can last months and will fully expose your solution to the marketplace.

The Pilot Process

Move to Pilot: Once you have validated your core assumptions you now know the right solution to design. Your next step is to develop something that your customers love. Your MVP should have the minimum feature possible to deliver value for your customer – you need to maintain an uncomfortably 'narrow' focus. Once you've identified the minimum feature set, then focus on designing and developing an amazing solution along these dimensions.

STEPS

1. Develop the Minimum Viable Product (MVP)

You've identified and defined the minimum feature for the MVP in the Prototype stage. Now it the time to develop and build the MVP whether it's a product, a process or a service. Bring it to life.

2. Nail your Pricing Strategy

It's crucial to nail your pricing during Pilot. Use the pricing strategy tool outlined below.

3. Plan your Pilot

Use the Pilot Plan Template to plan your pilot and monitor execution.

4. Refresh BMC

Based on what you've learned revise the Business Model Canvas.

5. Refresh Commercial Viability Tools

Based on what you've learned revise the Commercial Viability Tools.

6. Review and decide

Review the data and evidence validated from the Pilot plan executions, Business Model Canvas and profitability and projections from the P&L template and decide whether to proceed to Commercialise and scale.

Key Tools

Set Your Pricing Strategy

You need to be sure you can charge, and your customers will pay a profitable price. This is crucial, so you can maximise revenue streams while leaving plenty of margin for profit.

STEPS

1. Benchmark substitute solutions

The first step is to look at the price of similar current or analogous solutions that are the closest substitutes for yours. Potential customers will use those prices are reference points and you can use them as a reference point for your initial pricing estimate.

2. Price Sensitivity Meter (PSM)

Create a PSM using a customer survey to further refine your initial pricing estimate. This was originally developed by Dutch economist Peter van Westendorp, a simplified version is outlined below.

The survey consists of two related questions:

1. At what price would you consider the solution so expensive that you would not consider buying it? (too expensive)
2. A what price would you consider the product to be priced so low that you would feel the quality couldn't be very good? (too cheap)

Once you have a range of 'too low' and 'too expensive' data points where they converge or intersect indicates a possible optimal price point. This can give you a reasonable range of prices to validate with your customer.

Pilot Planning

First decide what to test and the minimum feature set you need, i.e. your Minimal Viable Product. Identify the key customers/users and assumptions in your MVP that you need to validate. Here's a brief description of each block and the order in which we suggest you complete them. Use the template below.

STEPS

1. Pilot objective

Describe the high-level objective of the pilot. Clearly articulate who the customer and users are and what their key Pain Points and Desired Gains are.

2. Solution considerations

Describe the solution being assessed/evaluated to meet the goals of the pilot. Consider the following:

- **Solution:** Describe the solution that is being assessed and what you want to validate.
- **Data:** Describe the minimum amount of data (including volume, type and format of data) needed to execute the pilot.
- **Integration requirements:** Define the specific integration requirements for the pilot (integrate into an existing processing line, connect with upstream and downstream partners in the value chain, etc.)
- **Adjacent technologies:** What adjacent technologies are needed for the pilot e.g., network infrastructure, software systems, pre-processing equipment, new packaging equipment etc.

3. Pilot output

Ask yourself the following questions:

- **Desirability:** What proof will the pilot produce that the solution is desired by the end users?
- **Feasibility:** What proof will the pilot produce that the technology being used in the solution works and is fit for scale?
- **Viability:** What proof will the pilot produce to support the financial requirements to move scaled deployment?

4. Pilot plan

Describe at a high level how the plan will be run. Consider and address the following:

- **Tracking metrics:** What metrics are being recorded to support an ROI model.
- **Duration:** Duration of the pilot (integration, pilot, evaluation).
- **Roles and responsibilities:** Number of people needed from all sides (company, customer, partners, suppliers, BIM) their roles and responsibilities.
- **Pilot costs:** An indication of the costs to run the pilot.
- **Reference documents:** Links to supporting documents, use cases, white papers etc.

Pilot Planning Template

Project Name	**Objective:** *High level objective of the pilot?*	**Customer:** Who is the customer and what regions/markets can you serve?	**User:** Who is end user? How many do you need for the pilot?	
Solution	**Feature being assessed:** *Describe the features that are being assessed.*	**Data:** *What minimum data is needed for the pilot? (volume, type, format)*	**Integration requirements:** *Define the integration requirements.*	**Adjacent technologies:** *What adjacent technologies are necessary for the pilot?*
Pilot Output	**Desirability (D):** *What proof will the pilot produce that the solution is desired by the end users?*	**Feasibility (F):** *What proof will the pilot produce, that the solution being assessed works and is fit for scale?*	**Viability (C):** *What proof will the pilot produce to support the commercial viability of moving to scaled deployment.*	

Pilot Plan: Describe how the pilot will be run.	**Tracking Metrics:** What metrics are being recorded to support an ROI model.	**Duration:** Duration of the pilot (integration, pilot, evaluation)	**Roles & responsibilities:** Number of people needed from both sides (MC, client), their roles & responsibilities	**Pilot costs:** An indication of the costs to run the pilot.	**Reference docs** Links to supporting docs, use cases, white papers etc.

Commercial Viability Tools

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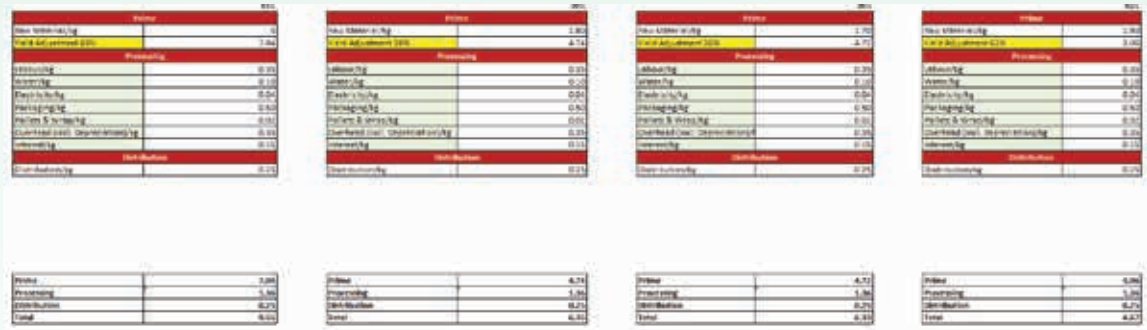

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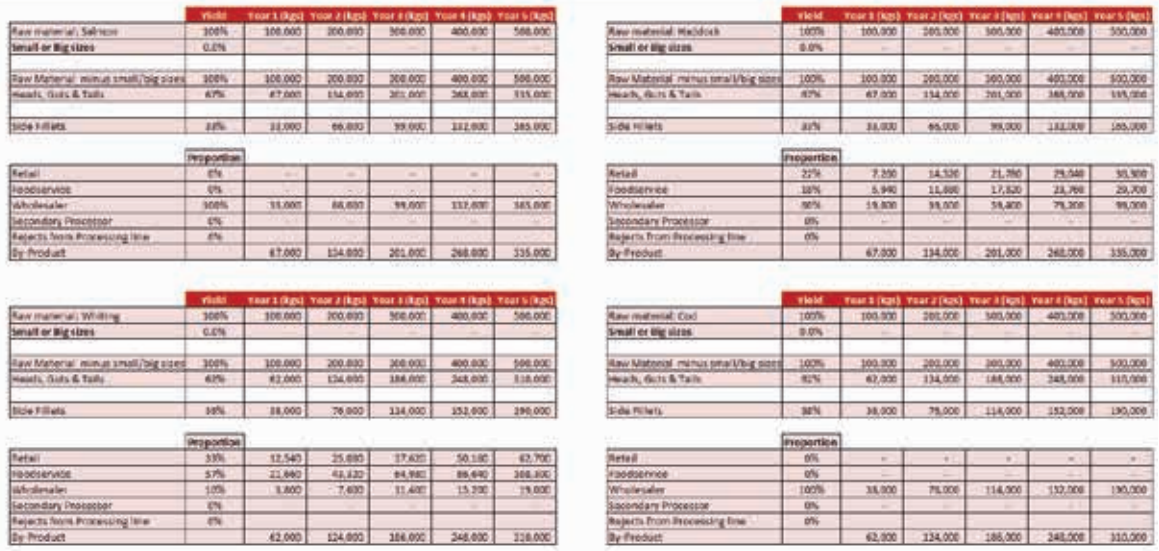

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Inflation								
COGs inflation			1.000	1.000	1.000	1.000	1.000	
Volume Increase (Estimated)			0.0%	0.0%	0.0%	0.0%	0.0%	
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'000's								
Gross kg			151,400	302,800	454,200	605,600	757,000	2,271,000
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Depreciation - New Plant			0	0	0	0	0	0
Operating Profit		0	220,764	441,528	662,293	883,057	1,103,821	3,311,463
Taxation			353	(32,679)	(64,899)	(96,516)	(127,681)	(321,423)
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Discounted Cashflow	(1,259,858)	226,219	385,819	529,967	660,095	777,041	1,319,283
NPV	######	#######	(647,820)	(117,853)	542,242	1,319,283	1,319,283
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IRR	24%						
Launch Periods	12.0						

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Add Depreciation	0	0	0	0	0	0
Asset Write Down	0	0	0	0	0	0
Profit attributable to tax	0	220,764	441,528	662,293	883,057	1,103,821
Capital Allowances	31,911	25,529	20,423	16,339	13,071	10,457
Tax @ 12.5%	0	(27,596)	(55,191)	(82,787)	(110,382)	(137,978)
Tax Relief on Interest	1,268	2,419	2,089	1,549	795	(160)
Tax (P&L)	33,180	353	(32,679)	(64,899)	(96,516)	(127,681)
Tax (Cashflow)	16,590	16,766	(16,163)	(48,789)	(80,708)	(112,098)

2) Funding	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Opening Debt	0	(1,277,575)	(1,071,455)	(668,070)	(63,118)	749,416
Capital Expenditure	(1,276,448)	0	0	0	0	0

7. Financial Summary

Determining if the project is financially viable by calculating the Net present Value, Payback Periods and Internal Rate of Return.

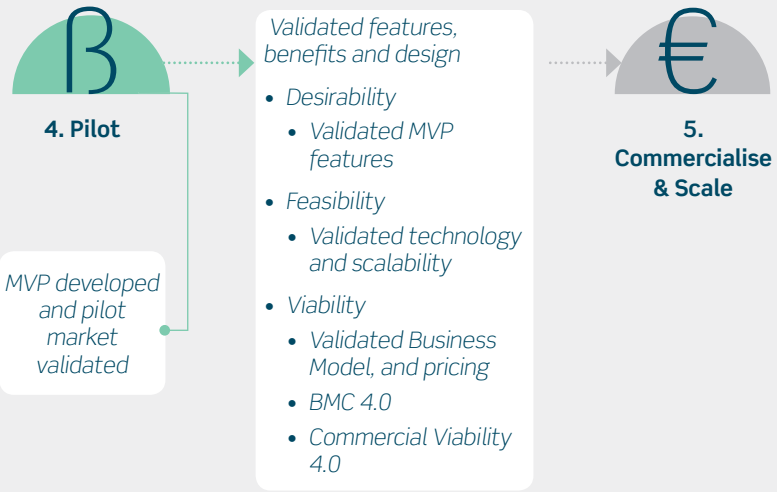
Financial Summary				
Project Name: Seafood Company Project				
BASED ON LATEST BUSINESS CASE				
Gate Criteria Matrix	Multinational	PLC	Seafood Company	Result
5 year NPV €'000s	> 0	> 0	> 0	1,319,283
Payback period Years	<2 years	< 3 years	3 - 5 years	4
IRR	>15%	> 10%	> 5%	24%

Stage 5: Commercialise & Scale

What is Stage 5, Commercialise & Scale?

At this stage you have nailed the challenge, defined the solution, business model and forecasted P&L and hopefully have started to generate revenue with your MVP. Now you need to consider a full market launch, commercialisation and how to design for scale.

Where the Commercialise & Scale Stage sits in the BIM Innovation Framework



Scalable Business Model

Scrutinise your entire Business Model Canvas and be sure all elements are well understood and fully tested. As you scale your solution each element will be tested in the real world. The Business Model Canvas summarises your overall strategy for delivering value to and capturing value from your customers.

In addition, build out a more comprehensive five-year financial plan for the business. Below is a screen shot of the 5 Year P&L Excel Template. The P&L should now be reviewed on a weekly/monthly frequency to validate the business is performing and growing as expected. If it is not, then you need to analyse why – use the Business Model Canvas as a lens to assess what may not be working as planned.

Design the On-Ramp

Ask yourself, "How will customers hear about my solution, try it out, become regulars and enlist others?" Think of this as the on-ramp. It must be prototyped, designed and iterated as carefully as the solution it serves. The on-ramp is like a ladder that leads your customers to become advocates. It's critical to develop a relationship with and a channel to customers.

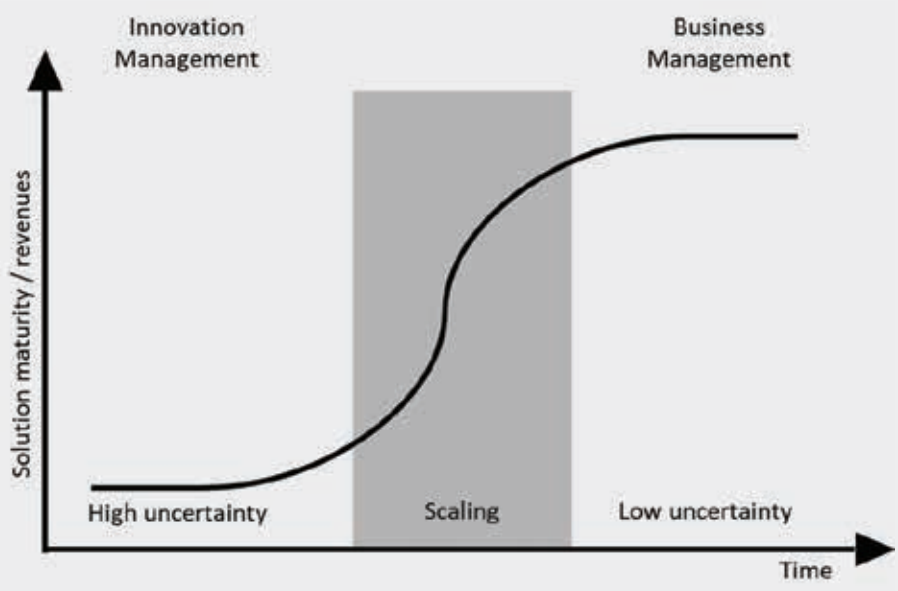
A useful tool to help you design your on-ramp is the consumption chain.

The Consumption Chain
(adapted from the Innovator's Method by Jeffrey Dyer and Nathan Furr)

Scaling: The Transition Phase

In The Innovator's Method, Dyer and Furr outline when you move from innovating to scaling you essentially move into execution. Your project passes through a transitional phase called scaling. See diagram below.

Scaling is the transition phase to a mature business.
(adapted from Dyer and Furr's The Innovators Method)

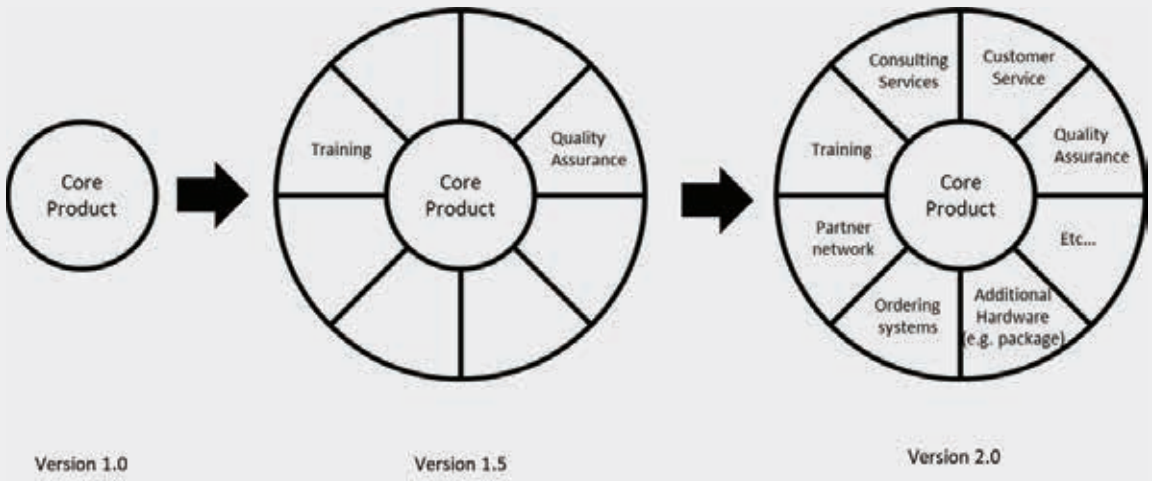


You move from asking "What customers want?" to asking "How do we deliver this solution reliably and repeatedly at low cost?". Scaling requires you to focus on three key scaling elements.

Market Scaling

This is where you move from a Minimum Viable Product (MVP) to providing a whole-product solution (Geoffrey Moore, Crossing the Chasm). You transition from serving 'early adopter' customer to serving 'mainstream customers'. Mainstream customers will expect everything required to easily use, maintain and get value from your solution. Your MVP starts out as your Core Product and needs to evolve to provide a whole product solution to meet the needs of the mainstream market.

Market Scaling to deliver a whole-product solution



Process Scaling

As you scale in the market you will need to shift effectively from innovation processes to execution processes. Innovation processes focus on discovery, generating ideas and prototyping your way to the solution. In contrast execution processes are focused on efficiently delivering the whole product solution. Key processes to standardise include

- Supply chain
- Production process for volume, quality and continuous improvement
- Distribution chain to efficiently and effectively deliver your solution in volume to your customers.
- Sales process standardised
- Customer Service

Team Scaling

Identify the key resources and skills you need to scale. Figure out how to get the right people and train your existing people to ensure you have the right skills and behaviours to build Execution Excellence in your organisation. When you are in the execution phase you need experts in the key areas that are important to your business and are execution focused. This is different from the innovation phase where you need generalists who are discovery and experiment focused to explore and try things out. In scaling you need experts who are focused on getting things done.

What to do next?

How can you make the BIM innovation framework work for you, your team and your organisation?

The best approach is to adapt it to your circumstance whether you are working alone, leading a team, or trying to ignite innovation in your organisation. Innovation is about taking action, it's about doing, and it's rooted in projects.

The best way to begin is to identify a worthy problem or opportunity to tackle. Don't wait, get started. The BIM innovation framework is designed to help you take a project from inception all the way through to scale. It introduces a sequence and a range of tools to help you get there

However you adapt the BIM Innovation Framework for your particular circumstance there remains remarkable adherence to the basic principles of the three lenses of innovation.

— **Desirability:** Identify a problem or opportunity, test it with customers and users to be sure it's a worthy one.

— **Feasibility:** Generate ideas to solve it, understand the options, identify the key assumption and design low-cost experiments to validate to invalidate assumptions and learn as quickly as possible.

— **Viability:** Always understand the potential of an opportunity, initially estimate the Total Available Market and revise your Business Model and P&L every step of the way.

If you keep the three lenses of innovation in mind as a guide through the BIM Innovation Framework, then you will rarely go wrong.

In conclusion it's worth acknowledging that innovation is inherently messy and iterative. We have tried to simplify the framework here to make it easier to understand and apply. In reality, when you are using it - some stages will overlap, some steps you will skip or do multiple times. When this is the case it helps to reflect and acknowledge that you are doing the right thing. Remember, when innovating, you are dealing with uncertainty. Messiness and iteration is part of the process. Embrace it, as many great innovations emerge from uncertainty.

The Seafood Innovation Team

FOR MORE INFORMATION CONTACT

Aileen Deasy
Seafood Innovation Hub
Clogheen Road
Clonakilty
Co. Cork
P85 TX47
Ireland

T +353 1 2144100
E info@bim.ie

Notes

Notes

An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

EUROPEAN UNION
This measure is part-financed
by the European Maritime
and Fisheries Fund

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