New Product Development Playbook

In this playbook you will learn how to plan your new product development using several design and analysis tools through an exploratory approach.

Takes 2-3 days to complete

For individuals or teams

Can be worked on at the same time or separately

Can be done remotely or in-person

Foreword

Welcome to "New Product Development (NPD) Playbook–A Toolkit for Making NPD Plans". This playbook is part of the InGAME free toolkit series. It was created on the basis of realworld R&D projects. In this playbook, you will learn how to plan your new product development using several design, and analysis tools through an exploration approach created by InGAME.

Who is this playbook for?
This playbook is for both young and mature entrepreneurs and companies to plan their new product development. The only prerequisite for you to use this playbook is that you need to have some new product ideas.

About InGAME:
InGAME is the UK's dedicated Research and Development centre for the videogame and interactive media industries. Our mission is to increase the scale and value of companies through product, service and experience innovation. InGAME is funded by the UK Arts and Humanities Research Council (AHRC) via the Industrial Strategy Challenge Fund.

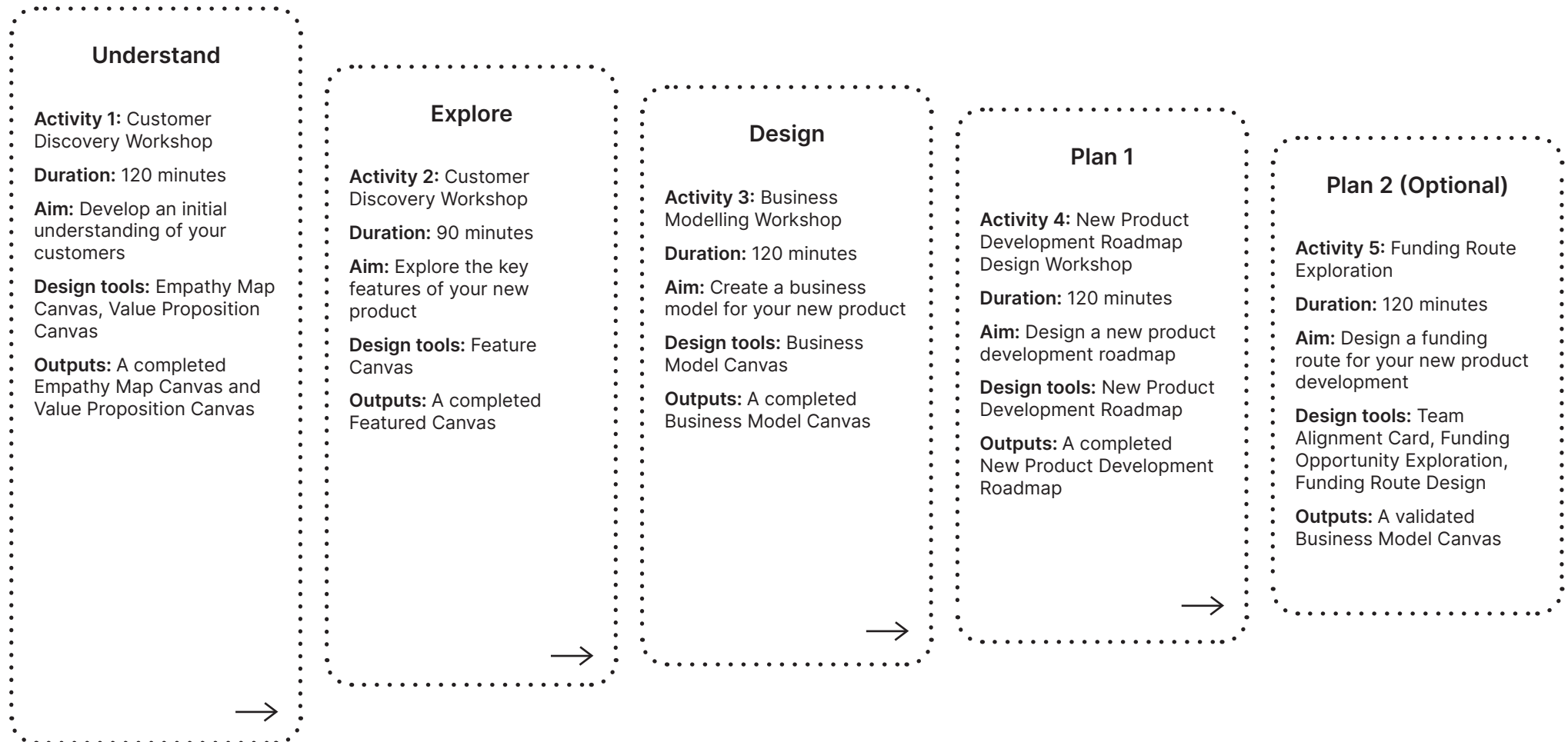You can access the Miro version of this playbook using this link:
https://miro.com/app/board/uXjVOtGnY3o=/?share_link_id=362346364529
You can duplicate the Miroboard and use it.

What makes this playbook different?

- **New product development approach:** This playbook presents a new product development approach created by InGAME through multiple collaborative R&D projects. The approach has five phases: understand, explore, design, plan 1 and plan 2 (see the figure below).

- **New design and analysis tools:** The business model design approach provides users with useful design and analysis tools and instructions on how to use these tools. Some of these tools were created based on InGAME's R&D activities and in response to industry needs. The othertools are popular business model design tools.

What makes this playbook different?

Understand

Activity 1: Customer Discovery Workshop

Duration: 120 minutes

Aim: Develop an initial understanding of your customers

Design tools: Empathy Map Canvas, Value Proposition Canvas

Outputs: A completed Empathy Map Canvas and Value Proposition Canvas

→

Explore

Activity 2: Customer Discovery Workshop

Duration: 90 minutes

Aim: Explore the key features of your new product

Design tools: Feature Canvas

Outputs: A completed Featured Canvas

→

Design

Activity 3: Business Modelling Workshop

Duration: 120 minutes

Aim: Create a business model for your new product

Design tools: Business Model Canvas

Outputs: A completed Business Model Canvas

→

Plan 1

Activity 4: New Product Development Roadmap Design Workshop

Duration: 120 minutes

Aim: Design a new product development roadmap

Design tools: New Product Development Roadmap

Outputs: A completed New Product Development Roadmap

→

Plan 2 (Optional)

Activity 5: Funding Route Exploration

Duration: 120 minutes

Aim: Design a funding route for your new product development

Design tools: Team Alignment Card, Funding Opportunity Exploration, Funding Route Design

Outputs: A validated Business Model Canvas

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Activity 1

Customer Discovery Workshop

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Activity: Employee Research

⏱	120 Minutes

What is this activity about?

This activity gives you the opportunity to develop an initial understand of your customers (Exercise 1) and find productmarket fit (Exercise 2) accordingly. At the workshop, You will use two design tools: Empathy Map Canvas and Value Proposition Canvas. Discussions are allowed throughout the workshop.

Exercise 1: Empathy Map Canvas

The Empathy Map Canvas enables you to develop a shared understanding and empathy for your target customers.

Exercise 2: Value Proposition Canvas

The purpose of this exercise is to determine the value proposition(s) of your products/services.

Exercise 1: Empathy Map Canvas

Intro

The Empathy Map Canvas consists of 7 numbered sections, indicating the expected sequence of activities. You have 60 minutes to complete this canvas: 8 minutes for each section. Please use coloured sticky notes to answer all the questions on the canvas. Each participant should choose a colour. You can also use sticky notes to write down reflective questions and thoughts on the canvas. You can use as many sticky notes as you want.

How to play:

Section 1-2: Define WHO is the subject of the Empathy Map (i.e. your target customers) and understand what the subjects need to DO (i.e. something that your product/service can help in the future). The answers need to respond to an observable behaviour and be used to frame the GOAL of the map.

Section 3-6: Once you have clarified the goal, move clockwise along the canvas, until you have covered Seeing, Saying, Doing, and Hearing. This gives you a chance to imagine what the current customer experience might be like. (Your product/service is not yet on the market. When doing this exercise, it is useful to consider potential direct and indirect competitors.)

Section 7: Now focus on imagining what it's like to be inside the customer's head (THINK and FEEL), which can be speculated or inferred but never observed.

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Empathy Map Canvas

Designed for:

Designed by:

Date:

Version:

1 **WHO are we empathizing with?**

Who is the person we want to understand?
What is the situation they are in?
What is their role in the situation?

GOAL

2 **What do they need to DO?**

What do they need to do differently?
What job(s) do they want or need to get done?
What decision(s) do they need to make?
How will we know they were successful?

7 **What do they THINK and FEEL?**

PAINS
What are their fears,
frustrations, and anxieties?

GAINS
What are their wants,
needs, hopes and dreams?

3 **What do they SEE?**

What do they see in the marketplace?
What do they see in their immediate environment?
What do they see others saying and doing?
What are they watching and reading?

6 **What do they HEAR?**

What are they hearing others say?
What are they hearing from friends?
What are they hearing from colleagues?
What are they hearing second-hand?

What other thoughts and feelings might motivate their behavior?

4 **What do they SAY?**

What have we heard them say?
What can we imagine them saying?

5 **What do they DO?**

What do they do today?
What behavior have we observed?
What can we imagine them doing?

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Exercise 2: Value Proposition Canvas

Introduction:
The canvas is composed of a Customer Profile Map (right) and a Value Map (left). You have 10 minutes to complete the Customer Profile Map (right) by transferring key information from your completed Empathy Map Canvas onto it, and 50 minutes to finish the Value Map (left). The completed Value Proposition Canvas can be used as your service framework.

How to Play:
Customer Profile Map: Start with the Customer Profile Map on the right-hand side by transferring the key information from section 1, 2 and 7 of the completed Empathy Map onto it. Transfer – section 1 to the Customer Segment, section 2 to Customer job(s), section 7 to Gains and Pains. Don't forget the Customer Segment at the top of the map!

Value Map: Use the Value Map on the left to design the value proposition(s) of your products. The map is composed of Products & Services, Pain Relievers and Gain Creators, which relate back to your Customer Profile Map. Please use the same coloured sticky notes you used in the first exercise to write down your ideas, reflective questions and thoughts on this canvas. (1) Your Products & Services provide Customer Jobs – write down your product/service features here. (2) Why are these features valuable to your customers? Your Pain Relievers and Gain Creators can answer this question – your Pain Relievers alleviate Customer Pains by removing one or more current frustrations; and your Gain Creators ensure their Gains by offering them something new. (3) After you complete the Products & Services, Pain Relievers and Gain Creators, please create a Value Proposition for your product/service.

Note: A value proposition is a simple statement of product/service value that summarises why a customer should choose your product/service. A value proposition is different from a selling point–it is your promise to the audience with whom you want to build relationships.

The Value Proposition Canvas

Value Proposition

Customer Segment
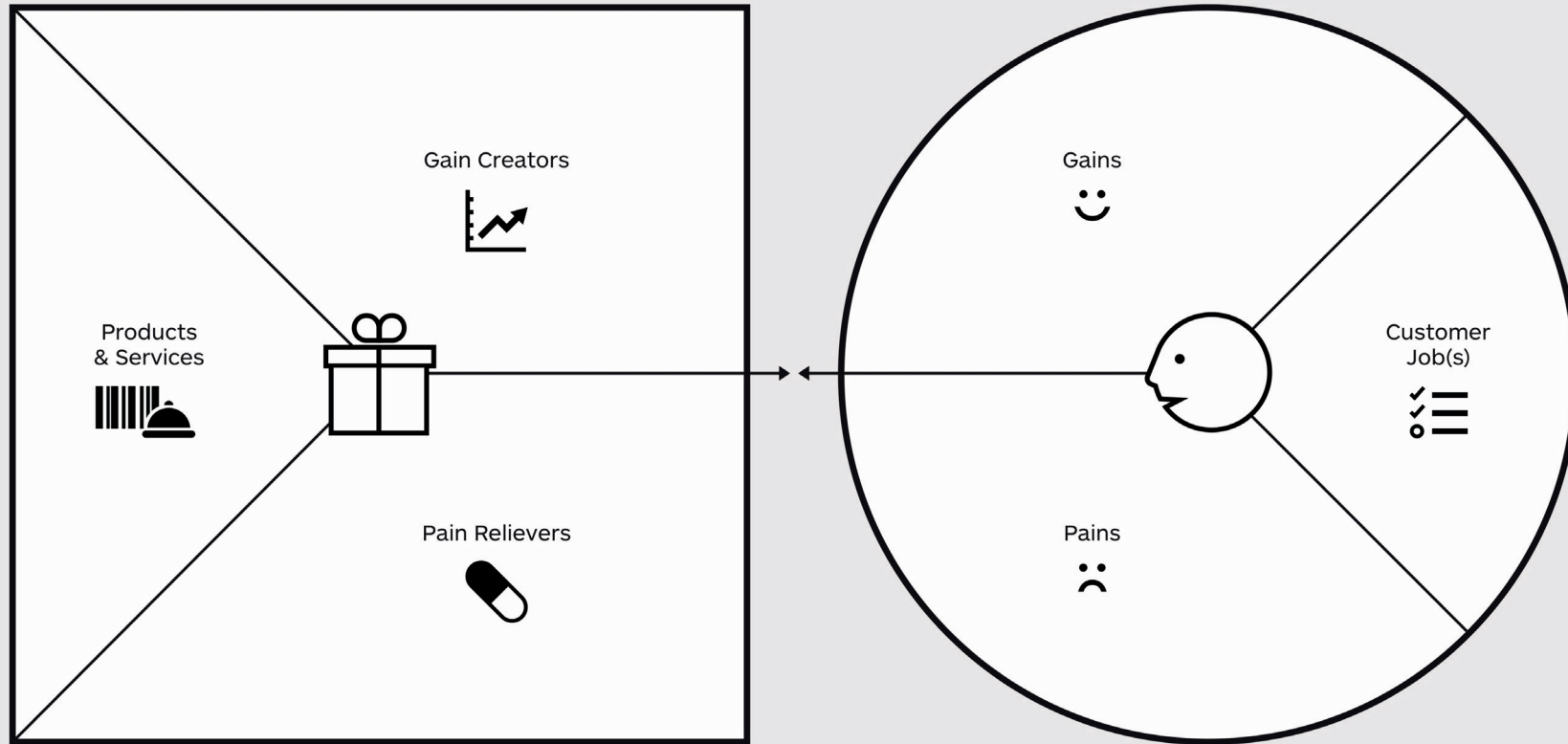
Gain Creators

Products & Services

Pain Relievers

Gains

Customer Job(s)

Pains

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New Product Exploration Workshop

Activity: Employee Research

| ⏱ | **90 Minutes** |

What is this activity about?

This activity is an exercise to help you further explore the key features of your new product. At the workshop, You will use one design tool: Feature Canvas. Discussions are allowed throughout the workshop.

Exercise: Feature Canvas

The Feature Canvas enables you to further explore and discuss the key features of your new product with your team members.

The Feature Canvas can help your:

- create team alignment on your product development idea;

- identify the importance of implementing this idea;

- determine the key features of the your product for contextual situations;

- articulate the problems that the key features can solve;

- determine the value of key features to the value proposition of your product;

- identify your capability, restrictions and limitations in creating the product.

Exercise: Feature Canvas

Introduction

The Feature Canvas consists of 7 numbered sections, indicating the expected sequence of activities. You have 90 minutes to complete this canvas: 12 minutes for each section. Please use coloured sticky to answer all the questions on the canvas. Each participant should choose a colour. You can also use sticky notes to write down reflective questions and thoughts on the canvas. You can use as many sticky notes as you want.

Note: You need to transfer the key information (i.e. sticky notes) from the Products & Services, Gains, Pains, Gain Creators and Pain Relievers sections of the completed Value Proposition Canvas onto the Feature Canvas first. Transfer – Products & Services to Section 3, Gains and Pains to section 4, Gain Creators and Pain Relievers to section 5. After that, complete the 7 sections of the feature canvas in order.

Idea Description
Describe your idea in 2-3 sentences to keep focus and put all your team on the same page.

1

Why?
Why is it important to implement this idea?

2

Key features / Contextual situations
What will be the key features of our new product? At what time do people need these features or face problems solved by these features?

3

Restrictions and limitations
What can prevent us from solving these problems and supporting end-users in these situations? (what do we have at the moment)

7

Problems to solve
What problems are we trying to solve for the end-users?

4

Value proposition
How will the key features contribute to the value proposition of our new product?

5

Capabilities
What can help us to solve these problems and support end-users in these situations? (what do we have at the moment)

6

Feature Canvas by Nikita Efimov is licensed under CC BY-SA 4.0 (Adapted by Xinya You)

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Activity 3

Business
Modelling Workshop

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🕐	120 Minutes

What is this activity about?

This activity provides you with an exercise to use your outputs of the Customer Discovery Workshop to design a business model prototype for your new platform. The tool you will use is the Business Model Canvas. Discussions are allowed throughout the workshop.

Exercise: Business Model Canvas
The Business Model Canvas can help you design and reflect on your business model.

Exercise: Business Model Canvas

Introduction:

The Business Model Canvas has 9 building blocks, and you have 13 minutes to complete each block. Please use the coloured sticky notes next to the upper left corner of the canvas to answer all the questions on the canvas. Each participant should choose a colour. You can also use sticky notes to write down reflective questions and thoughts on the canvas. You can use as many sticky notes as you want.

How to Play:

- Start by transferring key information from the complete Value Proposition Canvas onto the Customer Segments and the Value Propositions building blocks. Transfer the sticky notes on the Customer Profile Map to the Customer Segments block and the sticky notes on the Value Map to the Value Propositions block.

- Complete the other 7 building blocks. There is no fixed sequence to fill in these blocks. However, if you are creating a new business model, please completed the blocks on the left side of the canvas about value co-creation (Key Partners, Key Activities, Key Resources and Cost Structure), and then complete those blocks on the right side about value delivery and capture (Customer Relationships, Channels and Revenue Streams). It is easier to start with the blocks where you have more deterministic information. Please complete one block before proceeding to the next.

The Business Model Canvas

This is an example format for laying out the tool, please try to replicate it as best you can in a larger format, e.g. on a large whiteboard.

Key Partners

Who are our Key Partners?
Who are our key suppliers?
Which Key Resources are we acquiring from partners?
Which Key Activities do partners perform?

MOTIVATIONS FOR PARTNERSHIPS
Optimization and economy
Reduction of risk and uncertainty
Acquisition of particular resources and activities

Key Activities

What Key Activities do our Value Propositions require?
Our Distribution Channels?
Customer Relationships?
Revenue streams?

CATEGORIES
Production
Problem Solving
Platform/Network

Key Resources

What Key Resources do our Value Propositions require?
Our Distribution Channels? Customer Relationships?
Revenue Streams?

TYPES OF RESOURCES
Physical
Intellectual (brand patents, copyrights, data)
Human
Financial

Value Propositions

What value do we deliver to the customer?
Which one of our customer's problems are we helping to solve?
What bundles of products and services are we offering to each Customer Segment?
Which customer needs are we satisfying?

CHARACTERISTICS
Newness
Performance
Customization
"Getting the Job Done"
Design
Brand/Status
Price
Cost Reduction
Risk Reduction
Accessibility
Convenience/Usability

Customer Relationships

What type of relationship does each of our Customer Segments expect us to establish and maintain with them?
Which ones have we established?
How are they integrated with the rest of our business model?
How costly are they?

EXAMPLES
Personal assistance
Dedicated Personal Assistance
Self-Service
Automated Services
Communities
Co-creation

Channels

Through which Channels do our Customer Segments want to be reached?
How are we reaching them now?
How are our Channels integrated?
Which ones work best?
Which ones are most cost-efficient?
How are we integrating them with customer routines?

CHANNEL PHASES
1. Awareness
   How do we raise awareness about our company's products and services?
2. Evaluation
   How do we help customers evaluate our organization's Value Proposition?
3. Purchase
   How do we allow customers to purchase specific products and services?
4. Delivery
   How do we deliver a Value Proposition to customers?
5. After sales
   How do we provide post-purchase customer support?

Customer Segments

For whom are we creating value?
Who are our most important customers?

Mass Market
Niche Market
Segmented
Diversified
Multi-sided Platform

Cost Structure

What are the most important costs inherent in our business model?
Which Key Resources are most expensive?
Which Key Activities are most expensive?

IS YOUR BUSINESS MORE
Cost Driven (leanest cost structure, low price value proposition, maximum automation, extensive outsourcing)
Value Driven (focused on value creation, premium value proposition)

SAMPLE CHARACTERISTICS
Fixed Costs (salaries, rents, utilities)
Variable costs
Economies of scale
Economies of scope

Revenue Streams

For what value are our customers really willing to pay?
For what do they currently pay?
How are they currently paying?
How would they prefer to pay?
How much does each Revenue Stream contribute to overall revenues?

TYPES	FIXED PRICING	DYNAMIC PRICING
Asset sale	List Price	Negotiation (bargaining)
Usage fee	Product feature dependent	Yield Management
Subscription Fees	Customer segment dependent	Real-time-Market
Lending/Renting/Leasing	Volume dependent	
Licensing		
Brokerage fees		
Advertising		

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Activity 4

New Product Development Roadmap Design Workshop

⏱ 120 Minutes

What is this activity about?

This activity provides you with an exercise to design a development roadmap for your new product. Discussions are allowed throughout the workshop.

- **Exercise: New Product Development Roadmap**
  The New Product Development Roadmap tool enables you and your team members to co-create an one-year development plan for your new product.

- Note: The success of your plan depends on how you implement it.

Exercise: New Product Development Roadmap

Introduction:

Please use coloured sticky notes to answer all the questions on the tool. Each participant should choose a colour. You can also use sticky notes to write down reflective questions and thoughts on the canvas. You can use as many sticky notes as you want. Use 120 minutes to complete this canvas: 30 minutes for each column. Please complete one column before proceeding to the next.

Goal: What is the goal of your new product development?

Timeline				
Phases				
Activities *What activities should we carry out in each phase?*				
Milestones *What are the milestones of each phase?*				
Must-Have Capabilities *What capabilities must absolutely be in place to enable the development of the desired new product in each phase?*				
Resources *What resources do we need to develop the desired new product in each phase?*				
Challenges *What challenges might we face in each phase?*				
Solutions *How might we solve the challenges?*				

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Activity 5 (Optional)

Funding Route Exploration Workshop

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⏱	**120 Minutes**

What is this activity about?

This activity helps you explore funding opportunities, establish your funding route and set up your funding application goals. You will work with your team members to design the most suitable route for your team/company.

You will design your funding route through three steps.

1. **Team alignment:** You will answer a number of questions to create team alignment before preparing your funding application(s).

2. **Funding opportunity exploration:** You will explore 2-4 funding opportunities with your team members. (Note: You need to add information about funding opportunities before the workshop)

3. **Funding route design:** You will design a funding route to achieve your funding application goals within a 1 year time frame. (Note: You need to add information about funding opportunities before the workshop)

Step 1: Team alignment

Use the Team Alignment Card tool below to create team alignment before preparing your funding application(s). You will use sticky notes to answer three types of questions:

- **Funding application goal & plan questions:** These questions will help you outline your funding application goals.

- **Team capacity questions:** These questions will help you determine your team's capacity in relation to funding applications.

- **Self-assessment questions:** These questions help you assess your team's ability to apply for funding.

You have 10 minutes to complete each card. You can use as many sticky notes as you want. Discussions among team members are allowed.

Tool: Team alignment card

⏱ 10 minutes

A. Funding Application Goal & Plan Questions

1. What are our funding application goals ?

2. How much grant funding do we need to get?

3. What are our plans if we secured a grant funding?

4. What are our plans if we do not receive grant funding within 1 year?

Tool: Team alignment card

⏱ 10 minutes

B. Team Capacity Questions

1. How many of us can work full-time to develop our new product if we secure a grant ?

2. Do we need to build a new company for our new product? If so, when can we register a company?

3. When do we want to launch our new product?

4. Do we want to obtain other types of funding/income sources (e.g. crowdfunding, private investments) to develop our new product and/or build our company, in addition to grants?

Tool: Team alignment card

⏱ 10 minutes

C. Self-assessment Questions

1. What strengths do we have in terms of applying for funding?

2. What weaknesses do we have in terms of applying for funding?

3. What challenges do we have in terms of applying for funding?

4. How do we address the challenges of applying for funding?

Tool designer: Xinya You

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Step 2: Funding opportunity exploration

Introduction

Use the Funding Opportunity Exploration tool below to explore 2-4 funding opportunities. Read the key information about Opportunity 1 and then use the sticky notes provided to answer the application questions. After you have completed your exploration of Opportunity 1 (pink column), continue with Opportunity 2 (blue column) and so on. You have 20 minutes for each opportunity. Discussions are allowed among team members.

Understand the opportunities	Opportunity 1 ❶ 20min	Opportunity 2 ❷ 20min	Opportunity 3 ❸ 20min	Opportunity 4 ❹ 20min
About (Please complete this row before the workshop)	Key information	Key information	Key information	Key information
How to Apply (Please complete this row before the workshop)	Key information	Key information	Key information	Key information
Eligibility (Please complete this row before the workshop)	Key information	Key information	Key information	Key information
Application process (Please complete this row before the workshop)	Key information	Key information	Key information	Key information
Assessment Criteria (Please complete this row before the workshop)	Key information	Key information	Key information	Key information

Evaluate the opportunities				
Decision (Key decision making factors: timing & eligibility) Are we eligible to apply for this grant? Shall we apply for this grant?	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐
Actions What shall we do next to apply for this grant?	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐
Challenges What are the challenges for us to apply for this grant? How can we solve these challenges?	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐

Tool designer: Xinya You

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Step 3: Funding route design

Introduction

Use the Funding Route Design tool below to design your funding route (1 year plan from now). The completed funding route will help you prepare your application(s) and support your application goals. Discussions are allowed among team members.

How to use the tool:

- Read the key application information for Opportunities 1 and 2 and discuss the pre- filled opportunity key dates with your team members.

- Use sticky notes to answer the "Milestones", "Key decisions" and "Actions / Activities" questions.

- You have 10 minutes to complete each column.

Funding Route Design (1 year plan from now)	3 months	6 months	8 months	12 months
Opportunity 1 (key information):	Key dates	Key dates	Key dates	Key dates
Opportunity 2 (key information):	Key dates	Key dates	Key dates	Key dates
Opportunity 3 (key information):	Key dates	Key dates	Key dates	Key dates
Opportunity 4 (key information):	Key dates	Key dates	Key dates	Key dates
Milestones: What milestones should we hit in the 3 month time frame?	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
Key decisions What decisions do we need to make in the 3 month time frame?	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
Actions / Activities What actions or activities do we need to take in the 3 month time frame?	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐

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Summary

The playbook provides entrepreneurs and companies with a new approach and several new design and analysis tools to plan their new product development.

The creation of this playbook is the result of a joint effort by the InGAME project team.
- **Leading researcher:** Dr Xinya You (University of Dundee)
- **Braintrust:** Dr Chris Lowthorpe (Abertay University)
- **Project producer:** Katja Steel Kusáková (Abertay University)

With this playbook we hope to make it easier for more entrepreneurs and companies to plan their new product development. We hope you will find this playbook useful.