AI PRODUCT MANAGEMENT 2 · DETAILED COURSE

Customer Discovery and Market Research

Methods to find real problems worth solving, understand customers deeply and size and test the opportunity before heavy investment.

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CHAPTER 02

Customer Discovery and Market Research

Methods to find real problems worth solving, understand customers deeply and size and test the opportunity before heavy investment.

Design Thinking

A human-centred loop of empathise, define, ideate, prototype and test used to explore problems and solutions.

Design thinking is a loop of empathise, define, ideate, prototype and test. It helps teams explore a problem widely before choosing a solution. Example: a team interviews delivery riders before designing a new earnings screen, and tests two layouts with five riders.

Problem Identification and Validation

Finding a problem, then proving it is frequent, painful and valuable enough that people will change behaviour or pay.

A problem is worth solving when it is frequent, painful and valuable enough that people change behaviour or pay. Validate by checking how often users face it and what they already do about it. Workarounds are a strong signal of real need.

Customer Research Methodologies

Interviews, surveys, observation, diary studies, usability tests and data analysis, chosen to match the question.

Interviews explain motivations, surveys measure patterns at scale, observation reveals real behaviour, and analytics shows what users actually do. Choose the method that answers the decision you must make, and combine two methods where possible.

Qualitative and Quantitative Research

Qualitative research explains why people behave as they do; quantitative research measures how many and how much.

Qualitative research explains why people act as they do, through small interviews and open questions. Quantitative research measures how many people act a certain way. Use qualitative work to find the problem and quantitative work to size it.

Customer Interviews

Open, non-leading conversations about past behaviour and real problems; ask for stories, not opinions about your idea.

A good interview asks about past behaviour and specific stories, not hypothetical future use. Avoid pitching your idea. Ask "tell me about the last time you did this" and let the customer describe the context and workarounds.

Surveys and Feedback Collection

Structured questions at scale; keep them short, unbiased and tied to a decision, and pair them with interviews.

Surveys work when questions are short, unbiased and tied to a decision. Asking "would you use this?" gives misleading results because people are polite. Ask about current behaviour, then follow up with interviews to understand the answers.

User Personas

Evidence-based archetypes of key user groups with goals, context and pain points, used to keep decisions grounded.

Personas are evidence-based descriptions of key user groups, including goals, context and frustrations. Build them from interviews and data, not from imagination. Use them to check each decision: which persona does this help, and which does it hurt?

Jobs to Be Done (JTBD)

People hire products to make progress in a situation; the job, not demographics, explains what they choose.

People hire products to make progress in a specific situation, for example "help me send money home quickly on payday". Focusing on the job reveals competitors you did not expect, such as a notebook, or a relative to call.

Customer Pain Points

Specific frustrations in a workflow, ranked by severity and frequency, that products can relieve.

Pain points are specific frustrations in a workflow, such as re-entering data twice or waiting for approval. Rank them by how often they occur and how much they cost the customer. The highest-ranked pain is usually the best place to start.

Customer Journey Mapping

A map of stages, actions, thoughts and emotions from awareness to loyalty, exposing gaps and moments that matter.

A journey map lays out the stages a customer goes through, with actions, thoughts, emotions and touchpoints at each step. It shows where people drop off and where the experience breaks. Build it from real interview stories, then compare it with analytics.

User Journey Analysis

Examining how users actually move through the product, using behaviour data to find drop-offs and detours.

This examines how users move through the product using event data, such as which paths lead to success and which lead to dead ends. Look for repeated detours, because they often reveal confusing labels or missing features.

Empathy Mapping

A one-page view of what a user says, thinks, does and feels to align the team on their perspective.

An empathy map captures what a user says, thinks, does and feels. It aligns the team on a shared picture of the user before debating solutions. Keep it short and grounded in quotes from real research.

Voice of Customer (VoC)

Systematically collecting and synthesising customer feedback from support, reviews, sales calls and surveys.

VoC combines feedback from support tickets, reviews, sales calls and surveys into themes. Tag each comment, count themes over time and share the top themes with the team every month so customer voice shapes priorities.

Market Research

Gathering and analysing information about market size, trends, customers and competitors to guide decisions.

Market research covers the size of demand, trends, customer segments and competitor moves. Combine secondary sources such as industry reports with primary interviews. Be clear about which numbers are estimates and how you derived them.

Market Segmentation

Dividing a market into groups with shared needs or behaviours so you can target and position precisely.

Segmentation divides a market into groups with different needs, behaviours or willingness to pay. A useful segment is large enough to matter, reachable through a channel and different enough to need its own product or message.

TAM, SAM and SOM

Total addressable market, the serviceable part you can reach with your model, and the share you can realistically obtain.

TAM is the total demand for the category, SAM is the part your model and geography can serve, and SOM is the share you can realistically win in the near term. Build each from clear assumptions, such as users times price times frequency, and keep SOM conservative.

Competitor Analysis

Comparing competitors' offers, pricing, positioning and strengths to find gaps and differentiation.

Compare competitors on target customer, price, features, distribution and weaknesses reported by users. Look for gaps nobody serves well. Competitor analysis should change at least one decision, otherwise it is only a list.

SWOT Analysis

Strengths, weaknesses, opportunities and threats, a quick structured view of internal and external factors.

SWOT lists strengths, weaknesses, opportunities and threats. It is quick, but it often becomes a list of generic points. Make each item specific and link it to an action, so the analysis leads to a decision.

Porter's Five Forces

Industry attractiveness from rivalry, new entrants, substitutes, buyer power and supplier power.

Porter's model assesses industry attractiveness through rivalry, threat of new entrants, substitutes, buyer power and supplier power. It explains why some markets are profitable and others are crowded. Use it to judge whether a market is worth entering.

Value Proposition Canvas

Matches customer jobs, pains and gains to the products, pain relievers and gain creators you offer.

The canvas matches customer jobs, pains and gains against your products, pain relievers and gain creators. It shows whether your offer addresses what customers actually care about. Gaps in the canvas point to features you may not need.

Opportunity Assessment

A short brief that asks the key questions: problem, audience, size, alternatives, why now, success measures and risks.

An opportunity assessment is a short brief covering the problem, audience, market size, existing alternatives, why now, success measures and risks. It lets leaders compare opportunities on the same basis before committing people.

Hypothesis Development and Validation

Turn assumptions into testable statements with a metric and threshold, then run the cheapest test that could prove them wrong.

Write each assumption as a testable statement with a metric and a threshold, for example "at least 30% of trial users will invite a teammate within 7 days". Then run the cheapest test that could prove it wrong, before building anything large.

Summary of terms

Term	Meaning
Design Thinking	A human-centred loop of empathise, define, ideate, prototype and test used to explore problems and solutions.
Problem Identification and Validation	Finding a problem, then proving it is frequent, painful and valuable enough that people will change behaviour or pay.
Customer Research Methodologies	Interviews, surveys, observation, diary studies, usability tests and data analysis, chosen to match the question.

Qualitative and Quantitative Research	Qualitative research explains why people behave as they do; quantitative research measures how many and how much.
Customer Interviews	Open, non-leading conversations about past behaviour and real problems; ask for stories, not opinions about your idea.
Surveys and Feedback Collection	Structured questions at scale; keep them short, unbiased and tied to a decision, and pair them with interviews.
User Personas	Evidence-based archetypes of key user groups with goals, context and pain points, used to keep decisions grounded.
Jobs to Be Done (JTBD)	People hire products to make progress in a situation; the job, not demographics, explains what they choose.
Customer Pain Points	Specific frustrations in a workflow, ranked by severity and frequency, that products can relieve.
Customer Journey Mapping	A map of stages, actions, thoughts and emotions from awareness to loyalty, exposing gaps and moments that matter.
User Journey Analysis	Examining how users actually move through the product, using behaviour data to find drop-offs and detours.
Empathy Mapping	A one-page view of what a user says, thinks, does and feels to align the team on their perspective.
Voice of Customer (VoC)	Systematically collecting and synthesising customer feedback from support, reviews, sales calls and surveys.
Market Research	Gathering and analysing information about market size, trends, customers and competitors to guide decisions.
Market Segmentation	Dividing a market into groups with shared needs or behaviours so you can target and position precisely.
TAM, SAM and SOM	Total addressable market, the serviceable part you can reach with your model, and the share you can realistically obtain.
Competitor Analysis	Comparing competitors' offers, pricing, positioning and strengths to find gaps and differentiation.
SWOT Analysis	Strengths, weaknesses, opportunities and threats, a quick structured view of internal and external factors.
Porter's Five Forces	Industry attractiveness from rivalry, new entrants, substitutes, buyer power and supplier power.
Value Proposition Canvas	Matches customer jobs, pains and gains to the products, pain relievers and gain creators you offer.
Opportunity Assessment	A short brief that asks the key questions: problem, audience, size, alternatives, why now, success measures and risks.
Hypothesis Development and Validation	Turn assumptions into testable statements with a metric and threshold, then run the cheapest test that could prove them wrong.

Practice exercise: Run five 20-minute interviews about one problem. Write the top three pains with a quote each and a hypothesis you could test this week.

Self-check

1. Explain Design Thinking in two sentences to a non-technical stakeholder, then say what you would measure for it.
2. Explain Empathy Mapping in two sentences to a non-technical stakeholder, then say what you would measure for it.
3. Explain Hypothesis Development and Validation in two sentences to a non-technical stakeholder, then say what you would measure for it.

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Context window

Context window: what a model can see at once

The context window is the most tokens a model can consider in one request. It covers your prompt, any documents you paste, the conversation so far and the reply. Anything outside it is invisible to the model. For PMs: a longer window fits more material but costs more and can slow responses; put the most important facts near the instructions; use retrieval (RAG) rather than pasting whole libraries; and test answers on long inputs, where quality can drop.

Context engineering course Context windows in the AI PM 2 course

Tokens and context in the Grokbot course

AI-First Product Management

Resources for Product Managers

The PM Master Handbook, AI and product tools with their official websites, interview practice, a frameworks cheat sheet, a PRD template and free courses.

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3Problem Discovery and Market Research*Handbook chapter, detailed PDF, handbook and class slides*PDF Detailed PDF Handbook Class Slides
4Problem Framing and Prioritization*Handbook chapter, detailed PDF, handbook and class slides*PDF Detailed PDF Handbook Class Slides
5UX and Design Collaboration*Handbook chapter, detailed PDF, handbook and class slides*PDF Detailed PDF Handbook Class Slides
6Effective Communication and Stakeholder Management*Handbook chapter, detailed PDF, handbook and class slides*PDF Detailed PDF Handbook Class Slides
7Product Analytics and Metrics*Handbook chapter, detailed PDF, handbook and class slides*PDF Detailed PDF Handbook Class Slides
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AI Tools Lab

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Business AI Stack (chapters 24 to 31)

24The business AI stack: tools and where to learn themPDF ↗ 25Next.js: customer-facing dashboardsPDF ↗ 26Zoho CRM: managing customers and leadsPDF ↗ 27WhatsApp Business Platform: customer messagingPDF ↗ 28Deployment with Vercel and AWSPDF ↗ 29Jira: tracking product and development workPDF ↗ 30Meta Business Suite, social media marketing and Google AdsPDF ↗ 31A one-page website that generates leadsPDF ↗

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Complete AI tool guides (one PDF, 30 pages) ↗

Libraries

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PM interview practice (free, on the original sites)

Hand-picked public question banks and guides from other PM communities. Each link opens the original page in a new tab.

PM frameworks cheat sheet

Framework	Use it to	How it works
RICE	Prioritise a backlog	Reach × Impact × Confidence ÷ Effort. Score each idea, then sanity-check the ranking.
Kano	Decide which features delight	Classify features as Must-be, Performance, Attractive, Indifferent or Reverse using a short survey.
MoSCoW	Scope a release	Must have, Should have, Could have, Won't have (this time).
Jobs-to-be-done	Understand motivation	When [situation], I want to [motivation], so I can [outcome].
AARRR (Pirate metrics)	Map the growth funnel	Acquisition, Activation, Retention, Referral, Revenue.
HEART	Measure user experience	Happiness, Engagement, Adoption, Retention, Task success, each with goals, signals and metrics.
North Star metric	Align the team	One metric that captures the value users get, supported by input metrics the team can move.
Five whys	Find the root cause	Ask 'why?' repeatedly until you reach a cause you can act on.
CIRCLES	Answer product design questions	Comprehend, Identify users, Report needs, Cut through prioritisation, List solutions, Evaluate trade-offs, Summarise.

PRD template

PRD: [Feature name] Owner: [Name] · Status: Draft · Last updated: [Date] 1. Problem Who has the problem, what it is, and the evidence (data, interviews, tickets). 2. Goal and success metrics Primary metric (with baseline and target), secondary metrics, guardrails. 3. Users and use cases Target segment, top 3 user stories: "As a [user], I want [action] so that [benefit]." 4. Solution What we'll build (link designs), what's out of scope, open questions. 5. AI behaviour (if applicable) Inputs, model, prompt/approach, what it must never do, human review, evaluation set and pass criteria, cost per request. 6. Launch plan Experiment design, rollout stages, support and comms, rollback criteria. 7. Risks and dependencies Technical, legal/privacy, operational; owners and mitigations.

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