

PILLS & PYTHON

Pharmacy · Data · AI · Healthcare

BP503T · B.Pharm Theory Notes

Innovation and Startup Ecosystem

Unit II — Ideation and Opportunity Identification

Semester V · 6 Hours

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Chapter 2 — Ideation and Opportunity Identification

Unit II — Ideation and Opportunity Identification

2.1 Learning Objectives

After studying this chapter, you will be able to:

1. Explain how problems and market gaps are identified.
2. Describe problem-identification techniques: observation, empathy mapping, user interviews.
3. Explain the basics of market research (customer needs, pain points).
4. Apply idea-generation techniques: brainstorming, SCAMPER, mind mapping, design thinking, lateral and divergent thinking.
5. Convert a problem into an initial solution concept.
6. Perform opportunity analysis: market sizing, competitive analysis, SWOT analysis.
7. Understand the Smart India Hackathon as a practical ideation platform.

2.2 Key Definitions

- **Ideation:** The process of generating many new ideas for solving a problem.
- **Market gap:** A need of customers that no existing product or service is satisfying properly.
- **Pain point:** A specific problem or frustration that a customer faces.
- **Opportunity:** A market gap that a new business can profitably fill.
- **Feasibility:** Whether an idea can actually work in the real world (technically, financially, legally).

2.3 Terminology Table

Term	Simple meaning
Ideation	Creating lots of new ideas
Market gap	Customer need that nobody is serving well
Pain point	The exact frustration a customer feels
Empathy mapping	Understanding what a customer thinks, feels, says, and does
Brainstorming	Group thinking to produce many ideas quickly without judging
SCAMPER	A checklist of 7 idea-tricks (Substitute, Combine, Adapt, Modify, Put to other use, Eliminate, Reverse)
Mind mapping	Drawing ideas as a tree of connected branches
Design thinking	A 5-step human-centred method: Empathise, Define, Ideate, Prototype, Test
SWOT	Analysis of Strengths, Weaknesses, Opportunities, Threats

Term	Simple meaning
Market sizing	Estimating how big the customer group (and money) is

2.4 Identifying Problems and Market Gaps

TECHNICAL CONCEPT

Entrepreneurship starts from a problem, not from a product.

SIMPLE EXPLANATION

Do not start with "I want to sell something." Start with "What problem do people face?" Every successful startup solved a painful problem first. The problem-solving approach to entrepreneurship means: find pain → understand it deeply → build the solution.

EXAMPLE

Patients in small towns travel 20 km to buy a specific medicine. The pain: travel + time + cost. A startup delivering medicines to villages solves this pain.

2.4.1 Problem-Identification Techniques

1. Observation: Watch people in real life and notice their difficulties.

- Pharmacy example: Stand near a medical shop and observe — elderly customers struggle to read small labels; people wait long for bills. Each difficulty is a business idea.

2. Empathy mapping: Put yourself in the customer's shoes. Ask four questions: What does the customer THINK? What does she FEEL? What does she SAY? What does she DO?

- Example — a diabetic patient: Thinks "I must not forget my tablet"; Feels "worried about side effects"; Says "the strip is costly"; Does "skips doses when money is tight." This map reveals ideas: cheaper strips, reminder app, counselling service.

3. User interviews: Talk directly to potential customers and ask open questions ("Tell me about the last time you bought medicines..."). Listen more than you speak. Never ask "Would you buy my product?" — people politely say yes but never buy.

2.4.2 Market Research Basics

- **Customer needs:** What the customer wants (affordable medicines, quick delivery, trustworthy pharmacist).
- **Pain points:** What hurts them now (high prices, fake medicines, no home delivery, confusing prescriptions).

SIMPLE RULE

Write down 10 pain points you hear from real people. The most frequent and most painful one is your startup idea.

2.5 Generating Innovative Ideas

2.5.1 Brainstorming Techniques

Rules of good brainstorming:

1. Quantity first — aim for 50 ideas, not 5 perfect ones.
2. No criticism during the session — "that won't work" is banned.
3. Build on others' ideas — "yes, and..." instead of "no, but..."
4. One conversation at a time; write every idea visibly.

EXAMPLE

A pharmacy team brainstorms "how to help patients remember medicines" — ideas: phone alarms, pill boxes with timers, family WhatsApp reminders, pharmacist phone calls, colour-coded strips.

2.5.2 SCAMPER

A checklist that forces new thinking. Apply each letter to an existing product:

Letter	Means	Pharmacy example
S — Substitute	Replace something	Substitute glass bottles with light plastic pouches for syrups
C — Combine	Join two things	Combine a pill box with a mobile alarm
A — Adapt	Copy an idea from elsewhere	Adapt food-delivery tracking to medicine delivery
M — Modify/Magnify	Change size, shape, colour	Make a bigger-font label for elderly patients
P — Put to other use	Use for a new purpose	Use a pharmacy shop as an evening diabetes-screening point
E — Eliminate	Remove something	Eliminate the paper bill — send digital bills on WhatsApp
R — Reverse/Rearrange	Do the opposite	Instead of patient coming to pharmacy, pharmacy van goes to patient

2.5.3 Mind Mapping

Draw the main problem in the centre of a page. Draw branches for each related idea, and sub-branches for details. It shows connections your linear notes hide.

Textual diagram (describe for drawing): Central circle "Patients forget medicines" → branches: "Causes" (busy, many tablets, no routine), "Who suffers" (elderly, diabetics, TB patients), "Solutions" (alarms, pill boxes, calls, apps), "Business" (subscription reminder service).

2.5.4 Design Thinking Principles

Five steps, always in this order:

1. **Empathise** — understand the user deeply (interviews, observation).
2. **Define** — state the exact problem in one clear sentence ("Elderly diabetic patients in small towns forget their evening dose").

3. **Ideate** — generate many solutions (brainstorming, SCAMPER).
4. **Prototype** — build a rough, cheap version of the best idea.
5. **Test** — try it with real users, learn, and improve.

KEY TAKEAWAY

Design thinking keeps you focused on the HUMAN, not on your clever technology.

2.5.5 Lateral and Divergent Thinking

- **Divergent thinking:** Producing MANY different ideas from one problem (wide thinking).
- **Lateral thinking:** Approaching the problem from a totally unexpected side angle.
- Example: Problem — "medicines are costly." Normal thinking: "give discounts." Lateral thinking: "What if the pharmacy rents, not sells, costly devices like nebulisers?" Divergent thinking lists 30 different answers before choosing.

2.6 From Problem to Solution: Developing Initial Concepts

STEPS

Pick the most painful, most frequent problem from your research.

Write the problem as one sentence (the "problem statement").

Generate at least 20 solution ideas (brainstorming + SCAMPER).

Select the top 3 using two filters: "Do customers care?" and "Can we build it?"

Describe the winning concept in 3 lines: who it helps, what it does, why it is better.

EXAMPLE

Problem — "Rural patients cannot read English medicine labels." Concept — "A mobile app that scans the strip and speaks dosage instructions in the patient's own language."

2.7 Opportunity Analysis and Feasibility

An idea is not automatically a good business. Check three things:

2.7.1 Market Sizing and Potential

ESTIMATE

(Number of customers with this problem) × (money each will pay per year) = market size.

Example: 10,000 diabetic patients in your district × ₹1,200/year for a reminder-plus-delivery service = ₹1.2 crore potential market. If the number is too small, the idea may not survive.

2.7.2 Competitive Analysis

List everyone already solving this problem (medical shops, online pharmacies, apps). For each, note their strengths and weaknesses. Your idea must be clearly better in at least one important way — cheaper, faster, more trustworthy, or more convenient.

2.7.3 SWOT Analysis for New Ventures

	Helpful (internal)	Harmful (internal/external)
Internal	**S — Strengths:** your advantages (pharmacy knowledge, local trust)	**W — Weaknesses:** your limitations (no money, no tech skills)
External	**O — Opportunities:** market chances (growing online demand, government support)	**T — Threats:** dangers (big competitors, changing rules)

Pharmacy example — SWOT for a "home delivery pharmacy in a small town":

- Strengths: qualified pharmacist owner, trusted by locals.
- Weaknesses: small starting money, no delivery staff yet.
- Opportunities: no online pharmacy serves this town; government pushing digital health.
- Threats: a big online pharmacy may enter later; medicine price controls.

Flowchart (describe for drawing): PROBLEM → Research (observation/interviews) → IDEAS (brainstorm/SCAMPER) → CONCEPT (top 3) → CHECK (market size, competition, SWOT) → GO or DROP.

2.7.4 Practical Aspect

Smart India Hackathon: A national competition where student teams solve real problems given by ministries and companies in 36 hours. Participating teaches you problem-identification, teamwork under pressure, and rapid prototyping — exactly the skills of this unit. Even if you do not win, you learn how ideas become working demos.

2.8 Key Points

1. Start from the problem, not the product.
2. Problem-identification: observation, empathy mapping, user interviews.
3. Market research = customer needs + pain points.
4. Idea tools: brainstorming (no criticism), SCAMPER (7 tricks), mind mapping, design thinking (5 steps), lateral/divergent thinking.
5. Convert problem → concept → check feasibility.
6. Feasibility checks: market sizing, competitive analysis, SWOT.
7. Smart India Hackathon is the practical platform for this unit.

2.9 Common Confusions

- **Confusion:** "Brainstorming means discussing and judging ideas." **Clarification:** Judging is banned during brainstorming; judging comes later.
- **Confusion:** "SWOT is only for big companies." **Clarification:** A one-person startup also needs SWOT before investing money.

- **Confusion:** "Market sizing needs exact data." **Clarification:** A reasonable estimate is enough to decide GO or DROP.

2.10 Common Mistakes

1. Falling in love with your first idea and skipping customer interviews.
2. Asking friends "will you buy this?" (they always say yes) instead of studying real behaviour.
3. Writing SWOT with only strengths and ignoring threats.

2.11 Mnemonic

SCAMPER itself is the mnemonic: Substitute, Combine, Adapt, Modify, Put to other use, Eliminate, Reverse.

Design thinking: "Every Dog Eats Pizza Tonight" — Empathise, Define, Ideate, Prototype, Test.

SWOT: "Some Weaknesses Offer Threats" — Strengths, Weaknesses, Opportunities, Threats.

2.12 Exam Summary (One-Page Revision)

- Problem-solving approach: find pain → understand → build solution.
- Techniques: observation, empathy mapping (think/feel/say/do), user interviews (open questions, listen).
- Market research: customer needs vs pain points.
- Brainstorming rules: quantity, no criticism, build on ideas.
- SCAMPER: S-C-A-M-P-E-R with pharmacy examples.
- Mind mapping: centre problem, branch ideas.
- Design thinking: Empathise → Define → Ideate → Prototype → Test.
- Lateral = unexpected angle; Divergent = many ideas.
- Problem → concept: problem statement → 20 ideas → top 3 → 3-line concept.
- Feasibility: market sizing (customers × price), competitive analysis, SWOT (internal S/W, external O/T).
- Practical: Smart India Hackathon.

2.13 One-Minute Revision

ONE-MINUTE REVISION

Pain first, product later. Observe, empathise, interview. SCAMPER your ideas, map your mind, think by design (E-D-I-P-T). Size the market, study competitors, SWOT yourself. Then GO or DROP.

2.14 Exam Questions

Short answer:

1. What is a market gap? Give a pharmacy example.

2. Explain empathy mapping with an example.
3. List the 5 steps of design thinking.
4. What is SWOT analysis?
5. Why should criticism be banned during brainstorming?

Long answer:

1. Describe the problem-identification techniques with suitable examples.
2. Explain SCAMPER with one pharmacy example for each letter.
3. "Start from the problem, not the product." Discuss with the problem-solving approach to entrepreneurship.
4. Explain market sizing, competitive analysis, and SWOT analysis for evaluating a new venture idea.
5. Describe the process of converting a problem into an initial solution concept.

MCQs:

1. In empathy mapping, which four aspects are studied?

a) Price, place, product, promotion b) Think, feel, say, do c) Strength, weakness, opportunity, threat d) Who, what, when, where

Answer: b

2. The "E" in SCAMPER stands for:

a) Evaluate b) Expand c) Eliminate d) Earn

Answer: c

3. The correct order of design thinking is:

a) Ideate, Empathise, Define, Test, Prototype b) Empathise, Define, Ideate, Prototype, Test c) Prototype, Test, Ideate, Define, Empathise d) Define, Ideate, Empathise, Prototype, Test

Answer: b

4. Market sizing is calculated as:

a) Profit ÷ cost b) Number of customers × money each pays c) Total investment needed d) Number of competitors

Answer: b

5. In SWOT, "Threats" are:

a) Internal helpful factors b) External harmful factors c) Internal harmful factors d) External helpful factors

Answer: b

Viva questions:

1. What is the difference between a customer need and a pain point?
2. Give one example of lateral thinking in pharmacy.
3. Why are open questions better than yes/no questions in user interviews?

Application-based:

1. Use SCAMPER on a normal medicine strip packaging to generate 7 new ideas.

2. Do a SWOT analysis for starting a generic-medicine store near a government hospital.

2.15 References

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