# Unit III – Opportunity Assessment and Prototype Development

Innovation & Entrepreneurship

R25 B.Tech ECE | JNTUH

# Learning Outcomes

Identify global competitors and industry trends.

Understand TAM, SAM and SOM.

Assess opportunity scope and scale.

Develop prototypes and MVPs.

Test, validate and iterate solutions.

# From Problem to Opportunity

An opportunity exists when a meaningful problem can be addressed sustainably.

Evaluate customer need, market attractiveness and feasibility.

Define the value proposition clearly.

Separate evidence from assumptions.

# Global Competitor Mapping

Identify major players and emerging alternatives.

Compare target segments, geography, features, pricing and business models.

Study strengths, weaknesses and differentiation.

Look for underserved niches and unmet needs.

# Industry Trend Analysis

Track technology, customer, regulatory and economic trends.

Identify trends that create tailwinds or risks.

Use trend evidence to estimate future demand.

Avoid assuming every trend automatically creates a viable business.

# Opportunity Scope

Define the target customer and use case.

Estimate possible demand and geographic reach.

Assess resources and capabilities required.

Consider scalability, partnerships and operational constraints.

# Market Sizing – Overview

Market sizing estimates the potential revenue or number of customers.

Top-down methods start from industry-level data.

Bottom-up methods build estimates from customers, usage and price.

Use realistic assumptions and document the basis of each estimate.

# TAM – Total Addressable Market

TAM represents the total potential market if the solution could serve the entire relevant market.

It provides an upper-bound view of opportunity.

TAM should be defined using a clear customer and product scope.

Example: all customers who could theoretically use a digital learning service.

# SAM – Serviceable Available Market

SAM is the portion of TAM that fits the venture’s offering and target geography or segment.

It accounts for product scope and market access constraints.

SAM is smaller than or equal to TAM.

# SOM – Serviceable Obtainable Market

SOM is the realistic share the startup can capture in the near term.

Consider competition, sales capacity, pricing and resources.

SOM should be evidence-based and conservative.

TAM → SAM → SOM narrows from broad potential to achievable market.

# Assessing Scale Potential

Can the solution serve more customers without costs rising at the same rate?

Can technology, partnerships or standardized processes support expansion?

Are there repeat purchases or recurring revenues?

Are regulations or geography limiting factors?

# What is a Prototype?

A prototype is an early representation of a product or service.

It makes assumptions visible and testable.

Prototypes can be sketches, mock-ups, clickable screens, physical models or process simulations.

The goal is learning, not perfection.

# Prototype Types

Low-fidelity: sketches, paper models and storyboards.

Medium-fidelity: wireframes and functional mock-ups.

High-fidelity: realistic interactive or near-production models.

Choose the simplest prototype that can test the key assumption.

# Minimum Viable Product (MVP)

An MVP is the simplest version that delivers enough value to test critical assumptions with real users.

It should focus on the core problem and value proposition.

MVP is not the same as a low-quality final product.

Feedback from an MVP guides further development.

# Prototype Development Process

Define the hypothesis to test.

Select prototype type and scope.

Build quickly.

Test with target users.

Capture evidence and feedback.

Iterate based on learning.

# Testing the Prototype

Give users realistic tasks.

Observe behavior instead of relying only on opinions.

Measure completion, errors, time, satisfaction or conversion where relevant.

Ask follow-up questions about pain points and expectations.

# Validation

Validation tests whether important assumptions hold in real conditions.

Validate desirability: do users want it?

Validate feasibility: can it be built and delivered?

Validate viability: can it support a sustainable business model?

# Iteration

Identify what failed or remains uncertain.

Prioritize high-impact changes.

Modify the prototype.

Test again with users.

Continue until evidence supports the key assumptions or the idea is changed.

# No-Code Innovation Tools

No-code platforms can create forms, websites, workflows, databases or simple apps without traditional programming.

Useful for rapid experimentation.

They reduce initial development time and cost.

Select tools based on the problem and prototype requirement.

# Venture & Class Activities

Build a simple prototype for a selected problem.

Estimate TAM, SAM and SOM.

Map competitors.

Conduct a short customer test.

Present evidence, learning and the next iteration.

# Unit III – Key Takeaways

Opportunity assessment combines market, competition and feasibility analysis.

TAM, SAM and SOM help structure market-size thinking.

Prototypes and MVPs reduce uncertainty through experimentation.

Testing should measure real customer behavior and learning.

Iteration converts feedback into better solutions.