

Study-Focused Summary: CIE Course

Essentials of Innovation and Entrepreneurship

EIE - I

Module 1

M0 - Orientation

Agenda

- Ice Breaker - 2 Mins
- Why study Innovation and Entrepreneurship (I&E) - 3 mins
- Is I&E for Entrepreneurs only? - 4 mins
- Why is this course different? - 5 mins
- Welcome to CIE (Video and Slides) - 6 mins
- Course Overview - 6 mins
- How do we engage? - 7 mins
- Wrap Up - 7 mins

Mentimeter

Join at : www.menti.com

Code : 7880 4593Interactive Poll

CIE History 1/2

December 2017 - CIE Starts in a small office

with Prof. Sathya PrasadJanuary 2018 - Student Teams help design CIE's current office space

CIE History 2/2

Current Space - operational since May 2018

CIE Journey

CIE at PES University

EIE L1 - Who is Who?

Raghavendra Deshmukh

Industry Mentor - CIE

Co-Instructor EIE

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uProf. Sathya

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Director - CIE

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Manager - Strategic Initiatives -

CIE

Lead - CIE Ignite Program

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Lead Instructor - EIE

(EC)

lakshmeesha@pes.edu

Prof. Sathya Prasad

- Intel (20 yrs US/India; R&D, Strategy, Prod Mgmt)

- New Product Innovation: Intel® Xeon

D

- Founding President - SEMI India

- Founding Director - PESU CIE

- Fun Fact: Train Travel (US, Europe, Asia)

Raghavendra Deshmukh

- SAP, Walmart, Google, Booking.com, Wipro

- Software Product & Engineering Leader, Blockchain, Cloud,

Supply Chain Logistics, IoT, Product Management, Intrapreneur

- Fun Fact - Stuck in a snow fall for 5 hours in Nathu La - Sikkim

CIE Industry Mentors

Fueling Innovation, Empowering Students: Industry Expertise Meets Campus Potential

Prasanna

Chandran Nagendra

Prasad Raghavendra

Deshmukh Radhakrishnan

MahalikudiKuldeep

Simha

Greywiz, NTT Data Wipro SAP, Google Nvidia, AMD Intel

30 yrs

Cloud, Analytics, SW30 yrs

Telco, Mobile, Auto29 yrs

Software Products28 yrs

Silicon, Semiconductors 35 yrs

Silicon, Semiconductors

- GenAI, Ai/ML

- SW Architecture

- Data

Modernisation

- Computer Vision •Connected Car/AI

- V2V, V2X Testing
- Embedded Systems
- Computer Vision •Blockchain
- AI-LLMs, RAG
- Cloud, Dist Systems
- Product Management •Processor
- Memory Arch
- SOC Arch
- Silicon

Verification•VLSI design,

- CPU Design

- IP/SoC Dev

- Silicon & Systems

EIE Teaching Assistants

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PESU CIE Social Media Community

@cie.pesu

PESU CIE

CIE On -The-Go

Embrace I&E mindset 1

Kickstart your I&E journey 2

Business acumen 4Understand transformative tech led changes 3

Prepare for Your Post -University Journey 5Course Objectives

I&E Mindset Awareness 1

Idea -to-Market Process Familiarity 2

Business Fundamentals Understanding 4Technology Transformation Awareness 3

Find like -minded students & build a network 5Learning Outcomes

M1

Introduction to Innovation

& EntrepreneurshipM2Cultivating an

Entrepreneurial

Mindset

M3

Human -centered

Innovation - Design

ThinkingM4Idea -to-Market,

Oppty

Identification,

Ethics

M5

Building/ Leading

Teams in StartupsM6Value Proposition

M7

Business Model

Canvas & Protecting

your IPM8Selling your Idea/

Product and Pitchin

M9

Finance for

Startups - 1M10Finance for

Startups - 2

M11

AI: Reimagining

How We InnovateM1

2Developing Your

Entrepreneurial

Action Plan

Course Outline

Course Mechanics

- Credits: 2 Credits (Weekly 2hr)

- Engagement: Online (recommend you use all other resources: PESU, Dept & CIE)

- Will include talks by Startup Founders, Industry Experts, PESU Faculty, etc

- Grading*: S: 90 –100 A: 80 –89 B: 70. -79 C: 60 –69D: 50 –59 E: 40 –49 F: 39 & below

- Assessment*: 2 ISAs (25% each) and 1 ESA (50%)

References

- Technology Ventures: From Idea to Enterprise, McGraw Hill
- PES University 'CIE Level 1' Course - Getting Started With Entrepreneurship
- VentureLab: Entrepreneurial Skillset and Mindset
- European Union (EU): Entrepreneurship Competencies

How to get the best of this course

- Discipline, Perseverance, Commitment
 - Key ingredients of a successful Entrepreneur
 - Practice to tools/framework that you learn
 - develop skills to use the 'tools' ; not formulaic, find out what works best for you
 - Lots of doing in a Team setting - You succeed with the Team
 - Entrepreneurship is a Team sport
 - Digital Collaboration
 - Microsoft Teams - Chat, Discuss, Ask, Share
 - Information, Articles, Relevant News - CIE LinkedIn and CIE Instagram
- Student Engagement/Facilitation
- Online
 - Q/A on MS Teams (Moderated by CIE TAs)
 - Polls
 - Session Quiz on PESU Academy - IMPORTANT!!!
 - Offline
 - Department Coordinator (DC) in your Department
- CIE Ignite Season 1 - Q2 2025
Summer 2025
Essentials of Innovation and Entrepreneurship
EIE - I

Module 2

M1 - Introduction to Entrepreneurship

The capacity and willingness to develop , organize and manage a business venture along with any of its risks in order to make a profit .

Entrepreneurs do much more than imaginable with much less than seems possible*

"Entrepreneurship is when you act upon opportunities and ideas and transform them into value for others. Value created can be financial, cultural, or social"**

* Source: Stanford University ** Source: EU Entrepreneur Competence Framework What is Entrepreneurship?

Industry

Join StartupEmployment

Self-EmployedEntrepreneurial vs Entrepreneurship

Higher Studies

Family -Biz

(Start) StartupEducation

Entrepreneurial vs Entrepreneurship: Example

Meet Alex and Sarah – both were Project Managers at the same company.

- Alex stayed in the company but constantly looked for creative ways to improve things.
- He took initiative, proposed bold ideas, and wasn't afraid to take risks to move the company forward.

Alex is Entrepreneurial – he thinks like an entrepreneur, even within a company.

- Sarah, on the other hand, followed her passion for fitness.
- She left her job, started her own company, and began building fitness products from scratch.

Sarah is an Entrepreneur – she took the leap to build and run her own business.

Entrepreneurial vs Entrepreneurship

What They Have in Common

- Take initiative
- Solve problems creatively
- Comfortable with risk
- Innovation-focused
- Show leadership and ownership

Aspect Entrepreneurial Entrepreneur
Role Works within a company Builds their own
venture

Ownership No business ownership Owns and runs the
business

Risk Operates within a safety net Takes full
personal/financial risk

Resources Uses existing company
resources Builds or raises own
resources

Goal Drive change inside Create new value
outside

Types of Entrepreneurship

Aspect SME / MSME

(Small/Micro/Medium

Enterprises) IDE (Innovation-Driven
Enterprise)

Market Reach Local Global

Cash Flow Lower Higher

Risk Lower Higher

Profit Timeline Gets profitable sooner Takes longer to become
profitable

Business Clustering Less clustered More clustered (e.g., startup

hubs)

Innovation :Imagination :

envisioning things that do not exist

applying creativity to generate novel solution(s)applying imagination

to address a challengeCreativity : Entrepreneurship :

applying innovation,

creating value ,

thereby inspiring others'

imaginationBuilding Blocks of Entrepreneurship

Source: Tina Seelig, Stanford Technology Ventures Program

Imagination

Elon Musk's imagination has been at the forefront of Tesla's success.

He envisioned a future where electric vehicles would be both practical and desirableElon

Musk

Imagination

Meta Smart Glasses:

Examples from your life where you were

most ' Imaginative 'Imagination

Creativity

Credit: Bill Aulet, MITInnovation = Invention m u l t i p l i e d b y

CommercializationInnovation

ResourcesAttitude CultureInternal

Attributes AttributesExternal

Source: Tina Seelig, Stanford UniversityInnovation Elements

Imagination

KnowledgeEnvironment

Entrepreneurial

Myths and

Traits

- Smartest and High Achieving Individualists

- Born not made

- High risk takers

- Charismatic

- Not disciplined Myths of Entrepreneurship

Common Entrepreneurial Traits

Common Entrepreneurial Traits

Source: Harvard Business Review Entrepreneur's HandbookCategory Traits

Ideas & Drive Creativity, Vision, Spotting Opportunities, Passion

People Skills Leadership, Influence, Building Networks, Inspiring Others

Work StyleSelf-motivated, Goal -focused, Comfortable with Risk/Uncertainty,

Restless

Background/Exposure Family business, Startup experience, Friends in startups
Finance Awareness Basic financial understanding, Budgeting, Business -savvy thinking

16 The Entrepreneurial Test may assist you in your personal evaluation process.
Please remember this is only a tool; this is not a definitive indicator whether you will be an entrepreneur or not!

Instructions for scoring for the test:

Score 3 pts for each “ Agree ” answer

2 pts for each “ Undecided ” answer

0 pts for each “ Disagree ” answer A Test for Entrepreneurs

Startup

Definition and

Overview

“A startup is a temporary organization designed to search for a repeatable and scalable business model”

VIDEO: ‘What we know about Startups’ by Kauffman Founders School Link (first 2 mins) Startup – A Working definition

How will you combine Tech AND Innovation AND

Entrepreneurship ? Gamechanger: Innovation &

Entrepreneurship & Technology

Ingredients for Entrepreneurship

19

“An entity working towards innovation, development, and commercialization of new products, processes, or services driven by technology or intellectual property”

[For latest Startup India [DIPP definition], pls see <https://startupindia.gov.in> Startup definition - India Perspective

India Startup

Landscape

Highlights from Road to Recovery:

Indian Tech Start -up Landscape 2024 - NASSCOM -Zinnov Report

- Indian Startup Ecosystem

- Key Trends and Sectors

- Deep Tech

- And More ... Overview of the Indian Startup Landscape

India Startup - Growth

Source: Department for Promotion of Industry and Internal Trade (DPIIT)

India Startup Ecosystem

Source: NASSCOM -Zinnov -Road To Recovery: Indian Tech Startup Report 2024

Why India works

Source: NASSCOM -Zinnov -Road To Recovery: Indian Tech Startup Report 2024

India Startup Ecosystem 2024 - By the numbers

Source: NASSCOM -Zinnov -Road To Recovery: Indian Tech Startup Report 2024

India DeepTech Startup funding in 2024

Source: NASSCOM -Zinnov -Road To Recovery: Indian Tech Startup Report 2024

Incubators and Accelerators

Source: NASSCOM -Zinnov -Road To Recovery: Indian Tech Startup Report 2024

Non Tech Startups

Source: NASSCOM -Zinnov -Road To Recovery: Indian Tech Startup Report 2024

PassionWhat are your interests?

What 'moves' you to

make the world a better

place?List 3 of your interests/passions

1.

2.

3.

CapabilitiesYour skills/talents?

Stuff (studies and

beyond) that you are

good at

List 3 capabilities that you are proud of

1.

2.

3.

OpportunitiesOpportunities:

problems / challenges

in disguise

List 3 problems/challenges that you are

motivated to solve

1.

2.

3. Your PhotoYour Name

DatePost Session Activity - COP Canvas

Ikigai

(denotes 'passion that gives value and joy to life' in Japanese; book)

Ikigai - A reason for being

More Information...

- CIE Office Hours by CIE Experts

- Teaching Assistants (TAs)

- CIE Ignite Season 2.0

- Reward mechanisms - Wait and Watch

Mentimeter

Join at www.menti.com

use the code: 1640 4784Interactive Poll

Post -Session Activity

- Work up your appetite for the upcoming weeks
- Take a shot at the 'COP' canvas
- Bonus: Can you reflect on your Ikigai?

Session Quiz

Please take the Session Quiz on PESU Academy now

Thank You!

Essentials of Innovation and Entrepreneurship

EIE - I

Module 3

M3 - Opportunity Identification & Ethics

EIE M2 Session – Poll/Mentimeter Results

EIE M2 Session Quiz - Discussion

Accessing EIE 1 Materials

Mentorship AdvantagesProblem ValidationValidate Your Problem. Forge Your Team. Think Like a Founder.EIE I - CIE Spark 2025

The 4 Pillars of CIE Spark 2025

Team Dynamics Business Acumen

Planned PartnershipsCIE Spark 2025 is your essential first move: transforming your raw idea into a validated , team -backed venture , giving you an undeniable advantage for a standout performance in CIE Ignite .

EIE 1 – CIE Spark 2025

"Innovation season is coming. Keep your eyes on CIE Spark!"

EIE M2 Session Quiz - Discussion

5. In the NABC framework, the “A” stands for:

1.Approach – 1421 students got it right!

2.Analysis

3.Assets

4.Adaptability

6. The best startup opportunities generally come from:

a) Problems that customers face and are willing to pay to solve – 1444 students got it right!

b) Copying successful businesses from other countries

c) Trending topics on social media

d) Problems everyone faces but no one will pay for

7. The primary goal of building a Minimum Viable Product (MVP) is to:

- a) Launch the cheapest product possible
- b) Test core assumptions with real customers – 1436 students got it right!
- c) Impress investors with advanced features
- d) Beat competitors to market at all costs

3 For Thought

ChatGPT Go (India -only): A new low -cost plan (~₹399/month) that gives you way more usage than free, faster replies, and access to advanced models —plus UPI support. Feels like a broader rollout is on the way.

Perplexity Finance: Rolling out real -time stock tracking (including after -hours) and live earnings -call transcripts for Indian stocks across web and apps. Most features are already available, with Pro/Max and Airtel users typically getting early access and a few extra tools.

Gemma 3 “270M” : It’s a tiny, open -weights model (270M params) that’s super easy to run and tweak, perfect for quick, task -specific fine -tunes and instruction following. Think of it as the ultra -light sibling that rounds out the Gemma 3 lineup below the 1B –27B models.

Today’s Topics

Opportunity Identification Ethics for Startups

BIG PICTURE: STARTUP

(VENTURE)

Opportunity

Identification

Pursuit of Opportunity Learning Loop

BIG PICTURE: STARTUP

(VENTURE)

Source: Thomas Byers, Stanford University

Idea to Market Process

Idea to Market Process

Source: www.startupcommons.org

Opportunity

Identification

Mentimeter

Join at www.menti.com

use the code: 1603 9020 Participant Opinion

Is an Idea the same as an

Opportunity ?

IDEA

The lightbulb moment,

a flash of inspiration that ignites the imagination

Opportunity

The open door, a chance waiting to be seized
or a pathway to creating value

Opportunity Fundamentals

- Great opportunities are often disguised as difficult problems
- Potential to create significant value for the customer
- Customer's pain source for entrepreneur's value creation
- New technology may or may not be a biz opportunity
- Shift/changes in regulatory policy can be an opportunity
- Serendipity (chance) can throw up opportunities

4 Simple Ways to Have a Great Idea

(TED Talk, start 45s, total ~5min)

<https://www.youtube.com/watch?v=mtn31hh6kU4>

"Every Problem is an Opportunity"

- Vinod Khosla

(Khosla Ventures & Founder Sun Microsystems)

- Customers' needs (or changing needs)
- Personal (experience of) need or problem
- Changes: Market-driven
- Changes: Technology-driven
- Discontinuities (social, technological, market)
- Role of Chance/Luck ("right place, right time")

Sources of Startup Opportunity

Quiz: IDE* Startup (which quadrant?)

* Innovation-driven entrepreneurship

Quiz #1: IDE Startup (which quadrant?)

A: Small Business

B: Scaleup

D: Startup

C: No Go!

What makes an Opportunity attractive?

Current

Real Need

or Problem

Important

to the customer

willing to Pay

& is likely

ProfitableSolvable
in the near future
with resources
(present/acquired)Context
Industry, Market,
Regulations, etc
are understood

'Value' of an Opportunity

=X X A:

Value of the

Potential

OpportunityB:

Number of

Target

CustomersC:

Frequency

that the

Solution is used

E:

Level of Satisfaction

with existing

Customers/solutionsD:

Willingness to

Pay for Current

Solution

Tech Trends

Personal

ChallengesUnmet needs in

the marketMarket Trends

Analyze Analyze

Existing solution can be

made cheaper, faster, better?

New solution can be built?Are there new needs?

People want to spend more/less

on certain things?

What solutions are valued? In

demand?

Potential Opportunities

Filter using 'TIPSC'

Target OpportunitiesIdentifying a Good Opportunity

Summary (Flowchart)

Summary: Identifying a Good

Opportunity

- Problem : Is this a 'good' & real problem (today, not in the distant future)?
- Need: Who needs this (customer) and what benefit is the customer seeking?
- Business : Is this viable from a 'business'?
- Execution : Is there a path for you/team to get started on above?
- Your team would be an ideal founding team for this opportunity?
- Testable : Can this problem & solution be tested (from a customer dev perspective)?

Use TIPSC to narrow down on opportunity: Timely, Important, Profitable, Solvable, Context

Founder Talk

Team Aalap.ai

Brian Chesky and Joe Gebbia, the founders of Airbnb, noticed a unique opportunity during a design conference in San Francisco. Hotel rooms (which were expensive) were in short supply, and they realized that people had spare rooms in their homes. This opportunity identification led to the creation of Airbnb, now a global marketplace for accommodations and experiences. Airbnb disrupted the traditional hotel industry by capitalizing on the sharing economy and offering unique and affordable lodging options.

Example: Opportunity identification

Example: Opportunity identification

Patrick and John Collison, founders of Stripe, noticed that the hardest part of starting an internet business at the time wasn't coming up with an idea, turning the idea into code or getting people to hear about it and pay for it.

The hardest part was finding a way to accept customer's money.

Stripe, now a multinational financial services company with a valuation of about \$65 billion and over \$1 trillion in payment volume processed in 2023.

Its customers include the likes of Amazon, IBM, Lyft, NASDAQ and Google.

Example: Opportunity identification

Reed Hastings & Marc Randolph, the co-founders of Netflix, recognized the opportunity to disrupt the video rental industry. They observed the inconvenience of late fees and the limitations of brick-and-mortar rental stores, and identified the potential of a subscription-based model for DVD rentals. Netflix initially started as a DVD-by-mail rental service (2007), offering subscribers unlimited rentals without late fees. As technology advanced, they shifted their focus to streaming media, recognizing the opportunity to provide on-demand entertainment to customers through the internet.

Post-Session Activity: Problem / Needs

Inspiration: UN SDG Goals

Brainstorm/Discuss & list 3 -5 biggest (real) Problems/ Needs (per category) for 2 -3

categories

Sample categories: Personal Experience, Environment, Entertainment, etc

An inspiration for categories: UN Sustainable Development Goals (SDG)

Activity: Problem / Needs

Post -Session Activity: Napkin Pitch

- Select the top 2 -3 problem/opportunity statements
- Capture this in 'Napkin Pitch ' (on the right) for each problem/opportunity statement
- Use the Napkin pitch (per opportunity) as a starting point to validate the opportunity

The Big Idea

(Opportunity

Statement)Needs/ Benefits

(what your solution

can deliver to

Customers/Users)

Execution

(what does it take to

implement this

solution?)Viable Business?

(worth the effort?

What are the top risks

and key assumptions

behind this?)

Ethics

(For Startups)

What is Ethics?

What is Business Ethics?

Video (~3mins)

https://www.youtube.com/watch?v=_sF1CEA-UUs

- Ethics is concerned with doing the right (moral) thing
 - It is a solid foundation on which integrity and reputation can be built
 - Integrity and reputation is a must for long -term business success
 - While the above is true any enterprise, it is especially important for startups as this can bring down the entire effort if one is not mindful of ethics (Why?)
- Ethics and Business

Pressure to win: intense competition, funding stress, urge to scale fast.

First temptation: bending small rules (exaggeration, overselling).

Shifting moral compass: rationalizing bigger compromises.

Spiral deepens: shortcuts, cover -ups, culture of ignoring ethics.

Consequences: loss of trust, legal trouble, collapse (Enron, Theranos).

Founder's role: set non-negotiable values; ethics = survival strategy. Downward Spiral of Unethical Practices in Business

Redefining Entrepreneurship

"Entrepreneurship is when you

act [ethically]

upon opportunities and ideas and transform them into value for others"

Ethical Leadership Mindset

Integrity

Ethical leader consistently

demonstrate honesty,

trustworthiness, and a strong

moral compass. Fairness & Justice

Ethical leaders treat all

individuals with fairness and

impartially.

Decision Making

Ethical leaders prioritize ethical

considerations in their decision

making process. Responsibility &

Accountability

Ethical leaders take responsibility

for their actions and the

outcomes of their decisions. Ethical Leadership Mindset

Overlooking Ethics Results in

Scandals

Corporate Examples, Global/Indian

- Enron, Volkswagen, Lehman Brothers, Facebook list

- Satyam Computers, IL&FS list

Startup Examples, Global/Indian

- Theranos - A Fallen Unicorn

- GoMechanic

Ethics-related Issues can arise in Small/Large & Local/Global enterprises

Obstacles to Ethical

Decision-Making

- Complacency : We believe that "it can't happen here."

- Self-Delusion : We judge ourselves by our intentions, while others judge us by our actions

- Rationalizations : We make up justifications and

excuses for ethical missteps

- Survival Mentality : We convince ourselves that ethical missteps are necessary

How to Build a Ethical Startup

Video

(Stanford University ~2mins)

<https://youtu.be/urzvNtKTNys?feature=shared>

Mentimeter

Join at www.menti.com

use the code: 5539 8677 Session Feedback

Data Ethics

"Data Ethics encompasses the moral obligations of gathering, protecting and using personally identifiable information and how it affects individuals"

5 Key Aspects of Data Ethics:

- Ownership
- Transparency
- Privacy
- Intention
- Outcomes

Session Summary - Opportunity

Trends – Spot emerging technologies, cultural shifts, and lifestyle changes shaping demand.

Industry Gaps – Look for inefficiencies, unmet needs, or outdated practices in specific sectors.

Problems – Identify everyday frustrations, pain points, or bottlenecks worth solving.

Shifts – Track regulatory, demographic, or behavioral changes creating new opportunities.

Customer Needs – Listen actively to users; validate what they want (and what current solutions miss).

Together, Frameworks like TIPSC helps filter raw ideas into real, high -potential opportunities .

Session Summary - Ethics

Integrity & Transparency – Build trust by being honest with customers, employees, and partners.

Fair Practices – Avoid exploitation, ensure fair wages, safe work conditions, and inclusive opportunities.

Sustainability – Balance profit with responsibility toward environment and society.

Accountability – Take ownership for actions; avoid cutting corners for short -term gains.

Privacy & Consent – Collect and use personal data responsibly, with clear user permission.

Bias & Fairness – Prevent algorithmic discrimination; ensure equitable outcomes across groups.

Security – Safeguard data against breaches, misuse, and unauthorized access.
Transparency in AI – Clearly explain how data is used and decisions are made.
Together, business ethics + data ethics = long -term trust, brand value, and resilience .

Why it's a Bad Idea to Invest in 'Good' Ideas!

Courtesy: Alberto Savoia (ex -Google)

<https://youtu.be/RT2WQprA4BM>

Caselet: Nespresso

(HBR Video)

Sketch Out Your Hypotheses

Source: [https:// hbr.org /video/2363593484001/sketch -out-your -hypothesis](https://hbr.org/video/2363593484001/sketch-out-your-hypothesis)

Categories of Opportunity

1. Increasing the value of a product or service
2. New applications of existing means or technologies
3. Creating mass markets
4. Customization for individuals
5. Increasing reach (allowing access to more customers)

Managing the supply chain

7. Convergence of industries
8. Process innovation
9. Increasing the scale of the firm

Session Quiz

Please take the Session Quiz on PESU Academy now

Thank You!

Essentials of Innovation and Entrepreneurship

EIE - I

Module 4

M2 - Cultivating an Entrepreneurial Mindset

+ Seeking Opportunities

EIE M1 Session – Poll/ Mentimeter Results

EIE M1 Session Quiz - Discussion

EIE M1 Session Quiz - Discussion

1.EIE is

1.Essentials of Innovation Engineering

2.Elements of Innovation and Entrepreneurship

3.Essentials of Innovation and Entrepreneurship: 1049 students got it right!

4.East India Enterprise

9. The official/Govt definition of an Indian startup requires

a. An idea

- b. An idea that is patentable
 - c. An idea with the prospect of addressing a large market
 - d. A prototype or MVP (minimum -viable -product): 619 students got it right!
10. A game changer for a startup can be one if it combines
- a. Idea, Innovation, Technology
 - b. Innovation, Technology & Entrepreneurship: 1007 students got it right!
 - c. Technology, Team, Prototype
 - d. Idea, Expertise, Technology

Today's Topics

- Prof. Sathya Prasad Quick bytes
- Entrepreneurial Mindset
 - Overview
 - Growth vs. Fixed Mindset
 - Creativity, Teamwork, Adaptability, Dealing with Failure
- Why Problems are an Entrepreneur's Best Friend!
 - And what to do about it?
 - 'NABC' Approach

Mindset

Mindset is the collection of beliefs , attitudes and ways of thinking that shape how you see the world and respond to it .

Mindset: Growth vs. Fixed

Fixed Mindset

- Abilities are fixed
- Avoids challenges
- Gives up easily
- Ignores feedback
- Threatened by others' success

Growth Mindset

- Abilities can grow
- Seeks challenges
- Persists through setbacks
- Learns from feedback
- Inspired by others' success

Fixed Mindset – Belief that abilities and intelligence are static.
Growth Mindset – Belief that abilities can be developed through effort, learning, and persistence.

Also watch Video: Developing a Growth Mindset with Carol Dweck (10m)Growth vs. Fixed Mindset

Video Source: [https:// www.youtube.com /watch?v =hiiEeMN7vbQ](https://www.youtube.com/watch?v=hiiEeMN7vbQ)

Entrepreneurial Mindset

A way of thinking that enables you to recognize opportunities, take initiative, and create value despite uncertainty.

- Entrepreneurial Mindset (EM) is learnable
- You can condition your attitude
- How: Get Started x Practice x Time

Your entrepreneurial journey begins here!

The Heart of Entrepreneurship

Just like the heart pumps life into the body, Entrepreneurial Mindset pumps drive, creativity, and resilience into every entrepreneurial journey.

The Common Thread

Whether it's a tech startup, a social enterprise/NGOs, a family business, or corporate innovation —Entrepreneurial Mindset is the same engine powering action, adaptability, and opportunity recognition.Entrepreneurial Mindset:

The Heart of Entrepreneurship

Entrepreneurial Mindset – Why does it matter?

Video Credits: [https:// www.youtube.com /watch?v =WZHvRpuemgk](https://www.youtube.com/watch?v=WZHvRpuemgk)

A Catalog with Prompt Questions

Self-Activity

- What Actions will you take?
 - Test yourself again after some time to see the changeEntrepreneurial Mindset Cards
- [https:// venturelab.org /mindset -cards/](https://venturelab.org/mindset-cards/)

Creativity

TeamworkDealing with FailureAdaptabilityDeep Dive: Let's Pick a Few...

Creativity lies at the intersection of projects that bring new ideas and value addition together.

Example:

- A new feature makes things easier
- A service that meets a need better
- Improving what users already have

Video: The Art and Science of Creativity - Tom Kelley at TEDxTokyo (13m)Creativity

Teamwork

“A team is like a jazz band —different instruments, different notes but when they listen and adapt to each other, the result is magic.”

Coordinated effort of individuals working toward a common goal.

Key Role in Success: In entrepreneurship,

innovation, and projects, no single person can do everything —teams multiply skills, perspectives, and energy.

Outcome: Strong teamwork turns diverse individuals into a high -performing unit .

Team Stages

Video : Teamwork related

Simon Sinek:

What Makes a Team Great?

(2:30m)Steve Jobs:

Managing people (2:30m)NBA:

Teamwork San Antonio Spurs

(2:30m)

Adaptability

The skill of recognizing when your assumptions no longer match reality — and having the courage and creativity to shift direction without losing momentum .

In Entrepreneurial Mindset, adaptability means embracing uncertainty as a constant, quickly learning from feedback, and pivoting when necessary to create value in changing environments.

Videos

How to Adapt to Changing

Times Simon Sinek3 ways to measure your adaptability and how to improve it

| Natalie FrattoHBR Explainer:

Balancing Execution and Adaptation

Andrew Grove, "Strategic Inflection Points" -

1996 MIT Industry Leaders Program Lecture

Dealing with Failure

Failure , the unexpected teacher that guides entrepreneurs through the maze of innovation .

It's the catalyst for growth,
the spark that ignites
resilience and adaptability.

"Failure is an option here. If things are not failing, you are not innovating enough."

- Elon Musk

Video : Dealing with Failure

Elon Musk on Failure

Tesla (0:25m)How to Overcome your Mistakes

Ted-Ed (4:51m)"The Fringe Benefits of Failure" J.K. Rowling

Harvard Commencement speech (21m)

https://www.youtube.com/shorts/5_eW76S9MkI

<https://www.youtube.com/watch?v=eBz7iUJu9UM>

<https://youtu.be/wHGqp8lz36c>

What do all these people have in common?

What do all these people have in common?

They overcame

crushing failures

before becoming

extremely

successful!

Elon Musk's 'Failure Resume'

Source: <https://www.skillzme.com/elon-musks-resume-of-failures-infographic/>

Dealing with Failure

Post -Session Activity – Failure Resume

•Can you come up with your own 'Failure Resume'?

Capture 3 (total) of your biggest failures across:

◦School/Education

◦Sports

◦Competition(s)

◦Personal Goals

•For each of your failures, capture your response to below questions:

◦My Biggest Failure Taught Me...

◦And Changed My Behavior By....

◦I Will Reflect On My Next Failure By ...

"Ask the Founders"

(live interview)

Ananya Mungara – SmartChakra

ananya@smartchakra.co

Founder Talk

Ananya Mungara - SmartChakra

Name & Designation: Ananya Mungara – CEO & Founder, SmartChakra Technologies Pvt. Ltd.

Professional Overview:

CEO & Founder of SmartChakra Technologies , a pioneering deep -tech company delivering advanced predictive maintenance, condition monitoring, and smart asset management solutions for the automotive and manufacturing sectors. With expertise spanning Technology, Operations, Sales, and Marketing , we have led the end -to-end journey of two flagship innovations:

- SONICSCAPE – an industrial monitoring solution integrating multi -sensor data (vibration, temperature, audio) with AI -driven analytics to enable predictive maintenance, real -time condition monitoring, and quality assurance.
- SmartChakra Tyre Management System – an intelligent tyre health monitoring and inflation -deflation -puncture management platform designed for fleet operators, heavy vehicles, and industrial equipment to improve safety, efficiency, and cost savings.

Key Roles & Expertise:

- Leading technology innovation , from ideation to large -scale deployment, ensuring solutions are practical, scalable, and future -ready.
- Overseeing operations , ensuring smooth delivery and integration of technology across diverse client environments.
- Driving sales and strategic partnerships with leading automotive and manufacturing OEMs, securing high -impact deployments.
- Spearheading marketing and brand positioning to establish SmartChakra as a trusted industry technology partner in both industrial monitoring and tyre management solutions.

Achievements & Recognitions:

- Holder of multiple patents in the fields of sensor -based industrial monitoring, predictive analytics, and smart tyre management.
- Guest speaker at multiple nationally and internationally recognized technology and industry forums.
- Won the best paper award at IEEE, Malaysia, won the Youngest Achiever Award by Rotary, Won the National Wonder Woman Award by Lions International and many more..
- Opportunity to discuss with distinguished Indian leaders, including:
 - Nirmala Sitharaman , Dr. S. Jaishankar , Dr. Rajeev Chandrasekhar and many more..

Industry Contributions:

- Serving as a technology partner for leading automotive and manufacturing OEMs, enabling data -driven decision -making.
- Driving digital transformation in legacy manufacturing environments by integrating smart analytics platforms.
- Innovating in the mobility sector with the SmartChakra Tyre Management System , helping industries and fleets improve road safety, reduce maintenance costs, and optimize tyre performance.

Profile

PictureName & Designation: Ananya Mungara – CEO & Founder, SmartChakra Technologies Pvt. Ltd.

Professional Overview:

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Profile

Achievements & Recognitions:

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Guest speaker at multiple nationally and internationally recognized technology and industry forums.

Best way to Generate Ideas?

Don't Look for Ideas,
Look for Problems!!

Most of the time, we
overlook many problems...

Memo at Western Union (1878)

Business Week (1968)

Leo DeForest
Radio Pioneer & Inventor of the Vacuum Tube
(1926)

Charles Duell, Commissioner,
U. S. Office of Patents (1899)

So, What Can you Do?

- Next time you come across a problem and want to dismiss it, can you try:

- Is there some aspect of the problem/idea you like?
- Are there other problems you think worth solving that are similar to this problem?
- What are some assumptions that made you dismiss the problem?

Can you test those assumptions?

- 3 powerful words

- “How Might We”

- “How might we design a reusable rocket to reduce cost of the space program?

- “How might we enable people without credit card to buy using e-commerce?

- How might we build a foundational Indic LLM model at a fraction of the cost?

Post -Session Activity: Before Dismissing a Problem

Can you guess the companies that may have asked the above questions?

Capturing a Problem/Idea/Opportunity Statement:

NABC* Approach

* Created by Stanford Research Institute (SRI) – Read the 2 -pager here An important client or market need addressed

by a unique approach with compelling benefits

when compared against the competition or alternatives.

Post -Session Activity: NABC Framework

For a problem capture the proposed problem & solution using the NABC framework

(internet offers many more/other templates as well)

Mentimeter

Join at www.menti.com

use the code: 6746 1723

Session Feedback

Session Quiz

Please take the Session Quiz on PESU Academy now

Thank You!

Startup Nation Olympiad 2025

What's In It For You?

- Global Exposure: Pitch your ideas to an audience of over 1 crore students, 1000+ universities, and 500+ incubation

centres .

- Mentorship: Get guidance from experienced founders and domain -specific mentors through Startup Nation's curated network.
 - Collaboration: Build teams, find co -founders, and collaborate with peers from diverse backgrounds.
 - Marketplace Access: List your startup products/services for free and reach industry partners, potential customers, and investors.
 - Job Opportunities: Explore the Startup Jobs portal to join early -stage teams or recruit talent for your venture.
 - Funding & Support: Compete for access to the Startup Nat ion Fund and connect with investors who fuel bold ideas.
- Why PESU EIE Students Should Participate?
- <https://www.startupnationindia.com>

Startup Nation Olympiad 2025

Why Participate?

- Real -World Experience: Apply your classroom learning to real startup challenges.
- Skill Development: Enhance leadership, teamwork, and problem -solving skills.
- Validation: Get early feedback, validate your ideas, and accelerate your startup journey.
- Network: Expand your professional connections and learn from top founders.

How To Get Started?

- Register Now: www.startupnationindia.com
- Prepare: Use available guides/FAQs to get ready for the competition.
- Engage: Tap into resources, mentorship, and training modules to maximize your impact.

<https://www.startupnationindia.com>

Why PESU EIE Students Should Participate?

Your Innovation Journey Starts NOW!

PESU Confidential | Do not circulate 3Sem 3 4 5 6 7 8

EIE-I EIE-IISummer Summer

CIE / CoE

InternshipCapstone

Project - ICIE / CoE

InternshipIncubate

Idea/

ProductAccelerate

Idea/

Product

(Get your idea validated) (Build Prototype) (Validate Prototype)

Proof -of-Concept

Learn and Practice:

Idea Generation,

Validation, Team(s),

Biz Acumen, PitchEarly Prototype

Select a 'real' idea/topic,

Tech Research/Pathfinding,

Market Research,

Project RequirementsRefine/Validate Prototype,

Early MVP (min -viable -product)

Build <> Learn <> Measure

Implement, Customer Discovery

Combine Tech <> Mkt

Mature Pitch, FundingCapstone

Project -

II

why is

everyone

talking about

design?

September 2025

Chitra Viswanathan

because we are all

surrounded by design and

are products of it.

The process of creating solutions

using creative problem solving

techniques

a human centred approach –

through a deeper understanding of people we can identify

and create more successful solutions. The starting point

for any innovation is to truly understand people –this is

the foundation of design thinking.what is

design thinking?

This five -phase model proposed by the Hasso -Plattner Institute of Design at Stanford

and is at the forefront of applying and teaching Design Thinking. The five phases of

Design Thinking, according to D.School Stanford, are as follows:

empathise –with your users

define –your users' needs, their problem, and your insights

ideate –by challenging assumptions and creating ideas for innovative solutions

prototype –to start creating solutions

test -solutions

What qualities

should a good

designer have?

The spirit of enquiry

GK + Curiosity

entertainer

imagination + risk

visual mind

and great story telling

Every iconic design

that we know, arose

from someone's

need, and more

importantly someone

noticing and

addressing this

need!

Design thinking is

actually realising

that your customer

is your biggest

influencer!

It's a

Human Thing!

and to get here

is a constant

exercise in empathy!

Nike: Find Your Greatness — Jogger
just do it!
WHY DO IT? | NIKE
Why risk it? Because you can. #JustDoIt
why do it?
the 'bendy'
straw -1937
sometimes whimsical.
sometimes romantic
sometimes a happy accident
but the creation of a new product/
design, always fulfils a need

design
has to
work/art
does
not

and designs will
work only
because . . .

#1-thinking outside
of the box
2-the power of the
narrative

the power of
storytelling!
stories are
remembered up to 22
times more than facts
facts and numbers don't trigger or create
emotional resonance, nor do they remind,
relate to, or connect times, places, and
objects to its audience. But, phenomenal
and innovative stories do!
This means humans, consumers, your
customers, everyone is hard wired to
listen to a strong story that resonates with
them. When brand stories are compelling
enough they embed in the mind of its

listeners —they are then shared and re -
shared.

the power of
storytelling!

-let your product tell a story

-let your packaging tell a
story

-let your branding tell a
story

-let your idea tell a story

John Lewis Ad 2010 - Fyfe Dangerfield 'She's Always A Woman'

You can buy the track on iTunes now - <http://itunes.apple.com/gb/album/shes-always-a-woman/id370394444?i=370394463>

New John Lewis TV Ad for 2010 - Song by Fyfe Dangerfield

The song is called 'She's always a woman' and it's sung by Fyfe Dangerfield (who is from The Guillemots)

PLEASE COMMENT!!!

the sweetest story ever

the most

successful

packaging

story of all

time

the curvy hobble

skirt, 1915 This iconic contour

fluted lines of the

Coca -Cola bottle

has been

celebrated in art,

music, and

advertising globally

for over 100 years

now and has

become one of the

most recognized

objects of the

twentieth century.

the luckiest

accident in

graphic design
history

a tape recorder
that does not
record

Thirty years ago,
the idea of people
walking around
with headphones
on whilst listening
to music seemed
insane. Now, it's
something we
barely notice, but
what piece of
design created
this change in
behaviour? a defining
accessory
of the
'ME'
decade

the shoot,
pull,
& shake
design
polaroid
camera

Polaroid is taking a stand against screen addiction, AI fatigue, and algorithmic overload with its latest campaign, 'The Camera for an Analogue Life', launched to support the release of its newest instant camera, Flip.

camera for an
analog life

camera for an
analog life

"Indifference
towards people

and the reality in
which they live is
actually the one
and only cardinal
sin in design."Dieter Rams

Dieter Rams

Dieter Rams

Dieter Rams
Good design is innovative
Good design makes a product useful
Good design is aesthetic
Good design makes a product understandable
Good design is unobtrusive

Dieter Rams
Good design is honest
Good design is long -lasting
Good design is thorough down
to the last detail
Good design is
environmentally -friendly
Good design is as little design
as possible
i phone "I'm dating my
iPhone."

"The best ideas start as
conversations."

The chief icon of
a new religion
'It is modest but
monumental:
nothing needs to
be added, nothing
needs to be taken
away. It is the
perfect thing'

The unboxing of

a new religion

Apple iMac 2021 ASMR Unboxing #Shorts

ASMR unboxing of the all new Apple iMac in Orange.

with this in mind, it may be more correct to say that

“design thinking is not about

thinking outside of the box,

but on its edge, its corner, its

flap, and under its barcode.”

-Clint Runge

thank you:)

Essentials of Innovation and Entrepreneurship

EIE -I

Module 5

M5 -Human -Centered Innovation

CIE Spark –Tarun

EIE M4 Session –Poll/Mentimeter

Results

EIE M4 Session Quiz -

Discussion

EIE M4 Session Quiz -

Discussion

1. According to CB Insights, one of the top 3 reasons startups fail is:

- a) Poor marketing
- b) Lack of funding
- c) Not the right team -1272 students got it right!
- d) Weak technology
- e) Slow hiring

4. According to Verna Myers, Inclusion is:

- a) Being asked to dance -775 students got it right!
- b) Being treated fairly in exams
- c) Being offered mentorship
- d) Being included in WhatsApp groups
- e) Being given promotions

15. I am an Engineer or an Architect who basically builds the Product/Solution. Who am I?

- a) Hustler
- b) Hacker -1413 students got it right!
- c) Visionary
- d) Balloon Popper

3 for Thought

Now the hard part: making
AI useful at work
The early “wow” phase is over,
Zoho’s AI head says it’s about
right -sized models, lower
costs, and private
deployments . An MIT study
shows most GenAI pilots fail
without workflow fit and
change management skills
and process beat shiny
demos .

3 for Thought
Governments are jumping in
Perplexity opened free access
to its top models for U.S.
federal employees with zero
data usage , plus a special
government tier at \$0.25 per
agency for 15 months, easier
trials, tighter security.

3 for Thought
Frontier models keep scaling
Alibaba’s Qwen3 -Max packs ≈ 1
trillion parameters and a
262k -token context via API,
powerful for heavy
reasoning/coding, but still
early; watch costs and
maturity .

Today’s Topics
Design Thinking
Credit: Image Creator (Microsoft Bing) Human -Centered Innovation
Effectuation

Design Thinking
Mentimeter
Join at www.menti.com
use the code: 2803 0382 Participant Opinion

Prof. Chitra Vishwanathan

Director of B.Design Program @PES University Guest Lecture

25+ years of professional experience in

Design, Advertising, Entrepreneurship and Teaching

Design

Thinking

Design Thinking: Overview

- Design thinking: A process for creative problem solving
- IDEO Founder David Kelley, coined the term Design Thinking
- David Kelley founded d.school (@ Stanford Univ)
- Helped develop Apple's 1st mouse, Palm V PDA, etc.
- Not just Tech, but for Space, Medical, etc (see here more details)

User Desirability

Feasibility

Viability Tech

Business Design Thinking

Student Volunteer –EIE

- Need ~200 Students for an Experiment that we at CIE are running as a precursor for Spark
- We need Student volunteers to answer a few questions about topics like NABC, Napkin Pitch etc
- This will help us test out a few aspects and allows us to scale for your Ideas during CIE Spark
- Link: <https://forms.gle/RjR7zEkRnDyTNmFJ9>
- QR:

Why Design Thinking is Important for

Innovation & Startups?

- Help you/team surface unmet needs of the people you are creating for
- Generates solutions that are revolutionary , not just incremental
- Reduces the risk associated with launching new ideas

3 Key Principles: (EIE

?)

- Empathy
- Ideation
- Experimentation

Design Thinking and Startups

- Design Thinking:

Approach to creating products/services that make a difference to customers

- Have your customers love your product offering

- Better business outcomes

Can also be applied in a wide variety of other areas:

Business design, Leadership, Organizational change, etc

Link (first 1 min) Design Thinking in 90 Seconds (The Strategy Group)

Link (2:17 mins) Design Thinking (HBR Explainer)

Link (7mins) TED Talk : Human Centric Innovation:
Mileha Soneji

Activity

(Team)

Brainstorming Warmup!

[getting used to Quantity over Quality]

Brainstorm 50 uses of a Paperclip

and post them on your team wall!

Design Thinking Mindset

Design Thinking Framework

Design Thinking Process

1. Discovery

I have a challenge

How do I approach it?

2. Interpretation

I learned something

How do I interpret it?

3. Ideation

4. Experimentation

I see an opportunity

What do I create?

5. Evolution

I tried something new

How do I evolve it? I have an idea

How do I build it?

IDEO did the 'Shopping cart project' for ABC News to illustrate their process for coming up with innovative new products:

IDEO shopping cart project (15 mins)

IDEO shopping cart project (8 mins)

Carefully watch to see

- Process (and steps) IDEO employs for new/innovative products

- How they brainstorm effectively and jot down observations

◦Rapid prototyping and iterating to come up with a new/improved solution
IDEO Case Study (Video)

Effectuation

- Come up with a brilliant idea
 - Show that there is a large market for it
 - Write a winning business plan
 - Raise money
 - Build and grow the venture
 - Go public or sell
 - Go off to the Bahamas
- How Entrepreneurs Build Ventures: Causal

logic (conventional wisdom)

Video : A Brief Guide to Effectuation (2:52)

Essential Reading:

What makes Entrepreneurs Entrepreneurial?

Originator: Dr. Saras Sarasvathy

(Darden School of Business, University of Virginia)Effectuation: Another Approach to Getting Started

Causal:

Expressing or

indicating cause

relating to or showing the

cause of somethingEffectual:

Producing or able to

produce a desired effect

suggest the accomplishment of a

desired result especially as

viewed after the fact

1. Have a specific menu, shop for the ingredients,
follow the recipe.

2. Have a look in the fridge, see what's in there
and make dinner accordinglyPreparing dinner

When you go to cook dinner how do you cook?Let's use an Analogy.....Effectuation

Effectual reasoning often requires...

Imagination

Spontaneity SalesmanshipRisk -takingEffectual Logic

GOAL

M5M1

M2

M3Causal reasoning to achieve a given goal: following pre -existing pathwaysA Managerial Approach

M4

Creative causal reasoning to achieve a given goal:

may involve the creation of new pathwaysA Strategic Approach

GOALM1

M2

M3

M4

M5

Effectual reasoning :

Using a given set of means, start imagining new possibilities

M1

M5 M2

M4 M3GOAL1

GOAL2

GOAL3

GOAL4An Entrepreneurial approach

GOAL 5

An Effectual Approach

- Effectuation considers entrepreneurship as a series of decisions.
- Decision -making can be applied in ambiguous or uncertain settings.
- Entrepreneurs reimagine outcomes and use means to move into action without elaborate planning.

Non -Predictive Control

High

Low Hig

hPLAN

(Causal)VISIONARY

CO-CREATE

(Effectuation)ADAPTHIGH

LOW

HIGH LOWPREDICTION

CONTROL

Causal

Logic

To an extent we can control the future, we don't need to predict itThe Key Finding

Effectual

LogicTo the extent we can predict the future, we can control it

Work with what's already within your control

to co-create the futureExamples of Effectuation

Effectuation Example

Effectuation Example

Principles Of

Effectuation

Start with your means

Start with Who you are, What you know, & Whom you know

When expert entrepreneurs set out to build a new venture, they start with their means:

- Who I am, what I know, and whom I know
 - Then, the entrepreneurs imagine possibilities that originate from their means.Bird -in-Hand Principle
- Invest what you can afford to lose –extreme case
\$0
- Expert entrepreneurs limit risk by understanding what they can afford to lose at each step, instead of seeking large all -or-nothing opportunities.
 - They choose goals and actions where there is an upside even if the downside ends up happening.Focus on the Downside RiskAffordable Loss Principle
 - Expert entrepreneurs invite the surprise factor
 - Instead of making “what -if” scenarios to deal with the worst -case scenarios, experts interpret “bad” news & surprises as potential clues to create new markets.Leverage Contingencies: Embrace and Leverage surprisesLemonade Principle

Form partnerships:

Build a network of self -selected stakeholders

- Expert entrepreneurs build partnerships with self-selecting stakeholders.
- By obtaining pre -commitments from these key partners early on in the venture, experts reduce uncertainty and co-create new market with its interested participants.Crazy Quilt Principle

Co-create the future

By focusing on activities within their control, expert entrepreneurs know their actions will result in the desired outcomes.Pilot -in-the-plane principle:Pilot -in-the-Plane Principle

An effectual worldview is rooted in the belief that the future is neither found nor predicted but rather CREATED

Summary of Effectuation Process

Summary Of Effectuation Principles

Who you are, What you know, & Whom you know

Invest what you can afford to lose –extreme case \$0

Build a network of self -selected stakeholders Embrace and Leverage surprises

Co-create the future(Not pre -set goals/opps)

(Not expected return)

(Not competitive analysis)(Not avoid them)

(Not stick to a pre -determined path)

For details, see <https://effectuation.org/the-five-principles-of-effectuation>

You need them to start your business but eventually

you shift away from effectual logic When to use Effectuation

Entrepreneurship Mindset Effectuation

Effectuation and Entrepreneurial Mindset Go Hand in Hand

Other Commonalities between Effectuation & Entrepreneurship Mindset:

Action -oriented, Embracing Uncertainty, Leveraging existing Resources, Iterative Approach

Post -Session Activity: Empathy Map

For a given set of customers facing a given challenge/problem, create an empathy map

Post -Session Activity: Effectuation

Instructions :

1. Brainstorm a product or service: Consider your skills, interests, and resources. Think about a product or service you could create or offer with minimal investment.
 2. Identify your existing resources: Make a list of the resources you already have, such as time, skills, contacts, and equipment.
 3. Set a small, achievable goal: Instead of aiming for a grand vision, start with a modest goal. For example, if you're selling lemonade, aim to sell a certain number of cups per day.
 4. Create a prototype or sample: Even if it's a simple version, having a tangible product or service will help you gather feedback.
 5. Test your idea: Share your product or service with friends, family, or classmates. Ask for their feedback and suggestions.
 6. Iterate and improve: Based on the feedback you receive, make adjustments to your product or service.
 7. Leverage your network: Reach out to people you know to see if they can help you connect with potential customers or partners.
 8. Start small and grow gradually: Avoid making large investments upfront. Instead, focus on generating revenue and reinvesting your profits to grow your business.
- Effectuation Activity: The Lemonade Stand Challenge <or

something you are most excited to start>

Objective: To apply the effectuation principles to create a small -scale entrepreneurial venture.

Additional Considerations:

- Time constraints: Consider the amount of time you have available to dedicate to the project.
- Budget: Set a budget for your venture and stick to it.
- Legal and regulatory requirements: Ensure that your venture complies with any relevant laws and regulations.
- Reflection: Write a reflection on your experience. Discuss the challenges you faced, the lessons you learned, and how you applied the principles of effectuation.

Mentimeter

Join at www.menti.com

use the code: 6683 0460Session Feedback

Session Quiz

Please take the Session Quiz on PESU Academy now

Thank You!

Essentials of Innovation and Entrepreneurship

EIE -I

Module 6

M4 -Building/Leading Teams in Startups

CIE Spark 2025: Problem Validation Sprint

Your Role: Individual

Detective

Objective: Identify and document real -world problems you observe.

Key Date:

- Sep 04: Phase 1

Template Shared

•

Sep 10: Deadline

for Individual

Submission Phase 1: The Problem Hunt

Your Role: Identify &

Collaborate

Objective: Form a

multidisciplinary team (4 -6

members, max 2 per

department) around one problem statement.

Key Dates:

- Sep 16: Master Individual

Database Shared among with the template

-

Oct 06: Team

Formation Submission

DeadlinePhase 2: Team Formation

Your Role: Problem

Validation Expert

Objective: Conduct

interviews, gather data, and prove your problem is worth solving.

Key Dates:

- Oct 07: Phase 3 Validation

Template Shared

-

Oct 24: Validation

Dossier Submission

DeadlinePhase 3: The Validation SprintThe Three -Phase

Journey

Announcing the Top 10 on 30th Oct and Final Pitch on 3rd November

[https:// forms.gle /qTh3nz4NwvKLcpPR7](https://forms.gle/qTh3nz4NwvKLcpPR7)

EIE M3 Session –Poll/ Mentimeter Results

EIE M3 Session Quiz

EIE M3 Session Quiz

2. According to TIPSC, which of the following is not a criteria for identifying a good opportunity?

a) Timely –The idea should fit the market conditions at the right time.

b) Important –It should address a real need or pain point.

c) Profitable –It should have the potential to generate revenue and returns.

d) Sustainable –It should have long -term viability, not just a short -term gain . –ONLY 243 students got it right!

e) Context -It should align with the environment (economic, social, legal, technological)

3. Airbnb was created after noticing what market problem?

a) High travel costs

b) Hotels were sold out -1297 students got it right!

- c) People wanted shared kitchens
- d) Lack of online booking platforms

7. In the TIPSC filter used in this module, what does “S” stand for?

- a) Scalable
- b) Sustainable
- c) Solvable -ONLY 95 students got it right!
- d) Social

3 for Thought

India’s Silicon Moment

Vikram -32 takes the stage: ISRO’s SCL -Mohali unveiled a fully indigenous 32 -bit, space -grade microprocessor at Semicon India 2025 and presented it to the PM a real silicon milestone.

India just showcased chips built on home soil. Early days, but the flywheel is turning across design, packaging, and scale —next up: repeatability, yields, and a steady product pipeline.

3 for Thought

- Robot chef for dosa & omelets, automating the key steps , pouring batter, spreading, cooking, and plating.
- Aimed at cloud kitchens, busy professionals, and home cooks where speed consistency matter.
- Built in Bengaluru.

Thindy’s Smart Kitchen Assistant

3 for Thought

Therabot

- A generative -AI chatbot, just cleared a randomized clinical trial showing significant symptom reductions for people with depression, anxiety, and eating -disorder risk.
- It’s a big step toward evidence -based digital therapeutics. It’s a helper , not a replacement for clinicians. Aim is scaling responsibly, and careful real -world rollout.

Today’s Topics

Building Teams Leading Teams

Credit: Image Creator (Microsoft Bing)

Teamwork

Top 20 Reasons Startups Fail

Source: CB

Insights#3: "Not the Right Team"

Your Idea of a 'Dream' (Perfect) Startup Team?

Mentimeter

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use the code: 6467 6979

Effective Team Characteristics

12 Good Communication :

disagreements handled

well Most decisions by

Consensus

Teams Learn & Share

their learning Trust

Create & Maintain Purpose

and shared beliefs

Clear Roles/Responsibilities Collaborative

Team effort

Diversity

And Inclusion

Video What Makes a Good Team

(Simon Sinek, ~2min)

<https://www.youtube.com/watch?v=uNQkD-Pt00E>

Video Building Your Startup: Building Your Team

(Kauffman Foundation, ~1min)

<https://www.youtube.com/watch?v=3YSgopGo7qE>

Video Build a Tower, Build a Team (MarshMallow Challenge)

(TED Talk, ~7min)

https://www.youtube.com/watch?v=H0_yKBit08M

Diversity and Inclusion

"Diversity is being invited to
the party Inclusion is being
asked to dance"

Verna Myers

Video The Power of Diverse Teams

(Microsoft , ~1min)

<https://www.youtube.com/watch?v=mz9KLOnkT6I>

Different Types of Diversity in Teams

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Diversity

Entrepreneurial Diversity

(Dimensions):

Expertise, Opinion, Power

Optimal Levels of Diversity:

Expertise: High

Opinion: Moderate

Power: Low

Secret of High -Performing
Teams

Energy , Engagement , Exploration

"Just by looking at the sociometric data, we've been
able to foretell which teams will win a business plan
contest"

"The most valuable form of communication is face -
to-face "

How do you plan to overcome this?

(especially if you are cross -campus/remote)

Early Signs of Dysfunctional Team -Member
Relationship

- Criticism
- Contempt
- Defensiveness
- Stonewalling (refusing to communicate)

Is there a Perfect Team?

A better question to ask is 'How Do We Work Together'?

- Everyone fights, so make a plan
- Figure out roles, goals, and a process before emotions get involved
- Start having hard conversations now
- Communicate to share honest feedback without criticism
- Pay down emotional debt regularly

Kevin Hale –How to Work Together, Y Combinator

Simplified View: 'Balanced' Founding Team

Key driver to bring the idea to
life; Inspires the Team

Build the product/solution &
anything else needed along the way
Not defined by position/title but by
Attitude;

Helps sell the product/solution

Team Roles

Founding Team

Complementary

skills -Builds the early

firm/org Founder(s)

Has the Initial Idea.

May or May not

have a leadership

role Founding CEO

Brings order and

create 'Comfort in

Chaos'; Leads the

Company

K.Chandrasekhar

Founder & CEO of Forus Health Guest Lecture

Forus Health is the brain behind the development of
a technology platform that increases access to eye
care and prevents avoidable blindness. K

Chandrasekhar established a unique strategy to
introduce the revolutionary product '3nethra', which
resulted in an unprecedented expansion of the
retinal imaging market in India. Before starting Forus
Health, K Chandrasekhar was the Director of Strategy
at NXP Semiconductors and served over 20 years in
major multinational and Indian tech companies. K
Chandrasekhar is an alumnus of BITS, Pilani and IIM
Kolkata.

More on Forus Health: www.forushealth.com

Know Thy Self

Personalities (example DISC)

Sample DISC test (checkout others as well):

<https://www.tonyrobbins.com/disc> , [https://professionalleadershipinstitute.com/disc -
assessment/](https://professionalleadershipinstitute.com/disc-assessment/)

Leading Teams

Credit: Image Creator (Microsoft Bing)

Mentimeter

Join at www.menti.com

use the code: 1454 1750 Your idea of a Good Leader (startup context)?

VideoWhat It Takes to Be a Great Leader
(Harvard Business Review Explainer, ~2 min)
<https://www.youtube.com/watch?v=LU84BFFqKvI>

VideoWhat Makes a Great Leader (Innovation Context)
(Linda Hill, Harvard Business School, 1st 4 mins)
<https://www.youtube.com/watch?v=ME5arjIStGQ>

VideoLeadership –What You Don't Need: Micro -
manage
(Movie clip: "Office Space", 1 min)
<https://www.youtube.com/watch?v=jsLUidiYm0w>

VideoLeadership –What You Don't Need:
Unempathetic
(clip from: "Parks and Recreation", 1 min)
<https://www.youtube.com/watch?v=cRC7ZFiLHmA>

VideoLeadership: Vision
(Steve Jobs, 45 sec)
<https://www.youtube.com/shorts/olONVwWg97w>

VideoLeadership: Listen, Kindness, Respect
(ex-President Barack Obama, ~2 min)
<https://www.youtube.com/shorts/P8XBaOVqg1I>

VideoLeadership: Trust vs. Performance
(Simon Sinek, 2 min)
<https://www.youtube.com/watch?v=PT09e3ILmms>

VideoLeadership –Taking Care of your Team Member
(Simon Sinek, 1 min)
<https://www.youtube.com/shorts/yBgGG2G9Zyk>

VideoLeadership: Empathy, Perspective
(Simon Sinek, first 2.5 min)
<https://www.youtube.com/watch?v=eXDNkwleOqA>

What's more important than
IQ & Tech Savviness
for a Leader?
Mentimeter

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use the code: 3930 3255

Video What Makes a (Great) Leader
(Daniel Goleman, Harvard Business Review, 4 min)
https://www.youtube.com/watch?v=WICq_Pj8ZUk

Elements of Emotional Intelligence
Harvard Business School: See here for an insightful article
Reading: "The Real Leadership Lessons of Steve Jobs"

Source: Harvard Business Review: Apr 2012, link
Summary

- Top Reason Startups Fail : One of the top reasons for failure is "Not the Right Team." Ensuring the team has the right mix of skills, leadership, and collaboration is critical to success.
- What Makes a Good Team? : Essential components include mutual trust, respect, shared beliefs, and a focus on the organization's success over personal interests. Diversity in skills and perspectives is crucial, and members should approach differences maturely.
- High -Performing Teams : Teams with high energy, engagement, and exploration often perform better. Communication, particularly face -to-face, plays a key role in team success, even when members are remote.
- Team Roles : In a founding team, complementary skills are vital. The CEO often brings order, providing "comfort in chaos," while other founders may or may not take on leadership roles.
- Leadership behavior demonstrated by all team members in a startup can make all the difference between success and failure!

Post -Session Activity: DISC Personality Test

There are several (free) Personality Tests available online. DISC is one of them.
Even DISC is offered (for free) by multiple agencies.

Below are 2 examples (feel free to checkout others):

<https://www.tonyrobbins.com/disc>

<https://professionalleadershipinstitute.com/disc-assessment/>

Note: The accuracy of any psychometric test varies; consider results as 1 perspective, do not view result as definitive!

Reflect on the following:

1. Do you agree with the results? Analyze what you agree and don't agree
2. Are there areas that you wish to strengthen? Change? Keep it the same?

Mentimeter

Join at www.menti.com
use the code: 5228 0628 Session Feedback

Founder Traits

- Perseverance
- Ability to deal with
 - Failure (another word for 'learning')
 - Uncertainty , Isolation, Non -linear progress
 - Rejection (of ideas/beliefs/results)
- Optimistic ('half -glass -full')
- Adaptable

VideoGo Be an Entrepreneur: Teams and more

(Kauffman Foundation , ~4min)

[youtube.com/watch?feature=shared&v=FOFm8fPP2Kc](https://www.youtube.com/watch?feature=shared&v=FOFm8fPP2Kc)

Session Quiz

Please take the Session Quiz on PESU Academy now!

Thank You!