

# ENGINEERING ENTREPRENEURSHIP AND IPR

## Module 1

- **Introduction to Ideation, Innovation and Entrepreneurship**
- **Introduction to Intellectual Property Rights (IPR)**
- **Importance of building a strong team**
- **Identifying Pain Points and problem statement**

# Module 1 Syllabus

- **Introduction to Ideation, Innovation and Entrepreneurship**
  - What is Ideation
  - Understanding Innovation
  - Frameworks for Innovation
  - The Entrepreneurial Mindset
  - Starting a Business, types formation statutory compliances.
  - Resources for Aspiring Entrepreneurs
- **Introduction to Intellectual Property Rights (IPR)**
  - Types of IPR: Patents, trademarks, copyrights, trade secrets
  - Strategies for protecting intellectual property based on the type of innovation
  - Role of IPR in securing funding and competitive advantage

# Module 1 Syllabus Cond...

- **Importance of building a strong team**
  - Identifying roles
  - Skill sets
  - Team Dynamics
- **Identifying Pain Points and problem statement**
  - Idea Generation Techniques
  - Developing and Refining Ideas
  - Develop strategies for bringing your innovation to life

## 1.1.1 What is Ideation?

- Ideation is the creative process of generating, developing, and communicating new ideas. It's a crucial part of innovation and problem-solving that involves brainstorming sessions, free thinking, and exploring multiple solutions or concepts.
  - Ideation helps in identifying potential opportunities, solutions, and strategies, whether for products, services, projects, or any other creative endeavour.
  - In essence, ideation is about thinking outside the box and coming up with original and innovative ideas to address challenges or enhance existing processes. It's often the first step in the journey from concept to reality.
- Idea in Swiggy, Jio etc.

## 1.1.2 What is innovation?

- Innovation refers to the process of creating or improving products, services, processes, or business models to meet new or existing needs in unique and effective ways. It often involves implementing creative ideas that result in value for businesses, individuals, or society.
- **Key Features of Innovation**
  1. Novelty: Introducing something new or improving upon what already exists.
  2. Value Creation: Adding economic, social, or user-centric value.
  3. Practical Implementation: Transforming an idea into a tangible outcome, such as a product, service, or process.
  4. Problem-Solving: Addressing specific challenges or inefficiencies.
- Innovation in Swiggy, Jio etc.

# Types of Innovation

1. **Product Innovation:** Developing new or enhanced goods or services (e.g., smartphones with better cameras).
2. **Process Innovation:** Improving methods of production or delivery (e.g., automation in manufacturing).
3. **Business Model Innovation:** Changing how a company creates, delivers, and captures value (e.g., subscription-based services).
4. **Technological Innovation:** Leveraging new technology to solve problems or create opportunities (e.g., artificial intelligence in healthcare).
5. **Social Innovation:** Addressing societal challenges in novel ways (e.g., microfinance systems).

- **Importance of Innovation**

- Drives economic growth and competitiveness.
- Improves efficiency and reduces costs.
- Solves pressing problems and meets evolving customer needs.
- Encourages sustainability and adaptability in a rapidly changing world.

- **INNOVATION – JIO CASE**

- Before introduction of Jio in India, data rate was around Rs 800/ GB. Now it is around Rs 5 to 10/GB.
- Jio reduced Data rate, customers now use more data for their use without the apprehension of data rate.
- Common people are using smart phones and mobile connection now for their daily use.
- Jio is running its business with operating profit in their profit and loss account.
- was beneficial for customers, society and business.



- **INNOVATION - APPLE CASE**

- One of the key innovations in the Apple II was that it was without the noise of the fan
- Fan was provided to make the computer cool to prevent overheating
- Steve Jobs wanted to find a solution in which heating can be reduced by innovation in power supply
- He found a guy called Rod Holt who later created a switching power supply that revolutionized the way power was delivered to electronics products.
- Had Jobs never asked, “Why does a computer need a fan?” and “How do we keep a computer cool without a fan?” the Apple computer as we know it would not exist

## 1.1.3 Frameworks for Innovation

- **1. Design thinking framework**

- The design thinking framework emphasizes addressing the needs of people by focusing on a human-centric approach. This user-centric approach can enhance the problem-solving process in open innovation, ensuring that the solutions developed are deeply aligned with user needs.
- IDEO, a global design and innovation company, leveraged the design thinking framework for their Joyful Living project in Singapore to enhance the aging experience by:
  - Addressing challenges faced by the elderly by conducting detailed research.
  - Understanding the physical, emotional, and social aspects of aging,
  - Designing healthcare cost discussion guides that were more patient-centric.
  - Developing tools to help patients understand healthcare costs.

- **This framework includes -**
  - Understanding user needs and behavior through empathy.
  - Sequential stages: Empathizing, defining, ideating, prototyping, and testing.
  - Utilizing iterative prototyping for concept creation and testing.
  - Collecting user feedback in every iteration for ongoing enhancement.

- **2. Agile Methodology**

Agile is a project management philosophy in software development that breaks work into short cycles called 'sprints,' typically 1-4 weeks long. In each sprint, the team plans, builds, tests, and reviews a working piece of software. This iterative approach lets you quickly adapt to changing requirements, get frequent user feedback, and deliver usable software faster than traditional methods like Waterfall.

- The Agile Method's iterative and flexible approach allows organizations to rapidly adapt to new external ideas and technologies, fostering a collaborative environment that aligns well with the principles of open innovation.
- ITC FMCG business: sanitiser business grown during COVID because of their agile manufacturing and business structure.

- **The Framework includes –**
  - Breaking tasks into iterations, known as sprints, of consistent duration in Agile methodology, ensuring continuous development and testing.
  - Prioritizing flexibility, adaptability, and responsiveness to market changes in product development.
  - Incorporating feedback from clients/customers throughout the sprint cycles in Agile methodology.

- **3. Lean Startup**

- In this management framework, the focus tends to be on building and testing minimal viable products (MVPs), which are product versions with a minimum set of features. Lean Startup principles can help in rapidly testing and iterating on the external ideas in open innovation, reducing risk and accelerating time-to-market.
- **Dropbox** employs this strategy for syncing files across various devices. They began with an MVP, focusing on ensuring seamless file-syncing capabilities. To validate customer interest, they crafted a straightforward video showcasing their service. This enabled them to swiftly launch their product and refine it based on valuable customer feedback.

- **The Framework includes –**
  - Showcasing MVPs to clients for collecting early feedback.
  - Conducting iterative rapid experimentation to minimize waste, reduce risk, and refine the business model.

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# THE LEAN STARTUP

How Constant **Innovation**  
Creates Radically  
**Successful** Businesses

# ERIC RIES

'Mandatory reading for entrepreneurs' **Dan Heath**



- **4. Stage-Gate Process**

This management methodology provides a structured way to guide ideas from concept to market, minimizing surprises and maximizing success rates. Each phase involves multiple evaluations conducted during gate reviews to ensure project progress and viability.

- Procter & Gamble, commonly referred to as **P&G**, adopted the stage-gate approach within their product development pipeline. They established distinct phases, including idea generation, feasibility assessment, development, testing, and launch. Each phase involved multiple evaluations conducted during gate reviews to ensure project progress and viability.

- **The Framework includes –**

- Multiple stages and checkpoints where the product undergoes evaluation to ascertain whether to proceed with the proposed changes. These predetermined stages serve as a structured roadmap, steering projects from conception to market introduction.

- **5. Blue Ocean Strategy**

This strategy aims to create new demands and market spaces by differentiating from existing competition. With its focus on creating uncontested market space, Blue Ocean strategy can drive organizations to seek out and leverage external insights that help identify and develop innovative products and services that meet unfulfilled market needs.

- **Cirque du Soleil** moved away from the traditional circus format and adopted the blue ocean strategy. Their innovative approach fused elements of theatre and circus, capturing the attention of adult and corporate audiences. As a result, while the conventional circus sector experienced a decline in revenue due to dwindling audience interest, Cirque du Soleil's productions captivated over 150 million spectators across 300 cities.

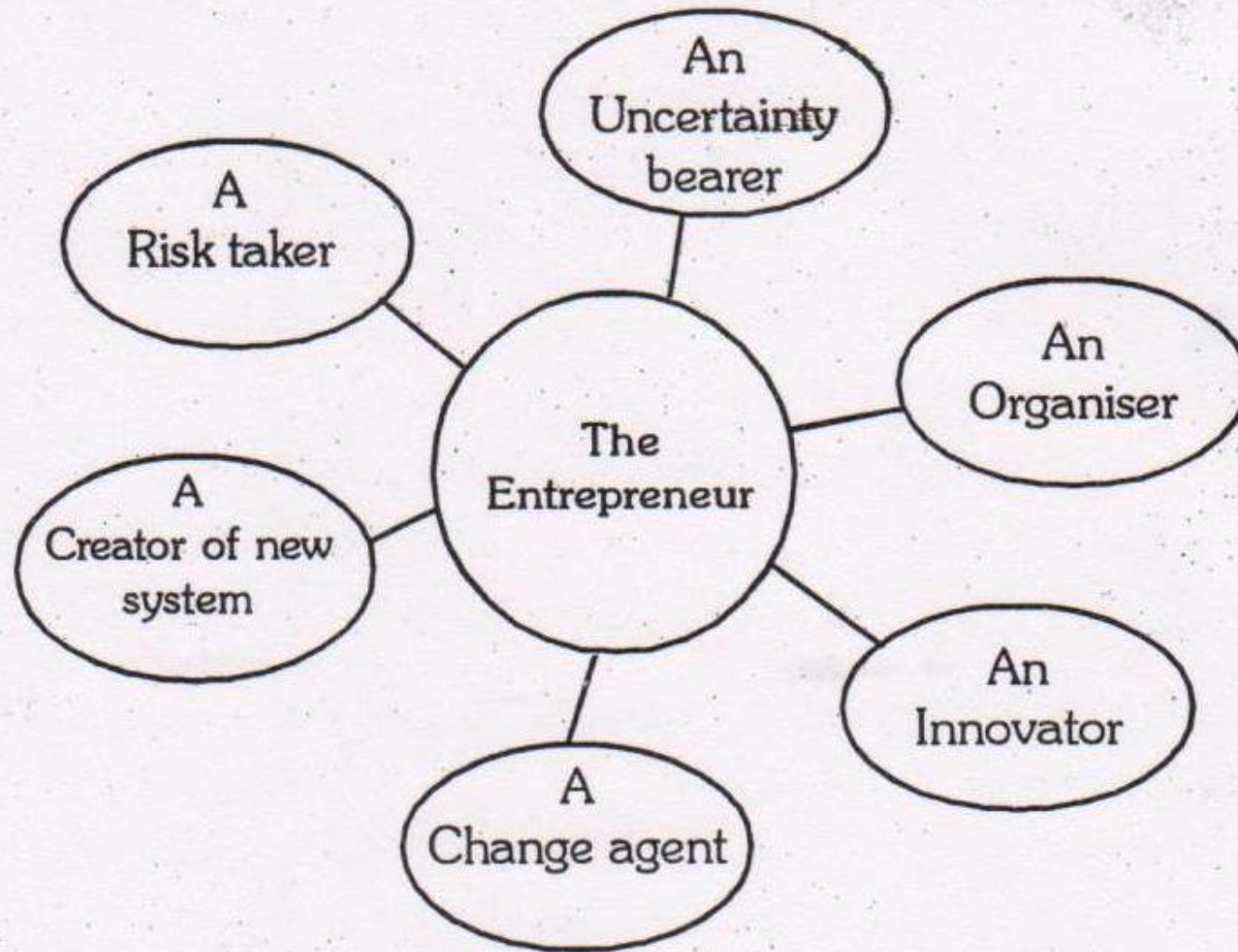
- **The Framework includes –**

- Encouraging companies to redirect their attention away from existing market competition, commonly called red oceans.
- Highlighting the importance of venturing into blue oceans and representing untapped markets with non-existent competition by introducing innovative products.

## 1.1.4 Entrepreneurial Mind set

- The entrepreneurial mindset refers to a set of attitudes, skills, and behaviors that enable individuals to identify opportunities, take initiative, and overcome challenges to create value.
- The entrepreneurial mindset isn't limited to starting businesses; it applies to anyone aiming to innovate, lead, and make an impact in any field.

# The Entrepreneur



# Key Characteristics of the Entrepreneurial Mindset

- **Opportunity Recognition**

- Ability to identify gaps, trends, or problems that can be transformed into business opportunities.

- **Resilience**

- The ability to bounce back from failures and keep going in the face of adversity.

- **Proactiveness**

- Taking initiative to act on ideas and make decisions without waiting for external prompts.

- **Adaptability**

- Entrepreneurs can quickly adjust to new circumstances and make changes to stay competitive.

- **Innovative Thinking**

- Thinking creatively to develop novel solutions or improvements to existing systems.

- **Risk Tolerance**

- Willingness to take calculated risks and manage uncertainty effectively.

- **Vision and Goal Orientation**

- Ability to set clear goals, visualize the desired outcomes, and work systematically toward achieving them.

- **Self-Confidence**

- Believing in one's ability to succeed and influence outcomes positively.



- **Collaboration**-Recognizing the importance of teamwork, networking, and leveraging collective intelligence.
- **Continuous Learning**-Entrepreneurs are always looking to expand their knowledge and skills.
- **Solution-oriented**- Entrepreneurs see problems as potential opportunities and are resourceful in finding solutions.
- **Authenticity**- Entrepreneurs are genuine and passionate about what they are trying to create.

# Developing an Entrepreneurial Mindset

- **Cultivate Curiosity**

- Question assumptions and seek to understand how things work.

- **Embrace Failure as Feedback**

- View setbacks as opportunities to learn and refine strategies.

- **Practice Problem-Solving**

- Regularly challenge yourself to think of creative solutions for everyday problems.

- **Build Resilience**

- Strengthen mental toughness through mindfulness, goal-setting, and self-reflection.

- **Learn Financial Literacy**
  - Understand the basics of budgeting, investing, and resource management.
- **Take Initiative**
  - Act on ideas, even in small ways, to build confidence and momentum.
- **Surround Yourself with Inspiration**
  - Network with like-minded individuals and learn from successful entrepreneurs.
- **Seek Out Challenges**-Step outside your comfort zone to develop new skills and perspectives.
- **Optimistic** Entrepreneurs have an optimistic outlook and see the world differently than others.

# Difference between Entrepreneur and Manager

Point	Entrepreneur	Manager
Status	Owner of the enterprise	<u>Servant</u> in the enterprise owned by the <u>entrepreneur</u>
Risk bearing	Assumes all risk and uncertainty involved in running the enterprise	Does not bear any risk
Rewards	Profit which is uncertain	Salary
Innovation	Acts as an innovator or change agent	Execute the plan prepared by the entrepreneur
Qualification	Originality in thinking, foresight, risk bearing	Knowledge in management theory and practice

## 1.1.5 Starting a Business, types of formation and statutory compliances

# Types of Business Formations

- **Sole Proprietorship**

- **Definition:** Single owner, unincorporated.
- **Advantages:** Easy to set up, minimal compliance, full control.
- **Disadvantages:** Unlimited liability, limited scalability.
- **Compliance:** GST registration (if applicable), Income Tax filing.

- **Partnership Firm**

- **Definition:** Two or more individuals share ownership.
- **Advantages:** Shared resources, easy setup.
- **Disadvantages:** Unlimited liability, potential conflicts.
- **Compliance:** Partnership deed registration, PAN for the firm, GST registration (if applicable).

- **Limited Liability Partnership (LLP)**

- **Definition:** Hybrid structure combining features of a partnership and a company.
- **Advantages:** Limited liability, easy management.
- **Disadvantages:** Higher compliance than a sole proprietorship or partnership.
- **Compliance:** LLP agreement, GST registration, annual filing with MCA.

- **Private Limited Company**

- **Definition:** A separate legal entity owned by shareholders.
- **Advantages:** Limited liability, higher credibility, access to funding.
- **Disadvantages:** Higher compliance, restrictions on transfer of shares.
- **Compliance:** GST registration, annual returns, board meetings, and audits.

- **Public Limited Company**

- **Definition:** A company whose shares are publicly traded.
- **Advantages:** Access to capital markets, limited liability.
- **Disadvantages:** Stringent compliance, high operational costs.
- **Compliance:** Registration under the Companies Act, SEBI regulations, annual filings.



# Statutory Compliances

- Statutory compliance is **the legal framework that ensures the smooth functioning of a company and the welfare of its employees and employers.** Here are some legal requirements and statutory compliances to consider when starting a business:

- **Business Registration**

- Register the business with the appropriate regulatory body (e.g., Registrar of Companies for companies, local authorities for sole proprietorships).

- **Tax Registration**

- Obtain PAN and TAN for the business.
- Register for GST if turnover exceeds the prescribed limit.

- **Employment Compliance**

- Adhere to laws like the Provident Fund (PF), Employee State Insurance (ESI), and Professional Tax if applicable.
- Maintain employee records and issue salary slips.

- **Trade Licenses**

- Obtain specific licenses related to the type of business, such as a food license (FSSAI) or pollution control clearance.

- **Accounting and Audits**

- Maintain accurate books of accounts.
- File annual returns and undergo statutory audits if required.

- **Corporate Governance (for Companies)**

- Conduct regular board meetings.
- Maintain statutory registers (e.g., Register of Members).
- File annual returns with the Ministry of Corporate Affairs (MCA).

- **Intellectual Property Rights (Optional)**

- Protect business assets like trademarks, patents, and copyrights.

- **Sector-Specific Compliances**

- Adhere to industry-specific laws and guidelines (e.g., SEBI for financial markets, IRDAI for insurance).

# Common Tax Compliances

- **Income Tax:** Regularly pay Advance Tax and file annual income tax returns.
- **GST:** File monthly/quarterly GST returns and maintain GST invoices.
- **TDS/TCS:** Deduct and remit tax at source as per provisions.

# Business Formation Checklist

- Finalize the business structure.
- Register the business name and logo (trademark if needed).
- Open a current bank account.
- Obtain necessary licenses.
- Implement record-keeping and accounting systems.
- Hire professionals for compliance management, if needed.