UNIT III

Innovation and Entrepreneurship

Innovation and entrepreneurship are critical drivers of growth and sustainability. Innovation is investing of resources to create new wealth or investing of wealth to create new resources. It is measured by assessing its impact on environment, and therefore innovation should always be market focused..

Innovation is the specific function of entrepreneurship, whether in an existing business, a public service institution, or a new venture started by a lone individual in the family.

Characteristics

Innovation

- invites and leads to changes can be spontaneous or can be the result of thoughtful plan can be just an extension of existing products and services
- provide a unique identify to a business
- are action oriented
- helps in making the products and process simple to understand
- can be a continuous experimentation, testing, trials and revisions

Elements

- Challenge- the concept that is going to be changed –"Pull"
- Customer focus – Customer value going to be created – "Push"
- Creativity- Generation and sharing of ideas
- Communication- Flow of information and ideas
- Collaboration – Joining people together to work on the idea
- Completion- Implementation of newly generated idea – the "muscle"
- Culture – the playing field of innovation which includes leadership, diverse group of people, Basic values and Innovation values of the firm
- Context- Innovation is shaped by interaction with the world

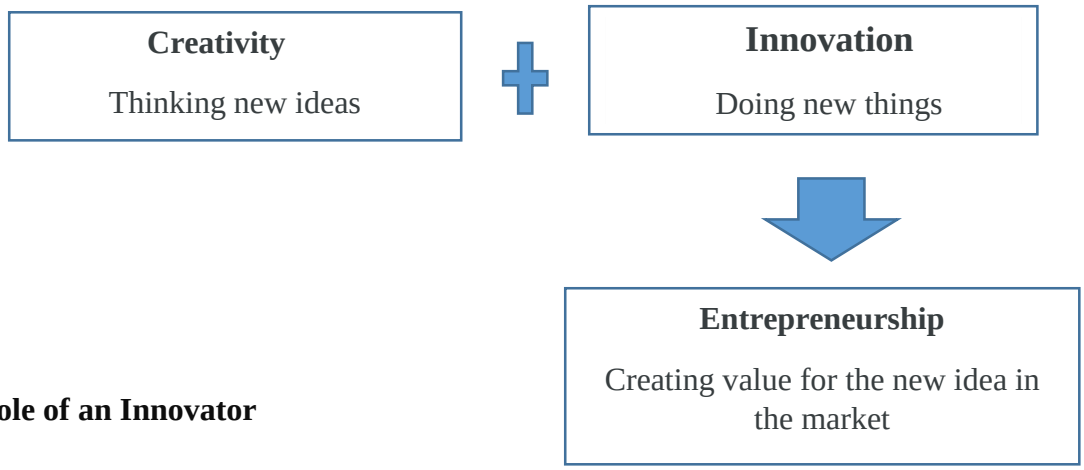
There are different forms of innovation

- Product
- Process
- Business
- Organizational
- Technology
- Marketing
- Strategy

Innovation and Entrepreneurship

Entrepreneurship is the result of a process that apply both creativity and innovation to capitalize on marketplace opportunities. Successful entrepreneurs require an edge derived from some combination of a creative idea and a superior capacity for execution. The

entrepreneur’s creativity may involve an innovation product or a process that changes the existing order or entrepreneur



Role of an Innovator

The entrepreneur is motivated by the desire to be the founder of a private commercial kingdom, the will to conquer and prove his superiority and the joy of creating, of getting things done or simply of exercising one’s energy and ingenuity. To perform his economic function, the entrepreneur requires two things - the existence of technical knowledge to produce new products and the power of disposal over the factors of production in the form of finances.

Innovation Entrepreneurship

It refers to the integration of innovative thinking and practices within the realm of entrepreneurship.

It involves identifying and capitalizing on business opportunities to create and develop novel products, services, or processes

It goes beyond traditional business models and embraces a forward-thinking, creative approach to problem-solving and value creation

It involves

taking calculated risks

adapting to changing circumstances,

continually seeking new ways to improve and differentiate in the competitive landscape.

Skills can be developed through

Green Technology Innovation

Green innovations include new technologies, products, services, or business models that have positive impacts on the environment and society. Firms need to search for innovation in a specific direction to assure that the outcomes will have positive impacts on sustainability. Green innovation comprises all type of innovations that contribute to the creation of key products, services, or processes to reduce the harm, impact, and deterioration of the environment at the same time that optimizes the use of natural resources.

Top green technologies which requires innovative strategies for environment sustainability

Solar power
Vertical farming
Wind power
Electric vehicles
Sustainable products
Recycling
Carbon capture
Nuclear energy and fuel cells

Characteristics

Green Technology or solution for environment sustainability should be

Environment friendly
Conservers natural resources & Environment
Radical thinking to change
Innovative

Goals for green technology

Reduce the energy usage by optimizing the usage of Fuel Waste Energy consumption Using clean water Purchasing
Recycle the possible resource to extend its maximum usage Paper Plastic Batteries Clothing
Invent Renewable energy usage Wind power Water power Solar Bio-fuel Waste water
Responsibility Radical Thinking For Fundamental Change

Grassroots innovation

It is process of Voluntary generation and development of innovations by any member of an organization, regardless of function or seniority. It is a community-led solutions for sustainability. It is developed by

Grassroots innovator

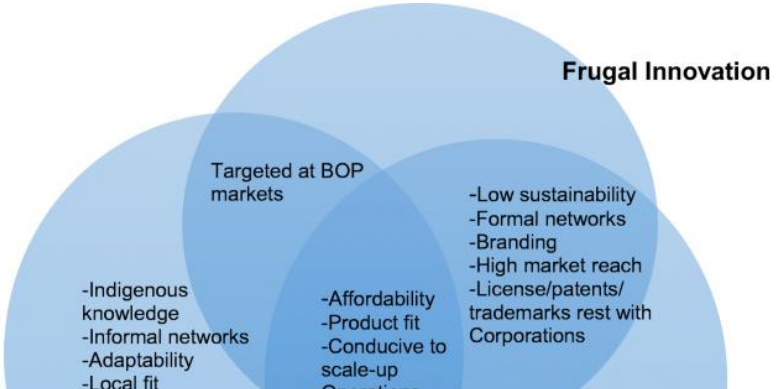
Networks of activists and organizations generating novel bottom–up solutions for sustainable development;

solutions that respond to the local situation and the interests and values of the communities involved

Examples

Growing ladies' fingers around a cotton crop to prevent pests from attacking the cotton

Handloom weaver Chintakindi Mallesham Made the machine which replaces 5 Hours manual work with 1.5 Hrs



Grassroots innovation – Acceleration

Few initiatives are expected to accelerate the Grassroots innovation, particularly among the youth

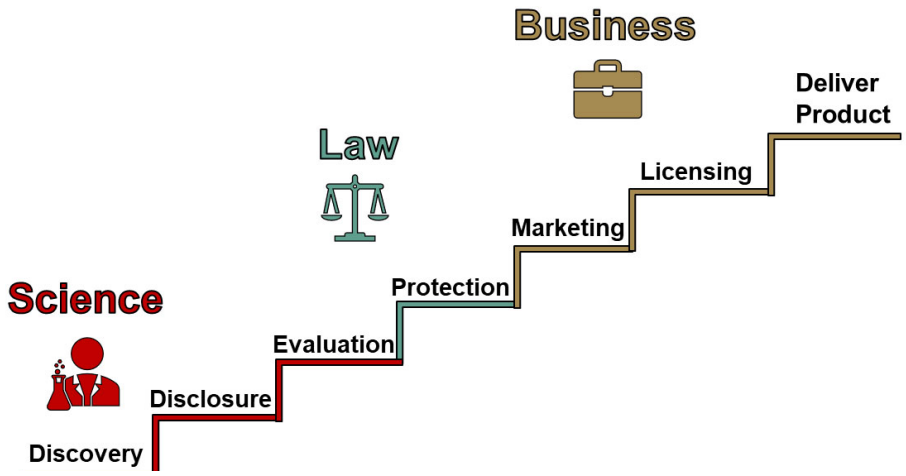
- Encourage local governments to become an active stakeholder
- Foster a grassroots community to share research, know-how and talent

  Provide technological mentorship towards advancing a circular economy
- Correct systemic racism, injustice and oppression
- Measure the impact made on marginalised youth at an interdisciplinary level
- Localise the context of solutions to support disadvantaged communities
- Mobilise academia and youth to keep driving the momentum forward

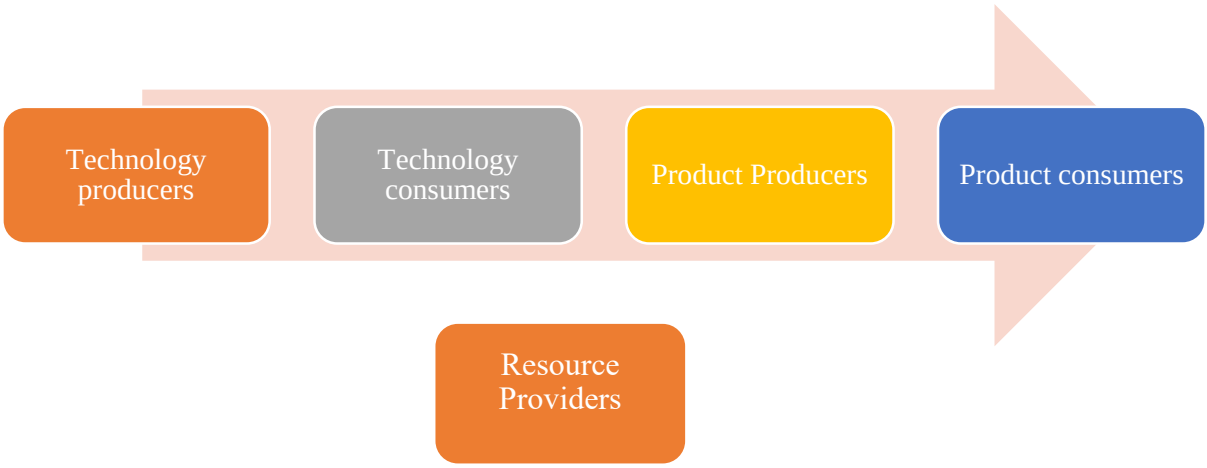
Become a global thought leader in inter-generational innovation

Technology commercialization

The journey of a novel technology from the bench to the market involves multiple steps. Whether you are creating unique technologies, developing them for industrial use, or commercializing the resulting products, it's important to understand the life cycle of innovation. There are several overall stages in the technology transfer/commercialization process:



There are four stakeholders are involved in the process



Challenges

There are few challenges which need to be addressed during technology commercialization

- Weakness in the commercialization process
- Challenges of the business environment
- Weak organizational structure
- Inefficient project management
- Ineffective cooperation with non-governmental sectors
- Failure to collaborate with stakeholders and conflicting political behaviors

Secondary challenges are

- Build Relationships with Industry Partners. ...
- Develop a Clear IP Policy. ...
- Simplify the Licensing Process. ...
- Patent Portfolio Analytics is an Active Process. ...
- Invest in Digital Infrastructure. ...
- Transitioning Research into the Marketplace

Technology Business incubator (TBI)

TBI is an entity, which helps technology-based start-up businesses with all the necessary resources/support that the start-up needs to evolve and grow into a mature business. It provides budding entrepreneurs

- all necessary infrastructure support
- technology/prototype development support

- research assistance, help in getting funding
- business consulting assistance
- marketing assistance and
- do whatever is necessary to make the start-up a success.

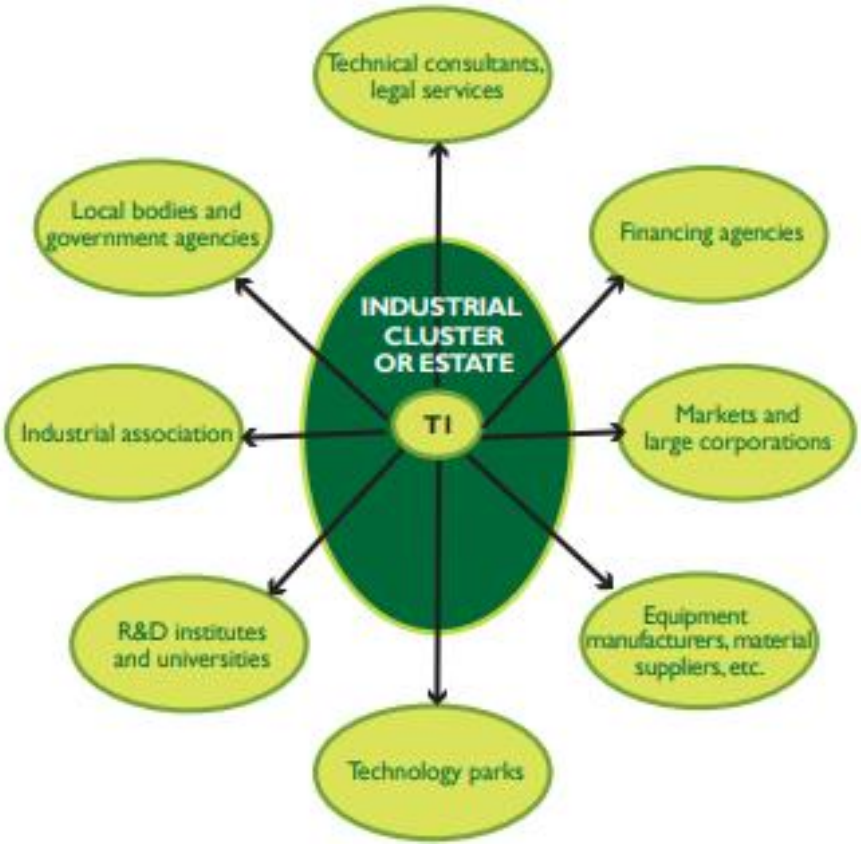
Objectives

- Creation of technology based new enterprises
- Creating value added jobs & services
- Facilitating transfer of technology
- Fostering the entrepreneurial spirit
- Speedy commercialisation of R&D output
- Specialised services to existing SME

TBI are usually located near a source of technology and knowledge. It is located around R&D Institutions/Academic Institutions or have strong links with such institutions to ensure optimal use of the already existing expertise and facilities thus keeping the cost of the TBI on lower side. Certain essential facilities, which are created in a TBI, are also provided; like:

- Modern work space
- Communication facilities
- Computing facilities
- Vital equipment needed in identified area
- Library & information centre
- Training and conference facilities

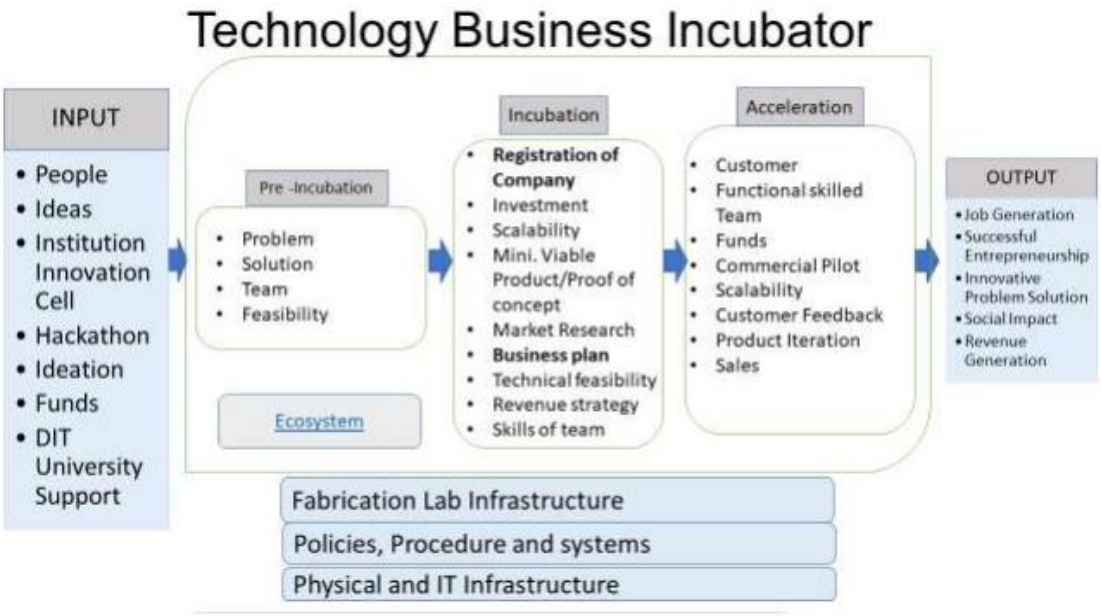
TBI's are intended to be self-sustaining, operating on for-profit principles. Administratively they are functioning as autonomous bodies.



TBI PROCESS

Pre-incubation Stage

Pre-incubation stage mainly focuses on ideation stage, where a potential innovative idea can be provided with a co-working space. During this period, the entrepreneur takes up the role of developing the idea into a proof of concept and prepares him for understanding the technical feasibility of the idea proposed. DITTechnology Business Incubator will be supporting the startups by mentoring or by creating right platform for networking.



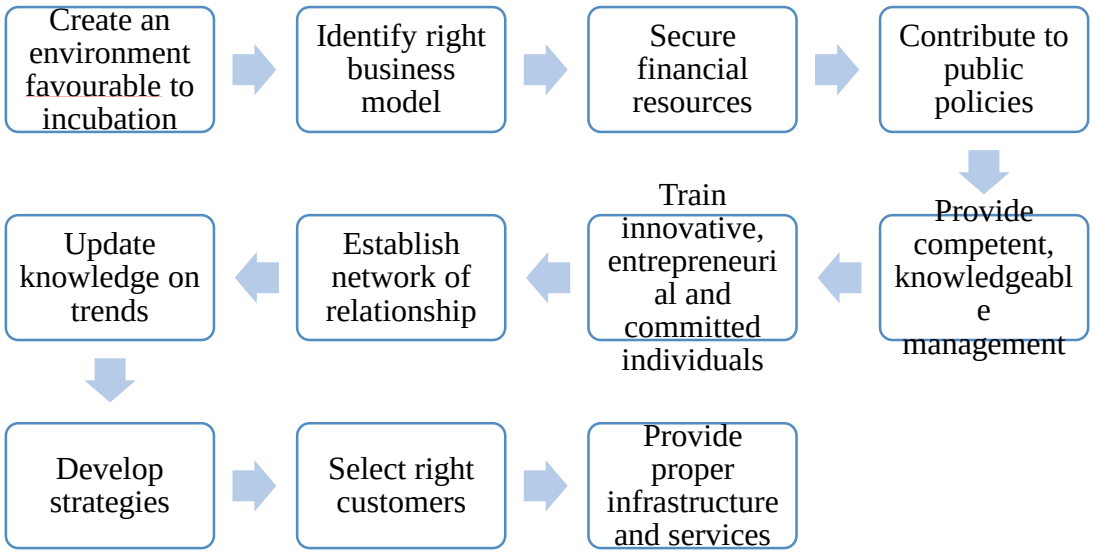
Incubation/ Acceleration Stage

This is the stage, where start-up companies graft product development and prepare themselves for marketing. During this stage, the entrepreneur will put his efforts (such as technology, team) to build a market viable prototype (MVP's). DIT-Technology Business Incubator can also offer a wide array of value-added services like entrepreneur trainings and workshops, skill development programs, leadership programs and R&D facilities etc. to speed up the incubation cycle.

Thrust areas

- Information & Communication Technology (ICT)
- Application of bio-technology
- New materials including nano materials
- Instrumentation and maintenance
- Agriculture and allied fields
- Garments and fashion technology
- Services sectors like banking, healthcare…

Establishment of TBI


Create an environment favourable to incubation
Identify right business model
Secure financial resources
Contribute to public policies
Provide competent, knowledgeable management
Train innovative, entrepreneurial and committed individuals
Establish network of relationship
Update knowledge on trends
Develop strategies
Select right customers
Provide proper infrastructure and services