



## INNOVATION AND SUSTAINABLE DEVELOPMENT: “NURTURING SUSTAINABLE ENTREPRENEURSHIP AND STARTUPS FOR A BETTER TOMORROW”

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### Abstract

*Innovation have been considered very important factor in every field of life. Now it becomes the inseparable part of our day to day life. Traditionally innovations were associated with the companies or business in the sense to increase their profits and improve their products. But now a day as per the demand of the society and environment the meaning of innovation is changed. It is taken as the making business operations and the products more efficient and safe. Sustainable innovation is known as the act of continuously improving the products, processes and workplace to create a brighter and more sustainable future-for customers, employees and the environment. Our environment needs relaxation from all the negative business operations which are harming it adversely. This is the biggest challenge to the world to develop entrepreneurship eco-friendly. So different innovations are taken place like Incremental innovation, Architectural innovation, Disrupted innovation and Radical innovation. The sustainable innovations reduce burden from the environment and make environment friendly for present and future generation. Some characteristics of sustainable innovation are it has environmental responsibility; it aims to reduce resource consumption, minimize waste and pollution and mitigate negative impact on ecosystem. It has social impact. It needs collaboration and partnership and has economic visibility. A business entrepreneur should pay attention to the product innovation, service innovation, process innovation, business model innovation, technological innovation and marketing innovation. For implementing sustainable innovation in a business, it should change their psychology towards environmental safety. They should give training and rewards for best efforts. They should work to remove barriers in the way of sustainable development. They should collaborate with research workers and encourage them for innovative and sustainable development efforts. So all we need to make our environment green to use our resources with new ideas of using them in a new way with collaborative efforts of all human beings.*

### INTRODUCTION:

We are moving towards the new era of growth with environmental preservation and other important considerations. This is possible with the combine efforts of the present and future generation. Innovations play very crucial role in protecting the nature. Innovation is the process of bringing about new ideas, methods, products, services or solution that has a significant positive impact and value. It involves generating creative



concepts into realistic outcomes that improve capacities and efficiencies or address the unmet needs. Basically innovation is the new idea that makes the present task more easy and appropriate than before. Innovation works for value creation and enhancing efficiency. But now sustainability is added with the innovation which means the use of new ideas and concepts in such a way that no harmful impact would be on our surroundings i.e. nature, society and economy. In other words sustainability refers to the ability to maintain and support a process continuously over time. In business process sustainability seeks to prevent the depletion of natural and physical resources, so that they will remain available for the long term. Sustainable innovation is known as the act of continuously improving the products, processes and workplace to create a brighter and more sustainable future-for customers, employees and the environment. The core features of sustainable innovation are sustainable business, corporate culture, and system thinking.

## DIFFERENT TYPES OF INNOVATION:

Different innovations are taken place like Incremental innovation, Architectural innovation, Disrupted innovation and Radical innovation.

- 1) **Disruptive Innovation:** disruptive innovation involves reinventing technology and business models, or creating entirely new concepts. This innovation type generates novel products, markets, and values, intending to disrupt existing norms. Example of disruptive innovation pioneers include Waze, Uber, Netflix etc.. This innovation goes beyond improving existing products. It introduces product or service in an unexpected ways. It involves uncovering new customer's categories, lowering costs, and enhancing quality. It also explore to the area which is unreached.
- 2) **Incremental innovation:** sustaining innovation focusing on improving the existing product or service or processes in the established market. It do not focus o creating new market rather it enhance the current ones with improved value. These types of innovations are made with the feedback of customers, market demand or technological advancement. For example the market of Smartphone or applications there are always up gradation in such a way that meets the demand of the market. Open channels to get feedback are maintained in this innovation to gather the customer's satisfaction with improved product. This innovation helps to improve the product to perform same functions but more effectively and without changing the original idea.
- 3) **Architectural innovation:** architectural innovation occurs when new product or services use existing technology to create new market and new consumers that didn't purchase that item before. For example, the smart watch replace



Smartphone by using existing cell phone technology. It is a process of changing the way the components of a product or service are configured together to improve outcomes. This process involves analyzing the design, structure, layout, and how various parts in a system combine-then using this to make improvements. For example: a manufacturing business configures assembly lines by introducing robotics or automation technology, it helps in increasing efficiency.

- 4) **Radical innovation:** radical innovation is that type of innovation that destroys or supplants an existing business model. Unlike other innovations it completely blows up the existing systems and processes to replace them with something new. Radical innovations are highly-risked and highly-rewarded too. Amazon is the example of radical innovation that firstly offers the online shopping and capture new market.

## WHY SUSTAINABLE INNOVATION IS NECESSARY IN ENTREPRENEURSHIP?

A sustainable innovation process play a pivotal role in maintaining market relevance and achieving long term goals of success. When a business implement sustainable innovation strategies, it allows a business to adapt to evolving customers needs, technological advancement, and market demands according to the trend. Here are some key points which explain the above question's answer in detail:

- 1) **Knowledge about customers needs:** If a business applies sustainable innovative policies, it stays tuned with customers and make product accordingly with the satisfaction of the market needs and get positive feedback. This leads to the foster loyalty in product or service and satisfaction of consumers.
- 2) **Involvement of Advanced technology:** Sustainable innovation is now become the inseparable part of this technological era. A business should focus on the use of its resources efficiently without harming natural resources, which may attract customers positively. Because everyone is now wants to move towards organic products.
- 3) **Competition and trends in market:** The existing competition between different business entrepreneurs is very tough. And the trends of product and service have a life cycle which attracts different innovative ideas to remain in market and to grasp the trends which is famous among customers.
- 4) **Innovative business operations:** An incremental improvement in internal processes contributes to the operational efficiencies. It makes easy workflow, reduce cost and enhance productivity of machines as well as human beings. It is important to do operations in such a way that will provide relaxation from competitive environment.



- 5) **Customer Retention and obtaining new customers:** The sustainable innovation retains existing customers and attracts the new one. The perception of a company as forward thinking and responsive to customer needs can be powerful drive for new customer acquisition.
- 6) **Risk Minimization:** sustainable innovation involves new business models and with these models risk is managed in proper way and it is also minimized by using new environment friendly technologies, and in cost effective way. This process is called risk mitigation.
- 7) **Long term stability:** sustainable innovation fosters a culture of continuous improvement, make capable to deal with challenges, invest in opportunities, and remain active to fafe the uncertainties.
- 8) **Building goodwill with key stakeholders:** the goodwill of a business increases with the advancement of the product or service and stakeholders show their faith in such a product or service.

## EXAMPLES OF SUSTAINABLE INNOVATION:

Sustainable innovation have some fabulous examples which change the way to look out the world totally like-renewable energy resources, green technology, social entrepreneurship, agriculture innovations etc. by integrating sustainable technology into their business strategies, a business can address the challenges and grasp new opportunities for growth and development. Some successful examples of sustainable innovation are:

- 1) **Renewable Energy Innovations:** the example of renewable energy is Tesla a leading electric vehicle company also clean energy company. It through the example of successful energy renewable innovation in transportation field.
- 2) **Circular solutions in business:** this focus on reducing waste, maximizing resource efficiency, and promoting the reuse and recycling the particular material. “Mission zero” has implemented in some companies to recycle the waste products.
- 3) **Vertical Farming:** Vertical farming is considered the highly efficient and sustainable way of producing food. Nordic Harvests say that it uses 250 times less water than the traditional farm would need. It creates optimum growing conditions. It also eliminates the need of pesticides.
- 4) **Green Innovation:** Green innovation involves all the methods and techniques by which the natural resources will be used efficiently. It also makes efforts to recycle, renew, and reduce wastage with responsibility.
- 5) **Transparent solar spray:** EnSol developed a remarkable new spray on solar film consisting of metal neon particles embedded in a transparent composite matrix that allows you to turn ordinary windows into solar panel.

- 6) **3D printers:** Every year lots of plastic is used by people and after using it is thrown in water, on streets etc. waste pickers convert high density polyethylene (used for plastic bottles mostly) into 3D printing filament to eventually to be sold to 3D printing companies.
- 7) **Sea bin for the ocean:** American inventors Peter and Andrew developed sea bin- a kind of submersible garbage can that captures floating trash. A bag filter, made of natural material, collects the trash and allows the water to pass through.
- 8) **Edible Cutlery:** Instead plastic utensils, Bakeries are making edible cutlery which is vegan-friendly and made with rice, wheat, and an ancient grain called sorghum, which was picked because it does not go soggy when interact with liquid. These cutlery comes in three flavours-salt and cumin, sweet (sugar), and plain.
- 9) **Science city:** Science city is an installing system that will allow it to harness natural heat during the summer days, pump it underground and store it until the winter, and then pushed back into building and work as a heating system.
- 10) **Bio Trans:** Bio Trans are installed in restaurants and different canteens, where it collects leftover food and turn it into biogas, a renewable energy resource. The food waste is pumped inside a closed, door free system to a tank where it is stored.
- 11) **Retro efficiency:** This is software which fights with energy losses in a building.
- 12) **View Intelligent window glass:** it automatically regulates the temperature and light in room resulting in high energy saving. It is designed for commercial buildings.
- 13) **Radiant cooling technology:** In this technology, a temperature controlled surface cools indoor temperature by removing sensible heat and half of heat is transfer through thermal radiation.
- 14) **Siddhartha village:** It is a network or group of some villages situated eastern states of Orissa, who are promoting indigenous culture, organic farming techniques, and farmers training. Under this a federation of 54 tribal women's self help group is created.
- 15) **Dharma life:** Dharma life is a social enterprise which creates sustainable livelihoods by training entrepreneurs to provide rural customers with life improving products. It has sold clean cooking products and solar lamps to rural area customers.

## KEY CONSIDERATION/PRINCIPLES FOR SUSTAINABLE INNOVATION AND DEVELOPMENT:

Now a day's more efforts are done in the field of sustainability in innovative ideas by entrepreneurs. Everyone is rushing towards renewable resources and efficient use of existing resources due to social responsibility concerns. There are some factors which are required for sustainable development and innovation:



- 1) **Start-up Leadership:** every innovation requires leaders to start something new. A larder is the person who communicates the vision and inspires others to work towards innovative and sustainable developments.
- 2) **Risk bearing capability:** the term no risk no gain is very true in the business field. No innovation would be there if leaders fear from risk. As failure is the best teacher and gives boost to restart, so risk tackling capacity is must in the field of sustainable developments.
- 3) **Creation of value:** if there is an innovative idea, unless it is not used in solving any problem, it will be considered valueless. it will creates values only than when it solves customers problems easily and efficiently.
- 4) **Accountability:** Accountability is also very important principle of innovations and sustainable developments. Leaders who are hesitate to take full responsibility, drops many innovations behind. Accountability includes communicating with team about the planning, requirements, process etc.
- 5) **Application of generated idea:** innovation is working on random idea. It starts with a vision and gives results quickly from a process of idea generation.
- 6) **Ownership with uncertainty:** when a inventor invent new idea process or method, there is one ownership is needed to face all uncertainties of market, business model, customers acquisition, growth strategy etc.
- 7) **Training for positive attitude development:** innovation needs hiring people with natural curiosity, open mindedness and capacity to look out the world differently and full of opportunities. Training to these is essential to maintain the positive attitude towards objectives.
- 8) **Proper management:** A well designed managerial skills are needed in making innovation. Coordination between all activities and persons should bet there to implement ideas properly.
- 9) **Regular observation and measurement:** Product life cycles keep shorter and shorter and at this time every business wants to observe and measure the effects regularly, this process gives birth to new idea before product life ends, and ROI will be maintained.
- 10) **Reward to associated people:** Innovations are the result of hard work and dedication of the associated people. And these people should be rewarded to motivate innovations in future. People are the best source of innovation.

## CONCLUSION:

Survival in today's world of rapid business change requires that you keep one step ahead of you. Competition, innovation gives life to a business at starting, and make it live for long time. But it is must that a business innovates with sustainable development process. Sustainable innovations are now a day's only key factor which helps to grow business with social responsibility, fulfil economic responsibility with protection of

environment by using natural resources efficiently and other resources with recycling and other energy renewable techniques.

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