CHAPTER 20

Role of Startups in Promoting Sustainability in India - A Sectoral Analysis of Electric Mobility, Agritech and Renewable Energy

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ABSTRACT

Startups are really important for making India a sustainable place. They come up with innovative ideas that use technology to solve big problems like taking care of the environment and helping people. India is facing a lot of problems like climate change running out of resources and people not being treated equally. So Indian startups are doing their part to make things better in areas like energy, managing waste, farming making sure we have clean ways to get around and saving water. These startups are using ideas, online platforms and business models that care about making a positive impact to reduce the bad things we do to the environment use resources more wisely and make sure everyone benefits from growth. The government is also helping startups that care about the environment and society and investors are getting more interested in startups that follow Environmental, Social and Governance practices. This paper is about how startups can help make India a sustainable place, the important areas where they can make a difference and the challenges and opportunities that sustainable startups face, in India.

Keywords: Sustainability, Startups, Sustainable development, Innovation, Indian.

1.0 Introduction

The government, business and society are concerned with sustainability. Climate change, pollution, depletion of natural resources and increasing energy demands make us think differently about our conventional growth strategies. Today, sustainable development is one of the best ways to preserve economic growth and protect the environment. India's economy is growing. Environmental issues like pollution in cities, water pollution, inefficient agriculture, and greenhouse emissions are challenges to India's environment. Rapid industrialization and a huge population are major threats to natural resource depletion.

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DOI: 10.17492/JPI.DYPIU.052620 *ISBN: 978-93-49790-31-5*

Large corporations realize that sustainability is a critical issue in businesses. Startups are also catching up. India has many startups focusing on sustainable development in electric cars, agriculture, and renewable energy. They help reduce consumption of fossil fuels, increase agricultural efficiency with minimal waste, and harness clean energy like solar and wind power. There are many startups working hard for the environment; however, little research goes on to explore what they actually do.

2.0 Literature Review

2.1 Sustainable entrepreneurship and innovation

Sustainable entrepreneurship is a developing field of research because it can generate environmentally friendly innovations. According to George, Merrill, and Schillebeeckx (2021), digital technologies can assist entrepreneurs in developing a sustainable idea, which can be scaled up to use resources more sustainably.

Rosario and Raimundo (2022) define sustainable entrepreneurship as a "activity that aims to generate economic value while protecting the environment and promoting social development. It adopts new models, which integrate sustainability into the core business." Recent research indicates that startup businesses can introduce new technology or digital solutions to address environmental issues. Innovation can disrupt traditional industry structures and accelerate the adoption of sustainable practices.

2.2 Sustainability and business strategy

Sustainability is a major aspect of many business strategies. This is because businesses realize that if they can conduct their businesses in an environmentally friendly way, they can be more competitive in the long run and also run their businesses more efficiently. Verhoef et al. (2021) state that digital transformation enables businesses to apply new models that are more sustainable and reduce their impact on the environment. Thus, sustainable strategies help businesses create value in the long run.

2.3 ESG and sustainable investment

Environmental, Social, and Governance (ESG) practices assist in assessing the sustainability of a company. Investors are investing more in organizations that operate sustainably for the environment and society. PwC (2023) indicates that investment in ESG practices has increased significantly over the last few years. Investors seek business organizations whose sustainability matches their objectives. Therefore, startups with sustainable business models are attracting more attention from investors.

DOI: 10.17492/JPI.DYPIU.052620 ISBN: 978-93-49790-31-5

2.4 Technology and sustainable development

Technology is also a driving force behind sustainable development. New technologies such as artificial intelligence, data analytics, etc., help organizations manage themselves better and reduce their impact on the environment (George et al., 2021). Digitalization enables organizations to be flexible, which is helpful to businesses to overcome the challenges of sustainability (Verhoef et al., 2021).

2.5 Startups and the Indian sustainability ecosystem

According to industry reports, there is a lot of growth happening around startups focused on sustainability in India. NASSCOM (2023) states that the count of startups working on climate technology, renewable energy, and agricultural innovation is rising at a fast rate. NITI Aayog (2023) states that startups help the country achieve its sustainability goals such as the use of renewable energy, agricultural productivity, and reduction of carbon emissions. These trends indicate the rise of startups as a part of the sustainability ecosystem in India.

3.0 Rationale of the Study

India has made ambitious sustainability targets, such as becoming carbon neutral by 2070 and increasing the use of renewable energy sources over the coming decades. To achieve these ambitious targets, there needs to be collaboration from governments, businesses, and new startups with innovative ideas. Startups play a significant role in addressing environmental issues because they can introduce innovative technologies. They can experiment with different business models that are adaptable to the changing demands of sustainability. Therefore, it is essential to understand the role of startups in the promotion of sustainability.

4.0 Statement of Problem

Sustainability is a big concern for businesses and governments all around the world. In a changing environment we need innovative ideas and innovative ways of doing business. Big companies are bringing sustainability to the table and startups are leading the way on innovative tech. In India, startups operating in the sustainability domain are facing challenges such as infrastructure, regulatory and funding issues.

5.0 Scope of the Study

This study is about Startups in India with emphasis on sustainability. It is about three industries that have a big impact on the environment:

DOI: 10.17492/JPI.DYPIU.052620 *ISBN: 978-93-49790-31-5*

- Electric Mobility
- Agritech
- Renewable Energy

This study is based on secondary data collected from government publications, industry publications, and academic publications.

6.0 Research Objectives

- To analyse the sustainability initiatives taken up by startups in India, particularly in the Electric Mobility, Agritech, and Renewable Energy sectors.
- To study the role of startups in the sustainable development of the country through technological innovations in the Electric Mobility, Agritech, and Renewable Energy sectors.
- To study the strategic role of startups in promoting sustainability across the Indian economy, with specific reference to Electric Mobility, Agritech, and Renewable Energy startups.

7.0 Research Methodology

7.1 Research design

The study is about startups and how they help with sustainability in India. This kind of research is good because it helps us understand what startups are doing. We get to see the things that startups are doing to be sustainable. They are using technology and business ideas in areas like Electric Mobility, Agritech and Renewable Energy. The study of startups looks at what's happening and what businesses are doing. Startups are helping with development. The study is about startups and how startups are working to make things better for sustainability. Startups are doing things to help with sustainability, in India.

7.2 Nature of the study

The study is about looking into things and figuring out what is going on. This study is about startups. It is looking at how startups are helping the environment by being innovative and using technology. Startups are doing this by coming up with ideas and using technology to make the environment better. The study is also checking how important startups are in helping India reach its sustainability goals. Startups that focus on sustainability are still pretty new in India. This study wants to help people understand what startups that focus on sustainability do. What chances they have. This study also wants to help people understand what problems startups that focus on sustainability face.

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The study is about startups and how startups contribute to sustainability through innovation and technology. It is important to understand the role of startups in this area because startups are important. The study is, about startups. It is looking at what startups do to help the environment.

7.3 Data collection method

The research is based on information that's already available. This information was found in things like government reports industry reports, research journals, startup websites and academic publications that discuss sustainability. We also found information in reports from groups like NASSCOM, FICCI, NITI Aayog, Ministry of New and Renewable Energy and international groups that focus on sustainability and climate issues.

Using this existing information helped us understand what is going on in the sustainability industry how startups are growing what people are doing for sustainability how money is being invested in sustainability and how the government, in India is supporting these sustainability efforts.

7.4 Sources of data

The major sources used for data collection include:

- Government books and policy papers
- Reports from the Ministry of New and Renewable Energy
- Reports from NASSCOM and FICCI about the industry
- Websites like Inc42 and YourStory that track startups
- Articles in research journals and academic papers
- Reports on how companies are being sustainable and responsible
- Reports from international groups, like the IEA, UNDP, OECD and the World Bank

8.0 Data Analysis and Interpretation

Table 1: Sustainability Initiatives by Startups

Sector	Example Startups	Key Innovation	Sustainability Impact
Electric Mobility	Ola Electric, Ather Energy	Electric vehicle technology	Reduced fossil fuel use and lower emissions
Agritech	DeHaat, Ninjacart	Digital agricultural platforms	Reduced agricultural waste
Renewable Energy	ReNew Power	Solar and wind energy projects	Increased clean energy adoption

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Objective 1: Sustainability initiatives undertaken by startups

Startups in India are working on things to help our environment. They are making technologies. For example, some startups like Ola Electric and Ather Energy are making vehicles. This will help reduce the use of fuels. Some other startups like DeHaat and Ninjacart are working on agriculture. They are making it easier for people to buy and sell farm products online. This will reduce food waste.Then there are startups like ReNew Power that are working on energy. They are making solar and wind projects to make clean energy. Startups, in India are really helping the environment by doing these things.

Interpretation: The analysis show that startups are doing a lot to help the environment. Startups that work with cars, farming technology and renewable energy are making a big difference. They are helping to reduce pollution use resources better and make businesses more environmentally friendly. The new ideas from these startups are solving problems and also making businesses run more smoothly. This is also helping the economy in a way. Startups are really important for Indias economy and for environmental sustainability. Startups and environmental sustainability are closely. Startups are playing a big role, in this area.

Objective 2: How startups contribute to sustainability

Startups are really good for the earth because they make technology based things that help us use less and do not hurt the environment much. The startups that deal with mobility are making transportation cleaner. The startups that work with agriculture are making farming and throwing away less food. The startups that work with energy are helping us use energy that is clean. Startups like these are very important for sustainability. Startups are making a difference, in sustainability by coming up with new ideas. Sustainability is what startups are working towards with these tech-based products.

Interpretation: Startups are really changing the way things are done in industries. They are using technologies that are good for the planet and digital innovation to make things better. For example, electric mobility startups are helping us use fossil fuels. Startups that focus on agriculture are helping farmers grow food in a way that wastes less and is more efficient. Startups that work on renewable energy are making it easier for people to use clean energy. All of these things show that startups are doing well financially and they are also helping the environment. Startups are finding a balance between making money and being sustainable. Startups are contributing to the economy. They are also contributing to a healthier planet. Startups, like electric mobility startups and agritech startups and renewable energy startups are making a difference.

Objective 3: Strategic importance of startups

Startups that focus on sustainability are an example of how startups can help the Indian economy grow. The government has programs, like Startup India that help people become their bosses and make things that help the environment. People are also putting

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money into something called ESG funds and that means startups that focus on sustainability are getting more money to work with. Startups that focus on sustainability are doing work and that is why they are getting more support.

Interpretation: Startups are really making a difference in India when it comes to being sustainable. The government is helping them out. Investors are also supporting them. People are also getting more aware of how important it's to be kind to the environment. This is making it a great time for startups that care about the environment to grow. Startups are good at coming up with ideas and making them work on a big scale. This makes them very important for India to reach its goals for the environment and climate in the run.. Startups still have to deal with some problems, like not having the right infrastructure and not having enough money to grow in a sustainable way. Startups need these issues to be fixed so they can keep growing and helping India become more sustainable.

9.0 Findings and Results

1. Startups in India are coming up with ideas and using technology to make things better in areas like electric cars, farming technology and renewable energy which helps the country become more sustainable.
2. Companies like Ola Electric and Ather Energy are making cars and finding ways to make transportation more sustainable so we do not have to rely so much on petrol and diesel.
3. Some startups like DeHaat and Ninjacart are using technology to make the supply chain reduce food waste and help farmers grow more food by using digital tools and data to farm.
4. ReNew Power is one of the companies that is working on using wind energy, which helps reduce the bad things we put into the air and makes energy cleaner.
5. The government has started programs like Startup India, Digital India and new rules for energy, which has encouraged more startups to work on sustainability in India.
6. More people are now aware of the need to protect the environment so they want to buy things that're sustainable which has created a bigger market for these kinds of products.
7. People are investing more in companies that care about the environment, society and how they are run which means startups that work on sustainability can get funding.
8. Startups that focus on sustainability are creating jobs. Helping the economy grow while also taking care of the environment.
9. New technologies like intelligence, internet of things, digital platforms and data analysis are helping startups use resources more efficiently and reduce their impact on the environment.

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10. Startups in India are doing work to help the country achieve its long-term goals like using clean energy becoming carbon neutral and developing sustainable farming practices.
11. When startups, the government, investors and private companies work together it makes the sustainability ecosystem in India stronger.
12. Even though there are opportunities for growth startups still face problems, like not having the infrastructure not being able to get funding when they are just starting having to deal with complex rules and having high costs to run their businesses.

10.0 Conclusion

This study looked at the role of startups in helping India become more sustainable in the areas of Electric Mobility, Agritech and Renewable Energy. The study found that startups are really important for development because they use technology in new ways and have business models that are good for the environment. Startups are making a difference by promoting clean transportation, better farming practices and renewable energy. They are also finding ways to manage resources. For example startups in Electric Mobility are helping us use fuel. Startups in Agritech are reducing waste. Making life better for farmers. Startups in Renewable Energy are encouraging people to use clean energy.

The government is also doing its part to help. This is making it easier for sustainable startups to grow in India. These startups are not just good for the environment they also create jobs encourage technology and support growth that includes everyone.

Sustainable startups still face a lot of challenges. They often do not have the infrastructure they have problems with rules and regulations they do not have enough money and they face a lot of competition. We need to solve these problems so that sustainable startups can keep growing and more people can use their ideas.

Overall, this research says that startups are very important for helping India achieve its sustainability and climate goals. If the government, investors and industry stakeholders support startups they can play a role in creating a green economy for Indias future. Startups like the ones, in Electric Mobility, Agritech and Renewable Energy can make a difference if we support them.

11.0 Limitations

This research is based on data only. The problem is that we do not have data. This makes it hard to understand what the stakeholders think and feel. The stakeholders are important. We need to know what they think about this. The research on the stakeholders is not complete, without data.

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12.0 Recommendations

The government and private sector need to work to make the sustainability startup ecosystem in India stronger. We need infrastructure like more EV charging stations, renewable energy facilities and better internet in rural areas. This will help startups do their job easily. The government should make policies that help people do research come up with ideas and develop new technology in areas like electric cars, farming technology and renewable energy.

Financial institutions and investors should give money to startups that care about the environment and make it easier for them to get funding. We also need to make it simpler for new businesses to follow the rules and regulations. This will make it easier for them to operate. We should teach people about products that're good for the environment and technologies that are eco-friendly. This will make more people want to buy these things.

The government, companies, schools and startups should work together to come up with new ideas and help the environment. We should also teach people the skills they need to start businesses that care about the environment. The sustainability startup ecosystem in India needs help, from the government, new technology and people who are willing to invest. This is the way startups can really help India achieve its long-term sustainability and environmental goals. The government and private sector should keep working to support the sustainability startup ecosystem in India.

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DOI: 10.17492/JPI.DYPIU.052620 *ISBN: 978-93-49790-31-5*