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A review of Agri-entrepreneurship Agritech startups in India:Helping farmers through Agripreneurship

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Abstract

The startups are an exemplar that great steps are done by a series of small things brought together. These startups are trying to achieve the goal by taking one small step at a point time, moving from one problem to another for solving the issues by disruptive innovation. The startups are creating new jobs that mean more employment and are also leaving a ripple effect on the socio-economic situation of the demography in which they are operating. The world has become a playfield for these young entrepreneurs as the global startup revolution continues to grow. Underneath this continued growth, fundamental shifts are occurring.

In the view of the importance of startup in the agriculture sector, conducted a review related to the Agripreneurship. Specifically, the study focuses on the Agritech startups in India to help the farmers. The study is based on Private sectors agricultural companies related the subject matter, the majority of which are journals and scholarly articles. The paper revealed the following components of agritech startups: Bayer Crop Science, Agrostar, DeHaat and EM3 AgriServices.

1. Introduction

India, with 118.7 million farmers, which accounts for more than 50 percent of its population, directly depends on agriculture as its primary source of income. However, the use of innovative technology in the agricultural industry has been limited in India. In these circumstances, the agriculture industry in India contributes merely 17-18% to its GDP (Prakati India, 2021).The share of agriculture sector in gross domestic product (GDP) of India has reached almost 20 per cent for the first time in the last seventeen years, making it the sole bright spot in GDP performance during 2020-21 (Economic Survey 2020-2021)

Entrepreneurship should be encouraged in agriculture as innovation would not just help farmers to improve crop productivity and thereby, more profit but create new avenues of employment generation for rural youth as well.

There are number of opportunities for agri-tech start-ups to solve key farm-related challenges, which ranged from providing a fair price to the farmer to the creation of yield estimation models that can be used by farmers to bolster productivity by removing inefficiencies (Kurukshetra, 2019). Building system for data-driven diagnostics for determination of soil and crop health to enhance farm productivity as well as creating

new technology to find alternative to pesticides and insecticides to prevent pre-harvest losses are the concerns that call for innovations on a large scale. Also, agriculture tools and equipment renting as well as easy access to certified micronutrients, seeds through online interface can be the attractive areas for agri-tech start-ups.

1. Objective of the study

In this paper the researcher is enlightening the scenario of entrepreneurship in India by discussing following:

I. Agritech Startups In India helping Farmers

II. Scope of Entrepreneurship

III. Functions of Entrepreneurship

IV. Characteristics of Entrepreneurship

V. Reasons to failure an entrepreneursbefore starting up

3. Research methodology

The main source of data used for the study is secondary data. The present study is conceptual survey with exploratory cum descriptive in nature. This research follows the a descriptive research methodology which is based on the qualitative data. The information related with study has been collected from websites, journals, magazines, newspapers and books.

I. Agritech Startups In India helping Farmers

Bayer Crop science

With nearly 500 Better Life Farming centers set up in India by the end of 2020, many more smallholder farmers will be empowered to improve food security in India – not least thanks to new hybrid tomato varieties displaying much longer post-harvest freshness. Such innovations will help tackle the serious problem of food loss during transportation Lino Miguel Dias (2020).

“Bayer’s Vegetable Seeds portfolio aims to provide farmers with seed varieties that help minimize food loss at both the pre-harvest and post-harvest stages. In addition, they deliver high yields and better per acre productivity thus helping farmers enhance their overall farm profitability VK Kishore (2020).

The BLF centre plays a vital role. The local agri-entrepreneurs enable technology transfer to smallholder farmers seeking high-quality seeds and provide crop advisory to grow tomatoes more profitably. The centres also support aggregation & sale of the tomatoes produce and operate Better Life farms to train tomato farmers on good agricultural practices. In this way, the BLF canters are not only providing the right market linkages, they are also helping improve farmer profitability, tackling food losses and contributing towards improving food security in India.

Better Life Farming, a long-term partnership of Bayer, IFC (International Finance Corporation), Netafim and Swiss Re Corporate Solutions, aims at enabling smallholders to unlock their farming potential. With our joint forces we want to assist smallholder farmers to grow their farms into commercially viable and sustainable farming businesses. This will encourage financial security, increase know-how and create a meaningful impact in their lives.

AgroStar

Founded by Shardul Sheth and Sitanshu Sheth in 2013, AgroStar is an agritech startup based in Pune, India, that has raised $42 million to revolutionize farming through technology. AgroStar provides an online marketplace for farmers to purchase agricultural inputs such as seeds, fertilizers, pesticides and equipment. Beyond the marketplace, it offers real-time expert advice, tailored agronomy support and educational content to help farmers manage their crops and boost yields. With a customer base of over 5 million farmers primarily in Maharashtra, Gujarat, Rajasthan, Madhya Pradesh and Uttar Pradesh, AgroStar enhances farming efficiency and sustainability by integrating data-driven insights, weather updates and crop health monitoring through satellite and drone imagery. The startup aims to expand its geographical reach, incorporate more advanced technologies and diversify its product range to continue empowering farmers and promoting sustainable agriculture.

DeHaat

Founded by Shashank Kumar and Amrendra Singh in 2012, DeHaat is an agritech startup that provides a comprehensive range of agricultural services aimed at improving the livelihoods of Indian farmers. With $19.3 million in funding, DeHaat offers affordable access to high-quality agricultural inputs such as seeds and fertilizers, personalized farming assistance, soil testing and weather reports. Additionally, the platform provides crucial services like micro-finance and crop insurance to support farmers' financial stability. DeHaat leverages technology to deliver these services, connecting farmers with a network of micro-entrepreneurs and experts. With operations spanning multiple states, including Bihar, Uttar Pradesh, Odisha and West Bengal, DeHaat aims to expand its reach and impact, helping farmers increase productivity and income through an integrated, tech-enabled approach to agriculture.

EM3 AgriServices

Founded by Rohtash Mal and his son Adwitya Mal in 2013, EM3 AgriServices aims to empower small and marginal farmers by providing access to advanced farming technology on a pay-per-use basis. Recognizing that many farmers cannot afford to buy expensive machinery, EM3 offers a range of specialized agricultural equipment for rent, enabling farmers to boost productivity and efficiency at a fraction of the cost. The company’s services cover various stages of farming, including soil preparation, planting, crop care and harvesting. EM3 leverages a technology platform to facilitate easy booking and access to these machines, ensuring that even the smallest farmers can benefit from modern agricultural practices. Operating primarily in states like Madhya Pradesh, Rajasthan and Uttar Pradesh, EM3 AgriServices plays a crucial role in modernizing Indian agriculture, reducing the financial burden on farmers and enhancing crop yields through the adoption of mechanized farming techniques.

II. Scope of Entrepreneurship

Entrepreneurship offers a wide range of opportunities for individuals seeking to carve out a successful career path. According to R.K. Arora (2018), several compelling reasons drive individuals to opt for entrepreneurship:

1. Desire of control over one's future
2. More profits
3. Lack of employment opportunity

4. Government measures to promote entrepreneurship

1. Desire for Control over One's Future

Many individuals are motivated by the prospect of having greater control over their lives and careers. Entrepreneurship allows people to be their own bosses, make independent decisions and shape their business's direction and culture. This autonomy and ability to directly influence outcomes is a powerful incentive for those seeking to take charge of their future.

2. Potential for Higher Profits

Entrepreneurship often provides opportunities for higher financial rewards compared to traditional employment. By creating and growing a successful business, entrepreneurs can enjoy significant profits, equity gains and the satisfaction of seeing their hard work translate into financial success. This potential for lucrative returns can be a strong motivating factor for many individuals.

3. Lack of Employment Opportunities

In regions or sectors with limited job opportunities, entrepreneurship can be an attractive alternative. Starting a business allows individuals to create their own job and potentially generate employment for others. This can be particularly appealing in economies with high unemployment rates or in industries experiencing significant disruption.

4. Government Measures to Promote Entrepreneurship

Many governments actively encourage entrepreneurship through various policies and initiatives, such as providing financial incentives, offering training programs, simplifying regulatory frameworks and fostering a supportive business environment. These measures can reduce barriers to entry, making it easier and more appealing for individuals to start their own businesses.

III. Functions of Entrepreneurship

Entrepreneurship encompasses several key functions that are critical to the success and sustainability of a business. These functions can be categorized as follows:

5. Innovation
6. Risk bearing
7. Organization and
8. Management

1. Innovation

Innovation is at the heart of entrepreneurship. Entrepreneurs introduce new products, services, or processes that meet market needs or create new markets. They drive progress by developing novel solutions, leveraging technology and adapting to changing consumer preferences. Innovation helps businesses stay competitive, differentiate themselves from others and create value for customers.

2. Risk Bearing

Entrepreneurs assume the risks associated with starting and running a business. This includes financial risks, market uncertainties and operational challenges. By taking these risks, entrepreneurs enable innovation and growth. Successful entrepreneurs are adept at assessing risks, mitigating potential downsides and persevering through failures and setbacks.

3. Organization

Effective organization is crucial for transforming ideas into viable businesses. Entrepreneurs coordinate various resources, including capital, labor and materials, to create and deliver products or services. They establish structures, processes and systems to ensure efficient operations. This organizational function involves planning, resource allocation and maintaining a coherent strategy to achieve business objectives.

4. Management

Management involves the day-to-day operations and long-term strategic direction of a business. Entrepreneurs must possess strong leadership skills to motivate and guide their teams. They are responsible for decision-making, problem-solving and maintaining a productive work environment. Effective management ensures that the business runs smoothly, adapts to changes and achieves its goals.

By fulfilling these functions, entrepreneurs play a vital role in driving economic growth, creating jobs and fostering innovation. Their ability to innovate, bear risks, organize resources and manage operations is essential for the success and sustainability of their ventures.

IV. Characteristics of entrepreneur

To be successful, an entrepreneur should have the following characteristic features.

- Need to achieve:
- Independence:
- Risk-bearing:
- Hope of success:
- Flexibility:
- Innovators:
- Business communication skill:
- Telescopic faculty:
- Leadership:
- Decision making:
- Ability to mobilize resources:
- Self-confidence:

V. Reasons to failure an entrepreneurs

There are some reasons behind failure of an entrepreneur:

- Lack of Vision
- Selection of a Venture
- Lack of Proper Planning
- Insufficient Capital
- Poor Implementation of the Plan
- The Hiring of Wrong People

- Failure in Marketing
- Underestimating Competition

4. Findings of the study

Entrepreneurship in India is still dominated by small enterprises. India's strongest performance falls under the criterion of product innovation where its score is equal to the best in the world. India's weaker areas Government and private sectors support in start-up skills, networks and technology absorption (by far the weakest), high growth and risk capital availability. India also faces some acute challenges in terms of networking and cultural support. India needs to pay more attention to the skills required for entrepreneurship including staff training, labour market flexibility in terms of being able to hire the right people with the right skills at the right time and the entrepreneurs' level of education. The Government of India has undertaken several initiatives and instituted policy measures to foster a culture of innovation and entrepreneurship in the country. After announcement of the Startup India initiative, state Government and private sectors promotes entrepreneurship by mentoring, nurturing and facilitating startups throughout their life cycle.

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