AGRITECH IN INDIA

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S.TRIVIKRAMAN(123018111)
International Strategic Marketing Manager
Company name: CultyWate Corporation
UK-based technology company building tech solutions for farming

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Executive Summary

With over 50% of India earning its livelihood from agriculture, India's agritech revolution not only has a massive opportunity but also will influence the lives of over half a billion people. India's agritech market is estimated to take off and reach 24.1 Bn by 2025.

The growth in the agritech market over the past few years can be attributed to the rise in digital infrastructure, increasing rural internet penetration, soaring farmers interest in agritech, rise in investors' confidence and support from the central as well as the state government .

New trends and opportunities have also driven the agritech industry in India. These include the rise of hydroponic farming,growth of B2B platforms and marketplaces, emergence of farm/business to consumer brands, growing adoption of precision agriculture and more.

The agritech market is expected to flourish in the next couple of years due to rise in farmers' tech awareness, diversified agritech models, advancements in technology, growing number of agritech startups and the technology they have built.

Our aim here is to exploit opportunities in some prominent agritech models,addressing the factors driving the growth of Agri Tech and make our entry into this market and establish ourselves as a big giant agritech player in india

Prominent Agritech Models:

1.Market Linkage:

It includes platforms which connect farm output with the customer.It is one of the most easy ways to take farmers products directly to the end customer.Also tech based platforms helping in supply chain management are considered in it

2.Precision Agriculture and Automation:

Digital /Precision Agriculture based businesses offers innovative technology solutions for increasing crop productivity and farming process efficiency

3.Farm Inputs:

Providing farmers better access to agricultural inputs at their doorsteps.It helps farmers to understand the best input product to increase the yield and productivity

4.Farming-as-a-Service(FaaS):

Farming as a Service offers affordable technology solutions to farmers for efficient farming by converting fixed cost to variable cost.

5.Agri-Financial Services:

Farmers in India struggle to get finance so we can help such undeserved community of farmers to get loans quickly

6.Farm Automation

Bringing industrial automation to farms through machinery,tools and robots in seeding,material handling,harvesting and more

7.Farm Infrastructure:

Providing access to farming technologies such as greenhouse systems,indoor farming,drip irrigation,environmental control systems and more

8.Quality Management and Traceability:

Post-harvest produce handling,quality check and analysis,produce monitoring and traceability in storage and transportation.

9.Information Platforms:

Online platforms and apps for agritech education,fair pricing,weather information,market research and more

Factors Driving the Growth of Agritech :

- Inadequate and unstructured Data
- Lack of Access to High Quality Inputs
- Inefficient Supply chain
- Lack of Employment Rationalisation
- High cost of Equipment
- Lack of finance
- Climate change
- Post-Harvest Losses
- Increased Internet Penetration in Rural areas

Industry Analysis:

SWOT ANALYSIS:

A SWOT (strengths, weaknesses, opportunities and threats) analysis looks at **internal and external factors** .Internal factors are strengths and weaknesses. External factors are the threats and opportunities.

Strengths(S):

- Strong base of software and value-added technology companies that can apply expertise to solve agricultural problems
- Strong academic base at universities and agriculture colleges
- Availability of venture capital and private equity financing Government schemes
- Arising awareness for farmers regarding the new-age technologies

Weaknesses(W):

- High cost of equipment still remains a major barrier to agritech adoption
- Lack of digital literacy and knowledge about agritech solutions
- Revenue volatility deters farmers from investing in technology
- Perceived value of agritech remains low among target audience

Opportunities(O):

- Rising procurement cost of agricultural inputs to drive investment in online marketplaces
- Agritech adoption to be encouraged in the fight against climate change
- Internet and smartphone penetration to continue growing among farmers
- Agritech startups to continue working with state governments to improve farmer prospects

Threats(T):

- Agri exports and cross-border collaboration faces geopolitical threat as countries become increasingly protectionist
- Potential policies and laws related to leasing farm lands from aggrieved farmers or land owners
- Continual hurdles in technology adoption and advanced agritech solutions

Issues and Challenges in Indian Agritech Market:

Rigid Traditional Agri Models:

The major reasons for agritech companies not having gained scale despite having existed for over half a decade is dependency on traditional business models in agriculture.

Lack of Subject Matter Experts:

Subject matter experts that can balance the technology aspect with agriculture are also scarce in the Indian market.There is a great need for education and academic support as well as grants for research in agritech domains which impact every Indian

Lack of Commercial Guidance:

In case of expansion for agritech startups effective commercial guidance is required and this means working with existing middlemen and distributors who often view startups as a threat.

Climate Change:

Despite rise of climate resilience tech,climate change and the rising threat of more severe weather has foiled revenue plans for many farmers in India.The Indian policymakers need to rapidly drive adoption of technology to help farmers withstand these unavoidable changes as much as possible

Current Trends In India:

Digital Collars for Cattle:

Grazing cow monitors or digital collars are letting farmers track herds of livestock in real time ensuring they spend enough time grazing in pastures.This helps ensure optima animal health and ensures beef and dairy products are accurately labeled as pasture-raised.

Automated Weeding:

Historically,crop farmers have spent a huge amount of time,energy and chemicals to rid their farms of weeds.Now,smart farms vehicles can automatically find and remove weeds without damaging crops.

Agricultural Drones:

Drones have quickly become popular with farmers of all types due to their ease of availability form farm operation.Equipped with cameras and sensors,drones are used to monitor crop health assess soil conditions,track animals,record conditions for insurance purposes and more.Most importantly,data collected by agricultural drones is analysed and used to provide farmers with recommendations to maximise the yield and efficiency of operations.

Hydroponic Farming:

Agricultural companies in several countries are converting shipping containers into mobile or static farms that run exclusively on water,with no soil required.IOT sensors track factors like humidity,CO2 levels,temperature,and water nutrient levels and automated systems adjust environmental factors as necessary to maximize plant health and yield.These precision farming techniques ensure the wastage of water and electricity is kept to an absolute minimum.

Indian Government and Agritech:

In recent times, farmers have become the centre of India's attention and the massive protests around the country just prove how significant an issue this is

For us,this is a massive litmus test and a chance to work with the farmers on the very issues they are raising.If indeed,the reform bills are officially notified,the farmers become a customer base and we can work on the feedback received.

The recent farm reform bills the government has said it would allocate INR 2K Cr for computerisation of primary agricultural credit societies(PACS) to ensure cooperatives adopt technology.In addition,there have been policies such as Pradan Mantri Fasal BIma Yojana(PMFBY) for insurance cover against crop failure.

In terms of working with startups,the Indian Government has looked to launch various schemes for funding and incubation.

Let's Enter Indian Market:

With the view of becoming a giant in this sector ,joint venture or partnership would be a better market entry strategy for us.Over the last few years, in the number of AgriTech startups has increased manifold with the five main focus being supply chain, infrastructure development, finance and related solutions, farm data analytics and information platforms.Pandemic threat was converted into opportunity by many people around the world.Agritech players are one among them. Covid lockdown did not lock the young minds coming up with startups in India.Many potential agritech startups were under the light last year.Thus partnership with startups specialized in different agritech models gives us an edge over our competitors and keep us ready to change.Our company with expertise in creating IoT solutions for farming,void of exposure to other prominent agritech models will be filled by the startups in India.Their interaction and contact with local farmers will be the most important asset for us to expand our business.Aligning with our expertise, we can collaborate with them and address the issues and challenges and come up with tech solutions,exploit the opportunities outputted by swot analysis ,enhance the current trends and contribute to future trends like FaaS,blockchain technology,Urban Farming etc.