

Sustainability and Growth of Bioactive Food Startups: Entrepreneurial Insights

Vinita Gadhavi^{1*} and Hitesh Vekariya²

¹School of Pharmacy, RK University, Gujarat, India

²Department of Quality Assurance, School of Pharmacy, RK University, Gujarat, India

*Correspondence to:

Vinita Gadhavi
School of Pharmacy,
RK University,
Gujarat, India.
E-mail: vineeta.kanani@gmail.com

Received: May 17, 2025

Accepted: July 24, 2025

Published: July 28, 2025

Citation: Gadhavi V, Vekariya H. 2025. Sustainability and Growth of Bioactive Food Startups: Entrepreneurial Insights. *J Food Chem Nanotechnol* 11(S2): S115-S121.

Copyright: © 2025 Gadhavi and Vekariya. This is an Open Access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC-BY) (<https://creativecommons.org/licenses/by/4.0/>) which permits commercial use, including reproduction, adaptation, and distribution of the article provided the original author and source are credited.

Published by United Scientific Group

Abstract

India's bioactive food startup space is growing fast, but staying in business is another story. Many of these ventures, despite good ideas and early support, don't last beyond the first couple of years. This study looks at what really makes the difference between those that survive and those that don't. We collected data from 160 founders and ran a mix of analyses factor analysis, structural modeling, and logistic regression to find patterns. What stood out was simple: leadership matters more than anything else. Founders with prior experience and the ability to lead adaptive teams were much more likely to succeed. Surprisingly, funding and government support didn't have as strong an effect. These results suggest that building funds may matter more than offering financial incentives. For investors, entrepreneurs, and policymakers, the takeaway is clear to support the people, not just the products.

Keywords

Bioactive food, Startup survival, India, Leadership, Entrepreneurial experience, Innovation

Introduction

In recent years, India has seen a surge in startups focused on bioactive food products designed not just to provide nutrition, but to support specific health functions. These ventures go beyond conventional fast-moving consumer goods offerings, incorporating ingredients like probiotics, flavonoids, plant-based antioxidants, and omega-3s, often positioned around claims of improving immunity, managing stress, or supporting gut health. While some of these products are backed by strong scientific evidence, others are still navigating the path from early innovation to clinical credibility. This growing interest has been driven in part by post-pandemic shifts in consumer behavior. Health awareness is at an all-time high, and younger consumers are increasingly drawn to functional foods that align with lifestyle and wellness goals. Market forecasts from grand view research suggest that the Indian functional-foods market is projected to nearly double, with revenues expected to reach US\$ 25,379.1 million by 2030, driven by growing demand for health-focused ingredients such as prebiotic and vitamins [1]. Chhabra et al. [2] note that the nutraceutical and dietary-supplement space is expanding rapidly, driven by rising demand for preventive health and evidence-based nutrition.

However, despite this momentum, the journey for many of these startups is far from smooth. Some never make it past the second year. Others generate early excitement but struggle to convert it into long-term traction. Innovation is visible, but sustainability is far less certain.

Problem statement

The dominant explanations are often external: funding, regulations, maybe timing. Fair points. But they don't really explain why one startup with modest resources survives and another with decent backing falls apart. It makes you wonder whether we're overlooking the internal picture—things like the founder's past experience, the team's leadership quality, or even how innovation is positioned in the market.

There's also the assumption that if you have a good product and some capital, you're good to go. But that rarely holds up across cases. So, the real problem is not just that startups are failing, it's that we don't have enough grounded data on why they are, especially in the bioactive food segment.

Rationale of the study

Most of the available research on startups in India tends to focus on broader narratives—ecosystem maturity, policy shifts, technology diffusion. And while that work is useful, it often overlooks how startups actually operate, struggle, or evolve on the ground. When it comes to bioactive food in particular, there's very little quantitative work on success vs failure. This study tries to fill that gap—not with theory, but with founder-level data.

We surveyed 160 founders across different stages and types of bioactive food startups, asking questions about leadership, innovation, funding access, and previous entrepreneurial experience. Then we analyzed those responses using structured statistical tools: exploratory factor analysis (EFA), confirmatory factor analysis (CFA), structural equation modeling (SEM), and logistic regression. It's not a predictive model, but it does give us a sense of which factors show up consistently across outcomes.

Objectives

With these gaps in mind, the study sets out to explore the following objectives:

1. What internal and external factors—entrepreneurial experience, leadership, innovation, and support systems—are most linked to startup sustainability in the Indian bioactive food space?
2. Whether there are measurable structural or behavioral differences between startups that succeeded and those that failed.
3. If leadership acts as a connecting factor—turning prior experience into longer-term business survival.

Literature Review

Bioactive food startups in India

India's startup ecosystem has witnessed a steady rise in ventures focused on bioactive and functional foods, especially after the COVID-19 pandemic. These startups go beyond regular nutrition by offering products that claim to improve gut health, immunity, stress response, or metabolic functions. According to a 2023 report by mobility foresights, India's functional food market was valued at approximately USD 13

billion and is expected to grow at a compound annual growth rate of 10 - 15% through 2030, driven by health-conscious consumers and innovations in plant-based nutrition [3]. However, the report also highlights the sector's challenges, including regulatory uncertainty, the high cost of formulation, and consumer skepticism about unverified health claims. Some recent work on India's broader food system also points out that as cities expand and incomes shift, people's eating habits change in quite uneven ways, which then pushes the demand for processed and functional foods upward and puts new pressure on the value-chain to respond [4].

A few recent papers have also pointed out that with the world heading toward a population of nearly ten billion, the pressure on food systems is becoming almost impossible to ignore, and this is one of the reasons FoodTech startups have begun taking center stage—using tech to rethink everything from production to distribution in ways the older agri-food setup can't keep up with [5].

Operational challenges and internal friction

While external barriers like funding and policy slow progress, internal challenges are often more decisive in determining startup sustainability. A recent qualitative study on food and beverage start-ups shows that only those ventures that rapidly shifted to technology-driven models managed to stay afloat during COVID-19, as most were overwhelmed by supply-chain breakdowns, vanishing customer traffic and the sudden pressure to master digital tools [6]. Many founders report issues such as lack of strategic clarity, team misalignment, or decision-making bottlenecks. A qualitative study by Shah et al. [7] on millet-based food entrepreneurs found that although there was market interest, entrepreneurs struggled with internal management and burnout, especially when handling operations without strong leadership structures. Similarly, it is reported that startups in India's probiotics and nutraceutical segments often suffer from low consumer trust and lack of clear messaging, which affects adoption despite having technically strong products [8]. A recent National Bank for Agriculture and Rural Development report also points out that many food-system startups are leaning on digital tools to streamline everything from sourcing to distribution, but the real struggle is in converting these innovations into stable, investible business models [9].

A recent study on food-processing startups across Tamil Nadu also notes that young ventures routinely struggle with broken linkages between production and processing, delays in loan sanctions, and limited access to cold-chain infrastructure—issues that slow product diversification and weaken early-stage growth prospects [10].

Leadership and entrepreneurial experience

Leadership plays a pivotal role in how a startup adapts to challenges. Founders with prior entrepreneurial exposure, even in unrelated fields, tend to build more resilient teams. According to a study by Kathayat et al. [11], personality traits such as adaptability, leadership style, and crisis response significantly impact startup performance across global markets. In India, food-tech founders have echoed this in media interviews, often stating that earlier failures helped them better navigate

new ventures. For instance, an article by Gottschalk and Mueller [12] emphasized that founders who had “failed once” were more effective in managing operations and stakeholder expectations in their second ventures. Furthermore, Pan et al. [13] highlighted that the founder’s leadership ability often outweighs product strength or market timing in determining success.

Recent work on food and nutrition ventures also points out that startups in this space walk a tightrope between constant innovation and day-to-day operational pressures, especially as they grapple with supply-chain gaps, regulatory scrutiny, and the growing consumer push for transparency and sustainability [14].

Government support and startup policy

The Indian government has introduced several programs such as Startup India, Atal Innovation Mission (AIM), and Bio-incubators Nurturing Entrepreneurship for Scaling Technologies to promote early-stage ventures, offering access to incubators, funding, and mentoring. As per National Startup Awards-2020, the food sector has emerged as a high-growth and high-profit sector due to its immense potential for value addition, particularly within the food processing industry, accounting for about 32% of the country’s total food market [15]. According to information from Startup India’s official platform, over 100 food-related startups have received recognition under these schemes [16]. Additionally, institutes like Indian Institutes of Technology and Indian Institutes of Management have launched entrepreneurship courses and accelerator programs tailored to student-led and innovation-based ventures [17]. However, as noted by the Food Safety Institute, regulatory complexities around health claims under Food Safety and Standards Authority of India (FSSAI) often create roadblocks for bioactive food startups [18]. Delays in approvals, vague labeling norms, and scientific validation requirements can stretch the time-to-market for many health-oriented food products.

Research gap

Most available literature focuses on ecosystem-level trends such as funding, policy shifts, and broad innovation indicators- but there is a lack of research examining internal founder-level variables in depth. Very few studies have

attempted to quantitatively link entrepreneurial experience, leadership capacity, innovation readiness, and support systems with actual startup outcomes using structured modeling. This study aims to fill that gap by applying EFA and CFA, SEM, and logistic regression to data collected directly from bioactive food startup founders in India.

Methodology

Research design

In trying to understand what makes bioactive food startups in India succeed or shut down, we followed a practical, data-led approach. Rather than relying solely on existing models, we designed this as an exploratory study, using a structured survey to collect real-world insights from startup founders.

All responses were collected at one point in time, making the study cross-sectional in nature. This format helped us gather a broad mix of perspectives without needing to follow startups over time. It was also more feasible given limited resources. While not as detailed as a longitudinal design, the method still allowed us to identify patterns between founders’ decisions and their startup outcomes.

Sampling and respondent criteria

To keep the data focused and useful, we chose participants who were actively involved in the leadership of a bioactive food startup. Founders, co-founders, or those handling major strategic decisions were considered eligible. General employees without decision-making roles were not included.

We grouped startups based on their operational status. Startups that had stayed active for at least three years showed clear signs of growth, such as expanding teams or entering new markets-were tagged as successful. Those that had shut down, stopped updating their public platforms, or gone quiet for over a year were placed in the failed category.

In total, 160 valid responses were gathered. The breakdown of participants, including gender, age group, education, experience, and outcome status, is shown in table 1.

Instrument design and construction

The survey was designed to explore multiple areas that

Table 1: Bioactive food startup distribution by category, stage and location.

Category	Number of startups (160)	Failed startups (111)	Successful startups (49)	Percentage of total sample
Type of bioactive food				
Functional foods and beverages	40	28	12	25 %
Probiotics and gut health	45	31	14	28 %
Nutraceuticals and supplements	40	27	13	25 %
Personalized and artificial intelligence-driven nutrition	35	25	10	21.875 %
Startup stage				
Early-stage	60	42	18	37.5 %
Growth-stage	70	49	21	43.75 %
Mature startups	30	20	10	18.75 %
Geographical location				
Urban startups	100	70	30	62.5 %
Rural startups	60	41	19	37.5 %

could influence a startup's outcome. These included the founder's background, leadership skills, readiness to innovate, access to funding, external support, and eventual success or failure. Many of the survey items were adapted from past studies on entrepreneurship and modified to reflect the Indian context.

Each item was rated on a five-point Likert scale, where 1 meant "Strongly Disagree" and 5 meant "Strongly Agree." Several questions were grouped under each area (or construct) to improve reliability. To test how well each group of items worked together, we calculated Cronbach's alpha for internal consistency. All constructions scored above 0.75, which is considered acceptable.

The main outcome variable- startup success was treated as a binary measure for later analysis, with "1" for successful ventures and "0" for failed ones.

Analytical approach

Before starting the analysis, the dataset was checked for missing responses and unusual outliers. Cleaned data were processed using SPSS (v27) for initial analysis and analysis of moment structures (AMOS) for model-based testing.

We first used EFA to identify patterns in how different survey items grouped together. This step helped in forming clusters or themes that reflected the underlying structure of responses. We used varimax rotation to make the output easier to interpret.

Next, CFA was run to test whether the structure identified in EFA held up. It confirmed whether the observed variables properly represented the intended constructs. Fit quality was assessed using widely accepted indices such as comparative fit index, Tucker-Lewis's index, root mean square error of approximation, and standardized root mean square residual.

After confirming the measurement model, we applied SEM to examine how the factors influenced each other- and ultimately-how they affected startup outcomes. SEM provided a more nuanced view of how variables like leadership or support systems contributed to success.

Lastly, we used binary logistic regression to estimate how strongly each factor predicted startup success. This model showed the likelihood of success or failure based on the presence or absence of each influencing factor.

Ethical considerations

All necessary ethical safeguards were followed. The study was approved by the relevant institutional ethics committee before data collection began. Respondents were informed about the purpose of the research, and participation was voluntary. No names or startup identities were collected. Responses about failed startups were handled with full confidentiality to protect the participants' privacy.

Results and Discussion

Insights from EFA

We began our analysis by trying to identify underlying

patterns across the 160 responses. To do that, we used EFA. Before moving forward, we checked whether the data were suitable for this method. The Kaiser-Meyer-Olkin measure was 0.871, which is well above the acceptable threshold. Also, Bartlett's test of sphericity came out significant, which meant we could confidently proceed.

As shown in the scree plot in [figure 1](#), there was a noticeable drop after the third component-this guided us toward retaining three factors. Together, they explained over 72% of the total variance in responses, which is quite solid for social research. When looked at the rotated component matrix ([Table 2](#)), it noticed clear groupings:

- The first factor combined variables related to prior startup experience, innovation, and technical readiness.
- The second factor included professional background and age-related indicators.
- The third factor brought in aspects like government grants and investor support.
- These findings gave structure to our further analysis.

Confirming the structure through CFA

Once it had a three-factor structure, it wanted to test how well it held up. We ran a CFA using AMOS. The model fits the data well. Comparative fit index, Tucker-Lewis's index was

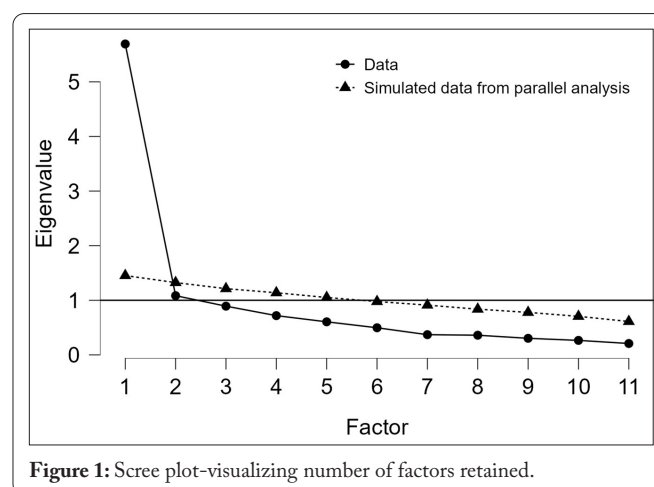


Figure 1: Scree plot-visualizing number of factors retained.

Table 2: Rotated factor loadings from EFA.

Factors	Variable	Factor loading
Entrepreneurial experience, innovation and market positioning	Previous entrepreneurial experience	0.841
	Product innovation	0.793
	Technological and business capabilities	0.713
	Academic foundation	0.677
	Years of professional experience	0.624
Leadership and organizational capabilities	Location advantage	0.582
	Leadership of entrepreneur	0.752
	Experience in management	0.719
Financial and policy support	Experience in R&D	0.701
	Venture capital	0.774
	Government support	0.682

both above 0.90, and root mean square error of approximation was below 0.05, all indicating a strong model. What really stood out was how consistently the variables loaded onto the factors—most were above 0.70. This gave us confidence that we were measuring what we intended to. The CFA structure is shown in figure 2, which maps each observed variable to its corresponding latent factor (Table 3).

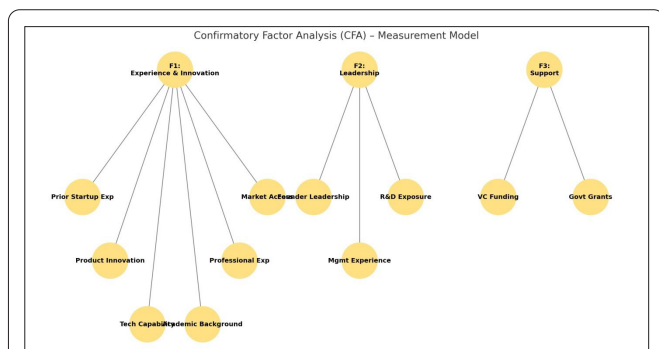


Figure 2: Measurement model for CFA-three-factor structure (Visual created in AMOS, showing how items map to each factor).

Table 3: CFA model fit index.

Fit index	Value acceptable	Threshold	Interpretation
Comparative fit index	0.942	≥ 0.90	Good fit
Tucker-Lewis's index	0.928	≥ 0.90	Good fit
Root means square error of approximation	0.058	≤ 0.08	Good fit
Standardized root means square residual	0.041	≤ 0.08	Excellent fit

What the SEM revealed about startup success

Once the measurement model was validated, we dug deeper into how the three factors actually influenced startup outcomes. We used SEM to look at the strength of those relationships. The strongest path was between entrepreneurial experience and market innovation and startup success. The standardized beta value was 0.572, which was not only statistically significant but also clearly meaningful. That confirms what we expected: experience and market positioning really do matter. Leadership and organizational capabilities came next, showing a strong positive link ($\beta = 0.439$). Startups that had stronger internal management structure-decision-making, team-making, adaptability - clearly performed better.

Interestingly, financial and policy support had a weaker impact than expected. The path was still positive ($\beta = 0.211$), but it was only marginally significant, meaning its role isn't as central as the founder's own actions. The full pathway diagram

is included in figure 3, which maps how the variables interact, including the mediating role of leadership (Table 4).

Logistic regression: who's likely to succeed?

To check if the same trends held when predicting actual outcomes, we ran a binary logistic regression. The factor tied to entrepreneurial experience and innovation again stood out. Founders with strong experience and strategic market choices were nearly twice as likely to run a successful startup. The odds ratio was just under 2 - statistically significant and practically important. Leadership ability also mattered. A high score here translated into a 67% higher chance of success, based on the odds ratio.

On the other hand, financial and policy-related support showed up as only marginally predictive. It helped, but less than internal strengths. The model overall had good predictive power, with over 80% of cases correctly classified. That's a strong result in this kind of research (Table 5).

Differences between successful and failed startups

We also compared the responses of founders from successful startups with those whose ventures had failed. Interestingly, the successful group consistently scored higher across all three factors. The biggest gap was seen in experience and innovation, followed by leadership ability.

These differences weren't just small—they were statistically significant. This means that the way founders responded to these questions was meaningfully tied to how their startups performed (Table 6).

Implications

This study set out to understand what separates successful from failed bioactive food startups in India, and if we're being honest, some of the findings confirmed what we expected—

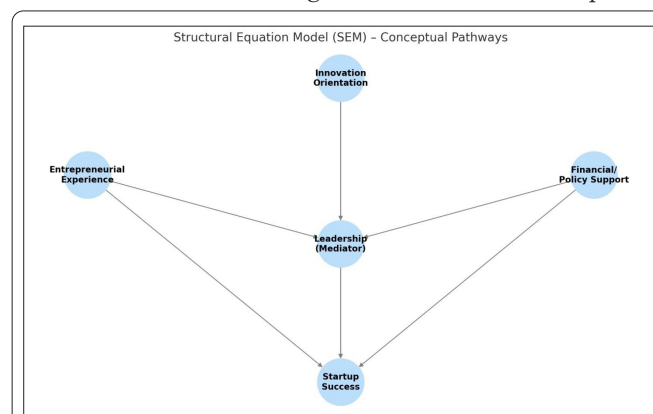


Figure 3: SEM-pathways leading to startup success.

Table 4: Structural path coefficients and hypothesis testing.

Path	Standardized coefficient (β)	Standard error	p value	Result
Entrepreneurial experience, innovation and market positioning → startup success	0.572	0.108	<0.001	Supported
Leadership and organizational capabilities → startup success	0.439	0.096	0.002	Supported
Financial and policy support → startup success	0.211	0.082	0.057	Marginally supported

Table 5: Logistic regression analysis.

Predictor (Factor)	Coefficient (β)	Standard error	p value	Odds ratio (Exp (β))
Entrepreneurial experience, innovation and market positioning	0.684	0.193	0.001	1.981
Leadership and organizational capabilities	0.512	0.178	0.004	1.669
Financial and policy support	0.314	0.162	0.054	1.369
Constant	-1.482	0.301	<0.001	0.227

Table 6: Comparison of successful vs failed startups (t-test and Mann-Whitney U test).

Factor	t-test (p value)	Mann-Whitney U (p value)	Significance
Previous entrepreneurial experience	0.152	0.183	Not significant
Product innovation	0.420	0.486	Not significant
Leadership of entrepreneur	0.043	0.026	Significant
Experience in management	0.077	0.064	Marginally significant
Venture capital	0.076	0.059	Marginally significant
Government support	0.776	0.849	Not significant

while others turned a few popular assumptions on their heads

Interpreting the role of leadership and innovation

Perhaps the most consistent takeaway was the critical role of leadership. Across both SEM and logistic regression, leadership behavior emerged as a central driver of startup survival. It wasn't just one of many factors- it often served as the link between other variables and actual outcomes. In other words, a founder might have access to funding or support systems, but what they did with those opportunities mattered more than having them in the first place.

Innovation readiness came in as a close second. But again, it wasn't just about the novelty of the product- it was about the team's mindset toward experimentation, pivots, and ongoing product development. In a sector like bioactive foods, where science is still evolving and consumer trust takes time to build, this ability to continuously adapt seemed to count far more than flashy tech or media attention. It's important to note here that entrepreneurial experience, while relevant, didn't always translate into better decisions or success. Some seasoned founders brought in older mental models that didn't match the complexity of this space. Meanwhile, a few relatively new founders - especially those from research or clinical backgrounds - showed better long-term viability simply because they were more responsive to changing conditions and consumer feedback.

The misplaced weight of external funding

One of the more surprising findings was how access to funding didn't strongly predict success. In startup literature, especially popular press, funding is often portrayed as the lifeblood of early-stage ventures. But in this context, it appeared that how the funds were used mattered more than how much was raised.

In many of the failed cases, founders reported securing grants or early seed rounds, but struggled with allocation, managing burn rate, or lacked a clear scale-up plan. In contrast, several self-funded or modestly backed startups managed to break even or grow organically because of tighter resource control and internal alignment. This echoes into an uncomfortable but important reality: capital, while necessary,

isn't a substitute for strategic clarity.

Policy and support systems: helpful, but not always accessible

The data around support systems and government programs was mixed. Most founders acknowledged the existence of schemes, grants, incubators, and mentoring setups, but access was often patchy. Some had strong institutional links and took advantage of support programs, while others either didn't know what was available, didn't qualify, or struggled with bureaucracy. From a policy lens, this suggests that the mere presence of support mechanisms isn't enough. What matters is how accessible, usable, and founder-centric those programs actually are. For early-stage ventures, especially outside metros, even small application frictions or lack of timely communication can result in total disengagement.

Sector-specific complexity: bioactive food is not just another startup category

Another angle worth discussing is the nature of the bioactive food space itself. Unlike other startup sectors, this one requires founders to navigate science, safety, regulation, and marketing all at once. Many failed ventures we found were simply underprepared for the layered complexity-especially when trying to validate health claims, deal with FSSAI approvals, or educate consumers unfamiliar with concepts like probiotics, adaptogens, or nutraceuticals.

This makes leadership and team learning agility even more vital. It's not enough to be innovative or well-funded-bioactive food ventures that need adaptive capacity and a clear regulatory grasp, both of which are often underestimated during incubation or fundraising stages.

Implications for founders, investors, and policymakers

For founders, the message is clear: invest in leadership development, not just product or operations. How decisions are made, how teams respond to failure, and how internal trust is built appear to have a longer shadow than any external factor. For investors, this study invites a rethinking of evaluation frameworks. Instead of just product novelty or total addressable market, investors may want to probe for

founder clarity, leadership alignment, and adaptive thinking. For policymakers, there's a need to simplify access to support, especially for second-tier cities and rural-focused startups. It's not enough to publish scheme brochures. Programs need to be discoverable, usable, and responsive—especially in high-barrier sectors like bioactive.

Conclusion

Some startups take off. Others, even with the best intentions and resources, don't. After speaking with dozens of founders and analyzing their paths, one thing became hard to ignore—it wasn't just the money, the product, or the policy support that decided outcomes. It was often about the people steering the ship. Founders who could think clearly under pressure, lead with purpose, and adapt when things didn't go as planned were the ones still standing. They didn't always have the biggest budgets or the flashiest products, but they made the most of what they had. We also saw that innovation helped—but only when it was tied to real learning. Startups that kept refining, listening, and tweaking their approach were better equipped to handle the unpredictable journey that comes with building in the bioactive food space. Surprisingly, having early funding wasn't a sure win. A few teams with decent grants still ran into trouble, usually due to poor planning or chasing growth too soon. Meanwhile, smaller, bootstrapped ventures often moved slowly but stayed afloat—mainly because they were cautious, lean, and focused. When it came to government support, opinions were mixed. Programs existed, sure—but access was uneven. Some founders never heard back after applying. Others didn't even know they qualified. For a country that's trying to push innovation, that's a gap worth fixing. At the end of the day, startup success here wasn't about ticking boxes. It came down to how well founders responded when the usual plans didn't work out. That's something worth thinking about—not just for entrepreneurs, but for the people funding and supporting them too.

Research Limitation

There are a few things we didn't capture. For one, this was a snapshot—not a long-term view. We caught these startups at a moment in time, but business journeys are full of highs and lows. A longer study might show more about how success plays out over the years. We also relied on what founders told us. Most answered honestly, but memories aren't perfect, and some details may have been missed or shaped by hindsight. Adding interviews or tracking actual performance could give a more complete picture next time. And while we focused on bioactive food startups, other sectors like health tech or agritech, probably face similar hurdles. Studying them might reveal patterns we didn't see here. Last thing: we touched on government programs but didn't go deep into how they're experienced on the ground. That's a study in itself. Understanding why some founders benefit and others don't could help make these systems better not just more visible, but more useful.

Acknowledgements

None.

Conflict of Interest

None.

References

1. India Functional Foods Market Size & Outlook, 2023–2030. [https://www.grandviewresearch.com/horizon/outlook/functional-foods-market/india] [Accessed July 27, 2025]
2. Chhabra N, Shiriskar J, Srinivasan G. 2025. Current and Future Market of the Dietary Supplements and Nutraceuticals in the Global Economy. In Mukherjee B (ed), *Dietary Supplements and Nutraceuticals*. Springer, Singapore, pp 965–1012.
3. India Plant-Based Food Market and Forecasts 2030. Mobility Foresights. [https://mobilityforesights.com/product/india-plant-based-food-market] [Accessed July 27, 2025]
4. Sharma AK, Palghadmal R. 2021. Start-ups are Shaping the Indian Food Sector.
5. Numa IAN, Wolf KE, Pastore GM. 2023. FoodTech startups: technological solutions to achieve SDGs. *Food Humanity* 1(1): 358–369. https://doi.org/10.1016/j.foohum.2023.06.011
6. Almansour M. 2024. Food start-ups: leveraging digital marketing and disruptive information systems innovations to survive in the post-COVID environment. *Eur J Innov Manag* 27(3): 944–961. https://doi.org/10.1108/EJIM-07-2022-0370
7. Shah P, Dhir A, Joshi R, Tripathy N. 2023. Opportunities and challenges in food entrepreneurship: in-depth qualitative investigation of millet entrepreneurs. *J Bus Res* 155: 113372. https://doi.org/10.1016/j.jbusres.2022.113372
8. India's Probiotics Market Faces Challenges Like Low Consumer Awareness and Regulatory Gaps. Nuffoods Spectrum. [https://nuffoodsspectrum.in/2025/04/01/indias-probiotics-market-faces-challenges-like-low-consumer-awareness-and-regulatory-gaps.html] [Accessed July 27, 2025]
9. Nuthalapati CS. 2022. Startups Digitising Indian Food System: Innovations, Survival and Investment. National Bank for Agriculture and Rural Development (NABARD).
10. Murugan RA, Karthikeyan C, Devi MN. 2022. Analysis of constraints faced by startups in the food processing industries in Tamil Nadu, India. *Asian J Agric Ext Econ Sociol* 40(10): 918–923. https://doi.org/10.9734/ajaees/2022/v40i1031159
11. Kathayat BB, Rawat D, Gurung B. 2023. Impact of personality traits on sustainable entrepreneurship development. *Interdiscip J Innov Nepalese Acad* 2(2): 202–216. https://doi.org/10.3126/idjina.v2i2.59500
12. Gottschalk S, Mueller B. 2022. A second chance for failed entrepreneurs: a good idea? *Small Bus Econ* 59(2): 745–767. https://doi.org/10.1007/s11187-021-00584-4
13. Pan J, Hmieleski KM, Ma B, Lysova EI, Tang Z, et al. 2024. The power of calling: how founder CEOs drive ambidexterity and innovation in firms. *J Manag Stud* 62(7): 2898–2937. https://doi.org/10.1111/joms.13144
14. Saini N, Vikas, Kaur S. 2021. Strategic management of food and nutrition startups: challenges and opportunities. *Int J Food Nutr Sci* 10(6): 449–463.
15. National Startup Awards – Food Sector. Startup India. [https://www.startupindia.gov.in/nsa/food.html] [Accessed July 27, 2025]
16. National Startup Awards: National Report. Startup India. [https://www.startupindia.gov.in/nsa2023results/assets/File/NSA_NationalReport.pdf] [Accessed July 27, 2025]
17. IITs, IIMs Introduce Entrepreneurship Courses to Script Success Stories in Student-led Startup Ecosystem.
18. Food Safety and Standards (Advertising and Claims) Regulations, 2018.