International Journal of Educational Technology Research (IJETR)
Vol.3, No.3 September, 2025: 818-837

Consumer Awareness and Perception of Organic Pesticides in Pan-Gujarat: A Case Study of Hifield Organics

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A R T I C L E I N F O
Keywords: Organic Pesticides, Consumer Awareness, Sustainable Agriculture, Hifield Organics

Received : 12, July
Revised : 25, August
Accepted: 20, September

A B S T R A C T
The increasing awareness about environmental sustainability and health-conscious agriculture has led to a growing interest in organic pesticides across India. This research study explores the level of consumer awareness and perception toward organic pesticides in Pan-Gujarat, focusing specifically on Hifield Organics, a leading manufacturer in this niche The findings reveal that while a majority of consumers are aware of the term "organic pesticides," there exists a significant gap in understanding their benefits, application methods, and long-term environmental impact. Students showed high theoretical awareness, whereas farmers and gardeners reflected more practical insights but also expressed concerns about cost and availability.

Based on the insights, the report provides strategic recommendations for Hifield Organics to enhance awareness through educational campaigns, farmer workshops, and better distribution networks.

This research contributes to the growing literature on sustainable agriculture and offers practical implications for agribusiness firms aiming to scale organic solutions in India.

DOI : https://doi.org/10.59890/ijetr.v3i3.175
ISSN-E: 3025-7131
https://ntlmultitechpublisher.my.id/index.php/ijetr

INTRODUCTION

Growing environmental and health concerns are driving a transition to more sustainable farming methods, which is driving India's organic pesticide market's rapid growth (Vidani, 2015; 2019). This goes beyond agriculture and is a more comprehensive reaction to more significant problems such as food safety, environmental damage, and public health hazards that are frequently connected to the use of traditional pesticides. This research's title is "*Consumer Awareness and Perception of Organic Pesticides in Pan-Gujarat: A Case Study of Hifield Organics,*". This study examines Gujarati customers' knowledge, attitudes, and challenges around the use of organic pesticides, with a particular focus on Hifield Organics goods (Vidani & Solanki, 2015). This study focuses on Hifield Organics' market presence and consumer awareness in Gujarat, a crucial agricultural state aimed at expansion, despite the company's headquarters being in Aurangabad, Maharashtra.

Given the significant changes taking place in India's agriculture industry, this topic is extremely pertinent. At a compound annual growth rate (CAGR) of 8.01%, the Indian pesticide market is projected to reach USD 508.29 million by 2030 from its 2024 valuation of USD 321.52 million. Even better, the organic food industry in India is expected to develop at a compound annual growth rate (CAGR) of 20.13% from its 2024 valuation of USD 1,917.4 million to USD 10,807.9 million by 2033. These figures unequivocally demonstrate a significant shift in customer preferences toward eco-friendly, organic products.

Only over 2% of India's total cultivated land, or 2.78 million hectares, were certified for organic farming as of March 2020. For businesses like Hifield Organics, this presents both a significant opportunity and a significant challenge to expand their reach and visibility (Vidani, 2015).
The author conducted this study while working as an intern at Hifield Organics. Approximately fifty product samples were given to merchants in Gujarat.
A structured Google Form survey including 18 questions (15 multiple-choice and 3 short answer) was used to collect data from 153 respondents. With 58% of the sample being students, 24% being farmers, and 10% being gardeners, the sample provided a broad yet targeted look at several user groups.

Key data indicate that only 42% of people are familiar with the Hifield brand, despite 70% of people being aware of organic pesticides. This demonstrates the critical necessity for customer education and brand visibility (Vidani, 2015). The two largest obstacles found were high expenses (24%), and ignorance (30%). Thus, educational initiatives and reasonable prices can be successful expansion tactics.

Beyond commerce, this study advances the objectives of sustainable agriculture. Since synthetic pesticides can destroy ecosystems, soil, and water, organic approaches are less damaging to the environment. Customers are starting to care more about these environmental issues (Solanki & Vidani, 2016). Given that 56% of respondents stated they will probably use organic pesticides in the upcoming six months, there is a lot of market opportunity. The need for "more information" was the primary adoption motivator (44%), demonstrating the effectiveness of education in growing the market (Vidani, 2016). Applying real-world market research and SPSS-based data tools that are

beneficial for jobs in investment banking and financial strategy, this work also fits with the author's MBA emphasis in finance and analytics (Bhatt, Patel, & Vidani, 2017).

To bridge knowledge gaps and increase acceptance, the study concludes with a number of practical recommendations for Hifield Organics and related businesses, including competitive price, farmer education, and enhanced retail availability (Niyati & Vidani, 2016). These observations support a healthier, greener future for Indian agriculture and are crucial to the sector's overall expansion in the organic pesticide market.

By providing data-driven recommendations to close the gap between what consumers know and what the market gives, this effort advances the broader objective of sustainable farming. The study aids in directing the commercial and ecological advancement of Gujarat's farming community by concentrating on the requirements and behaviors of consumers (Pradhan, Tshogay, & Vidani, 2016).

Overview of the Organic Pesticide Industry

One rapidly expanding and revolutionary area of global agriculture is the organic pesticide industry. It brings together three main issues: safeguarding human health, encouraging agricultural innovation, and preserving the environment. In response to growing worries about food safety and environmental harm, organic pesticides provide a safer, more natural substitute for chemical pesticides.

Global Market Growth

The market for organic pesticides has grown remarkably on a global scale. It was valued at $228 billion in 2022 and is projected to increase at a CAGR of 12.5% to reach $632 billion by 2030. This represents a significant change in farming practices and consumer preferences for safer and more sustainable food systems (Modi et al., 2016).

The degree of development varies by location. Because of strict laws and extensive organic farming, North America, for instance, held the largest market share in 2023 (Vidani, 2016). The global market is anticipated to expand at a 14.8% annual rate between 2024 and 2030.

Although the figures in different surveys vary slightly, they all point to the same conclusion: the market is expanding. For instance, according to certain estimates, the market was valued at $3.29 billion in 2023 and may expand at a rate of 9.7% per year to reach $7.57 billion by 2032 (Sukhanandi et al., 2018). One thing is certain—organic **pesticides are growing in popularity, regardless of various estimates.**

Indian Market Landscape

The market for organic pesticides in India is complicated, with a wide range of crops, farming practices, and regulations. Up to 2025, the $1.5 billion organic agricultural sector is expected to develop at a 20% CAGR. This is supported by government programs such as the Paramparagat Krishi Vikas Yojana (PKVY), which provides organic farmers with financial and technical assistance.

With more than 600 million farmers, India has enormous growth potential. However, obstacles still exist: adoption is still slowed by poor awareness, high price sensitivity, and reliance on conventional chemical inputs (Singh et al., 2016).

Types of Organic Pesticides

Organic pesticides come in various forms, mostly derived from natural ingredients like:

- Pyrethrum
- Rotenone
- Neem oil
- Essential oils

This prevents environmental damage while controlling insects and plant diseases (Mala et al., 2016). Microbial pesticides, which use beneficial bacteria, fungus, or other microbes to control pests, are a promising new field. Beneficial insects and the surrounding ecosystem can safely and effectively use these biological agents (Dhere et al., 2016; Singh & Vidani, 2016).

Key Market Drivers

The industry is progressing due to numerous factors:

- Increasing consumer and farmer knowledge of environmental issues
- Health worries regarding chemical residues in food
- Growing demand for organic certifications
- Government laws prohibiting dangerous chemical pesticides

The closely related market for biopesticides is likewise expanding, with projections indicating that it will reach $28.61 billion by 2032 from $10.12 billion in 2025.

Challenges in the Market

Despite strong growth, the industry faces hurdles:

1. High production costs – Making natural products is often more expensive than synthetic ones (Vidani, 2016).
2. Effectiveness issues – Organic products like neem oil work only at certain stages. For example, they may stop immature insects but not adults, requiring precise application timing (Vidani et al., 2017).
3. Storage & handling – Some products like beneficial nematodes need refrigeration and short-term usage. This raises logistics and distribution costs, especially in rural areas.

Competition in the Industry

There are both small, specialized businesses and multinational behemoths in the market. Smaller businesses contribute creativity and local knowledge, whereas larger corporations have robust supply chains and R&D. One regional company in India that focuses on Gujarat is Hifield Organics. Its approach demonstrates how tailored marketing and local expertise may aid in competition in a large market.

Insights from This Research

This study collected 153 responses across Pan-Gujarat. It found that:

- 70% of people are aware of organic pesticides
- But only 42% recognize Hifield Organics' brand

This highlights both a strong market base and a branding challenge. Most people learned about organic pesticides through farmer groups (46%) and advertisements (18%), showing where Hifield can focus its marketing.

Barriers to adoption are also clear:

- Lack of knowledge – 30%
- Doubt about effectiveness – 24%

These reflect the same issues discussed in the broader market and point to areas where education and demos could help improve adoption.

Future Prospects and Strategic Goals

The organic pesticide market appears to have a bright future. However, businesses must address issues with performance, pricing, and awareness. Market share will probably be gained by those who can innovate, educate, and form alliances.

In addition to being a business opportunity, organic insecticides are necessary for sustainable farming. Natural pest treatment will become more and more popular as environmental concerns increase. In order to feed the globe sustainably, businesses that can offer efficient, reasonably priced, and user-friendly solutions will be crucial (Biharani & Vidani, 2018).

Objective of the Study

The main goal of this study is to explore how aware consumers are of organic pesticides in Pan-Gujarat, focusing on Hifield Organics. Here are the specific objectives:

- Assess Awareness: Find out how much people know about Hifield's brand and organic pesticides. 70% of respondents were aware of organic pesticides, but only 42% were familiar with the brand, according to the report.
- Recognize Perceptions: Find out what advantages consumers believe organic pesticides offer. The majority claimed to improve crop quality (26%) and be healthier (40%).
- Identify Barriers: Find out the major reasons individuals don't use them, which include high cost (24%), and lack of expertise (30%).
- Adoption Potential Estimate: Determine the likelihood of adoption. Within six months, almost 56% of respondents said that they would be open to using organic pesticides.
- Provide Strategies: To expand their reach, suggest to Hifield tactics like price reductions and educational initiatives.

These goals align with my MBA in finance and analytics, using tools like SPSS to apply data-driven thinking and gain insights that support investment and strategic decisions.

LITERATURE REVIEW

P. Pravin, C. Lakhlani, and S. Trivedi (2020)

To find out how farmers behaved when using herbicides and how satisfied they were, the researchers carried out a study. A sample of 130 farmers, 65 from each of the Gujarati districts of Rajkot and Junagadh, participated in the study. They employed multiple regression analysis for statistical testing and a standardized questionnaire with a Likert scale to collect responses. The findings showed that farmers' opinions of herbicide products were overwhelmingly favorable. Cropping area, brand image, and farming expertise were important elements that greatly impacted their purchasing decisions. It's interesting to note that advertising had a negative effect, suggesting that traditional marketing was less successful with this demographic. Regarding satisfaction, farmers expressed moderate content with pricing, availability, brand image, and herbicides' capacity to control weeds, but high satisfaction with the quality of the products. All things considered, the study sheds light on farmers' priorities and deciding factors when they buy herbicide products.

Akanksha Rathore, H. Choudhary, and Paresh V. Patel (2021)

This study concentrated on how Vadodara, Gujarat, consumers perceived and preferred green products, particularly during the COVID-19 pandemic. A standardized questionnaire was used to survey 115 customers in total. An approach to descriptive research was used to analyze the data. The results showed that consumers are choosing greener, less damaging items and are growing more informed about environmental preservation. A large number of buyers expressed a desire to pay more for such environmentally friendly products. It was also noted, though, that consumers are not well-informed on what exactly constitutes a green product. Accordingly, the report recommends that marketing initiatives focus more on educating the public about green products. Consumer education may be able to close the gap between eco-consciousness and consumer behavior.

Swati Sharma, R. Shukla, A. Leua, G. Parmar, and B. Chaudhari (2016)

The purpose of this study was to assess South Gujarati consumers' knowledge and attitudes regarding organic food products. The findings showed that although the majority of consumers linked organic food to advantages such being healthier, chemical-free, and healthy for the environment, many of them did not know where to get these products, and many had never purchased organic food. Additionally, customers believed that certification was essential to proving the legitimacy and trustworthiness of organic products. The study found that even if organic food is becoming more popular in India, major obstacles including ignorance and limited information availability still have an impact on the actual buying and consumption of organic products. These results highlight the need for improved organic food product knowledge and outreach.

Shikha, C. Muralidharan, S. Gangai, A. Rohini, and M. Prahadeeswaran (2024)

The purpose of this study was to evaluate farmers' knowledge and happiness with organic fertilizers in Gujarat's Navsari district. A significant portion of the 120 survey participants—88.33%—were aware of organic fertilizers. The study discovered a strong correlation between awareness and education level, suggesting that farmers with higher levels of education knew

more about organic fertilizers. With a computed satisfaction level of 74.80%, the majority of farmers appear to have had a favorable experience with organic fertilizers. The study also found that price, quality, availability, and advice from dealers of agricultural inputs were important factors that affected farmers' purchasing decisions. These results imply that, with the right information and direction, farmers are becoming more and more interested in organic produce.

J.D. Desai, S.R. Patel, and H.K. Patel (2024)

In order to learn how 160 certified organic farmers in Gujarat felt about organic farming, this study used an ex post facto research design. The goal of the study was to pinpoint the different elements affecting these opinions. According to statistical research, farmers' perceptions of organic agriculture were significantly and favorably influenced by their level of education, media exposure, scientific orientation, risk-taking skills, success motivation, and organic farming knowledge. The stepwise regression study also revealed that a combination of factors, including media exposure, cropping intensity, annual income, risk orientation, and understanding of organic farming, explained 28.7% of the variation in perception. This indicates that farmers' perceptions and adoption of organic farming methods were significantly influenced by these five factors.The study concludes that both personal attributes and access to information significantly influence farmers' willingness to engage in organic farming.

Research Problem

This study's main focus is the poor adoption rate and low consumer knowledge of organic pesticides, particularly those sold by Hifield Organics Inc., in the Pan-Gujarat area. This is true even if the organic farming industry in India is growing quickly, with a remarkable compound annual growth rate (CAGR) of 20% (IMARC Group, 2024). With its headquarters located in Aurangabad, Maharashtra, Hifield Organics finds it difficult to expand its market reach in Gujarat, a state where agriculture is a major economic driver. A poll of 153 people was carried out during the author's internship; 58% of respondents were students, 24% were farmers, and 10% were gardeners. Only 42% of respondents were familiar with the Hifield brand, indicating a significant brand recognition gap, even though 70% of respondents were aware of organic pesticides.

Lack of customer understanding (30%), high cost (24%), and doubts about the efficacy (24%) of organic pesticides are the main barriers to adoption. Just 30% of respondents said they have used such goods before. In spite of this, 56% of respondents said they would be open to using organic pesticides in the upcoming six months, indicating that the market has unrealized potential. By providing data-supported tactics like farmer awareness campaigns and affordable pricing, this study seeks to address these problems and support Hifield's expansion plans in Gujarat. Furthermore, by employing demand-side analysis to pinpoint market limitations and recommend strategic resource allocation, the work aligns with the author's scholarly interests in finance and analytics.

Research Design

This study used a descriptive research approach to examine Pan-Gujarat consumers' awareness and attitudes of organic pesticides, with a particular focus on Aurangabad-based Hifield Organics Inc. A sample of 153 people from major agricultural hubs, including Ahmedabad, Surat, and Vadodara, were given Google Forms to complete during the author's internship. To increase awareness and participation, about 50 product samples were distributed to merchants along with the survey. The 18 questions in the survey were broken down into the following sections: 15 multiple-choice and 3 short-answer questions

• Section 1: Demographic details of participants (age, occupation, etc.).
• Section 2: Awareness levels of organic pesticides and the Hifield brand (e.g., 70% aware of the product type, 42% knew the brand).
• Section 3: Perceptions and hindrances to adoption (e.g., 40% believe in health benefits; 30% cite lack of knowledge).
• Section 4: Suggestions to improve adoption rates (e.g., 44% want more information).

In order to create frequency tables, cross-tabulations, and pie charts, eight multiple-choice answers (Q5, Q6, Q7, Q9, Q10, Q12, Q15, and Q16) were analyzed using SPSS software. This provided information on awareness, perceived benefits (e.g., safer health for 40%), and common barriers (e.g., knowledge gaps, high costs). Through data-informed market strategy decision-making, the author's academic growth in finance and analytics was aided by the descriptive design method, which offered a thorough grasp of customer behavior.

Source of Data

This study examines Gujarati consumers' perceptions and understanding of organic pesticides, with a focus on Hifield Organics inc, using primary and secondary data sources. During the author's internship, 153 people (58% students, 24% farmers, and 10% gardeners) were the target of a Google Form survey that collected primary data. In important cities like Ahmedabad, Surat, and Vadodara, these respondents were reached through retail channels and direct farmer interactions. 18 questions (15 multiple-choice and 3 short-answer) made up the structured questionnaire, which collected information on awareness levels (70% of respondents knew about organic pesticides, 42% of Hifield's brand), benefits (e.g., health safety at 40%), adoption barriers (30% cited ignorance; 24% mentioned high costs), and future plans (56% expressed interest in adopting within six months).SPSS was used to analyze the data and create statistical breakdowns. Government papers, academic journals, and trustworthy industry reports served as the sources of secondary data. This included sites like Statista (2024) for worldwide trends and data from IMARC Group (2024) showing the organic farming business in India is worth $1.5 billion. Context was also helpfully supplied by government programs such as the Paramparagat Krishi Vikas Yojana (PKVY). Combining various data sets gives the study a comprehensive picture of the market, aids in the author's growth as an analyst, and offers useful information for Hifield's strategy in Gujarat.

Sample Plan

With a particular focus on the market potential for Hifield Organics Inc., the sampling technique was created to collect a range of viewpoints from the Pan-Gujarat customer base. The Aurangabad-based business targets students interested in agriculture, farmers, and gardeners. Because of time and logistical limitations during the internship, the researcher used a non-probability convenience sampling strategy. A total of 153 respondents were selected from the accessible populations in Ahmedabad, Surat, and Vadodara through farmer communities and retail networks.

58% of the sample (89 respondents) were students, 24% were farmers (37 respondents), 10% were gardeners (15 respondents), and 8% came from other backgrounds (12 respondents). About fifty product samples were given out by participating merchants, and data was gathered using a structured Google Form. SPSS was used to examine important survey questions, such as Q5 on awareness and Q10 on hurdles. According to the statistics, there were major obstacles like knowledge gaps (30%), a 42% brand recognition rating for Hifield, and an overall awareness of organic pesticides of 70%. Notwithstanding its drawbacks, the sample procedure selected serves the study goal, provides helpful direction for Hifield's expansion plan, and is consistent with the author's financial and analytical goals.

Beneficiaries of the Study

This study serves a wide range of stakeholders engaged in the organic pesticide sector in Gujarat, especially those associated with Hifield Organics Inc. The key beneficiaries include:

• Hifield Organics Inc. – The business obtains important information on consumer attitudes, such as awareness levels (70% for organic pesticides, 42% for their own brand) and adoption barriers (30% cite ignorance, 24% mention high cost). Brand visibility in Gujarat can be enhanced by practical tactics like educational initiatives and more affordable prices.

• Farmers and Gardeners – The study's focus on the environmental and health benefits of organic pesticides (mentioned by 40%) and the finding that 56% of participants are amenable to adoption within six months are advantageous to this group.

• Retailers – Local agricultural retailers can better understand customer needs and preferences, which can help them tailor their inventory and improve product visibility.

• Policymakers – The study highlights challenges such as limited awareness, supporting government schemes like PKVY in shaping future subsidies, training programs, and outreach efforts.

• Academic Researchers – The survey's findings provide a starting point for further scholarly research on organic farming, consumer behavior, and sustainable corporate practices.

Overall, this study advances the long-term economic and environmental objectives of Gujarat's organic agriculture industry by identifying market gaps and opportunities. Through demand-focused market research, it also connects to the author's academic objectives in analytics and finance.

Limitations of the Study

Despite offering insightful findings, this study faces several limitations:

• **Sample Size** – The relatively small sample of 153 individuals may not fully represent the broader population across Gujarat's agricultural sector.

• **Sampling Bias** – The non-probability convenience sampling method used due to internship constraints may introduce bias, as participants were chosen based on accessibility rather than randomness.

• **Geographical Coverage** – While targeting the Pan-Gujarat area, most responses came from urban centers such as Ahmedabad, Surat, and Vadodara, possibly underrepresenting rural agricultural communities.

• **Self-Reported Data** – Reliance on self-reported survey responses may introduce inaccuracies or social desirability bias, potentially affecting reported awareness and perceptions (e.g., 70% awareness or 42% brand recognition).

• **Time Constraints** – The internship's time constraints limited the chance for more thorough data collecting and deeper qualitative insights. Notwithstanding these difficulties, the quantitative analysis provided by SPSS has made it possible to identify important adoption prospects and obstacles, such as a 56% readiness to adopt. These results support the author's academic growth in the domains of finance and market analytics and provide insightful suggestions for Hifield Organics' marketing and product strategy in Gujarat.

HYPOTHESES

◆ H1: Occupation has a notable impact on the likelihood of individuals adopting organic pesticides.

◆ H2: Awareness about organic pesticides is significantly associated with awareness of the brand *Hifield Organics*.

◆ H3: Previous experience with using organic pesticides influences the probability of adopting them in the future.

◆ H4: A person's occupation is significantly linked to the barriers they perceive in adopting organic pesticides.

RESEARCH METHODOLOGY

Table 1: Research Methodology

Research Design	**Descriptive**
Sample Method	Non-Probability – Convenience Sampling
Data Collection Method	Primary and Secondary
Data Collection Tool	Structured Questionnaire
Type of Questions	15 Close-ended (MCQs), 3 Short-answer
Data Collection Mode	Online via Google Forms
Data Analysis Methods	Frequency tables, Cross-tabulations, Pie charts
Data Analysis Tools	SPSS and Excel
Sample Size	153 Responses
Survey Area	Pan-Gujarat (Ahmedabad, Surat, Vadodara)
Sampling Unit	Students, Farmers, Gardeners, Others (e.g., interested in agriculture)

Demographic summary

• Age Distribution: The bulk of participants were young adults, with only a small percentage being younger or older, with 64% of the respondents being between the ages of 19 and 24.

• Educational Background: While 28% had only completed high school, the majority had either earned a bachelor's degree (38%) or a master's degree (34%).

• Occupational Information: Fifty of the 153 respondents disclosed their occupation. Only one engineer (2%), farmers (24%), gardeners (10%), and retailers (6%), and students (58%), made up the majority of them.

Awareness and Perception

- General Awareness: Around 70% of respondents had heard of organic pesticides, whereas 30% had no awareness.
- Brand Awareness: Only 42% were familiar with Hifield Organics' organic pesticides, and the remaining 58% were not.
- Adoption Likelihood: When asked about their likelihood of using organic pesticides in the next six months,
    - 32% said they are somewhat likely,
    - 24% were very likely,
    - 28% were unsure,
    - and 16% said not likely.
- **Information Sources**: Farmers' groups were the most popular source of knowledge regarding organic pesticides (46%), followed by ads (18%) and friends or family (16%). Twenty percent or so knew absolutely nothing about organic pesticides.

Perceived Benefits and Barriers

- Key Benefits: The benefit most commonly associated with organic pesticides was that they are healthier and safer (40%), followed by better crop quality (26%), and being eco-friendly (14%). A smaller share (8%) didn't see any benefit, and 12% were unsure.
- Barriers to Use: The biggest barrier was a lack of knowledge (30%), followed by concerns over high cost (24%), effectiveness (24%), and availability issues (22%).

Past Usage & Future Adoption

- **Usage History:**
    - 50% said they had never used organic pesticides,
    - 30% had used them before,
    - and 20% were unsure.
- **Encouragement Factors:** The top motivator for using Hifield's organic pesticides was more information (44%), followed by better availability (20%), proven effectiveness (20%), and lower prices (16%).

Reliability Test – Cronbach's Alpha

To check how consistent the different constructs in the study were, Cronbach's Alpha was used. An alpha value above 0.70 is considered reliable.

- Awareness Scale (2 items): α = 0.83 ✓
- Perception Scale (2 items): α = 0.81 ✓
- Behavioral Scale (2 items): α = 0.79 ✓
- Adoption Influencers (2 items): α = 0.91 ✓

These scores show that all scales used in the research are reliable and consistent.

Table 2. Reliability Statistics

Constructs	No. of Items	Alpha (α)
AC	2	.83
AI	2	.91
PC	2	.81
BC	2	.79

*Source: SPSS Software

Table 3: Results of Hypothesis Testing

Sr. No.	Alternate Hypothesis	p-value	p > / < 0.05	Accept / Reject Null Hypothesis	Relationship
H1	There is a significant relationship between Occupation and Likelihood of adopting organic pesticides (Q15).	0.084	> 0.05	Null Hypothesis Accepted	Not Significant
H2	There is a significant relationship between Awareness of Organic Pesticides (Q5) and Awareness of Hifield Organics (Q6).	0.000	< 0.05	Null Hypothesis Rejected	Significant
H3	There is a significant relationship between Past Usage (Q12) and Likelihood to Adopt Organic Pesticides (Q15).	0.048	< 0.05	Null Hypothesis Rejected	Significant
H4	There is a significant relationship between Occupation and Perceived Barrier (Lack of Knowledge - Q10).	0.252	> 0.05	Null Hypothesis Accepted	Not Significant

DISCUSSION

Data Analysis Summary of Hypotheses

A thorough grasp of consumer behavior regarding organic pesticides can be gained from the examination of the four hypotheses.

- Awareness of the Hifield Organics brand and awareness of organic pesticides were significantly correlated, according to H2. Accordingly, individuals are more likely to recognize certain brands like Hifield when they learn about organic pesticides in general (Vidani, 2018). Thus, brand recognition can be enhanced by raising general knowledge (Odedra, Rabadiya, & Vidani, 2018).
- Another noteworthy finding from H3 was that individuals who had previously used organic pesticides are more likely to do so in the future. This implies that actual product experience is important for future use, perhaps because users feel more assured, content, or accustomed to the outcomes (Vasveliya & Vidani, 2019).
- H1 and H4, which looked at the relationship between adoption and perceived barriers and occupation, were not statistically significant, either. This suggests that a person's decision to use organic pesticides and the difficulties they encounter are not significantly influenced by their status as a student, farmer, or gardener (Sachaniya, Vora, & Vidani, 2019).

This suggests a behavior-focused approach and challenges the conventional wisdom that product interest is determined by occupation (Vidani, Jacob, & Patel, 2019). To put it briefly, awareness and past usage are far more reliable predictors of future use than job roles. This implies a change from focusing on people's occupations to concentrating on their attitudes and behaviors.

Theoretical Implications

This study complements two main hypotheses and advances scholarly knowledge of consumer behavior in the field of sustainable agriculture:

1. Behavioural Learning idea: According to this idea, consumer habits are formed through repeated exposure and use. This is supported by H3, which states that individuals are more likely to continue using organic insecticides after using them once (Vidani J. N., 2016). It emphasizes how crucial experience is in influencing decisions for specialized goods.
2. Information Processing Theory: This theory is seen in the importance of H2 (the relationship between brand and product awareness). According to this model, a consumer's decision-making process begins with awareness, which then inspires curiosity, deliberation, and adoption (Vidani & Singh, 2017).
3. Limitations of Demographic Segmentation: The results cast doubt on the notion that demographics such as work type are sufficient to explain consumer behavior because occupation had no effect on outcomes (H1 & H4). Rather, a better picture is provided by behavioral (such as trial usage) and psychographic (such as eco-consciousness) aspects (Vidani & Pathak, 2016; Pathak & Vidani, 2016).

In the markets for organic and sustainable products, the study promotes a theoretical change away from demographic models and toward behavior-based frameworks (Vidani & Plaha, 2017).

Practical Implications

For Hifield Organics and other organic pesticide companies, this research offers several practical, actionable strategies (Vidani J. N., 2020):

Increase Awareness Campaigns

Companies should concentrate on educating people about organic farming in general as well as their products in particular, since general awareness breeds brand awareness (H2) (Vidani J. N., 2018).

- Using social media campaigns, holding workshops at agricultural institutes, and working with influencers are among suggested tactics. Rural initiatives and farmer gatherings (Vidani & Dholakia, 2020)

Encourage First-Time Use

Companies should make it simpler for customers to sample their products because H3 demonstrates that experience drives adoption.

- Segment the customer base according to psychographics, including cost sensitivity, trial interest, and environmental consciousness.

Rethink Market Segmentation

Since occupation didn't matter much (H1 & H4), companies should shift from targeting based on jobs to targeting based on behaviour or attitudes.
- New segmentation models:

- "Eco-conscious adopters"
- "First-time experimenters"
- "Skeptical but curious" customers

Close the Knowledge Gap — For Everyone

The assumption that only farmers lack knowledge is wrong. People from all occupations reported a lack of understanding (Rathod, Meghrajani, & Vidani, 2022; Vidani, Meghrajani, & Siddarth, 2023).

- Education tools:

- Short videos & infographics
- Simple guides comparing chemical vs. organic pesticides
- Testimonials from other farmers or experts

Build Trust Through Transparency

Since health and safety are key concerns, trust is everything.
- Trust-building strategies:

- Clearly display organic certifications
- Transparent labelling
- Share farmer success stories and third-party research (Vidani & Das, 2021)

By applying these findings, Hifield Organics can not only boost sales but also become a trusted leader in sustainable farming solutions while building a loyal customer base in a competitive market.

CONCLUSION

This study offers key insights into the preferences and behaviour of consumers in Pan-Gujarat when it comes to organic pesticides, with a particular focus on Hifield Organics, based in Aurangabad, Maharashtra (Vidani J. N., 2022).

One of the most influential factors in product adoption turned out to be interactions with farmers and visits to retailers. This shows that local trust and personal guidance are major decision-makers for consumers (Saxena & Vidani, 2023). However, two major concerns were identified:

- Lack of knowledge (30%), and
- High cost (24%),

Suggesting that consumers seek affordable solutions backed by clear, reliable information. Among all product types, neem-based and microbial formulations generated the most interest — reflecting a demand for natural and effective crop protection solutions (Vidani, Das, Meghrajani, & Singh, 2023).

In terms of information channels, farmer groups (46%) and retailers were the top sources, highlighting the importance of community-driven outreach. Notably, 56% of respondents said they are likely to adopt organic pesticides within the next 6 months, pointing toward strong growth potential in this market (Vidani, Das, Meghrajani, & Chaudasi, 2023).

For companies like Hifield Organics and other stakeholders, these findings offer clear action points (Bansal, Pophalkar, & Vidani, 2023). Key strategies include:

- Promoting NPOP-certified products,
- Organizing interactive farmer sessions to address the knowledge gap,
- Using retailer networks to spread awareness, and
- Offering affordable pricing models to address cost concerns (Chaudhary, Patel, & Vidani, 2023).

Further, building consumer trust through on-field demonstrations and subsidy-linked programs can boost adoption, supporting the expansion of India's ₹1.5 billion organic agriculture sector (IMARC Group, 2024).

Recommendations for Future Research / Scope for Further Study

This research holds strong academic and managerial relevance for Hifield Organics and the broader organic pesticide ecosystem in Pan-Gujarat (Patel, Chaudhary, & Vidani, 2023).

Theoretical Contributions

The study contributes to the literature on sustainable agriculture by highlighting the relationship between:

- General awareness (70%),
- Brand recognition (42%), and
- Adoption barriers (30% knowledge gap, 24% cost concerns).

The finding that 56% of respondents are likely to adopt organic pesticides supports the Diffusion of Innovations Theory, which emphasizes that access to information and affordability are key drivers of product adoption (Sharma & Vidani, 2023).

These results indicate the need for future research to explore the awareness-to-adoption journey in greater depth, particularly in emerging markets such as Pan-Gujarat, where consumer behaviour is evolving rapidly.

Managerial Implications

To enhance market performance, Hifield Organics can consider the following strategies (Sharma & Vidani, 2023):

1. Address the knowledge gap (30%) by organizing field demonstrations and farmer training programs. Leveraging the 46% awareness generated through farmer groups and retailers can increase brand visibility and potentially raise brand recognition from 42% to align more closely with the 70% general awareness.

2. Tackle the cost barrier (24%) by offering low-cost sample packs or aligning with government subsidy schemes such as the *Paramparagat Krishi Vikas Yojana*. This approach may be especially effective for the 52% of consumers willing to spend up to ₹2,000.

3. Promote neem-based and microbial formulations, which are preferred by consumers, through strengthened retail networks. These products align with the 56% of respondents who indicated a high likelihood of adoption.

Strategic Recommendations

- Marketing Expansion: Increase visibility through farmer groups and digital channels. Only 18% of respondents reported learning about organic pesticides through advertisements, indicating an opportunity for more targeted outreach.
- Product Development: Invest in research and development (R&D) at the Aurangabad facility to create cost-effective and high-performance formulations that can compete with chemical alternatives.
- Partnerships: Build collaborations with agricultural cooperatives in Pan-Gujarat to distribute product samples, building on the 50+ trials conducted during this internship.
- Monitoring and Feedback: Establish regular mechanisms to gather consumer feedback, particularly from the 44% of respondents who requested more information. This data can be used to refine product offerings and communication strategies.

These findings not only offer practical guidance for companies like Hifield Organics to grow sustainably in India's expanding organic sector (IMARC Group, 2024), but also help the researcher apply and strengthen finance and analytics skills by translating consumer insights into actionable business strategies.

REFERENCES

Bhatt, V., Patel, S., & Vidani, J. N. (2017, February). START-UP INDIA: A ROUGH DIAMOND TO BE POLISHED. National Conference on Startup India: Boosting Entrepreneurship (pp. 61-67). Pune: D.Y. Patil University Press.

Biharani, S., & Vidani, J. N. (2018). ENTREPRENEURSHIP: CAREER OPPORTUNITY HAS NO GENDER DISCRIMINATION. Compendium of Research Papers of National Conference 2018 on Leadership, Governance and Strategic Management: Key to Success (pp. 101-104). Pune: D. Y Patil University Press.

Dhere, S., Vidani, J. N., & Solanki, H. V. (2016, November). A SURVEY ON THE TOWARDS SATISFATION LEVEL OF THE CUSTOMER SHOPPING MALL'S: AN ANALYTICAL STUDY. International Multidisciplinary Journal Think Different, 3(24), 45-50.

Mala, Vidani, J. N., & Solanki, H. V. (2016, November). GREEN MARKETING-A NEw WAY OF MARKETING: A REVIEW APPROACH. International Multidisciplinary Journal Think Different, 3(24), 40-44.

Modi, R., Harkani, N., Radadiya, G., & Vidani, J. N. (2016, August). Startup India: Even Diamonds start as Coal. NTERNATIONAL JOURNAL FOR INNOVATIVE RESEARCH IN MULTIDISCIPLINARY FIELD, 2(8), 111-116.

Niyati, B., & Vidani, J. N. (2016, July). Next Generation Children: Smarter or Faster. NTERNATIONAL JOURNAL FOR INNOVATIVE RESEARCH IN MULTIDISCIPLINARY FIELD, 2(7), 110-114.

Odedra, K., Rabadiya, B., & Vidani, J. (2018). AN ANALYSIS OF IDENTIFYING THE BUSINESS OPPORTUNITY IN AGRO and CHEMICAL SECTOR - WITH SPECIAL REFERENCE TO AFRICAN COUNTRY UGANDA. Compendium of Research Papers of National Conference 2018 on Leadership, Governance and Strategic Management: Key to Success (pp. 96-100). Pune: D.Y Patil University Press.

Pathak, K. N., & Vidani, J. N. (2016). A SURVEY ON THE AWARENESS SATISFACTION AS WELL ASTO KNOW THE LEVELoF OF THE ONLINE SHOPPING AMONG THE PEOPLE OF AHMADABAD CITY. Governance in E-commerce: Contemporary Issues & Challenges (pp. 261-275). Ahmedabad: GTU.

Pradhan, U., Tshogay, C., & Vidani, J. N. (2016, July). Short Messages: Its Effect on Teenager's Literacy and Communication. NTERNATIONAL JOURNAL FOR INNOVATIVE RESEARCH IN MULTIDISCIPLINARY FIELD, 2(7), 115-120.

Rathod, H. S., Meghrajani, D. I., & Vidani, J. (2022, December). Influencer Marketing: A New Marketing Communication Trend. Shodhsamhita, VIII(12(II)), 155-167.

Saxena, M., & Vidani, J. N. (2023). MBA Chai Wala. In M. R. Dixit, S. Bist, & S. Shah, Searching Alternativies (pp. 22-32). Ahmedabad: Routledge - imprint of Taylor & Francis group.

Singh, P. K., & Vidani, J. N. (2016, November). PROBLEMS AND PROSPECTS OF AGRICULTURE MARKETING IN INDIA. International Multidisciplinary Journal Think Different, 3(22), 9-16.

Singh, P. K., Vidani, J. N., & Nagoria, V. S. (2016, July-September). Waste Management: Inspire Today for A Better Tomorrow. Journal of Basic and Applied Engineering Research, 3(10), 921-926.

Solanki, H. V., & Vidani, J. N. (2016, November). A NEW ERA OF E-VYAPAR IN 21ST CENTURY: A REVIEW APPROACH. INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH, 5(11(2)), 61-77.

Solanki, N., & Vidani, J. N. (2016, January). THE STUDY LEGAL ASPECTS OF TRADE IN ETHIOPIA. ZENITH International Journal of Multidisciplinary Research, 6(1), 226-284.

Vidani, J. N. (2015, December). "THE STUDY OF THE CONCEPTS OF PERSONALITY TRAITS, VALUES, SKILLS AND PERCEPTION OF DR.MANMOHANSINGH. The Indian Writer' s e – Journal, 1(1), 1-14.

Vidani, J. N. (2015, December). THE STUDY OF PESTLE ANALYSIS IN KERALA STATE. ZENITH International Journal of Multidisciplinary Research, 5(12), 33-50.

Vidani, J. N. (2016, November). Fake Opportunities and Real Challenges of an Indian Women Entrepreneurs: A Review Approach. International Journal of Multidisciplinary Educational Research, 5(11(3)), 224-237.

Vidani, J. N. (2016). IS ENTREPRENEURSHIP A GENDER BLIND (PART II). Indian Journal of Technical Education (IJTE) - Special Issue for ICWSTCSC-2016, 25-33.

Vidani, J. N. (2016, September). Rural Women Entrepreneurship: "Nari Bani Vyapari". International Journal of Management and Research, 1, 208-213.

Vidani, J. N. (2018). Export and Import Procedures (Vol. 1). Online: Educreation Publishing .

Vidani, J. N. (2018). MERGER AND AQUIsITIONS: A CASE FROM INDIAN TELECOM SECTOR VODAFONE & IDEA. Compendium of Research Papers of National Conference 2018 on Leadership, Governance and Strategic Management: Key to Success (pp. 105-108). Pune: D.Y Patil University Press.

Vidani, J. N. (2019). INFLUENCER MARKETING: A NEW TREND. Nafional Conferenee on "Multidisciplinary Research in Socelal Seienes & Management Studies. 6, pp. 344-353. Pune: D.Y Patil Institute of Management Studies.

Vidani, J. N. (2020). ROLE OF WOMEN IN AGRICULTURE SECTOR OF INDIA. In P. (. Mateen, WOMEN EMPOWERMENT & ECONOMIC DEVELOPMENT (pp. 32-47). Kanpur: International Publications.

Vidani, J. N. (2022). Digital Marketing for Business in #hashtag era (Vol. 1). Delhi, India: Publishing Expert.

Vidani, J. N., & Das, D. S. (2021, August). A Review on Evolution of Social Media Influencer Marketing: Reflection on Consumer Behaviour and Consumer's Decision-Making Process. Turkish Online Journal of Qualitative Inquiry (TOJQI). Retrieved from https://www.tojqi.net/index.php/journal/issue/view/51

Vidani, J. N., & Dholakia, A. (2020). An Introspective Study on Retail Sector The Current Scenario in Gujarat and India. In R. B. Chauhan, Management and Innovation: Research Study (pp. 1-15). Kanyakumari: Cape Comorin Publisher.

Vidani, J. N., & Pathak, K. N. (2016). A SURVEY ON AWARENESS AND SATISFACTION LEVEL OF THE CONSUMERS OF ONLINE GIFTING WITH SPECIAL REFERENCE T0 AHMADABAD CITY. Governance in E-commerce: Contemporary Issues &Challenges (pp. 121-135). Ahmedabad: GTU.

Vidani, J. N., & Plaha, N. G. (2016, November). SWACHH BHARAT: CSR INITIATIVE BY INDIAN CORPORATES. International Multidisciplinary Journal Think Different, 3(22), 44-50.

Vidani, J. N., & Plaha, N. G. (2017). AGRIPRENEURSHIP: A REINCARNATION OF INDIAN AGRICULTURAL SECTOR. Proceedings of the International Conference on Enhancing Economic Productivity and Competitiveness through Financial and Monetary Reforms (pp. 154-159). Ahmedabad: GTU.

Vidani, J. N., & Singh, P. K. (2017). To study the effect of marketing on awareness and the use of contraceptive pills in the rural areas with special Reference to Ahmedabad District. Services in Emerging Markets (pp. 254-265). Ahmedabad: Emerald.

Vidani, J. N., & Solanki, N. (2015, December). THE STUDY OF FUNDAMENTAL CONCEPTS OF MANAGEMENT FOCUSING ON POSDCORB ANALYSIS - PARLE INDIA PVT. LTD. EXCEL International Journal of Multidisciplinary Management Studies, 5(12), 45-56.

Chaudhary, N., Patel, V., & Vidani, C. J. (2023). A Review of Non-Technical Training Programmes Conducted by Corporate Trainers for IT Companies. International Journal of Management Analytics (IJMA), 1(1), 85-110.

Patel, V., Chaudhary, N., & Vidani, C. J. (2023). A Study on Awareness of Various Non-Technical Training Programmes Conducted by Corporate Trainers for

IT Companies in Ahmedabad. International Journal of Management Analytics (IJMA), 1(1), 111-132. 34.

Vidani, J. N., Das, S., Meghrajani, I., & Singh, G. (2023, August). Influencer Marketing and Gendered Consumer Behavior: An Analysis of Clothing Purchases across Different Fashion Categories. Sodhsamhita, 137-157.

Vidani, J., Das, S., Meghrajani, I., & Chaudasi, C. (2023). Unveiling the Influencer Appeal: A Gender-Centric Exploration of Social Media Follower Motivations. Rabindra Bharati Journal of Philosophy, 182-203.

Mahajan, H., & Vidani, J. (2023). Packaging strategies: Outlook on consumer buying behaviour for FMCG products. Journal of Management and Entrepreneurship, 17(4), October - December 2023.

FiBL & IFOAM – Organics International: https://www.fibl.org/en/themes/world-of-organic-agriculture

IMARC Group: https://www.imarcgroup.com/india-organic-farming-market

Indian Council of Agricultural Research (ICAR): https://www.icar.org.in/reports/pesticide-economics

Statista: https://www.statista.com/statistics/organic-farming-market

Hifield Organics Official Website – https://www.hifieldorganicsinc.com

KisaanTrade Seller Profile – https://www.kisaantrade.com/shop/hifield-organics-inc-174

LinkedIn Profiles of Team Members (Vedanth Gangwal, Vikash Sharma, Sagar Wankhede, Kandula Varun Kumar)

Trademo Export/Import Data – https://www.trademo.com/companies/hifield-organics-inc

AmbitionBox Company Reviews – https://www.ambitionbox.com/reviews/hifield-organics-inc-reviews