

## Tech Grows Green: Exploring Fintech Inclusion among Agripreneurs in the Plant-Based Food Sector

Ms. Lakshanaakamali S P<sup>1</sup>, Dr. M.Arul<sup>2</sup>

<sup>1</sup>Ph.D Research Scholar, Department of Business Administration, Annamalai University, Chidambaram, India

<sup>2</sup>Professor and HOD, Department of Business Administration, Annamalai University, Chidambaram, India

Email: kamalithaman@gmail.com

### Abstract

The Agripreneurs involved in plant-based food sector are significant in developing economies, as they stimulate agricultural advancement, protect food security, and achieve sustainable agricultural practices. Fin-tech is essential for the plant-based food sector because it helps to manage money effectively, provides necessary funds, and simplify business operations, supporting their growth and competitiveness in the business. The **purpose** of this study is to explore the influence of financial technology on plant-based foodpreneurs/agripreneurs. The **Objective** seeks to uncover the integration, general understanding and to clarify the attitudes and acceptance of Agripreneurs concerning the business adaptability of financial technology, and to determine how specific demographic characteristics of Agripreneurs shape their decisions regarding fin-tech receptivity. The **questionnaire** utilized in this research was crafted using insights and metrics from previous studies carried out in developing countries, ensuring its contextual appropriateness. This evaluation employed contemporary statistical techniques like the Kruskal-Wallis H test and the Mann-Whitney U test, offering a comprehensive and statistically sound analysis. The **result** show that many agripreneurs are open to using Fin-tech services, considering themselves moderate users of these technologies. They seem to know and appreciate the various financial tools that Fin-tech companies offer. Factors like the experience, educational background of the Agripreneurs, brand recognition, and ease of use of Fin-tech services play a significant role in their decisions to adopt these technologies. The study **concludes** that Fin-Tech are effectively catering to the needs of Agripreneurs by providing quality services via a unified platform marked by low-interest rates, simplified operations, and limited transaction fees. Additionally, the personalized and tailored financial solutions empower Agripreneurs to navigate market challenges more effectively, fostering growth and sustainability.

**Keywords:** Fin-Tech by Agripreneurs; Financial technology; Plant-based food sector; Fin-tech companies; Fin-tech products; Financial technology acceptance; Agripreneurs;

### 1. Introduction

The plant-based food sector represents a rapidly growing segment within the broader food industry, categorized by a focus on products derived primarily or entirely from plant sources. This sector contains a diverse range of offerings, including plant-based meats, dairy alternatives, plant-based protein sources, and various other innovative plant-derived products designed to mimic or replace traditional animal-based foods. The growing consumer demand for sustainable, ethical, and health-conscious food options has forced the expansion of the plant-based food sector, attracting entrepreneurs, investors, and established food manufacturers. As concerns related to environmental sustainability, animal welfare, and personal health continue to gain prominence, the plant-based food sector is assured for continued growth, offering exciting opportunities for innovation, investment, and market expansion.

#### 1.1 Agripreneurs - Plant-Based Food Sector

Individuals and businesses operating within this agricultural sector, often referred to as "plant-based innovators" or "agripreneurs," play a significant role in driving innovation, research, and development to meet evolving consumer preferences, sustainable practices to create value-added products and meet market demands. In the context of the plant-based food sector, by combining traditional agricultural practices with modern technologies and entrepreneurial strategies, agripreneurs contribute to economic development, food security, environmental conservation, and social impact, thereby shaping the future of agriculture and food systems globally.

#### 1.2 Global Market Growth

As major food corporations, startups, and agripreneurs continue to invest in plant-based alternatives, market forecasts expect continued growth, indicating a transformative shift in the global food landscape toward more sustainable and ethical consumption patterns. According to a report by MarketsandMarkets, the global plant-based meat market size was

valued at approximately USD 4.3 billion in 2020 and is projected to reach USD 8.3 billion by 2025, growing at a compound annual growth rate (CAGR) of around 14.0% during the forecast period. Furthermore, the plant-based dairy alternatives market is also witnessing substantial growth, with projections indicating that it could reach a value of USD 35 billion by 2026, as per a report by Grand View Research

### ***1.3 Market Growth in India***

In India, the plant-based food sector is also witnessing robust growth. As per a report by Research and Markets, the plant-based meat market in India was valued at approximately INR 340 crores in 2020 and is expected to grow at a CAGR of around 15.5% to reach INR 750 crores by 2025. Additionally, the plant-based dairy alternatives market in India is also gaining traction, with estimates suggesting that it could reach a value of INR 2,500 crores by 2025, growing at a CAGR of approximately 20%, according to another report by TechSci Research.

### ***1.4 Contribution to Economy***

The plant-based food sector's business growth has been substantial, with significant contributions to the economy through job creation, investments, and market expansion. As consumers increasingly opt for plant-based alternatives due to health, environmental, and ethical considerations, businesses within this sector have witnessed increased profitability and market share. Additionally, the sector's growth has attracted substantial investments from venture capitalists, private equity firms, and corporate entities, thereby stimulating economic development and fostering innovation. According to a report by AgFunderNews, agripreneurs and businesses operating within the plant-based food sector are driving economic growth, sustainability goals, and public health improvement, contributing significantly to the overall economy

### ***1.5 Business Scope***

The business scope within the plant-based food sector is extensive and continues to evolve, offering diverse opportunities across various segments such as product development, manufacturing, distribution, retailing, and export. Agripreneurs and businesses can capitalize on these opportunities by leveraging technology, adopting innovative practices, establishing strategic partnerships, and addressing consumer needs effectively. The scope also extends to research and development, sustainability initiatives, supply chain management, and regulatory compliance, creating a comprehensive ecosystem that supports growth and innovation in the plant-based food industry. As highlighted by various industry reports and analyses, the business scope within the plant-based food sector is vast, with untapped potential for expansion and diversification

## **2. Fin-tech**

In recent times, the rise of financial technology (fintech) has revolutionized the financial landscape, delivering numerous benefits to individuals, businesses, and the overall economy. Fintech has significantly enhanced accessibility to financial services, allowing people to easily manage their finances, make payments, and access credit through digital platforms. The streamlined processes and reduced protocol associated with fintech have led to increased efficiency and cost-effectiveness in financial transactions. Moreover, fintech innovations, such as mobile banking apps and digital wallets, have empowered individuals with real-time financial insights and improved financial literacy.

For businesses, fintech solutions have facilitated faster and more secure payment methods, improved risk management, and expanded opportunities for fundraising through crowdfunding and peer-to-peer lending platforms. The agility and innovation inherent in fintech have not only disrupted traditional banking models but have also fostered financial inclusion, making financial services accessible to previously underserved populations. Overall, fintech has played a vital role in transforming the financial sector, driving efficiency, fostering innovation, and modify financial services. Fin-tech firms aim to revolutionize traditional financial services, making them more user-friendly, cost-effective, and inclusive (Rogers, 2018).

### ***2.1 Fin-tech Providers and Services Offered***

The Fin-tech ecosystem comprises various stakeholders, including startups, established tech companies, financial institutions, and regulatory bodies. Fin-tech providers offer an array of services tailored to meet the evolving needs of consumers and businesses. Some key players in the Fin-tech landscape include:

- **Payment Platforms:** Companies like PayPal, Square, and Paytm facilitate seamless digital transactions, enabling users to send and receive money effortlessly.
- **Peer-to-Peer Lending:** Platforms such as LendingClub and Prosper connect borrowers with investors, bypassing traditional banks and offering competitive interest rates.
- **Robo-Advisors:** Wealthfront, Betterment, and Robinhood provide automated investment advisory services, utilizing algorithms to offer personalized financial advice and portfolio management.

- **Cryptocurrency Exchanges:** Coinbase, Binance, and Kraken allow users to buy, sell, and trade cryptocurrencies, fostering the growth of the digital asset economy.

## **2.2 Market Growth**

On a global scale, the Fin-tech industry has experienced rapid expansion, with investments soaring and new entrants disrupting traditional financial ecosystems. According to a report by Statista, global Fin-tech investments surpassed \$100 billion in 2020, reflecting a significant increase compared to previous years. The adoption of Fin-tech solutions has been particularly pronounced in regions like North America, Europe, and Asia-Pacific, where consumers and businesses are embracing digital financial services at an unprecedented rate (Statista, 2021).

The Fin-tech sector in India has witnessed exponential growth in recent years, fueled by favorable regulatory policies, increasing smart phone penetration, and a burgeoning middle class. According to a report by NASSCOM, the Indian Fin-tech market is projected to reach \$150-160 billion by 2025, growing at a CAGR of approximately 22%. Mobile payment platforms like Paytm, PhonePe, and Google Pay have gained widespread adoption, facilitating millions of digital transactions daily (NASSCOM, 2021).

## **2.3 Contribution to the Economy and Business Growth**

The Fin-tech industry's contribution to the economy is multifaceted, driving innovation, fostering competition, and promoting financial inclusion. By offering innovative solutions that enhance efficiency and accessibility, Fin-tech firms stimulate economic growth, create jobs, and attract investments. Furthermore, Fin-tech advancements enable underserved populations to access essential financial services, such as credit, insurance, and savings accounts, thereby reducing inequality and promoting inclusive economic development (World Bank, 2019).

## **2.4 Business Scope and Future Outlook**

The business scope for Fin-tech providers is vast, encompassing diverse sectors such as banking, insurance, investment management, and regulatory compliance. As technology continues to evolve and consumer expectations shift, Fin-tech firms must adapt and innovate to capitalize on emerging opportunities and mitigate risks. Key areas for future growth include expanding into untapped markets, developing scalable solutions, enhancing cyber security measures, and collaborating with traditional financial institutions to create synergies and unlock new revenue streams (Deloitte, 2020).

## **3. Review of literature**

**Smith and Johnson (2018)** explored the ramifications of Fin-tech on small business lending, emphasizing its transformative potential. Their study delved into the nuances of how technological advancements reshape lending landscapes for smaller enterprises. Research gap exists concerning the long-term sustainability and potential risks associated with increased Fin-tech integration in small business financing.

**Davis and Thompson (2017)** delved into Mobile Payment Systems, highlighting their transformative impact on financial transactions. Their research emphasized user adoption rates and security concerns, revealing growing acceptance yet persistent reservations. Research gap emerges concerning the long-term behavioral patterns and the evolving technological landscape's influence on these systems.

**Chen and Wu (2021)** delved into the regulatory challenges within the Fin-tech ecosystem, highlighting its evolving landscape. Their study provided insights into current regulatory frameworks and their implications for Fin-tech innovations. However, a notable research gap exists in understanding the specific strategies Fin-tech firms employ to navigate these regulatory challenges effectively.

**Agyei-Mensah & Oppong (2017)** explored urban health challenges, emphasizing socio-economic disparities and their implications. While their study provided insights into urban health dynamics, a notable research gap lies in the examination of specific interventions addressing these disparities. Future research could delve deeper into effective policy measures to bridge urban health inequalities, enhancing community well-being.

**Zhu and Khan (2018)** delve into the nexus between fintech and financial inclusion, highlighting its potential to bridge economic disparities. Their research underscores fintech's role in democratizing access to financial services. However, a discernible gap exists in understanding the nuanced challenges and barriers hindering universal financial inclusion through fintech platforms.

#### 4. Objectives

These days, the Plant-based food sector is spending a huge amount on technology development and up-gradation. Given the growing importance of these recent changes in India's Plant-based food sector, the current study poses the following objectives:

- Identifying the Integration and Understanding level of financial technology among Plant-based food Agripreneurs
- To ascertain Plant-based food Agripreneurs acceptance towards Business adaptability of financial technology
- To analyze the impact of different demographic variables on the acceptance towards Business adaptability of financial technology.

#### 5. Research Methodology

A modified questionnaire is used for data collection. The measurement construct and items used in the questionnaire were derived from previous studies carried out in various developing countries. The questionnaire covers demographic and socioeconomic variables such as age, gender, education level, and experience. It includes questions related to the Integration level and understanding level of plant-based food agripreneurs related to financial technology. It has questions related to the acceptance factors that could impact the attitude of respondents towards Business Adaptability of financial technology for specific needs and requirements in business.

#### 6. Sampling and Data Collection

The Convenience sampling approach, a stratified simple random sample technique, has been used to acquire data. In Coimbatore district, agripreneurs were divided based on the 12 blocks. Initially considering a convenience sample, a stratified simple random sampling technique was then employed to select 300 agripreneurs. This method categorized agripreneurs into distinct strata according to block affiliation. From each stratum, a random sample was chosen, ensuring a representative and unbiased sample. This stratified approach enhances the reliability and validity of the collected data for comprehensive analysis.

#### 7. Data Analysis

The data from the questionnaire was processed using SPSS version 22. Analysis methods included frequency distribution, percentage analysis, mean scores, as well as the Kruskal-Wallis H and Mann-Whitney U tests. Assumptions about the data were validated before applying these tests.

#### 8. Analysis and Interpretation

##### 8.1 Analysis of Integration and Understanding level of Financial technology

Data was gathered from respondents regarding their understanding and integration of financial technology. Their knowledge level of Fin-tech services was gauged using a 5-point Likert scale.

**Table 1** Integration level of Fin-tech

| Level of Integration | Number | Percentage % |
|----------------------|--------|--------------|
| Fully Integrated     | 204    | 68           |
| Partially Integrated | 96     | 32           |

*Source: Primary Data*

##### Interpretation

The percentage analysis of Fin-tech integration in the business reveals that a significant portion of the respondents have fully integrated Fin-tech solutions into their operations, accounting for 68% of the total. On the other hand, 32% indicate partial integration, suggesting that while a considerable number have embraced Fin-tech to some extent, there remains a segment that may be in the process of adopting or has yet to fully incorporate these technologies. This data underscores the evolving landscape of financial technology within the business sector, with a majority already capitalizing on its benefits to varying degrees.

**Table 2** Understanding level of Financial technology

| Level of Understanding | Number | Percentage % |
|------------------------|--------|--------------|
| Very High              | 18     | 6            |
| High                   | 84     | 28           |
| Basic                  | 144    | 48           |
| Low                    | 36     | 12           |
| Very Low               | 18     | 6            |

Source: Primary Data

**Interpretation**

A significant 48% of respondents possess a basic understanding of Fin-tech, indicating a foundational level of knowledge but potentially room for deeper comprehension and utilization. Additionally, 28% have a high understanding, suggesting a substantial portion is well-versed in Fin-tech concepts and applications. Moreover, 12% of respondents exhibit a low understanding, signifying a minority that may benefit from further education or training in Fin-tech. Interestingly, both the "Very High" and "Very Low" categories each represent 6% of respondents, showcasing that while some agripreneur possess an advanced understanding, there remains a smaller segment with minimal knowledge or awareness of Fin-tech solutions.

**8.2 Analysis of Plant-based food Agripreneur's acceptance towards Business adaptability of Financial technology**

This part aims to understand how agripreneurs in the plant-based food sector perceive and integrate Fin-tech solutions

**Table 3** Percentage of Agripreneurs, Mean score, Interpretation, Pointers

| Construct    | Item | Statement                                    | 1  | 2  | 3  | 4  | 5  | Mean | Inference & Pointers  |
|--------------|------|--|----|----|----|----|----|------|---|
| Convenience  | C1   | Meets Business needs effortlessly            | 2  | 6  | 28 | 16 | 48 | 4.02 | Agreed, indicating a high level of satisfaction and alignment between Fin-tech solutions and business requirements                    |
|              | C2   | Anytime /Anywhere Accessibility              | 2  | 2  | 30 | 14 | 52 | 4.12 | Agreed, the data emphasizing its convenience and flexibility for users.   |
|              | C3   | Automation of Routine Tasks                  | 0  | 4  | 26 | 30 | 40 | 4.06 | Agreed, suggesting a consensus on its efficiency in streamlining operations and enhancing productivity.                               |
| Efficiency   | E1   | Longer Transaction Time                      | 52 | 12 | 24 | 12 | 0  | 1.96 | Disagreed, most respondents do not perceive Fin-tech as causing prolonged transaction times, indicating efficiency.                   |
|              | E2   | Quick Approval Rate                          | 0  | 0  | 30 | 38 | 32 | 4.02 | Agreed, Indicates Fin-tech facilitates expediting processes and decision-making   |
|              | E3   | Less Paperwork                               | 0  | 6  | 6  | 32 | 56 | 4.38 | Agreed, promoting a more efficient and sustainable approach   |
| Trust        | T1   | Quite Risky at some instances                | 40 | 24 | 24 | 12 | 0  | 2.08 | Disagreed, respondents generally do not view Fin-tech as notably risky, indicating trust and reliability.                             |
|              | T2   | Enhanced safety on Business/ Personal Info   | 6  | 4  | 18 | 46 | 26 | 3.82 | Agreed, indicates that Fin-tech enhances the safety of business and personal information, prioritizing security                       |
|              | T3   | Funds kept secured in E-wallets /Mobile apps | 12 | 0  | 20 | 54 | 14 | 3.58 | Agreed, ensuring security of funds in e-wallets or mobile apps, fostering trust.  |
| Construct    | Item | Statement                                    | 1  | 2  | 3  | 4  | 5  | Mean | Inference & Pointers  |
| Satisfaction | SA1  | Reasonable Service and products              | 10 | 6  | 0  | 68 | 16 | 3.74 | Agreed, Respondents find Fin-tech services and products reasonably priced and valuable.   |
|              | SA2  | Delayed reimbursement                        | 52 | 8  | 20 | 20 | 0  | 2.08 | Disagreed, indicates that most respondents do not experience delayed reimbursements with Fin-tech solutions, emphasizing reliability. |

|                 |     |   |    |    |    |    |    |      |   |
|-----------------|-----|---|----|----|----|----|----|------|---|
|                 | SA3 | Facilitate better Decision Making               | 4  | 8  | 20 | 24 | 44 | 3.96 | Agreed, Fin-tech aids in better decision-making processes, providing actionable insights.                   |
| Support         | SU1 | Proactive Problem Resolution                    | 6  | 8  | 22 | 24 | 40 | 3.84 | Agreed, Fin-tech works on problem resolution, enhancing operational efficiency                              |
|                 | SU2 | Regular Updates and Communication               | 0  | 12 | 20 | 24 | 44 | 4.00 | Agreed, Fin-tech platforms notifies regularly, ensuring transparency and engagement.                        |
|                 | SU3 | Comprehensive Training Programs                 | 2  | 10 | 60 | 28 | 0  | 3.14 | Neutral, indicates a need for more comprehensive training programs for Fin-tech solutions among respondents |
| Personalization | P1  | Customized Dashboard for key metrics            | 0  | 14 | 16 | 18 | 52 | 4.08 | Agreed, Fin-tech offers multiple options, enabling effective monitoring and analysis                        |
|                 | P2  | Insights with Industry Benchmarks               | 0  | 12 | 20 | 68 | 0  | 3.56 | Agreed, Fin-tech is aiding in strategic planning to attain the benchmarks                                   |
|                 | P3  | Alerts and Notifications/Localized Tax Guidance | 12 | 20 | 38 | 30 | 0  | 2.86 | Moderately Disagreed, Fin-tech should improve its effectiveness in Tax guidance                             |

Source: Primary Data

Using a 5-point Likert scale to gauge the impact of agripreneurs' preference for Fin-tech Services. These statements, modified to align with the study's context, were rated and tabulated using percentage and mean rating evaluations. Responses ranged from strongly disagreeing (1) to strongly agreeing (5).

### Interpretation

(Table 3) clearly conveys that Fin-tech solutions have garnered widespread acceptance, aligning seamlessly with business requirements and demonstrating notable advantages in efficiency and productivity. Agripreneurs appreciate its convenience, flexibility, and the accelerated processes it facilitates, leading to enhanced decision-making. Moreover, Fin-tech emphasizes security, ensuring the safety of both business and personal information, thereby fostering trust and reliability among respondents. While some areas like tax guidance effectiveness may require refinement, overall, Fin-tech platforms are perceived as valuable, transparent, and essential for strategic planning and operational efficiency in daily business operations.'

### 8.3 Analysing the impact of acceptance towards Business adaptability of Fin-tech based on different demographic variables

Business Adaptability of Fin-tech, a dependent variable, is gauged through 6 construct assessed for significance at 0.05 and 0.10 levels. The Kruskal-Wallis H test examines how age, education, experience, and gender—considered as independent variables—affect Agripreneurs. Given that our study employs ordinal Likert statements, the Kruskal-Wallis H test is apt for assessing rank-based, ordinal variables. This test's significance values determine hypothesis acceptance or rejection, either surpassing or falling below the 0.05 and 0.10 thresholds.

Table 4 Demographic Profile

| Characteristics | Values              | Frequency | Percentage (%) |
|-----------------|---------------------|-----------|----------------|
| Gender          | Male                | 198       | 66%            |
|                 | Female              | 102       | 34%            |
| Age             | Less than 30        | 48        | 16%            |
|                 | 30 - 40 Years       | 84        | 28%            |
|                 | 40 - 50 Years       | 102       | 34%            |
|                 | Above 50 Years      | 66        | 22%            |
| Education       | No Formal Education | 36        | 12%            |
|                 | School              | 42        | 14%            |
|                 | UG                  | 132       | 44%            |
|                 | PG                  | 54        | 18%            |
|                 | Vocational Training | 36        | 12%            |
| Experience      | Less then 5 Years   | 66        | 22%            |
|                 | 5 - 10 years        | 84        | 28%            |
|                 | 10 - 20 years       | 96        | 32%            |
|                 | Above 20 years      | 54        | 18%            |

Source: Primary Data

**Interpretation**

The demographic profile of agripreneurs reveals a diverse distribution across several key characteristics is shown in (Table 4) In terms of gender, the majority are male, constituting 66% of the sample, while females make up 34%. Age-wise, the largest group falls within the 40-50 years, accounting for 34%, closely followed by those above 50 years at 22%. The age category of 30-40 years represents 28%, and those below 30 years constitute 16%. Educationally, the sample showcases a significant presence of individuals with undergraduate degrees (44%), followed by postgraduates (18%) and those with school-level education (14%). Interestingly, 12% have no formal education, with another 12% having vocational training. Experience-wise, a notable 32% possess 10-20 years of experience, while those with 5-10 years and less than 5 years stand at 28% and 22%, respectively. Those with over 20 years of experience comprise 18% of the agripreneurs sampled.

The hypotheses were formed to find out the significant differences in the acceptance towards Business adaptability of Fin-tech services based on the demographic findings.

H<sub>0</sub>: There is no significant difference in the acceptance towards Business adaptability of the Fin-tech Service and Demographic variables

H<sub>a1</sub>: There is a significant difference in the acceptance towards Business adaptability of the Fin-tech Service based on respondents' Gender.

H<sub>a2</sub>: There is a significant difference in the acceptance towards Business adaptability of the Fin-tech Service based on respondents' Age

H<sub>a3</sub>: There is a significant difference in the acceptance towards Business adaptability of the Fin-tech Service based on respondents' Education

H<sub>a4</sub>: There is a significant difference in the acceptance towards Business adaptability of the Fin-tech Service based on respondents' Experience

**Table 5** Kruskal Wallis H Test

| Items           | Age        |      | Education  |      | Experience |      |
|-----------------|------------|------|------------|------|------------|------|
|                 | Chi Square | Sig. | Chi Square | Sig. | Chi Square | Sig. |
| Convenience     | 15.634     | .001 | 14.542     | .006 | 17.565     | .001 |
| Efficiency      | 17.926     | .000 | 9.665      | .046 | 5.583      | .134 |
| Trust           | 4.630      | .201 | 15.115     | .004 | 4.370      | .224 |
| Satisfaction    | 8.246      | .041 | 15.744     | .003 | 6.813      | .078 |
| Support         | 17.726     | .001 | 19.749     | .001 | 15.549     | .001 |
| Personalization | 16.711     | .001 | 18.389     | .001 | 26.499     | .000 |

Source: Primary Data

**Table 6** Mann Whitney U Test

| Fin-tech Business Adaptability | Gender |      |
|--------------------------------|--------|------|
|                                | Z      | Sig. |
| Convenience                    | -4.129 | .000 |
| Efficiency                     | -3.784 | .000 |
| Trust                          | -.384  | .701 |
| Satisfaction                   | -2.586 | .010 |
| Support                        | -2.217 | .027 |
| Personalization                | -2.619 | .009 |

Source: Primary Data

Following the calculation of statements concerning the acceptance of Fin-tech's business adaptability, these statements were amalgamated to create a scale score, which was subsequently used to either accept or refute the null hypothesis. The results of the computed score (age, education, experience) Kruskal-Wallis H test are given in Table 7 and (Gender) Mann Whitney U Test in Table 8.

**Table 7** Kruskal Wallis H Test Statistic

| Dependent Variable: Fin-tech Business Adaptability | Independent Variable |           |            |
|--|----------------------|-----------|------------|
|  | Age                  | Education | Experience |
| Chi Square   | 27.356               | 20.451    | 16.216     |
| Degree of Freedom                                  | 3                    | 4         | 3          |
| Significant value                                  | .000                 | .000      | .001       |

Source: Primary Data

**Interpretation**

**Ha<sub>2</sub>:** Rejecting the null hypothesis is warranted since the Chi-Square value of 27.356 for Age has a significant value of .000 (less than 0.05). This indicates a significant difference in acceptance towards Fin-tech's business adaptability based on respondents' age. **Ha<sub>3</sub>:** The Chi-Square value of 20.451 for Education with a significant value of .000 (less than 0.05). Thus, the null hypothesis is rejected, implying a significant difference in acceptance based on respondents' educational backgrounds. **Ha<sub>4</sub>:** Similarly, for Experience, the Chi-Square value of 16.216 with a significant value of .001 (less than 0.05) leads us to reject the null hypothesis. This suggests a notable difference in acceptance concerning Fin-tech's business adaptability based on the respondents' experience levels.

**Table 8** Mann Whitney U Test Statistic

| Dependent Variable Fin-tech Business Adaptability | Independent Variable |
|---|----------------------|
|   | Gender               |
| z   | -3.631               |
| Degree of Freedom                                 | 4                    |
| Significant value                                 | .000                 |

Source: Primary Data

**Interpretation**

**Ha<sub>1</sub>:** The Z-score is -3.631, and the significance value is .000 (or  $p < .001$ ). This extremely low p-value indicates strong evidence against the null hypothesis. Essentially, the p-value being less than 0.05 suggests that we reject the null hypothesis, with 4 degrees of freedom, this test considers a relatively small subset of the sample, but the results remain statistically significant. Given the significance value of .000, which is less than the commonly used alpha level of 0.05, we reject the null hypothesis. This means there is a statistically significant difference in the acceptance towards Business adaptability of the Fin-tech Service based on respondents' Gender. Mann-Whitney U test results indicate that gender plays a significant role in how individuals perceive and accept the adaptability of Fin-tech in business settings. Overall, demographic factors like Gender, Age, Educational background, and Experience within the plant food business sector distinctly impact the acceptance of Fin-tech solutions for business adaptability.

**9. Findings**

First, a majority of businesses recognize and harness the transformative potential of Fin-tech, fully embedding it into their operational frameworks. This full-scale integration 68% likely signifies the tangible benefits these firms derive, such as enhanced efficiency, improved customer experiences, and streamlined processes. Second, the 32% who have partially integrated Fin-tech solutions suggest a continuum of adoption. These businesses might be navigating challenges like infrastructure readiness, regulatory concerns, or strategic alignment.

Nearly Half 48% of respondents have a basic Fin-tech understanding, while 28% show high familiarity. However, 12% lack understanding, and 6% each are at "Very High" and "Very Low" levels, indicating diverse Fin-tech awareness among agripreneurs. Bridging the knowledge gap can modify access to Fin-tech benefits, ensuring that all stakeholders can utilize these technologies' potential. Furthermore, understanding these varied levels of Fin-tech literacy enables policymakers and industry leaders to develop targeted strategies, fostering an ecosystem where both early adopters and newbie can thrive.

The analysis of business adaptability towards Fin-tech reveals a predominantly positive reception, emphasizing its alignment with core business needs and high levels of convenience and accessibility. Notably, Fin-tech has significantly enhanced operational efficiency through automation, as evidenced by high scores in routine task automation and reduced paperwork. Trust emerges as a keystone, with businesses showing considerable confidence in Fin-tech's security protocols, safeguarding both business and personal information. Additionally, the platforms' reliability shines through quick approval rates and facilitation of agile decision-making processes. However, the findings also pinpoint areas for



improvement, notably in supporting comprehensive training programs and refining tax guidance capabilities. Overall, while Fin-tech's impact is largely acclaimed for driving efficiency and trust, addressing these areas of opportunity could further elevate its transformative potential for Agripreneurs.

The statistical analysis reveal pivotal demographic influences on perceptions of Fin-tech's business adaptability. Specifically, significant differences emerge across age groups, as evidenced by a Chi-Square value of 27.356 ( $p = .000$ ), emphasizing age-specific strategies for optimal Fin-tech engagement. Similarly, education levels significantly shape acceptance, with a Chi-Square value of 20.451 ( $p = .000$ ), highlighting the need for tailored educational approaches. Professional experience also plays a role, as indicated by a Chi-Square value of 16.216 ( $p = .001$ ), suggesting nuanced strategies for varying experience levels. Furthermore, gender distinctly impacts perceptions, with a Z-score of -3.631 and a p-value of .000 ( $p < .001$ ), emphasizing the importance of gender-sensitive approaches in Fin-tech implementation and design. Collectively, these findings emphasize the importance of demographic considerations in shaping effective Fin-tech strategies and solutions.

Certainly, the acceptance of Fin-tech solutions within the plant food business sector is undeniably influenced by various demographic factors. Gender nuances, age groups, educational attainments, and professional experiences collectively shape perceptions and preferences towards adopting technological solutions. For instance, different age groups might have varying comfort levels with Fin-tech platforms, while educational backgrounds could determine the level of trust and understanding. Additionally, one's experience within the sector likely informs their perspective on how Fin-tech can enhance business adaptability. Thus, these demographic variables not only reflect the diverse stakeholder landscape within the plant food industry but also brings out the multifaceted considerations that businesses must navigate when integrating Fin-tech solutions for optimal adaptability and efficiency.

## **10. Conclusion**

The rapid evolution and integration of financial technology within the business landscape underscore its indispensable role in enhancing adaptability and efficiency. Specifically, for industries like plant food businesses, Fin-tech emerges as a pivotal tool, streamlining operations, optimizing supply chains, and facilitating seamless transactions. As consumers increasingly favor digital solutions, obtaining a green flag from users becomes paramount, signifying trust, convenience, and value. Fin-tech not only addresses immediate business needs but also paves the way for transformative growth, reshaping the plant food industry's trajectory. Recent time it becomes increasingly evident that embracing adaptability in Fin-tech not only augments operational efficiencies but also paves the way for a more resilient, innovative, and consumer-centric business. By leveraging innovative Fin-tech solutions, businesses can anticipate enhanced scalability, real-time data analytics, and ensuring sustainability and competitive advantage in the near future. Thus, embracing Fin-tech is not merely an option but a strategic essential for plant food businesses aiming to thrive in a digitally-driven marketplace.

## **11. Practical Implications**

To catalyze the adaptability of Fin-tech solutions within the plant food sector, actionable strategies emerge across multiple stakeholders. Fin-tech corporate must craft reflective solutions that address specific industry needs, from supply chain financing to sustainable digital payments. Concurrently, governmental bodies should institute supportive policies, encompassing tax incentives and technology adoption grants, while fostering collaboration between Fin-tech firms and plant-based enterprises. Business holders must commit to substantial investments in Fin-tech infrastructure, encompassing digital inventory management and block-chain traceability, while prioritizing stakeholder training and development. This symbiotic approach aims to optimize operational transparency, drive data-driven decision-making, enhance financial inclusion for small-scale producers, support risk management, and fortify sustainability initiatives, thereby positioning the plant food sector at the nexus of Fin-tech innovation and sustainable growth.

## **12. Limitations**

Future research endeavors could address the constraints of this study by either augmenting the sample size beyond the 300 respondents employed or exploring alternative sampling methodologies. Further studies can be done with the segments such as smallholder farmers or marginalized groups, who may face barriers in accessing or benefiting from these technologies in the longer run. This would enhance the study's robustness and offer a more comprehensive portrayal of agripreneurs.

## References

1. Agyei-Mensah, B. K., & Oppong, N. (2017). The impact of Fin-tech on micro, small, and medium-sized enterprises (MSMEs) in emerging markets: A systematic review. *Emerging Markets Finance and Trade*, 53(11), 2480-2493.
2. Chen, H., & Wu, Y. (2021). Regulatory Challenges in the Fin-tech Ecosystem: A Global Perspective. *Journal of Financial Regulation*, 9(3), 180-195.
3. Cumming, D. J., & Zhang, Y. (2016). Technological innovation and entrepreneurship in Fin-tech: An international perspective. *Fin-tech: The Impact and Influence of Financial Technology on Banking and the Finance Industry*, 19-38.
4. Davis, M. P., & Thompson, R. E. (2017). Mobile Payment Systems: A Comprehensive Analysis of Security and Adoption in the Fin-tech Sector. *Journal of Digital Finance*, 4(4), 256-270.
5. Dapp, T., & Müller, J. (2018). *The Future of Fin-tech: Integrating Finance and Technology in Financial Services*. Springer.
6. Demirgüç-Kunt, A., & Klapper, L. (2017). *Fin-tech: Opportunities and Risks*. World Bank Group, 1-44.
7. Gomber, P., Koch, J. A., & Siering, M. (2017). Digital Finance and Fin-tech: Current Research and Future Research Directions. *Journal of Business Economics*, 87(5), 537-580.
8. Gosenpud, J., & Vanevenhoven, J. (2011). Using tools from strategic management to help micro-entrepreneurs in developing countries adapt to a dynamic and changing business environment. *Journal of Applied Business Research (JABR)*, 27(5), 1-14. <https://doi.org/10.19030/jabr.v27i5.5588>
9. Gupta, S., & Patel, R. (2019). Blockchain Technology and its Implications for Financial Institutions. *International Journal of Fin-tech Research*, 7(1), 20-35.
10. Howell, R. A., & Yeganegi, S. M. (2018). Fin-tech, regulatory arbitrage, and the rise of shadow banks. *Michigan Business & Entrepreneurial Law Review*, 7, 81-118.
11. Lee, M., & Kim, S. (2020). Artificial Intelligence in Fin-tech: Opportunities and Challenges. *Journal of Financial Innovation*, 12(2), 110-125.
12. O'Connell, J., & Murphy, D. (2019). Cybersecurity concerns in Fin-tech integration for MSMEs: A risk management approach. *Journal of Information Security and Privacy*, 13(1), 5-20.
13. Patel, R., & Gupta, S. (2019). Blockchain Technology and its Implications for Financial Institutions. *International Journal of Fin-tech Research*, 7(1), 20-35.
14. Setiawan, B., Nugraha, D. P., Irawan, A., Nathan, R. J., & Zoltan, Z. (2021). User innovativeness and fintech adoption in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(3), 188. <https://doi.org/10.3390/joitmc7030188>
15. Smith, J. A., & Johnson, L. B. (2018). The Impact of Fin-tech on Small Business Lending. *Journal of Financial Technology*, 15(3), 45-60.
16. Williams, R., & Lee, M. (2020). Assessing the impact of Fin-tech on small and medium-sized enterprises (SMEs). *International Journal of Business Innovation and Research*, 18(2), 123-138.
17. Zohar, A., & Polonchek, A. (2016). *Fin-tech: An industry at a tipping point*. Ernst & Young, 1-16.
18. Zhu, Y., & Khan, M. T. I. (2018). Fin-tech and financial inclusion: Evidence from China. *Pacific-Basin Finance Journal*, 50, 50-61.