PLANT SCIENCE TODAY
Vol 12(3): 1-8
https://doi.org/10.14719/pst.7386

eISSN 2348-1900

RESEARCH ARTICLE

Ethnomedicine and women agripreneurs: Exploring the dynamics of entry and growth

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Received: 23 January 2025; Accepted: 02 May 2025; Available online: Version 1.0: 27 June 2025; Version 2.0: 01 July 2025

Cite this article: Chetna US, Shanthasheela M, Manimekalai R, Murugananthi D, Karthick V. Ethnomedicine and women agripreneurs: Exploring the dynamics of entry and growth. Plant Science Today. 2025; 12(3): 1-8. https://doi.org/10.14719/pst.7386

Abstract

Women agripreneurs are emerging as vital contributors to local economies through their cultivation and commercialization of medicinal plants, drawing on generations of traditional knowledge. Ethnomedicine, rooted in indigenous healing practices, aligns naturally with women's roles as caregivers, herbalists and cultivators, positioning them as both knowledge holders and innovators. This study examines the factors influencing women's entry and engagement in the ethnomedicine sector in Coimbatore district, Tamil Nadu, emphasizing the growing significance of plant-based knowledge in rural entrepreneurship and sustainable development. Grounded in Social Cognitive Theory, this research investigates how self-efficacy, outcome expectations, social influence and entrepreneurial experience affect entrepreneurial behavior, with intention as a mediating factor. Using Partial Least Squares Structural Equation Modeling (PLS-SEM), the study reveals that self-efficacy and social influence significantly predict intention, which in turn strongly influences behavior. Women actively engaged in cultivating species such as *Ocimum tenuiflorum* (Tulsi), *Phyllanthus emblica* (Amla) and *Aloe barbadensis* (Aloe Vera), reflecting a fusion of ancestral knowledge and agribusiness innovation. Entrepreneurial intention strongly predicts actual behavior. Self-efficacy and social influence emerged as key drivers, reflecting the importance of personal confidence and community support. Outcome expectations also had a positive effect while entrepreneurial experience showed no significant impact, suggesting that domain-specific knowledge and cultural factors matter more than prior business exposure. Empowering women in ethnomedicine not only preserves invaluable traditional knowledge but also contributes to the development of sustainable rural health systems and enhances economic resilience.

Keywords: agripreneurs; ethnomedicine; PLS-SEM; social cognitive theory; women

Introduction

Ethnobotanical research underscores marked gender-based distinctions in the knowledge and application of plants. Women are typically more knowledgeable about edible and medicinal plant species, whereas men tend to be more acquainted with species used for construction and related purposes (1). Age is another influential factor, with older individuals generally possessing more advanced plant knowledge; however, in specific circumstances, younger people may demonstrate a broader diversity in plant use. To enhance the depth of insights, scholars are recommended to utilize mixed-method approaches and pay careful attention to gender-related dynamics in their investigations (2).

While indigenous knowledge of plants presents valuable opportunities for commercialization, several challenges hinder its practical application. Bioprospecting can offer economic benefits and community empowerment (3) yet concerns around fair benefit sharing and intellectual property rights often arise when commercial entities capitalize on traditional practices (4). Among the notable obstacles to commercialization are maintaining a sustainable supply of plant materials, ensuring consistent product quality and meeting the strict regulatory standards of high-income countries (5). Collaborating with larger corporations or fair-trade organizations is frequently necessary to address these hurdles effectively. In the South African context, the commercialization of native crops holds promise for rural communities, provided challenges such as limited access to markets, entrepreneurial capacity and financing mechanisms are resolved (6). Although some indigenous plants may appeal only to niche markets, others hold broader commercial prospects. Nevertheless, implementing scientific findings into rural agrarian systems remains difficult and there is a critical need to ensure fair and inclusive benefit-sharing with the knowledge-holding communities.

The medicinal plant value chain involves various actors from the initial harvesting stages to the final use, facing ongoing challenges related to sustainability, quality

management and equitable economic outcomes (7, 8). Stakeholders in the chain include collectors, middlemen, processors, retailers and traditional healers, yet the system suffers from weak vertical integration and minimal lateral collaboration (9). Research gaps exist in ethnopharmacology, especially regarding the socioeconomic and environmental dimensions of medicinal plant use (10). Strengthening these systems through intentional interventions could contribute to broader development goals and benefit local communities (8).

Several studies have documented the use of medicinal plants by tribal communities in Tamil Nadu (11, 12). For example, an ethnobotanical survey in the Jawadhu Hills of the Eastern Ghats in Tamil Nadu, found that the Malayali tribes use medicinal plants to treat a variety of ailments, including asthma, coughs, colds, skin diseases and diabetes (11). Similarly, research in the Pachamalai hills of Tamil Nadu has focused on identifying plants used by the Malayali ethnic group and documenting their local names, medicinal uses and methods of preparation (12).

The Coimbatore region in Tamil Nadu boasts rich biodiversity and an abundance of traditional medicinal knowledge. Ethnobotanical research has recorded a wide range of species used for therapeutic purposes by local and tribal groups, such as the Malasars (13). Prominent botanical families include Euphorbiaceae, Fabaceae and Asclepiadaceae, with herbs being the most used plant form (14). While several medicinal plants are cultivated commercially and sold in regional markets, select species possess particularly high commercial potential (15).

Specific plant species demonstrate both high ethnomedicinal value and commercial viability. *Aloe vera* (*Aloe barbadensis* Miller) for instance, is cultivated widely for its dermatological and anti-inflammatory uses, especially in cosmetic and health related industries (16). *Phyllanthus emblica* (Amla) is well-known for its immune boosting properties and high vitamin C content, making it a cornerstone of preventive healthcare (17). *Ocimum sanctum* (Tulsi or Holy Basil) is revered for its antimicrobial and adaptogenic qualities, often used for treating stress and respiratory issues (18). *Withania somnifera* (Ashwagandha) is traditionally used to promote vitality, reduce anxiety and support reproductive wellness (19). *Centella asiatica* (Vallarai) is valued for its cognitive and skin healing benefits, making it popular in memory tonics and topical applications (20). *Azadirachta indica* (Neem) remains a key component in ethnomedicine for its antiseptic and blood-purifying properties and is widely utilized in biopesticides and skin treatments (21). *Curcuma aromatica* (Kasthuri Manjal or Wild Turmeric) is extensively used by women for skin care, noted for its antimicrobial and anti-inflammatory attributes (22).

To fully understand the evolving role of women in ethnomedicine as agripreneurs, it is necessary to adopt a theoretical lens that accounts for both individual agency and the broader social environment. Social Cognitive Theory (SCT) offers an appropriate framework by focusing on the interplay between personal, behavioral and environmental elements. Self-efficacy and anticipated outcomes significantly motivate women's participation in the sector. Prior entrepreneurial exposure and familiarity with ethnomedicinal practices further enhance their ability to innovate and sustain business models. At the same time, external factors such as community attitudes, market accessibility and local support networks either enable or constrain their entrepreneurial potential.

Despite the increasing prominence of ethnomedicine in policy and public health narratives, the specific drivers behind women's involvement and success in this field remain underexplored. This study seeks to bridge that gap by employing SCT constructs, namely self-efficacy, outcome expectations, social influence and behavioral patterns, to investigate the motivations, barriers and developmental paths of women agripreneurs in the ethnomedicine domain. By identifying the enabling and inhibiting factors, the research aims to support evidence-based policy development and grassroots interventions. The study also advocates for the promotion of sustainable health solutions, the safeguarding of indigenous plant knowledge and the economic empowerment of rural women through culturally rooted entrepreneurial ventures.

Review of literature

Numerous plant species are utilized to address ailments such as coughs, dermatological issues, ulcers and diabetes, as indicated by surveys conducted in regions including Jawadhu Hills and Alagarkoil Hills (23). An estimated 70 to 95 % of people in developing nations receive primary medical care through ethnomedicine, with up to 85 % of that care involving plant extracts (24). In a pilot study spanning 11 countries, ethnomedical therapies continued to be widely used, with mainland China exhibiting the highest overall percentage, despite Western hospital use ranking highly (25). Ethnomedicine includes cultural views on health, illness and disease as well as how the people seek medical care and heal (26). For ethnic groups residing in forested areas of Tamil Nadu, the Western and Eastern Ghats are the primary sources of medicinal plants (27).

Ethnomedicine studies the connection between illness, social behavior and human adaptation (28). Despite its initial focus on folk medicine and comparative medical systems, its scope has broadened to encompass biomedicine, global influences and the performative aspects of healing (26). To create a thorough theory of disease with a broad range of applications, ethnomedicine investigates biological and environmental knowledge and culturally based perspectives on health, illness and disease (28).

Among the prominent medicinal plants commonly used in ethnomedicinal contexts are *Phyllanthus emblica* (Amla), *Aloe barbadensis* (Aloe vera) and *Centella asiatica* (Vallarai), each valued for respective contributions to immune enhancement, skin repair and cognitive function. The ecologically rich regions of the Western and Eastern Ghats provide essential biodiversity and serve as key habitats for the collection and cultivation of these therapeutic plants by indigenous communities (27).

Ethnomedicine, which initially emerged as a branch of medical anthropology, delves into the complex relationships between disease, cultural practices and environmental adaptation (28). Although its early focus centred on traditional healing systems and cross-cultural comparisons of medical frameworks, it has since broadened its scope to include the impacts of biomedical paradigms, globalization and the symbolic or ritual components of healing processes (26).

Ethnomedicine draws upon local ecological wisdom, plant taxonomy and health practices that are deeply ingrained within specific cultural contexts, offering an integrated view of illness, healing and wellness (28).

Women play a central and enduring role in sustaining and transmitting ethnomedicinal traditions. Their knowledge is frequently inherited through maternal lines and is intrinsically connected to their traditional responsibilities as healers, midwives and caretakers. Research has consistently shown that women are not only major users and practitioners of herbal remedies but also act as vital custodians and conveyors of this knowledge within their societies (29). In particular, elder women often retain and protect specialized and sometimes endangered plant knowledge, which faces an increasing threat of extinction due to changing social dynamics and lack of documentation (30). Species such as *Ocimum sanctum* (Tulsi), *Withania somnifera* (Ashwagandha) and *Curcuma aromatica* (Kasthuri Manjal) are frequently grown and applied by women to address everyday health concerns, enhance skin health and fulfil religious or cultural rituals. Strengthening women's roles in ethnomedicine through supportive policies and inclusive entrepreneurship has the potential to reinforce community-based healthcare systems while also contributing to the economic sustainability of rural areas (31).

The reciprocal relationship between behavioral, environmental and personal factors is emphasized by SCT (32, 33). It presents the ideas of triadic reciprocal determinism and human agency, emphasizing the ability to self-direct and the interaction of behaviour, thought and environment (34). The Social Cognitive Theory relies heavily on key constructs like outcome expectancies and self-efficacy, which measure a person's perceived control over a situation (35). This framework can assist in explaining how women's knowledge, social contexts and obstacles influence their roles in ethnomedicine.

Hypothesis developed for study

(H1) – Self Efficacy -> Entrepreneurial Intention

Self-efficacy significantly influences their intention to engage in entrepreneurial behavior.

Research continuously shows that entrepreneurial self-efficacy and entrepreneurial intention are strongly positively correlated. According to several studies, students' intentions to start their businesses are greatly impacted by their entrepreneurial self-efficacy, both directly and indirectly (36-38).

(H2) – Outcome Expectation -> Entrepreneurial Intention

Outcome expectation significantly influences their intention to engage in entrepreneurial behavior.

Subjective norms moderate the effect of outcome expectations, which partially mediate the relationship between entrepreneurial self-efficacy and intentions (39).

(H3) – Social Influence -> Entrepreneurial Intention

Social influence significantly influences their intention to engage in entrepreneurial behavior.

Entrepreneurial intent is also influenced by cultural elements, such as gender equality, especially for women (40)

(H4) – Entrepreneurial Experience -> Entrepreneurial Intention

Entrepreneurial experience significantly influences their intention to engage in entrepreneurial behavior.

Family experiences shape long-term intentions, while different forms of entrepreneurial experiences influence future aspirations over a range of time horizons (41)

(H5) – Entrepreneurial Intention -> Entrepreneurial Behaviour

Entrepreneurial intention significantly influences their intention to engage in entrepreneurial behavior.

Counterfactual thinking is one cognitive factor that may alter how attitude and opportunity identification affect entrepreneurial career intentions (42).

Through qualitative, open-ended interactions with women agripreneurs in the Coimbatore district, the constructs were further examined before being considered for inclusion in the study. The following section outlines the main findings from the interactions

Methodology

This study employs a mixed-methods approach, combining quantitative analysis with qualitative inquiry to explore the entry and growth dynamics of women agripreneurs engaged in ethnomedicinal practices. The research was conducted in the Coimbatore district of Tamil Nadu, a region known for its rich ethnobotanical traditions and biodiversity. A purposive sampling technique was employed to select 100 women agripreneurs actively involved in the cultivation, collection, or commercialization of medicinal plants. Participants were drawn from key blocks such as Pollachi, Mettupalayam, Coimbatore (North) and Coimbatore (South), ensuring both ecological and cultural representation across diverse agro-climatic zones.

Structural Equation Modeling (SEM) is a powerful multivariate statistical technique that combines factor analysis and regression to examine complex relationships among variables (43). Test for the validity, theoretical models and investigate causal structures all within a single framework (44). Structural Equation Modeling (SEM) was selected as the main analytical tool for this study to investigate the factors influencing women agripreneurs transitioning to the ethnomedicine sector due to its accuracy and adaptability.

Previous studies have highlighted that women

Theme	Subthemes	Key Insights
Ethnomedicine as a Primary Healthcare Resource	Traditional plant-based healing practices; Household-level healthcare strategies	Ethnomedicine serves as a foundational healthcare system in rural Tamil Nadu, relying on species like Amla, Aloe vera and Tulsi.
Women's Role as Knowledge Holders and Healers	Matrilineal transfer of ethnobotanical knowledge; Age-related wisdom	Women, especially elders, are central to the preservation and transmission of medicinal plant knowledge.
Ethnomedicinal Entrepreneurship and Agripreneurial Transition	Plant cultivation and commercialization; Value-added products	Women are increasingly transforming ethnobotanical practices into economic ventures, contributing to household income and local economies.

agripreneurs in the ethnomedicine field face numerous challenges but also hold promising prospects (45). According to research conducted in Western Tamil Nadu, women agripreneurs are becoming more involved in social and decision-making activities (46). A structured questionnaire, designed to elicit quantitative and qualitative insights, was used to collect data for this study. Its five-point Likert scale and closed-ended questions ranging from "strongly disagree" to "strongly agree" guaranteed standardized answers for analysis. Open-ended questions were also included to capture complex viewpoints and add qualitative depth to the quantitative results. To ensure a representative sample of 100 women agripreneurs involved in cultivation and processing of medicinal plants, the data collection process concentrated on active women agripreneurs in the Coimbatore (North), Coimbatore (South), Pollachi and Metupalayam in the Coimbatore district of Tamil Nadu (Fig. 1). Because of their active participation in the plant science sector, the participants were purposefully chosen to offer pertinent insights into the operations and effects of these organizations.

Framework for SEM analysis: Measurement model

This stage assessed the validity and reliability of the constructs to ensure that the latent variables accurately represented the underlying theoretical concepts. Cronbach's alpha and composite reliability were used to measure reliability and the Fornell-Larcker criterion, Heterotrait-Monotrait (HTMT) ratio and Average Variance Extracted (AVE) were used to assess convergent and discriminant validity.

Structural model

In this stage, the direct and indirect effects of factors influencing the entry were examined and the hypothesized relationships between constructs were tested. After a thorough literature review and qualitative data collected from a survey, the SEM framework's constructs were operationalized to represent important aspects of ethnomedicine, including self-efficacy, outcome expectations, social influence and entrepreneurial expectation. For data analysis, SmartPLS version 4.0 was used.

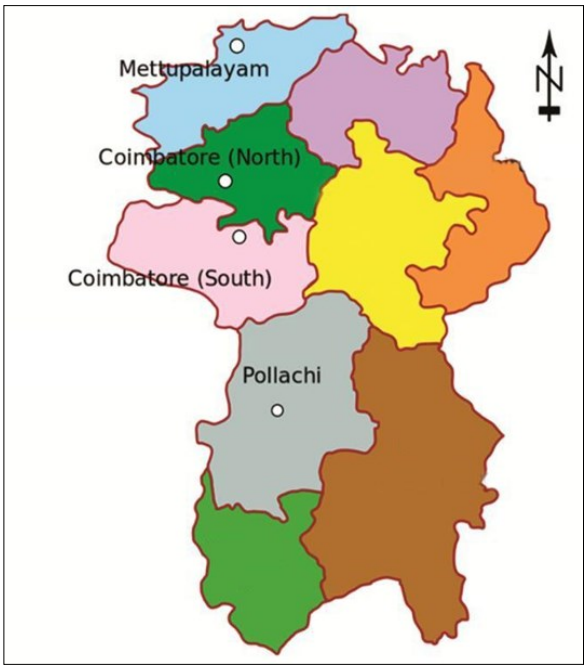

Fig. 1. Area chosen for the study in Coimbatore district.

Ethical considerations

Strict ethical guidelines were followed during the research. Before data collection, all participants gave informed consent and confidentiality was guaranteed to safeguard their identities. Standardized procedures were used for data entry, cleaning and analysis to preserve data integrity. The relevant institutional review board granted ethical clearance, guaranteeing adherence to ethical standards during the investigation.

Results and Discussion

Evaluation of measurement models

The measurement model was analyzed using PLS-SEM, which looked at validity using Average Variance Extracted (AVE), convergent validity, discriminant validity and reliability using Cronbach's alpha and composite reliability (47). Cronbach's alpha and other reliability coefficients ranged from 0.70 to 0.82, exceeding the internal consistency cutoff (48). Average Variance Extracted values exceeded the 50 % threshold, indicating that the constructs exhibited convergent validity (49). The discriminant validity requirement was met by the Fornell-Larcker analysis, which verified that each construct's square root of the AVE was higher than its correlations with other constructs (50). Additionally, HTMT ratios fell below the conservative cutoff of 0.85, confirming the model's sufficient discriminant validity (51). For further structural model analysis, these results validate the constructs of the measurement model. Tables 2 & 3 display the comprehensive findings of the HTMT and Fornell-Larcker evaluations.

Evaluation of Structural Models

The structural model assessment in PLS-SEM assessed the proposed relationships between latent variables (Fig. 2). The model showed acceptable explanatory power, with R^2 values ranging from 0.25 to 0.49, indicating moderate to substantial variance explained (52). In particular, the primary dependent variable's R^2 was 0.49, indicating that the predictor variables accounted for 49 % of its variance. According to social science research standards, R^2 values near 0.50 generally indicate moderate explanatory power (51).

Strong psychometric qualities are indicated by the constructs' validity and reliability metrics (Table 1). All constructs have Cronbach's alpha values between 0.733 and 0.866, indicating acceptable to excellent internal consistency. Three of the constructs also surpass the 0.8 threshold for good reliability. The composite reliability (rho_c) values, which range from 0.833 to 0.9, for all constructs, confirmed the overall reliability. This was also supported by the alternative metric (rho_a), which has values between 0.735 and 0.869. Convergent validity was established since the Average Variance Extracted (AVE) for each construct was greater than the cutoff of 0.5 and ranges from 0.545 to 0.625. According to these findings, the measurement model was sound and contained valid and dependable constructs that can be used for additional structural analysis.

By comparing the square root of the Average Variance Extracted (AVE) for each construct (diagonal values) with its correlations with other constructs (off-diagonal values), the Fornell-Larcker criterion evaluates discriminant validity (Table 2). Since each construct's square root of AVE was higher than

its

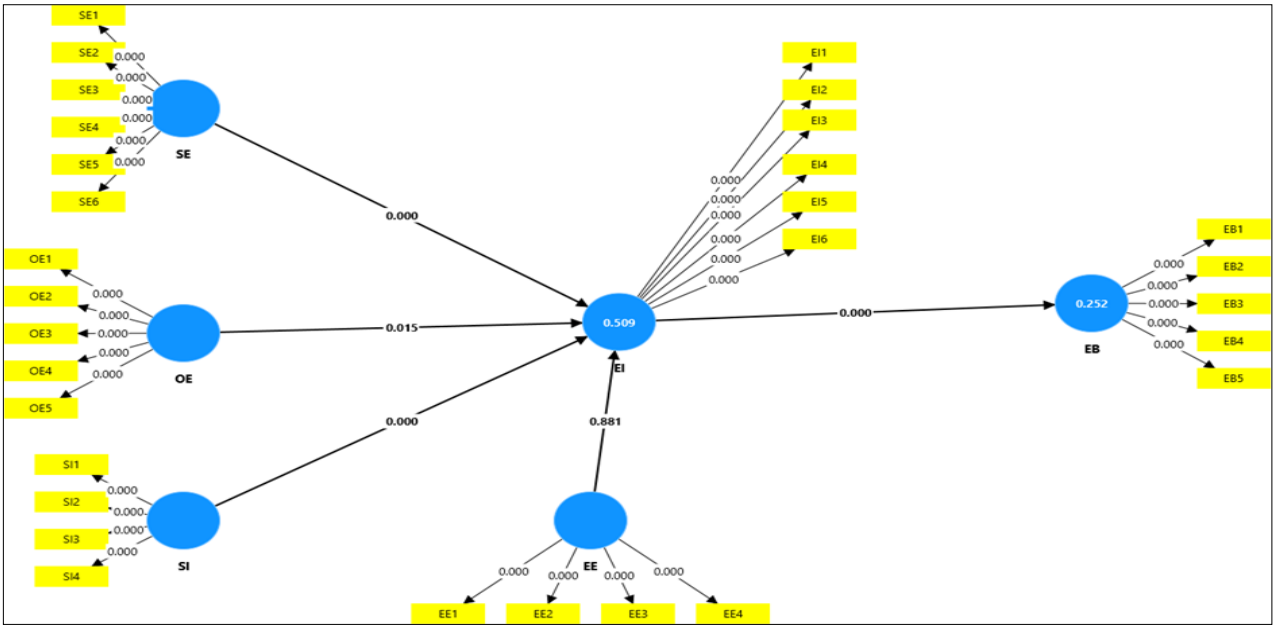

Fig. 2. Hypothesis testing outcomes based on bootstrapping in PLS-SEM.

Table 1. Construct validity and reliability of the measurement mod-

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
EB	0.85	0.858	0.893	0.625
EE	0.789	0.839	0.854	0.599
EI	0.833	0.836	0.878	0.545
OE	0.741	0.749	0.828	0.58
SE	0.866	0.869	0.9	0.6
SI	0.733	0.735	0.833	0.555

correlations with other constructs, indicating good discriminant validity, all the constructs in the given matrix satisfy the Fornell-Larcker criterion. This supports the validity of the measurement model by showing that each construct was unique and accounts for a greater proportion of the variance in its indicators than it does with other constructs.

Table 2. Fornell Lacker

	EB	EE	EI	OE	SE	SI
EB	0.791					
EE	0.448	0.774				
EI	0.502	0.308	0.738			
OE	0.366	0.325	0.505	0.701		
SE	0.592	0.46	0.596	0.557	0.774	
SI	0.627	0.262	0.567	0.331	0.403	0.745

The Heterotrait Monotrait (HTMT) ratios from a PLS-SEM analysis, which evaluates discriminant validity by looking at how different constructs are from one another, are represented by the matrix (Table 3). The off-diagonal values indicate correlations between the constructs Self-Efficiency, Outcome Expectation, Social Influence, Entrepreneurial Experience, Entrepreneurial Intention and Entrepreneurial Behaviour the diagonal elements are empty since they represent perfect self-correlation. There was a low correlation HTMT value of 0.344 between SI- Social Influence (Construct 6) and EE-Entrepreneurial Experiences (Construct 2), whereas SI has a higher correlation (0.793) with EB-Entrepreneurial Behaviour All things considered, none of the HTMT values are higher than the usual cutoff points of 0.85 or 0.90, indicating that the constructs have sufficient discriminant validity and are sufficiently different.

Table 3. Heterotrait-Monotrait (HTMT) ratios for discriminant validity

	EB	EE	EI	OE	SE	SI
EB						
EE	0.556					
EI	0.569	0.345				
OE	0.461	0.384	0.637			
SE	0.689	0.544	0.696	0.693		
SI	0.793	0.344	0.715	0.464	0.501	

The R^2 value for Entrepreneurial Behaviour was 0.252, indicating that 25.2 % of the variance in women entrepreneurs' behaviour was explained by the exogenous constructs. Similarly, the R^2 value for Entrepreneurial Intention was 0.509, showing that 50.9 % of the variance was accounted for by Entrepreneurial Experiences, Outcome Expectations, Self-efficacy and Social Influence (Table 4).

Table 4. R2 and adjusted R2 of entrepreneurial intention and behaviour

	R-square	R-square adjusted
EB	0.252	0.246
EI	0.509	0.495

The adjusted R^2 accounted for the number of predictors in the model and suggested that after adjusting for the number of constructs, 24.6 % and 49.5 % of the variance in Entrepreneurial Behaviour and Intention was explained by the model. This slight reduction showed that model remains robust even with multiple predictors.

Different relationships exhibit differing significance levels according to the path coefficient structural model (Table 5). Having a positive coefficient of 0.196, the path from OE to EI was statistically significant with the T statistic of 2.44 and the P value was 0.015. However, with a high T statistic of 5.269 and a P value of 0.0001 the association between SI (Social Influence) and EI was statistically significant and positive (0.366), suggesting a significant and potent effect. With a coefficient of -0.001, a low T statistic of 0.15 and a high P value of 0.881, the relationship between EE and EI was insignificant and suggests no impact. T statistic of 4.67 and a P value of 0.0001 support

the positive (0.344) and statistically significant relationship between SE (Self Efficacy) and EI. With a highly significant T statistic of 6.909 and a P value of 0.0001, the path from EI to EB finally demonstrates a strong positive relationship (0.502), suggesting that EI significantly influences EB. Therefore, EE to EI is either weak or negligible, OE, SE and SI to BI exhibit significant positive relationships.

Table 5. Path coefficient in structural model

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
EE -> EI	-0.01	0.005	0.068	0.15	0.881
EI -> EB	0.502	0.507	0.073	6.909	0.0001
OE -> EI	0.196	0.196	0.08	2.444	0.015
SE -> EI	0.344	0.339	0.074	4.67	0.0001
SI -> EI	0.366	0.37	0.07	5.269	0.0001

Each structural model construct's Average Variance Extracted (AVE) confirms strong validity, with all constructs exhibiting statistically significant outcomes (Table 6). Entrepreneurial Behavioural (EB) accounts for 62.5 % of the variance (AVE = 0.625, T = 13.137, P = 0.0001). Entrepreneurial Experiences (EE) explain 59.9 % of the variance (AVE = 0.599, T = 14.463, P = 0.0001). Entrepreneurial Intention (EI) shows the variance explained at 54.5 % (AVE = 0.545, T = 11.614, P = 0.0001). Self-efficacy (SE) explains 60.0 % of the variance (AVE = 0.6, T = 16.11, P = 0.0001), confirming significant validity. Socia Influence (SI) accounts for 55.5 % of variance (AVE = 0.555, T = 13.569, P = 0.0001), demonstrating strong results. Lastly, Outcome expectations (OE) explain 49.1 % of the variance (AVE = 0.491, T = 12.63, P = 0.0001). These AVE values indicate that all constructs effectively capture a significant proportion of the variance in their indicators, confirming high validity.

Table 6. Average variance extracted in structural model

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
EB	0.625	0.62	0.048	13.137	0.0001
EE	0.599	0.591	0.041	14.463	0.0001
EI	0.545	0.541	0.047	11.614	0.0001
OE	0.491	0.49	0.039	12.635	0.0001
SE	0.6	0.598	0.037	16.11	0.0001
SI	0.555	0.552	0.041	13.569	0.0001

Women involved in medicinal plant cultivation consistently demonstrated high self-confidence in their traditional knowledge systems, which bolstered their sense of efficacy in commercializing ethnomedicinal products. For example, women cultivating *Ocimum tenuiflorum* (Tulsi) and *Phyllanthus emblica* (Amla) reported a sense of empowerment in producing herbal teas and immunity boosters that serve both familial and market purposes. This reinforces Bandura's (1986) theory of human agency, where belief in one's abilities drives goal-directed action, especially when embedded in culturally validated practices.

Further, the role of social influence is evident in the shared community practices and intergenerational transmission of plant knowledge. Women frequently cited the impact of maternal figures and local herbalist networks in shaping their ethnomedicinal competencies. These social networks also facilitated plant exchange and collective cultivation, particularly of species like *Centella asiatica* (Vallarai) for cognitive health and *Curcuma aromatica* (Kasthuri Manjal) for skincare applications practices deeply tied to local rituals and seasonal customs. In parallel, ethnobotanical fieldwork validated the economic and ecological relevance of specific plant species. *Aloe barbadensis* (Aloe Vera) and *Withania somnifera* (Ashwagandha), cultivated in drier blocks like Mettupalayam, are in high demand in both domestic and export markets. Similarly, *Azadirachta indica* (Neem) is leveraged not only for household use but also for producing natural pesticides, showcasing how market value intersects with traditional ecological knowledge.

Using the Q^2, the data highlights the model's predictive relevance and accuracy for Entrepreneurial Intention (EI) and Entrepreneurial Behaviour (EB) (Table 7). For EB, a Q^2 predict value of 0.37 indicates that the model predicts PE better than random chance. However, moderate prediction error was evident, with a Root Mean Square Error (RMSE) of 0.816 and a Mean Absolute Error (MAE) of 0.598, showing an average deviation of 0.598 units from actual values. For EI, a Q^2 predict value of 0.453 reflects stronger predictive relevance and better model performance than EB. While both constructs demonstrate acceptable predictive relevance, the moderate prediction error suggests room for improving the model's accuracy.

Table 7. Q^2 values indicating predictive relevance from PLS-predict analysis

	Q^2predict	RMSE	MAE
EB	0.37	0.816	0.598
EI	0.453	0.759	0.569

Conclusion

In conclusion, this study underscores the importance of environmental and personal factors in encouraging women agripreneurs to enter the ethnomedicine sector. The results of the structural model show that social influence, outcome expectations and self-efficacy all have significant impacts on entrepreneurial intention, which, in turn, strongly predicts entrepreneurial behavior. Significantly, social influence and self-efficacy emerged as the most powerful motivators, highlighting the importance of both individual self-assurance and group support in promoting business endeavors based on traditional plant-based knowledge. This finding implies that women's entry into ethnomedicine is more closely related to cultural familiarity and intrinsic motivation and less dependent on previous business exposure, as entrepreneurial experience did not significantly affect the results. The increasing interest in growing and selling medicinal plants like *Phyllanthus emblica* (Amla), *Ocimum tenuiflorum* (Tulsi) and *Aloe barbadensis* (Aloe Vera) shows how women are combining traditional knowledge with innovative agribusiness practices. The study provides important insights for policymakers and development organizations aiming to provide targeted support, which can contribute to the sustainability of the ethnomedicine sector and broader health and environmental development initiatives.

Acknowledgements

I would like to sincerely thank the organizations and institutions whose databases and resources helped to shape this research. I want to express our appreciation to Tamil Nadu Agricultural University. I am incredibly grateful for the insightful information I was able to obtain from peer-reviewed journals and publications that served as the basis for this work. The successful completion of this study was made possible by the generous sharing of time and insights by the women agripreneurs, for which I am truly grateful. Finally, I would like to express my sincere gratitude to the Chairperson and advisory members for their insightful criticism, direction and helpful recommendations regarding the manuscript.

Authors' contributions

CUS conducted an extensive literature review, synthesized key concepts and drafted the manuscript. SM provided guidance on the conceptual framework, ensured the integrity of the review process and approved the final manuscript. MR contributed to refining ideas, critically reviewed the manuscript and facilitated access to relevant resources. MD assisted in reaching the organizations, revising the manuscript and ensuring clarity and coherence. KV contributed to summarizing findings and enhanced the quality of the manuscript through revisions.

Compliance with ethical standards

Conflict of interest: Authors do not have any conflict of interest to declare.

Ethical issues: None

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Peer review: Publisher thanks Sectional Editor and the other anonymous reviewers for their contribution to the peer review of this work.

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