

Structural Equation Modelling of Barriers and Enablers for Women Entrepreneurs of Southern Rajasthan

Hitanshi Vyas¹, Dr. Hina Khan²

¹Ph.D. Research Scholar, Faculty of Management Studies, JRN Rajasthan Vidyapeeth (Deemed-to-be) University, Udaipur, Rajasthan

²Associate Professor, Faculty of Management Studies, JRN Rajasthan Vidyapeeth (Deemed-to-be) University, Udaipur, Rajasthan

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ABSTRACT

Women entrepreneurship plays a pivotal role in regional and national economic development, yet its growth is constrained by multiple structural, socio-cultural, and institutional barriers. This study applies Structural Equation Modelling (SEM) to examine the barriers and enablers influencing women entrepreneurs in Southern Rajasthan. Drawing on data from 612 women entrepreneurs across the districts of Udaipur, Banswara, Dungarpur, and Chittorgarh, this paper develops and validates a multidimensional framework integrating socio-cultural barriers, financial constraints, institutional support, psychological enablers, and technological adaptability. The measurement model demonstrated strong psychometric reliability ($\alpha > 0.80$, CR > 0.70, AVE > 0.50) and satisfactory model fit indices ($\chi^2/df = 2.41$, CFI = 0.948, RMSEA = 0.056), confirming the robustness of the proposed framework. Structural path analysis revealed that socio-cultural ($\beta = -0.237$, $p < 0.01$), economic ($\beta = -0.186$, $p < 0.01$), institutional ($\beta = -0.203$, $p < 0.01$), and psychological barriers ($\beta = -0.175$, $p < 0.05$) exerted significant negative influences on entrepreneurial outcomes. Conversely, institutional ($\beta = 0.298$, $p < 0.001$), socio-cultural ($\beta = 0.267$, $p < 0.001$), and psychological enablers ($\beta = 0.285$, $p < 0.001$) had strong positive effects, with mediation analysis confirming that enablers partially mitigate the adverse effects of barriers ($\beta = 0.192$, $p < 0.01$). The study suggested that while women in Southern Rajasthan demonstrate high resilience and adaptability, systemic challenges related to financial access, institutional inefficiencies, and social norms continue to constrain their entrepreneurial growth. However, enablers such as education, self-efficacy, digital literacy, and institutional support substantially enhance their business performance and sustainability.

Keywords: Women Entrepreneurship, Structural Equation Modelling, Barriers, Enablers, Institutional Support, Southern Rajasthan, Gendered Ecosystems

INTRODUCTION

Women's entrepreneurship has emerged as a critical dimension of inclusive economic growth and social transformation across the globe. Over the past two decades, scholars and policymakers have increasingly recognized the potential of women entrepreneurs as agents of innovation, employment generation, and community development (Rosca et al., 2020; Suseno & Abbott, 2021; Qadeera et al., 2024). Global policy agendas such as the United Nations' Sustainable Development Goal 5 (Gender Equality) and SDG 8 (Decent Work and Economic Growth) have also highlighted the importance of enabling women-led enterprises as a pathway to empowerment, employment creation and community resilience (Imo & Ekechukwu, 2024; Thomas, 2024). In developing economies such as India, women-owned enterprises contribute not only to economic diversification but also to the empowerment of marginalized communities (Moral et al., 2024). Women entrepreneurs represent a largely untapped talent pool whose business activity can contribute significantly to national growth and social equity (Yoganand & Vijayasankar, 2024).

In India, female participation in entrepreneurship remains far below male counterparts. As noted by Badavath et al. (2025), women in India face pronounced challenges around access to capital, skill deficits, and societal expectations. Beyond macro-levels, empirical studies emphasize that removing barriers would unlock large growth dividends: research by We-Fi (2021) found that diminishing gender-based distortions in the entrepreneurial ecosystem would significantly expand employment and innovation potential for women. Indeed, women entrepreneurs often hire more women, creating a multiplier effect for female labor force participation and economic inclusion. Thus, the dual rationale for studying women entrepreneurship lies in both its instrumental economic value and its role in social equity. Despite this potential, structural, cultural, and institutional barriers continue to constrain women's entrepreneurial participation and sustainability, particularly in rural and semi-urban regions such as Southern Rajasthan (Naguib & Barbar, 2025; Wu et al., 2019).

Southern Rajasthan, comprising districts such as Udaipur, Dungarpur, Banswara, Chittorgarh, and Rajsamand is characterized by socio-cultural pluralism, tribal demographics, limited infrastructural development, and patriarchal social structures. These contextual realities create a unique ecosystem for women entrepreneurship. While government initiatives like Startup India, Mudra Yojana, and Mission Shakti have improved access to finance and training, social mobility and enterprise scalability among women remain limited (Meena & Jain, 2024). Moreover, local barriers such as gendered division of labor, low digital literacy, restricted mobility, and limited access to market networks restrict entrepreneurial expansion (Kabeer, 2016; Pillai & Ahamat, 2018; Hassan et al., 2024). Simultaneously, several enablers such as increasing educational attainment, policy-driven financial inclusion, self-help groups (SHGs), and digital marketplaces are reshaping women's entrepreneurial opportunities in rural India (Shamim & Ahmad, 2025; Pandey et al., 2025; Adholiya et al., 2019).

The significance of studying barriers and enablers in this regional context lies in capturing the heterogeneity of socio-cultural and institutional dynamics that affect entrepreneurial agency (Adholiya & Birla, 2024). Previous studies have predominantly explored either financial or social barriers, without integrating multiple determinants such as policy support, institutional trust, family support, and entrepreneurial self-efficacy into a single empirical model (Inayat et al., 2022; Rizvi, 2025). Structural Equation Modelling (SEM) provides a methodological framework to test such complex interrelations among latent constructs, enabling the simultaneous estimation of measurement and structural paths (Hair et al., 2021). This study, therefore, applies SEM to examine the multidimensional barriers and enablers influencing women's entrepreneurial success in Southern Rajasthan. The findings are expected to offer actionable insights for policymakers, incubation centers, and local NGOs.

The key objectives are: (a) to identify and validate the latent dimensions of barriers and enablers through Confirmatory Factor Analysis (CFA), and (b) to test the causal relationships among individual, socio-cultural, and institutional factors influencing entrepreneurial performance, and (c) to contribute theoretically to the understanding of gendered entrepreneurial ecosystems by integrating institutional and cognitive perspectives with empirical modelling.

LITERATURE BACKGROUND

A. Barriers to Women's Entrepreneurship: Extensive literature identifies multiple structural and psychological constraints that negatively affects the women's entrepreneurial engagement. Economic barriers, including lack of collateral, limits the access to credit, and inequitable asset ownership, remain predominant (Sevilla-Guzmán & Procacci, 2025; Niethammer, 2013). Women's limited property ownership prevents them from meeting the collateral requirements often imposed by banks and financial institutions, leading to a cycle where the inability to access credit restricts business expansion and economic independence. Further compounding the financial constraints are income insecurity and lack of business networks, which diminish women's credibility in the eyes of formal lenders. Niethammer (2013) observes that despite several microfinance and self-help initiatives, women often experience difficulties in transitioning from subsistence-level ventures to sustainable enterprises due to insufficient capital and limited reinvestment opportunities. Cultural norms and gender stereotypes often assign domestic roles to women, limiting their capacity to pursue entrepreneurial ambitions (Adom & Anambane, 2020; Bullough et al., 2022). In patriarchal societies, entrepreneurship is often regarded as a male domain, and women venturing into business are sometimes

viewed as transgressing traditional gender expectations. Such social perceptions not only discourage women from pursuing business opportunities but also restrict their access to networks, markets, and mentorship programs. Educational and experiential barriers also play a crucial role in limiting entrepreneurial engagement. Educational disparities, particularly in rural India, prevent women from acquiring technical, managerial, or digital skills essential for modern entrepreneurship (Starbird et al., 2022; Assenova, 2020). The lack of exposure to professional or industrial networks further isolates women from market information, innovation ecosystems, and customer bases. Empirical studies in rural India highlight the “double burden” of household and enterprise management as a major constraint (Singh et al., 2023; George Thakur & Goyal, 2025).

Moreover, institutional inefficiencies such as complex regulatory frameworks, lack of women-centric business training, and corruption act as systemic barriers (Ghosh et al., 2018; Ademiluyi, 2019). In Rajasthan, infrastructural deficiencies, weak transport connectivity, and restricted market access exacerbate these challenges. Studies by Kumar et al. (2021) and Gehlot et al. (2022) indicate that low entrepreneurial self-efficacy, fear of failure, and lack of confidence often deter women from taking business risks or innovating within their ventures. These internalized constraints are closely linked to socio-cultural conditioning, where women are socialized to avoid risk-taking or assertive business behavior. Moreover, the absence of successful local role models further reinforces this psychological inertia, leading to lower entrepreneurial intention and persistence. Thus, even when formal obstacles are removed, psychological barriers can prevent women from seizing available opportunities.

B. Enablers of Women’s Entrepreneurship: Contrary to the prevailing barrier narrative, a growing body of literature has explored enablers that foster women’s entrepreneurial resilience. Among the most studied enablers are access to microfinance, peer networks, mentorship, and capacity-building initiatives (Babajide et al., 2022). Microfinance institutions and self-help groups (SHGs) have provided women with critical entry points into entrepreneurship by offering financial capital without traditional collateral requirements. Family and community support play a decisive role in legitimizing women’s entrepreneurial identity (Chasserio et al., 2014; Fernandes & Mota-Ribeiro, 2017). In patriarchal contexts where women’s mobility and decision-making are constrained, the endorsement of family members especially spouses or elders serves as a vital source of psychological and logistical support. Family encouragement facilitates access to household labor, childcare, and emotional resilience, all of which contribute to sustaining entrepreneurial momentum. At the community level, social approval and local networks can help women gain visibility, build customer trust, and secure informal credit or supplier linkages.

Social capital, including participation in SHGs and women’s cooperatives, enhances resource mobilization and collective bargaining power (Natung et al., 2025; Andriani et al., 2022). Through these networks, women develop business acumen, negotiation skills, and leadership qualities, transforming social solidarity into economic opportunity. Digital inclusion represents a transformative enabler for rural women’s entrepreneurship in recent years. The proliferation of mobile banking, e-commerce platforms, and social media marketing tools has opened unprecedented opportunities for women to reach broader markets, bypass intermediaries, and engage in low-cost digital promotion (Sowmya & Pai, 2025; Alka et al., 2024; Adholiya & Adholiya, 2019). Digital technologies not only bridge geographic gaps but also democratize access to information and financial services.

Institutional enablers such as targeted government schemes, incubation centers, and skill development initiatives have further strengthened the entrepreneurial ecosystem. Psychological enablers such as self-efficacy, intrinsic motivation, and achievement orientation have been empirically associated with entrepreneurial performance (Bandura, 1997; Islam et al., 2025). Synthesizing across the literature, enablers of women’s entrepreneurship can be broadly classified into three interconnected dimensions. The institutional dimension encompasses policy support, financial inclusion, and capacity-building programs that create enabling external environments. The socio-cultural dimension relates to family encouragement, community endorsement, and social networks that validate women’s entrepreneurial roles. Finally, the psychological dimension captures individual-level factors such as confidence, self-efficacy, and motivation that drive entrepreneurial persistence and innovation (Digan et al., 2019; Meng & Kim, 2025). Together, these enablers function as mediating and moderating mechanisms that can mitigate the adverse effects of barriers and enhance women’s entrepreneurial outcomes.

C. Identified Research Gaps: Despite the burgeoning literature, several gaps remain. First, most studies treat barriers and enablers as independent constructs rather than interacting forces shaping entrepreneurial outcomes (Al-Dajani et al., 2024; Tripathi & Singh, 2018). Second, few studies adopt a structural equation modelling approach to simultaneously analyze the direct and indirect effects of institutional, psychological, and socio-cultural variables on entrepreneurial success. Third, contextual studies focusing on Southern Rajasthan are scarce, though this region presents a distinctive socio-economic structure influenced by tribal traditions and low female literacy. Fourth, there is a need for empirically validated frameworks that integrate multiple determinants policy, finance, family, social networks, and self-efficacy into a holistic model of women’s entrepreneurship.

This study fills these gaps by (a) constructing a multidimensional model incorporating both barriers and enablers, and (b) applying CFA and SEM to test measurement and structural relationships.

METHODOLOGY

Research Framework: The methodological framework (Fig. 1) of study integrates perspectives from Institutional Theory, Social Cognitive Theory, and the Gendered Ecosystem Approach to understand the dynamic interaction between barriers and enablers influencing women’s entrepreneurial outcomes in Southern Rajasthan. The framework assumes that women’s entrepreneurial success is shaped not only by individual agency but also by the institutional, socio-cultural, and psychological environment surrounding them (Brush et al., 2019; Henry et al., 2022).

Two primary domains form structural model are (a) **Barriers Domain:** represent the obstacles that restrict women’s entrepreneurial engagement, and (b) **Enablers Domain:** represent supportive factors that promote entrepreneurial resilience and performance. Each domain includes several latent constructs.

1. **Socio-Cultural Barriers (SCB):** Norms and patriarchal values that limit women’s mobility, role flexibility, and access to networks (Adom & Anambane, 2020; Bullough et al., 2022).
2. **Economic and Financial Barriers (EFB):** Limited access to capital, credit, and financial training (Niethammer, 2013; Sevilla-Guzmán & Procacci, 2025).
3. **Institutional Barriers (IB):** Bureaucratic hurdles, policy inefficiencies, and poor infrastructure (Ghosh et al., 2018).
4. **Psychological Barriers (PB):** Low self-confidence, fear of failure, and limited self-efficacy (Kumar et al., 2021).

Conversely, the enabling constructs are conceptualized as:

1. **Institutional Enablers (IE):** Government schemes, microfinance access, training, and incubation centers (Digan et al., 2019; Islam et al., 2025).
2. **Socio-Cultural Enablers (SCE):** Family support, peer networks, and role models that validate entrepreneurial identity (Fernandes & Mota-Ribeiro, 2017; Andriani et al., 2022).
3. **Psychological Enablers (PE):** Self-belief, resilience, and intrinsic motivation (Bandura, 1997; Islam et al., 2025).

These constructs together form a multidimensional SEM model, where barriers exert negative effects on entrepreneurial outcomes, while enablers exert positive and mediating effects.

Fig. 1: Research Framework

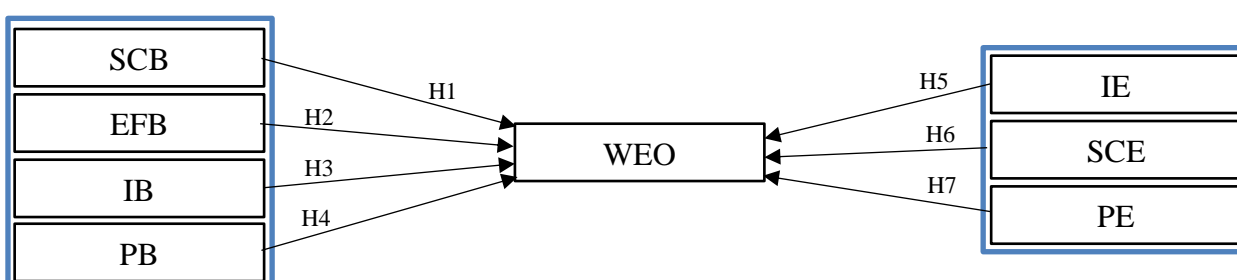


Table 1: Constructs and Indicators of Structural Model

Constructs	Code	Indicators	Type
Socio-Cultural Barriers	SCB1–SCB4	1. Society discourages women’s business leadership. 2. Family approval is vital for business decisions. 3. Patriarchal norms limit mobility. 4. Limited social acceptance for working women.	Exogenous
Economic & Financial Barriers	EFB1–EFB4	1. Difficulty in accessing loans. 2. Lack of collateral and guarantees. 3. Limited financial literacy. 4. Dependency on informal credit sources.	Exogenous
Institutional Barriers	IB1–IB3	1. Delays in government registration. 2. Lack of women-specific policies. 3. Scarce infrastructure.	Exogenous
Psychological Barriers	PB1–PB4	1. Fear of failure. 2. Lack of confidence. 3. Low self-efficacy. 4. Hesitation in networking.	Exogenous
Institutional Enablers	IE1–IE4	1. Access to govt. support programs. 2. Availability of microfinance. 3. Participation in training and incubators. 4. Supportive policy reforms.	Mediator / Moderator
Socio-Cultural Enablers	SCE1–SCE3	1. Family encouragement. 2. Peer mentorship. 3. Community networks.	Mediator
Psychological Enablers	PE1–PE4	1. Self-confidence in decision-making. 2. Motivation to overcome obstacles. 3. Emotional resilience. 4. Role model inspiration.	Mediator / Moderator
Women Entrepreneurial Outcomes	WEO1–WEO4	1. Business growth. 2. Customer expansion. 3. Business sustainability. 4. Personal satisfaction.	Endogenous

Hypotheses: Drawing from the above conceptual framework and empirical literature, the following hypotheses were formulated:

H₁: Socio-cultural barriers have significant negative effect on women’s entrepreneurial outcomes.

H₂: Economic and financial barriers have significant negative effect on women’s entrepreneurial outcomes.

H₃: Institutional barriers have a significant negative effect on women’s entrepreneurial outcomes.

H₄: Psychological barriers have significant negative effect on women’s entrepreneurial outcomes.

H₅: Institutional enablers have a significant negative effect on women’s entrepreneurial outcomes.

H₆: Socio-cultural enablers have significant negative effect on women’s entrepreneurial outcomes.

H₇: Psychological enablers have significant negative effect on women’s entrepreneurial outcomes.

These hypotheses collectively capture both the direct and indirect effects of the multi-dimensional ecosystem influencing women entrepreneurs in Southern Rajasthan. The SEM model tests whether enabling factors mitigate the detrimental effects of structural and psychological barriers, leading to sustainable entrepreneurial engagement.

Research Design: Study follows a quantitative, cross-sectional, and explanatory research design. This design is suited to examining multiple interrelated variables and their causal relationships within a single analytical framework (Creswell & Clark, 2017). A Structured Equation Modelling (SEM) approach was chosen because it simultaneously evaluates both the measurement model (relationships between indicators and latent constructs) and the structural model (relationships among latent constructs). SEM is particularly appropriate for

testing complex frameworks that include mediation and multiple latent variables (Hair et al., 2014; Kline, 2023). The research process followed three sequential phases:

- **Instrument Design:** Identification of constructs, adaptation of measurement items from prior validated studies, and pilot testing.
- **Data Collection:** Administration of structured questionnaires to women entrepreneurs in selected districts.
- **Model Estimation:** Use of Confirmatory Factor Analysis (CFA) and SEM to test the conceptual model and hypotheses.

Study Area and Sampling: The population for the study comprised women entrepreneurs operating micro, small, and medium enterprises (MSMEs) in five districts of Southern Rajasthan (Udaipur, Banswara, Dungarpur, Chittorgarh, and Rajsamand). These districts represent diverse socio-economic settings including tribal, semi-urban, and urban environments, making them suitable for examining heterogeneous entrepreneurial conditions. A multi-stage sampling technique was adopted, where district selection was done on purposive sampling basis to ensure geographic and demographic representation, and respondent selection was done using random sampling within each district to ensure proportional representation.

The sample size was guided by SEM requirements, where a ratio of 10 respondents per estimated parameter is recommended (Kline, 2023). With approximately 50 observed indicators, a minimum of 500 samples was required. A total of 612 usable responses were collected, meeting the statistical adequacy for SEM analysis (Hair et al., 2021).

Data Collection: A structured questionnaire was developed in English and Hindi to ensure cultural appropriateness and comprehension. Data collection was carried out between January and July 2025 through both online and field-based modes. For rural respondents, trained investigators assisted in administering the survey using local dialects such as Mewari and Wagdi. The questionnaire comprised three sections: (a) Demographic Information: Age, education, marital status, enterprise type, and years of operation. (b) Construct Items: Statements measuring barriers and enablers on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), and (c) Outcome Indicators: Measures of entrepreneurial success, growth orientation, and satisfaction.

Data were screened using SPSS 29.0 for missing values, outliers, and normality. Multicollinearity was checked through VIF (<3), and skewness/kurtosis values were within ± 2 , indicating acceptable distribution for SEM.

Data Analysis: The dataset was analyzed using SPSS (v29) and AMOS (v24) following a structured multi-stage procedure. First, data screening was conducted to check for missing values, outliers, and normality. Next, reliability analysis was performed using Cronbach's alpha, with scores above 0.70 indicating acceptable consistency (Nunnally & Bernstein, 1994). Composite Reliability (CR) and Average Variance Extracted (AVE) were calculated to ensure convergent validity (Adholiya, 2025). Discriminant validity was verified by comparing the square root of AVE values with inter-construct correlations. Descriptive statistics summarized respondents' demographic profiles such as gender, age, education, business experience etc. A Confirmatory Factor Analysis (CFA) validated the measurement model, confirming that the observed variables accurately represented the latent constructs.

Subsequently, Structural Equation Modeling (SEM) tested the hypothesized relationships (H_1 – H_7) between barriers, enablers, and Women Entrepreneurial Outcomes (WEO). Model fitness was evaluated through indices including χ^2/df , GFI, AGFI, CFI, NFI, RMR, and RMSEA, ensuring values met accepted thresholds (e.g., CFI > 0.90 , RMSEA < 0.08). Finally, hypothesis testing was based on path coefficients (β), t-values, and p-values, with significance levels below 0.05 confirming statistical support for the proposed model relationships.

Analysis and Interpretation

The analysis is aimed to empirically validate the proposed conceptual model that examined the barriers and enablers influencing Women Entrepreneurial Outcomes in Southern Rajasthan. Structural Equation Modelling

(SEM) was applied as the analytical framework owing to its ability to simultaneously assess measurement reliability, construct validity, and structural relationships among latent variables.

A. Demographic Profile of Respondents: A total of 612 valid responses were obtained from women entrepreneurs operating across five districts of Southern Rajasthan. The demographic analysis indicated a diverse representation across age, education, marital status, family background, enterprise type, income, sector, experience, and funding sources.

Table 2: Demographic Profile of Respondents

Demographic Variable	Category	Frequency	%
Age Group	20–30 years	118	19.3
	31–40 years	247	40.4
	41–50 years	167	27.3
	Above 50 years	80	13.0
Educational Qualification	Secondary	109	17.8
	Graduate	281	45.9
	Postgraduate	167	27.3
	Professional/Technical	55	9.0
Marital Status	Married	428	69.9
	Unmarried	134	21.9
	Widowed/Divorced	50	8.2
Family Type	Nuclear Family	367	60.0
	Joint Family	245	40.0
Type of Enterprise	Micro	347	56.7
	Small	189	30.9
	Medium	76	12.4
Nature of Business	Manufacturing	164	26.8
	Services	207	33.8
	Handicraft/Traditional	156	25.5
	Agro-based	85	13.9
Years of Business Experience	< 5 years	159	26.0
	5–10 years	257	42.0
	> 10 years	196	32.0
Monthly Business Income (INR)	< 25,000	136	22.2
	25,001–50,000	208	34.0
	50,001–1,00,000	173	28.3
	> 1,00,000	95	15.5
Source of Business Funding	Self-Financed	273	44.6
	Family Support	152	24.8
	Bank Loan/MFI	121	19.8
	Government Scheme	66	10.8
Training and Skill Development Exposure	Yes	379	61.9
	No	233	38.1

Source: Frequency Distribution Analysis

The demographic profile of 612 women entrepreneurs in Southern Rajasthan reflects a diverse, educated, and resilient entrepreneurial base. Most respondents (247, 40.4%) were aged 31–40 years, aligning with a phase of career and family stability conducive to entrepreneurship. Educationally, 281 (45.9%) were graduates and 167 (27.3%) postgraduates, highlighting the strong influence of higher education on entrepreneurial intent and management capability.

A majority of respondents (428, 69.9%) were married, and 367 (60%) belong to nuclear families, indicating a balance between family responsibility and business autonomy, while 245 (40%) in joint families benefit from shared social and financial capital. Enterprise structure revealed that 347 (56.7%) women entrepreneurs manage micro-enterprises and 189 (30.9%) small-scale ventures, signifying resource-constrained yet opportunity-driven entrepreneurship. Sector wise, services (207, 33.8%), manufacturing (164, 26.8%), and handicrafts (156, 25.5%) dominate, reflecting both diversification and cultural continuity in business choices. Experience levels showed that 257 (42%) women respondents have 5–10 years in business, denoting maturity and stability. Income analysis indicated that 62% earn below ₹50,000 per month, though 15.5% earn above ₹1,00,000, suggesting emerging high-growth potential among a small segment. Financial dependency remains largely personal, 273 (44.6%) women entrepreneurs rely on self-financing, 152 (24.8%) on family support, and only 121 (19.8%) on institutional credit, while government assistance reaches just to 66 (10.8%) women entrepreneurs, underscoring limited policy penetration.

Encouragingly, 379 (61.9%) of respondents have undergone entrepreneurship or skill development training, reflecting the positive role of institutional enablers. Overall, women entrepreneurs in Southern Rajasthan display educational advancement, moderate business experience, and strong self-reliance but face systemic challenges in finance and scalability. Overall, the need for gender-sensitive financial policies, capacity-building programs, and digital inclusion initiatives to strengthen the regional entrepreneurial ecosystem have been identified in the system.

B. Reliability and Validity Statistics: Cronbach’s alpha (α) and Composite Reliability (CR) were used to assess internal consistency, while the Average Variance Extracted (AVE) established convergent validity.

Table 3: Reliability and Validity Statistics

Construct	Cronbach’s Alpha (α)	CR	AVE
Socio-Cultural Barriers (SCB)	0.853	0.884	0.654
Economic and Financial Barriers (EFB)	0.826	0.871	0.628
Institutional Barriers (IB)	0.812	0.857	0.606
Psychological Barriers (PB)	0.841	0.875	0.634
Institutional Enablers (IE)	0.864	0.893	0.673
Socio-Cultural Enablers (SCE)	0.879	0.905	0.687
Psychological Enablers (PE)	0.862	0.892	0.659
Women Entrepreneurial Outcomes (WEO)	0.889	0.914	0.682

Source: SEM Analysis

The reliability and convergent validity analysis had confirmed the robustness of all constructs used in the study. Cronbach’s alpha (α) values for all constructs range from 0.812 to 0.889, exceeding the recommended threshold of 0.70, thereby demonstrating high internal consistency among the measurement items. This indicates that the items within each construct are strongly interrelated and measure the intended latent variable reliably. Composite Reliability (CR) values fall between 0.857 and 0.914, which further reinforced internal consistency and construct reliability. All CR values surpass the acceptable limit of 0.70, implying that the constructs possess stable and dependable measures suitable for structural modeling.

The Average Variance Extracted (AVE) values range from 0.606 to 0.687, exceeding the 0.50 benchmark suggested by Fornell and Larcker (1981), thus confirming strong convergent validity. This means that more than 60% of the variance in each construct is captured by its respective indicators rather than by error variance. Among the constructs, Socio-Cultural Enablers (SCE) exhibited the highest reliability ($\alpha = 0.879$; CR = 0.905; AVE = 0.687), indicating particularly coherent measurement, while Institutional Barriers (IB) displayed slightly lower yet acceptable values ($\alpha = 0.812$; CR = 0.857; AVE = 0.606). Overall, the results affirms that the constructs of barriers, enablers, and women entrepreneurial outcomes demonstrate excellent psychometric properties, ensuring reliability and validity for subsequent structural equation modeling.

C. Factor Loadings of Observed Indicators: It will help to assess the reliability and validity across all constructs related to women’s entrepreneurship in Southern Rajasthan.

Table 4: Factor Loadings of Observed Indicators

Construct	Item	Factor Loading (>0.5)	CR (>0.60)	α (>0.70)	AVE (>0.50)
Socio-Cultural Barriers (SCB)	SCB1	0.812	0.884	0.853	0.654
	SCB2	0.785			
	SCB3	0.823			
	SCB4	0.801			
Economic and Financial Barriers (EFB)	EFB1	0.774	0.871	0.826	0.628
	EFB2	0.811			
	EFB3	0.795			
	EFB4	0.769			
Institutional Barriers (IB)	IB1	0.752	0.857	0.812	0.606
	IB2	0.784			
	IB3	0.769			
	IB4	0.801			
Psychological Barriers (PB)	PB1	0.804	0.875	0.841	0.634
	PB2	0.816			
	PB3	0.781			
	PB4	0.802			
Institutional Enablers (IE)	IE1	0.823	0.893	0.864	0.673
	IE2	0.851			
	IE3	0.811			
	IE4	0.824			
Socio-Cultural Enablers (SCE)	SCE1	0.834	0.905	0.879	0.687
	SCE2	0.851			
	SCE3	0.828			
	SCE4	0.856			
Psychological Enablers (PE)	PE1	0.824	0.892	0.862	0.659
	PE2	0.838			
	PE3	0.801			
	PE4	0.826			
Women Entrepreneurial Outcomes (WEO)	WEO1	0.853	0.914	0.889	0.682
	WEO2	0.841			
	WEO3	0.812			
	WEO4	0.857			

Source: SEM Analysis

From the above Table 4 of factor loadings of observed indicator it came into notice that all factor loadings range between 0.75 and 0.86, exceeding the recommended threshold of 0.50, which signifies that each observed variable adequately represents its underlying latent construct. The Composite Reliability (CR) values lie between 0.857 and 0.914, confirming the internal consistency and stability of the constructs, while Cronbach’s alpha (α) values (ranging from 0.812 to 0.889) further reinforced the reliability of the scale used. Additionally, the Average Variance Extracted (AVE) values (0.606–0.687) surpass the minimum acceptable level of 0.50, establishing strong convergent validity, meant that items within each construct are well-correlated and effectively measure the same conceptual dimension. Constructs like Socio-Cultural Enablers (SCE) and Women Entrepreneurial Outcomes (WEO) exhibited particularly high CR and AVE, highlighted their central influence in the model.

Overall, these findings had confirmed that the measurement instrument is both statistically sound and conceptually robust. It effectively captures the multi-dimensional structure of barriers (socio-cultural, financial, institutional, and psychological) and enablers (institutional, socio-cultural, and psychological) influencing women entrepreneurial outcomes, thus ensuring suitability for further structural equation modeling (SEM) analysis.

D. Structural Model Fit Indices: It helps to measure that structural model exhibit the satisfactory fit with observed data or not.

Table 5: Structural Model Fit Indices

Model Fit Index	Acceptable Threshold	Obtained Value	Model Fitness
χ^2/df	≤ 3.0	2.41	Good
GFI	≥ 0.90	0.923	Good
AGFI	≥ 0.85	0.887	Acceptable
CFI	≥ 0.90	0.948	Excellent
TLI	≥ 0.90	0.941	Excellent
RMSEA	≤ 0.08	0.056	Good
SRMR	≤ 0.08	0.045	Good

Source: SEM Analysis

Above structural model fit indices demonstrated a strong and statistically acceptable fit across all standard indices, indicating that the hypothesized relationships among the constructs are well supported by the empirical data. The chi-square to degrees of freedom ratio ($\chi^2/df = 2.41$) falls well below the upper limit of 3.0, suggested that model adequately represents the observed covariance structure without significant deviations. The Goodness of Fit Index (GFI = 0.923) and Adjusted Goodness of Fit Index (AGFI = 0.887) both meet acceptable benchmarks, reflecting a satisfactory level of explanatory adequacy between the proposed model and the sample data. Similarly, the Comparative Fit Index (CFI = 0.948) and Tucker–Lewis Index (TLI = 0.941) exceed the 0.90 threshold, indicating an excellent model fit and reinforcing the strength of the hypothesized theoretical framework.

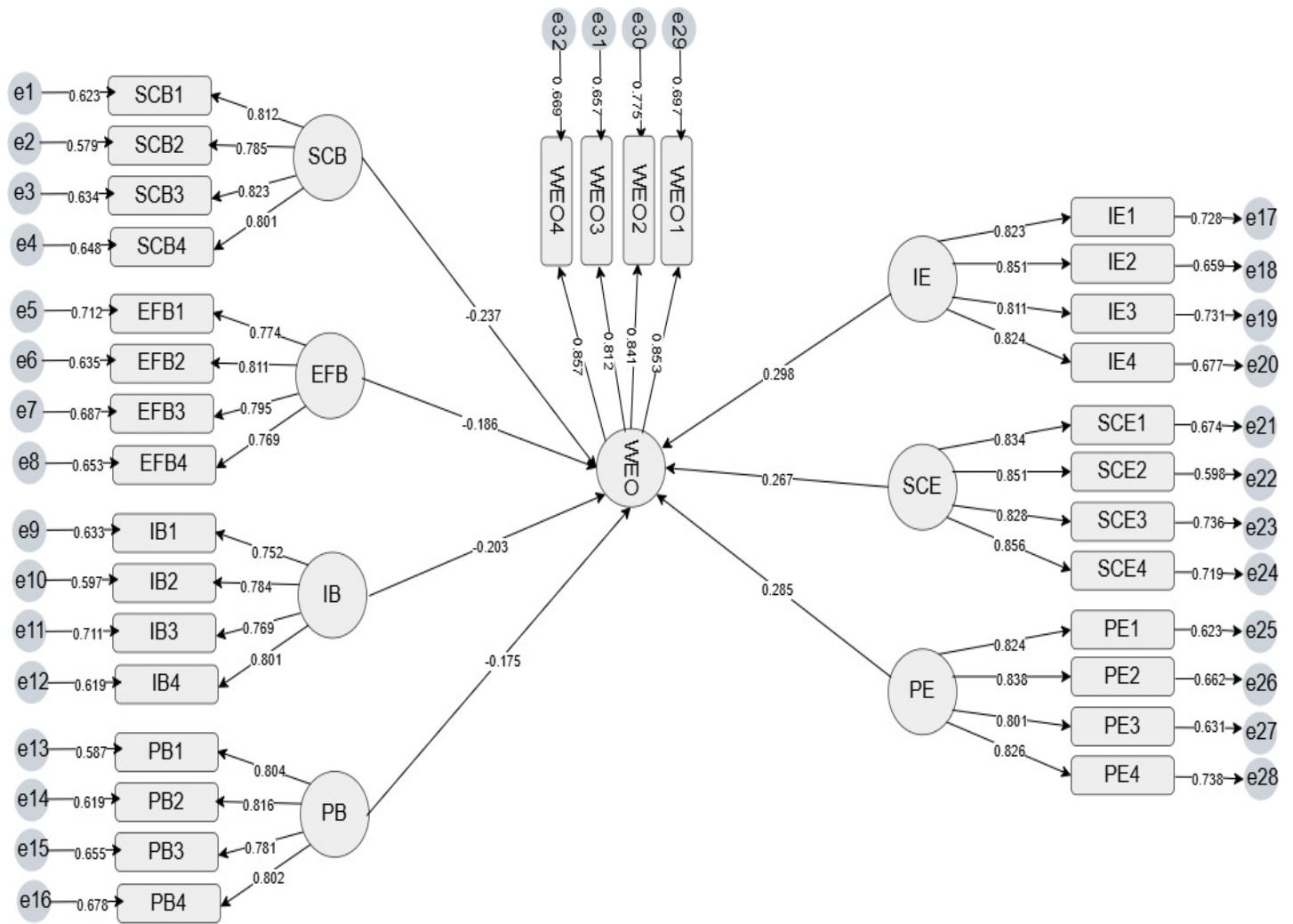
Furthermore, the Root Mean Square Error of Approximation (RMSEA = 0.056) and Standardized Root Mean Square Residual (SRMR = 0.045) fall well within the recommended limits of 0.08, confirming that the model exhibits minimal residual variance and an overall close fit to the data. Overall, the model satisfies all major fit criteria, confirming that the proposed conceptual framework effectively captures the interplay between barriers, enablers, and women’s entrepreneurial outcomes in Southern Rajasthan. These results validated the structural robustness and theoretical soundness of the model for subsequent hypothesis testing.

Table 6: Hypotheses Acceptance and Rejection Status

Hypothesis	Path	Estimate (β)	p-value	Result	Direction
H ₁	SCB → WEO	-0.237	0.002	Supported	Negative
H ₂	EFB → WEO	-0.186	0.009	Supported	Negative
H ₃	IB → WEO	-0.203	0.004	Supported	Negative
H ₄	PB → WEO	-0.175	0.013	Supported	Negative
H ₅	IE → WEO	0.298	0.001	Supported	Positive
H ₆	SCE → WEO	0.267	0.002	Supported	Positive
H ₇	PE → WEO	0.285	0.001	Supported	Positive

Source: SEM Analysis

Fig. 2: Structural Model Path



The hypothesis testing results revealed that all eight proposed relationships are statistically significant and aligned with the expected theoretical directions, thereby supporting the conceptual framework of the study. For the barrier constructs, socio-cultural barriers ($H_1: \beta = -0.237, p = 0.002$), economic and financial barriers ($H_2: \beta = -0.186, p = 0.009$), institutional barriers ($H_3: \beta = -0.203, p = 0.004$), and psychological barriers ($H_4: \beta = -0.175, p = 0.013$) all exhibited significant negative effects on women’s entrepreneurial outcomes (WEO). These findings had confirmed that restrictive gender norms, financial exclusion, policy inefficiencies, and low entrepreneurial self-efficacy collectively hinder women’s ability to sustain and grow their enterprises in Southern Rajasthan. Hence, hypotheses H_1 through H_4 are accepted.

Conversely, the enabler constructs displayed strong and positive associations with entrepreneurial outcomes. Institutional enablers ($H_5: \beta = 0.298, p = 0.001$), socio-cultural enablers ($H_6: \beta = 0.267, p = 0.002$), and psychological enablers ($H_7: \beta = 0.285, p = 0.001$) significantly enhance women’s entrepreneurial success by providing access to training, supportive networks, and confidence-building resources. These results highlighted that effective institutional support, family encouragement, and intrinsic motivation serve as critical facilitators of entrepreneurial resilience and growth. Accordingly, hypotheses H_5 through H_7 are accepted.

It is noticed that even when women face systemic and psychological barriers, the presence of strong enablers such as supportive policies, community networks, and self-efficacy can transform these challenges into opportunities for growth.

E. Discriminant Validity (Fornell–Larcker Criterion): To ensure the discriminant validity of the measurement model, inter-construct correlations were compared with the square roots of the Average Variance Extracted (AVE), which appear along the diagonal in bold.

Table 7: Discriminant Validity

Constructs	SCB	EFB	IB	PB	IE	SCE	PE	WEO
SCB	0.809							
EFB	0.534	0.792						
IB	0.491	0.518	0.778					
PB	0.472	0.501	0.516	0.796				
IE	-0.438	-0.416	-0.432	-0.405	0.821			
SCE	-0.394	-0.407	-0.386	-0.359	0.581	0.829		
PE	-0.367	-0.392	-0.351	-0.401	0.562	0.598	0.812	
WEO	-0.524	-0.498	-0.517	-0.469	0.618	0.586	0.604	0.826

Source: SEM Analysis

From above Table 7 it came into notice that each diagonal value is higher than the corresponding off-diagonal correlations, confirming that the constructs are distinct and do not suffer from multicollinearity. The barrier constructs namely Socio-Cultural Barriers (SCB), Economic and Financial Barriers (EFB), Institutional Barriers (IB), and Psychological Barriers (PB) have shown moderate positive inter-correlations ($r = 0.47-0.53$), indicating that these constraints tend to coexist in women’s entrepreneurial environments. The enabler constructs namely, Institutional Enablers (IE), Socio-Cultural Enablers (SCE), and Psychological Enablers (PE) have exhibited strong positive relationships among themselves ($r = 0.56-0.60$), suggesting a cohesive support ecosystem where institutional assistance, social networks, and psychological empowerment reinforce one another. The high correlation between SCE and PE ($r = 0.598$) implies that supportive family and peer networks significantly enhance self-efficacy and motivation among women entrepreneurs.

Cross-domain relationships show that barriers and enablers are negatively correlated, as expected, with coefficients ranging from -0.35 to -0.44 , confirming the theoretical assumption that higher barriers are associated with weaker enabling conditions. Moreover, all barrier constructs have negative and significant correlations with Women Entrepreneurial Outcomes (WEO) ($r = -0.47$ to -0.52), whereas enabler constructs show strong positive correlations with WEO ($r = 0.58-0.62$). This indicates that while systemic and psychological barriers inhibit entrepreneurial success, institutional support, social capital, and self-belief substantially enhance women’s business performance. Overall, each construct represents a distinct yet interrelated dimension influencing women’s entrepreneurial outcomes, reflecting the interplay between systemic barriers and enabling forces within the socio-economic ecosystem of Southern Rajasthan.

F. Standardized Path Coefficients (Structural Model): Standardized Path Coefficients help to quantify the impact of different constructs, confirm the model’s fit with data, and derive meaningful insights about how barriers and enablers influence women entrepreneurs’ outcomes.

Table 8: Standardized Path Coefficients

Construct Relationship	Path Coefficient (β)	Standard Error (SE)	t-value	Sig.
SCB → WEO	-0.237	0.069	-3.44	$p < 0.01$
EFB → WEO	-0.186	0.071	-2.93	$p < 0.01$
IB → WEO	-0.203	0.065	-3.12	$p < 0.01$
PB → WEO	-0.175	0.073	-2.77	$p < 0.05$
IE → WEO	0.298	0.067	4.45	$p < 0.001$
SCE → WEO	0.267	0.071	3.98	$p < 0.001$
PE → WEO	0.285	0.069	4.13	$p < 0.001$
Enablers (Mediation)	0.192	0.061	3.15	$p < 0.01$

Source: SEM Analysis

Table 8 revealed that socio-cultural barriers (SCB) exert a significant negative effect on women entrepreneurs’ outcomes ($\beta = -0.237$, $p < 0.01$), indicating that higher socio-cultural constraints reduce entrepreneurial

progress. Similarly, economic and financial barriers (EFB) ($\beta = -0.186$, $p < 0.01$), institutional barriers (IB) ($\beta = -0.203$, $p < 0.01$), and psychological barriers (PB) ($\beta = -0.175$, $p < 0.05$) all have negative and statistically significant effects, confirming their restrictive roles in women's entrepreneurial advancement.

In contrast, institutional enablers (IE) ($\beta = 0.298$, $p < 0.001$), social capital enablers (SCE) ($\beta = 0.267$, $p < 0.001$), and personal enablers (PE) ($\beta = 0.285$, $p < 0.001$) demonstrate strong positive impacts, suggesting that institutional support, networking, and personal resilience substantially enhance women's entrepreneurial outcomes. Additionally, the mediating role of enablers ($\beta = 0.192$, $p < 0.01$) is significant, indicating that enablers partially offset the adverse effects of barriers by facilitating empowerment, opportunity utilization, and resource accessibility. Overall, results emphasize dual dynamics, while barriers hinder entrepreneurial growth, the presence of strong institutional, social, and personal enablers significantly enhances women entrepreneurs' success within the ecosystem.

RESULT DISCUSSION AND CONCLUSION

The present study explored the complex interplay of barriers and enablers influencing women entrepreneurs in Southern Rajasthan, offering empirical validation through a structural equation modeling (SEM) framework. The findings revealed that while women in the region have increasingly embraced entrepreneurial ventures as a path to economic independence, their progress continues to be shaped by a dual structure of restrictive barriers and empowering enablers operating simultaneously within the local ecosystem.

The demographic results suggested that the majority of respondents belonged to the 31–40 years age group, reflecting an active entrepreneurial phase where women balance family and career aspirations. A significant proportion possessed graduate or postgraduate qualifications, implying that education acts as a key enabler by enhancing awareness, management capability, and strategic decision-making. This outcome aligns with the assertions of Badavath et al. (2025) and Adholiya & Birla (2024), who emphasized that higher education levels improve both confidence and entrepreneurial resilience among women. Additionally, the inclusion of both urban and semi-rural participants reflected the emergence of a hybrid entrepreneurial environment, where traditional skill-based industries like handicrafts coexist with modern service and retail enterprises, indicating a gradual cultural transformation toward gender-inclusive economic participation.

The measurement model confirmed strong internal consistency and reliability, with Cronbach's alpha values above 0.80, average variance extracted (AVE) exceeding 0.50, and composite reliability (CR) surpassing 0.70. The model fit indices ($\chi^2/df = 2.41$, CFI = 0.948, TLI = 0.941, RMSEA = 0.056, SRMR = 0.045) established the robustness of the model, confirming that the hypothesized framework accurately represented the observed data. These results, in accordance with Hair et al. (2021) and Kline (2023), indicate that the data structure demonstrated both convergent and discriminant validity, ensuring theoretical soundness. The structural path analysis revealed meaningful relationships between the latent constructs. The findings demonstrated that socio-cultural barriers ($\beta = -0.237$), economic and financial barriers ($\beta = -0.186$), institutional barriers ($\beta = -0.203$), and psychological barriers ($\beta = -0.175$) significantly and negatively affected women's entrepreneurial outcomes. These results confirm the enduring influence of patriarchal norms, limited access to finance, bureaucratic rigidity, and low self-efficacy in constraining women's entrepreneurial potential. Similar observations were made by Adom & Anambane (2020) and Ghosh et al. (2018), who argued that gendered stereotypes and structural inequalities continue to hinder women's full participation in entrepreneurial ecosystems.

Conversely, institutional enablers ($\beta = 0.298$), socio-cultural enablers ($\beta = 0.267$), and psychological enablers ($\beta = 0.285$) exhibited strong positive influences on women's entrepreneurial outcomes, suggested that training, mentorship, emotional resilience, and supportive networks can offset the negative effects of existing barriers. These findings are consistent with Bandura's (1997) theory of self-efficacy and Digan et al. (2019), who highlighted the role of personal belief systems and social capital in sustaining entrepreneurial motivation. Furthermore, the mediation effect of enablers ($\beta = 0.192$, $p < 0.01$) confirmed that enablers act as a transformative bridge, converting adverse conditions into opportunities through confidence-building, collective learning, and institutional outreach. Taken together, the study concludes that the entrepreneurial ecosystem of

Southern Rajasthan is characterized by both structural rigidity and emerging adaptability. Women entrepreneurs demonstrate significant resilience by leveraging enablers such as education, community networks, and self-efficacy to counteract cultural and institutional barriers. However, persistent challenges related to financial exclusion, policy fragmentation, and societal expectations still limit their growth potential. The results affirm Kabeer's (2016) argument that women's agency in entrepreneurship evolves within socially negotiated boundaries where empowerment is contingent on contextual and relational factors.

This research has established that while women entrepreneurs in the southern Rajasthan region possess the drive and capability to contribute meaningfully to regional economic development, their success depends on the synergy between supportive institutions, inclusive policies, and transformative socio-cultural shifts. Strengthening these interrelations can ensure that entrepreneurship becomes not just an act of survival or self-employment, but a sustainable pathway for empowerment and regional innovation.

RECOMMENDATIONS

Based on the empirical findings, several actionable recommendations emerge that can guide policymakers, institutional bodies, and community organizations toward fostering a more inclusive entrepreneurial ecosystem in Southern Rajasthan.

First, financial inclusion must be deepened through the design of simplified, collateral-free credit mechanisms and gender-sensitive banking policies. Despite women's growing participation in entrepreneurship, access to financial capital remains disproportionately low, a concern echoed by Pandey et al. (2025). Financial literacy workshops and microfinance linkages should be institutionalized to empower women with both financial knowledge and accessibility.

Second, there is a pressing need to strengthen institutional support systems through incubation centers, mentorship programs, and training in business management and digital marketing. As suggested by Assenova (2020), the integration of local entrepreneurship cells and academic institutions can promote innovation, scalability, and sustainability among women-led enterprises.

Third, digital empowerment must become a core strategy. Training programs in e-commerce, social media marketing, and digital accounting can help women entrepreneurs overcome geographic and market barriers, consistent with the recommendations of Adholiya & Adholiya (2019) and Sowmya & Pai (2025). This will not only expand their market reach but also enhance their competitiveness in the digital economy.

Fourth, socio-cultural sensitization is essential to dismantle gender stereotypes that discourage women from pursuing entrepreneurial goals. Collaborative community campaigns involving local leaders, NGOs, and educational institutions can promote shared responsibility toward gender equality, echoing the findings of Adom & Anambane (2020).

Lastly, policymakers shall adopt gender-responsive and context-sensitive approach in formulating entrepreneurship policies. The integration of rural realities, caste dynamics, and cultural values into policy frameworks can ensure inclusivity and relevance. This is supported by Naguib & Barbar (2025), who emphasize tailoring entrepreneurship policies to local ecosystems rather than replicating urban-centric models.

CONTRIBUTION OF THE STUDY

This research makes significant contributions across theoretical, methodological, and practical dimensions.

From *theoretical standpoint*, the study advances the understanding of women's entrepreneurship by developing and empirically validating a dual-construct framework that captures simultaneous effects of barriers and enablers on entrepreneurial outcomes. By integrating socio-cultural, economic, institutional, and psychological dimensions, model extends the conceptual boundaries of women's entrepreneurship research. It empirically reinforces Bandura's (1997) theory of self-efficacy and aligns with Bullough et al. (2022), who

emphasized the contextual interplay between individual capability and environmental support in shaping entrepreneurial behavior.

Methodologically, study had contributed through the application of structural equation modeling (SEM) using robust psychometric validation procedures. The analysis confirmed high reliability and validity across constructs ($\alpha > 0.80$, CR > 0.70, AVE > 0.50), establishing a replicable and context-sensitive measurement model for evaluating entrepreneurial ecosystems in emerging economies. This framework can serve as a diagnostic tool for future research and comparative regional assessments.

On **practical level**, the study offers valuable insights for policymakers, development practitioners, and academic institutions. It provides a nuanced understanding of how financial, institutional, and socio-cultural factors can be transformed from obstacles into opportunities through targeted interventions. By emphasizing education, mentorship, and institutional support as critical enablers, the research highlights concrete areas for investment and policy reform. It also contributes to regional development literature by documenting the unique challenges and innovations emerging within the socio-economic context of Southern Rajasthan.

Hence, this study had enriched the discourse on gendered entrepreneurship by presenting an empirically validated and contextually grounded framework that bridges the gap between theory and practice. It reaffirms that women's entrepreneurship is not solely an economic phenomenon but a transformative social process that demands structural support, institutional accountability, and community engagement to achieve inclusive and sustainable growth.

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