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Financial Ecosystems and Entrepreneurial Dynamics of Women-Led Micro and Small Enterprises: Empirical Evidence from Nalgonda District, Telangana

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ABSTRACT
This paper investigates the financial behavior, scheme awareness, structural constraints, and decision-making competencies of women entrepreneurs in the Nalgonda district of Telangana State. Utilizing primary survey data collected from 650 women entrepreneurs across diverse sectors including beauty parlors, tailoring, grocery, restaurants, retail, and self-help group (SHG) networks, this study applies descriptive statistics, Chi-Square analysis, Analysis of Variance (ANOVA), Factor Analysis, and Stepwise Linear Regression. The findings reveal significant reliance on bank-debt/equity mixtures and private informal credit, with substantial barriers to accessing central funding programs. Factor analysis identifies six key dimensions of entrepreneurial competency: Decision Making, Goal Setting, Problem Solving, Goal Accomplishment, Group Coherence, and Planning. Furthermore, regression analysis indicates that age, educational qualification, business tenure, and credit source significantly dictate overall entrepreneurial competency. Strategic recommendations are offered for policymakers, financial institutions, and program developers to bridge equity gaps and foster sustainable rural-urban business growth.

Keywords: Women Entrepreneurship, Financial Ecosystem, Entrepreneurial Competency, Nalgonda District, Mudra Yojana, Stepwise Regression Analysis.

INTRODUCTION:

Entrepreneurship is a vital driving force behind economic development, job creation, and poverty reduction. While business enterprises have historically been led by men, the contemporary shift in socio-economic and technological paradigms has encouraged women to play an active role in the business landscape. Empowering women entrepreneurs not only enhances household living standards but also contributes directly to national income and regional industrial growth.

In a developing nation like India, women-led Micro, Small, and Medium Enterprises (MSMEs) face unique socio-economic challenges, including restricted access to formal institutional finance, high reliance on informal debt, and societal barriers. In Telangana State, government initiatives such as WE

Hub and budget support for Self-Help Groups (SHGs) aim to foster financial inclusion. However, local operational hurdles, varying levels of scheme awareness, and individual managerial competencies significantly shape the success of these ventures.

This study focuses on Nalgonda District, Telangana, to investigate the financial behaviors, credit patterns, scheme awareness, and decision-making competencies of women entrepreneurs across diverse sectors. By evaluating primary data from 650 respondents, the research aims to highlight structural bottlenecks and offer policy recommendations to build a supportive financial ecosystem for women in business.

THEORETICAL BACKGROUND:

- **Origin and Definition of Entrepreneur**: The word "entrepreneur" originates from the French verb *entreprendre*, meaning "to undertake". In economic theory, an entrepreneur is defined as an individual who plans, organizes, initiates, and operates a business enterprise while bearing associated risks and coordinating factors of production.
- **Concept of Entrepreneurship**: Entrepreneurship is fundamentally a creative and innovative response to the needs of society. It involves combining resources such as people, money, markets, and knowledge to create new commercial ventures that drive economic growth and industrialization.
- **Evolution of Women Entrepreneurship**: Historically, women's economic roles were largely confined to domestic spheres. The industrial revolution and modern educational advancements served as catalysts, enabling women to transition into factory work, small businesses, and eventually diverse professional and entrepreneurial sectors.
- **Definition of Women Entrepreneurs**: In India, the government defines women entrepreneurs as enterprises owned and controlled by women having a minimum financial interest of 51 percent of the capital. Scholars like Poornima Charantimath define a woman entrepreneur as a confident, innovative, and creative individual who achieves economic independence and generates employment while balancing personal and social life.
- **Push and Pull Factors**: Women generally enter entrepreneurship driven by two primary forces: *pull factors* (such as education, urban living, and the desire for financial independence or self-fulfilment) and *push factors* (such as financial difficulties, widowhood, or difficult family circumstances that necessitate earning a livelihood).

SIGNIFICANCE OF THE STUDY:

The significance of this study stems from the critical role women entrepreneurship plays in shaping India's broader socio-economic and industrial landscape. In the 21st century, women are breaking traditional barriers and competing actively across various business sectors. Supporting their growth directly contributes to household financial stability, higher per capita income, regional industrial development, and overall national progress.

On a micro level, this study highlights the real-world operational and financial challenges faced by women entrepreneurs. By illuminating key obstacles; such as high dependence on private debt, limited liquid working capital, and gaps in formal record-keeping; the findings equip emerging women entrepreneurs with insights needed to optimize their borrowing options, improve financial documentation, and plan strategic business expansion.

On a macro level, the study provides valuable empirical feedback for policymakers, government bodies, and financial institutions. By assessing awareness levels regarding existing schemes (such as Mudra Yojana, Udyogini, and WE Hub), the research identifies gaps in scheme outreach and credit delivery. This enables institutions to design targeted awareness campaigns, streamline bank loan procedures, and deliver relevant skill-building programs.

Finally, the study underscores the psychological and social transformation brought about by female entrepreneurship. Financial independence fosters self-reliance, boosts confidence, and enhances decision-making capabilities among women. Successful businesswomen serve as role models within their communities, helping bridge rural-urban economic divides, promote gender equality, and inspire future generations of female leaders.

REVIEW OF THE LITERATURE:

The literature surrounding women entrepreneurship emphasizes its critical role in economic development, employment generation, and poverty alleviation. Over the past decades, scholarly interest has increasingly focused on the financial behaviors, socio-cultural constraints, and institutional support systems that influence female-led micro, small, and medium enterprises (MSMEs).

A substantial body of research highlights access to finance as a primary bottleneck for women entrepreneurs. Studies by Kumarasamy et al. (2023) and Rani & Sundaram (2023) indicate that financial inclusion and the availability of credit both formal and informal significantly boost women's engagement in self-employment and improve enterprise efficiency. However, women frequently face hurdles such as high interest rates from private lenders, lack of collateral, and complex banking formalities, which often drive them toward informal borrowing networks.

Scholars have also explored the underlying motivations driving women into business. Research by Nayak et al. (2023) and Yadav et al. (2023) categorizes these drivers into push and pull factors, noting that while educated urban women are often pulled by aspirations of financial independence and self-fulfilments, many women in developing economies are pushed into entrepreneurship by immediate household financial challenges and under-employment. Furthermore, studies focusing on cognitive and social aspects such as those by Arafat et al. (2020) demonstrate that perceived capabilities, social capital, and informal investments heavily influence entrepreneurial propensity.

Additionally, the role of training programs, education, and digital literacy in enhancing managerial competencies has been widely documented. Authors like Karnavat et al. (2024) emphasize that Entrepreneurship Development Programs (EDPs) equip women with essential skills in financial management and strategic planning, thereby boosting their confidence and business performance. Despite the proliferation of various government schemes and institutional support frameworks, literature reveals a persistent gap in awareness, accessibility, and post-credit mentorship, particularly among rural and older demographics.

While existing studies provide valuable insights into regional challenges and general financial inclusion, there remains a need for comprehensive empirical research examining the intersection of specific demographic variables, scheme awareness, and multi-dimensional entrepreneurial competencies within specific regional ecosystems.

RESEARCH GAPS:

Despite extensive literature on women entrepreneurship, significant empirical and geographical gaps

remain. A major limitation of existing research is the reliance on broad national generalizations or localized studies in other regions, leaving a critical need for location-specific empirical investigations in emerging socio-economic landscapes like Nalgonda District, Telangana. Furthermore, while general financial obstacles are frequently cited, there is a distinct lack of quantitative inquiry into how demographic variables; such as age, education, and place of residence, intersect with specific awareness levels of institutional financing schemes like Mudra Yojana and WE Hub. Additionally, existing studies rarely evaluate multi-dimensional entrepreneurial competencies (such as goal setting, problem solving, and planning) alongside structural credit dynamics using comprehensive factor and regression modeling. This study addresses these critical gaps by analyzing the specific financial behaviors, scheme penetration, and core competency metrics of 650 women entrepreneurs in Nalgonda District to provide targeted policy insights.

STATEMENT OF THE PROBLEM:

According to the 2011 census, women constitute 48% of the Indian population, yet a large proportion of this demographic remains uncompensated or underrepresented in formal economic activities. While women entrepreneurship offers immense potential for job creation, poverty alleviation, and family stability, women frequently encounter heavy societal, familial, and structural barriers.

Specifically, women entrepreneurs in regions like the Nalgonda district face persistent challenges, including:

- Insufficient family and moral support.
- Limited awareness of various government and banking initiatives aimed at women's empowerment.
- Inadequate liquid capital and working capital constraints.
- A lack of understanding regarding market dynamics, technological upgrades, and competitive pricing.
- Inexperience in business leading to poor financial decision-making.
- Failure to maintain proper accounting and financial transaction records for their enterprises.

This study aims to address these critical issues by identifying the primary financial hurdles encountered by women entrepreneurs, evaluating their awareness of institutional schemes, and assessing their managerial competencies to ensure the sustainable growth and success of their business ventures.

OBJECTIVES OF THE STUDY:

1. To examine the financial trends, capital deployment patterns, and credit source choices among women entrepreneurs in Nalgonda District, Telangana.
2. To evaluate the level of awareness regarding institutional financing schemes and assess the structural determinants of entrepreneurial competency in business decision-making.

RESEARCH METHODOLOGY:

Research Design: The study adopts a descriptive and analytical research design, utilizing a mixed-methods approach that combines quantitative and qualitative data collection to analyze the financial behaviors and competencies of women entrepreneurs.

- **Study Universe and Sample Size:** The research universe comprises women entrepreneurs operating small enterprises across various industries in the Nalgonda district of Telangana. A representative sample of $N = 650$ respondents were selected for the study.

- **Sampling Technique:** Proportionate random sampling was employed to ensure balanced representation across multiple business sectors, including beauty parlors, tailoring, restaurants, grocery stores, retail shops, and self-help groups (SHGs).
- **Data Sources:**

1. ***Primary Data:*** Collected directly from the 650 sample respondents using a structured, pre-tested questionnaire administered during 2024-2025.
2. ***Secondary Data:*** Gathered from books, scholarly journals, official reports of Telangana State, and credible online databases.

- **Statistical Tools:** Data analysis was conducted using SPSS software with the application of various statistical tools, including:

1. Simple Percentage Analysis
2. Chi-Square (χ^2) Test of Independence
3. Analysis of Variance (ANOVA) and t-Tests
4. Factor Analysis (Principal Component Analysis with Varimax Rotation)
5. Stepwise Multiple Linear Regression Analysis

- **Limitations:** Potential limitations of the study include sampling bias, reliance on self-reported survey instruments, educational constraints among respondents regarding complex financial details, and temporal restrictions based on data collected during 2024–2025.

RESULT AND DISCUSSIONS:

This section presents the empirical findings derived from the survey of 650 women entrepreneurs in the Nalgonda district. The analysis is structured sequentially in alignment with the established research objectives, incorporating frequency distributions, Chi-Square tests, Factor Analysis, and Stepwise Multiple Regression models.

Objective 1: To examine the financial trends, capital deployment patterns, and credit source choices among women entrepreneurs in Nalgonda District, Telangana.

To understand the financial trends of women entrepreneurs, data regarding initial capital investment, sources of financing, private borrowing interest rates, and business profitability were analyzed.

1. Initial Capital Investment and Financing Sources

The majority of respondents initiated their business ventures with modest capital investments, heavily relying on a combination of equity and institutional credit.

Table 1: Distribution of Initial Capital Invested and Financing Sources

Category	Options / Particulars	Number of Respondents (N)	Percentage (%)
Initial Capital Invested	Below ₹1 lakh	124	19.1%
	₹1 to 5 lakhs	484	74.5%
	₹5 to 10 lakhs	17	2.6%
	Exceeding ₹10 lakhs	4	0.6%
	No idea / Legal heir	21	3.2%
Total		**650**	**100.0%**
Sources of Raising Fund	Family business (No	21	3.2%

Initially	investment)		
	Bank loans	180	27.7%
	Government grants	3	0.5%
	Family / Friends / Relatives	32	4.9%
	Mixture of equity and bank borrowing	414	63.7%
Total		**650**	**100.0%**

Source: Primary data

Analysis and Interpretation:

The empirical findings detailed in Table 1 provide crucial insights into the foundational financial architecture of women-owned micro and small enterprises in the Nalgonda district. A granular examination of the data reveals distinct behavioral patterns regarding capital mobilization and risk mitigation during business inception.

- **Concentration of Micro-Scale Initial Investments:** The data illustrates that the overwhelming majority of women entrepreneurs; specifically, **74.5%** ($N = 484$)- initiated their business ventures with capital investments ranging between **₹1 to 5 lakhs**. Enterprises operating below ₹1 lakh account for **19.1%** ($N = 124$), while substantial initial outlays exceeding ₹5 lakhs remain rare (comprising just **2.6%** for ₹5–10 lakhs and **0.6%** for >₹10 lakhs). This capital distribution underscores that female-led entrepreneurship in the region predominantly anchors within the micro-enterprise tier. Such constraints are typically driven by limited liquid asset ownership, restricted access to high-value collateral, and cautious risk-taking behavior during the early developmental phases.
- **Dominance of Hybrid Equity-Debt Financing:** When examining the mechanisms of capital acquisition, **63.7%** ($N = 414$) of respondents reported utilizing a hybrid financial model that blends equity (personal or family savings) with institutional debt (bank borrowings). Meanwhile, **27.7%** ($N = 180$) relied exclusively on formal bank loans, and minimal reliance was placed on unassisted family setups (**3.2%**), government grants (**0.5%**), or informal peer networks (**4.9%**).
- **Policy and Operational Implications:** The heavy reliance on hybrid equity-debt structures (**63.7%**) signals a mature, pragmatic risk-management strategy among women entrepreneurs. Rather than exposing themselves entirely to high-cost informal credit, they strategically pair their personal savings with formal institutional funding. However, the concentration of capital scales within the ₹1–5 lakh bracket also highlights a structural bottleneck: limited access to growth-stage venture capital and higher-tier institutional credit lines. Without enhanced access to collateral-free credit expansion programs (such as higher Mudra Tarun limits or targeted state seed funds), these enterprises face severe barriers to scaling up from micro-level operations into medium-sized regional businesses.

2. Private Borrowing and Interest Rate Burdens

A segment of women entrepreneurs resorts to private informal lenders when facing capital deficits.

Table 2: Private Borrowing Characteristics and Interest Rates

Category	Options / Particulars	Number of Respondents (n)	Percentage (%)
Main Reason for Private Borrowing	No formalities like banks	55	31.6%
	Immediate cash obtained	38	21.8%
	Flexible repayment system	24	13.8%
	Borrowing without limit	9	5.2%
	All of the above	48	27.6%
Total		**174**	**100.0%**
Interest Rate Payable to Private Parties	Less than 9%	0	0.0%
	9–10%	0	0.0%
	10–11%	7	4.0%
	11–12%	63	36.2%
	Above 12%	104	59.8%
Total		**174**	**100.0%**

Source: Primary data

Analysis and Interpretation:

The empirical data presented in Table 2 sheds light on the critical vulnerabilities associated with informal credit markets and the structural barriers that drive women entrepreneurs toward private moneylenders.

- **Institutional Friction as a Driver of Informal Debt:** Among the subset of respondents who engaged in private borrowing ($n = 174$), the primary motivation cited by **31.6%** was the avoidance of cumbersome and time-consuming bank formalities. Furthermore, **21.8%** relied on private sources for immediate cash liquidity, **13.8%** sought flexible repayment structures, and **27.6%** attributed their choice to a combination of these operational conveniences. This points to a significant institutional gap: formal banking channels, despite various inclusion mandates, often remain encumbered by rigid documentation, collateral demands, and procedural delays that fail to meet urgent working capital needs.
- **Usurious Interest Rates and Profit Compression:** The most alarming finding in Table 2 is the cost of informal credit. An overwhelming **59.8%** ($n = 104$) of private borrowers reported paying interest rates **exceeding 12% per annum**, while an additional **36.2%** face rates between 11% and 12%. Notably, zero respondents secured private loans below 9%. In micro-enterprises operating on thin profit margins, servicing debt at rates exceeding 12% severely erodes net earnings.
- **Socio-Economic Implications and Debt Distress:** The reliance on high-cost private financing creates a vicious cycle of debt distress. Because micro-enterprises often lack the financial cushioning to absorb high fixed interest obligations, prolonged exposure to usurious private loans frequently forces entrepreneurs to liquidate personal assets, borrow additional funds to service old debts, or face

enterprise closure. This underscores an urgent policy imperative: institutional lenders must simplify loan disbursement procedures, expand collateral-free working capital schemes, and introduce emergency credit lines to rescue vulnerable women entrepreneurs from exploitative informal credit webs.

Objective 2: To evaluate the level of awareness regarding institutional financing schemes and assess the structural determinants of entrepreneurial competency in business decision-making.

1. Awareness Levels of Women Entrepreneurship Schemes

Awareness across various state and national funding schemes was measured on a 5-point scale (1 = Very Low to 5 = Very High).

Table 3: Descriptive Statistics on Awareness of Development Schemes ($N = 650$)

Scheme Name	Mean Score	Standard Deviation (S.D.)
Mudra Yojana Scheme	2.5138	0.9660
Mahila Udyam Nidhi Scheme	2.4323	1.0172
Mahila Shakti Groups (SBI)	1.8754	0.7600
Annapurna Scheme	1.7262	0.8646
Indira Mahila Shakti Mission	1.6877	0.6973
Dena Shakti Scheme	1.6154	0.7363
WE Hub Scheme	1.4092	0.6879
Udyogini Scheme	1.4031	0.7048

Source: Primary data.

Analysis and Interpretation:

The descriptive statistics presented in Table 3 evaluate the level of awareness among women entrepreneurs regarding various national and state-level financial development schemes, measured on a 5-point scale (ranging from 1 = Very Low to 5 = Very High). The analysis reveals significant variance in scheme penetration across the Nalgonda district.

- **High Penetration of National Credit Schemes:** The data demonstrates that national credit frameworks achieve the highest visibility among respondents. Specifically, the *Mudra Yojana Scheme* recorded the highest awareness mean score of **2.5138** ($S.D. = 0.9660$), closely followed by the *Mahila Udyam Nidhi Scheme* with a mean score of **2.4323** ($S.D. = 1.0172$). This high level of recognition is largely attributable to extensive nationwide publicity campaigns, active commercial bank participation, and structured loan-tier architectures (Shishu, Kishor, and Tarun) that directly target micro and small-scale business expansions. Similarly, institutional arrangements like the

Mahila Shakti Groups through SBI also showed moderate engagement with a mean score of **1.8754** ($S.D. = 0.7600$).

- **Critical Information Gaps in Specialized and State-Level Schemes:** Conversely, specialized assistance frameworks and state-level incubation ecosystems suffer from severe information deficits. Schemes such as *WE Hub* (Mean $= 1.4092, S.D. = 0.6879$) and the *Udyogini Scheme* (Mean $= 1.4031, S.D. = 0.7048$) registered the lowest awareness mean scores in the study. Other regional support programs like the *Indira Mahila Shakti Mission* (Mean $= 1.6877$), *Annapurna Scheme* (Mean $= 1.7262$), and *Dena Shakti Scheme* (Mean $= 1.6154$) also cluster toward the lower end of the awareness spectrum.
- **Policy Implications of Information Asymmetry:** The stark contrast between national credit schemes and localized innovation frameworks highlights a critical information gap, particularly among rural micro-entrepreneurs who constitute the majority of the sample base. While state-level bodies like WE Hub offer vital digital skills training, mentorship, and market linkages, these resources fail to reach grassroots enterprises due to inadequate localized outreach, digital divides, and a lack of structured camp-based awareness programs. Bridging this information asymmetry requires state authorities and district-level administrative bodies to launch grassroots extension campaigns, partner with Self-Help Group (SHG) networks, and utilize localized media channels to ensure that specialized incubation and credit subsidies reach underserved women entrepreneurs.

2. Factor Analysis of Entrepreneurial Competency

To evaluate decision-making and managerial capabilities, 26 competency items were subjected to Principal Component Analysis (PCA) with Varimax rotation (KMO = 0.820; Bartlett's Test $\chi^2 = 6062.478, p < 0.01$). Six distinct factors emerged, explaining **58.00% of the total cumulative variance**.

Table 4: Six-Factor Competency Model Summary

Factor Name & Number	Percentage of Variance Explained	Key Behavioral & Competency Dimensions
Factor 1: Decision Making	17.27%	Captures autonomy, independent problem approach, and tactical communication.
Factor 2: Goal Setting	9.51%	Reflects methodical planning and objective formulation.
Factor 3: Problem Solving	9.26%	Measures self-efficacy, diagnostic awareness, and challenge management.
Factor 4: Goal Accomplishment	8.31%	Focuses on long-term objective realization and task completion.
Factor 5: Group Coherence	7.65%	Evaluates interpersonal rapport building and active listening.

Factor 6: Planning	6.00%	Represents systematic information gathering and logical execution.
Total Cumulative Variance	**58.00%**	—

Source: Primary data.

Based on Table 4, the Principal Component Analysis successfully grouped 26 competency items into six core factors that account for a cumulative 58.00% of the total variance among women entrepreneurs. The primary driver is Factor 1 (Decision Making), which explains 17.27% of the variance and measures an entrepreneur's autonomy, independent problem-solving approach, and tactical communication skills. This is followed by Factor 2 (Goal Setting at 9.51%), Factor 3 (Problem Solving at 9.26%), and Factor 4 (Goal Accomplishment at 8.31%), which collectively capture how entrepreneurs formulate objectives, maintain self-efficacy, and successfully complete long-term business tasks.

The remaining dimensions consist of Factor 5 (Group Coherence at 7.65%) and Factor 6 (Planning at 6.00%), which evaluate interpersonal rapport, active listening, systematic information gathering, and logical execution. Together, these six factors provide a comprehensive framework that highlights the multi-dimensional behavioral traits and managerial competencies required by women to navigate their business operations effectively.

3. Stepwise Multiple Linear Regression on Overall Entrepreneurial Competency

A stepwise multiple regression analysis was conducted to identify the core predictors influencing the overall entrepreneurial competency score (Y).

Table 5: Regression Model Summary and Parameter Estimates

Model Summary:

- Multiple $R = 0.578$
- $R^2 = 0.334$
- Adjusted $R^2 = 0.325$
- $F = 46.044$ $(p < 0.01)$

Predictor Variables	Unstandardized Coefficient	Standard Error	Standardized Coefficient (β)	ttt-value	Significance Level
(Constant)	90.956	3.179	—	28.611	$p < 0.01$
Age	2.337	0.354	0.274	6.597	$p < 0.01$
Borrowing from Private Parties	-2.831	0.716	-0.144	-3.956	$p < 0.01$
Years in Business (Tenure)	-2.155	0.428	-0.198	-5.030	$p < 0.01$
Business under Profit/Loss	2.763	0.681	0.143	4.055	$p < 0.01$

Educational Qualification	-2.751	0.610	-0.176	-4.506	$p < 0.01$
Plans for Business Expansion	3.363	0.949	0.121	3.545	$p < 0.01$
Business Hierarchy (1st Gen)	2.390	0.939	0.115	2.545	$p < 0.05$

Source: Primary data.

Analysis and Interpretation: The stepwise multiple regression model outlined in Table 5 investigates the structural and behavioral determinants driving overall entrepreneurial competency (Y) among women-led enterprises in the Nalgonda district.

- **Overall Model Fit and Explanatory Power:** The regression model demonstrates a robust statistical fit, yielding a multiple correlation coefficient of $R = 0.578$ and a coefficient of determination (R^2) of **0.334** (adjusted $R^2 = 0.325$) at a highly significant F-statistic of $F = 46.044$ ($p < 0.01$). This indicates that **33.4%** of the total variance in overall entrepreneurial competency is successfully explained by the selected set of demographic, financial, and operational predictors. The remaining variance can be attributed to unobserved psychological traits, local socio-cultural contexts, and external market shocks.
- **Positive Drivers of Entrepreneurial Competency:** Among the significant positive predictors, **Age (** Beta $= 0.274, t = 6.597, p < 0.01$ **)** emerges as the strongest determinant of entrepreneurial capability. This confirms that experiential maturity, accumulated life skills, and practical wisdom significantly enhance an entrepreneur's managerial competence and decision-making resilience. Additionally, active **Business Profitability (** Beta $= 0.143, t = 4.055, p < 0.01$ **)**, **Plans for Business Expansion (**Beta $= 0.121, t = 3.545, p < 0.01$**)**, and being a **First-Generation Business Owner (** Beta $= 0.115, t = 2.545, p < 0.05$ **)** positively drive competency scores. Profitable enterprises provide the financial cushion and confidence required for effective risk management, while first-generation entrepreneurs often display heightened drive, adaptability, and proactive problem-solving behavior.
- **Negative Coefficients and Structural Vulnerabilities:** Conversely, several variables exhibit statistically significant negative coefficients. **Years in Business (Tenure) (**Beta $= -0.198, t = -5.030, p < 0.01$**)** reveals an inverse relationship, suggesting that prolonged micro-business tenure without technological upgrades or structural scaling leads to operational stagnation. Long-standing micro-enterprises that fail to evolve often exhibit lower dynamic competencies compared to agile, newly initiated ventures. Similarly, **Borrowing from Private Parties (**Beta $= -0.144, t = -3.956, p < 0.01$**)** negatively impacts competency, highlighting that heavy reliance on usurious informal debt creates chronic stress, drains managerial focus, and is associated with lower overall competency.
- **Educational Qualification Dynamics:** Interestingly, **Educational Qualification (** Beta $= -0.176, t = -4.506, p < 0.01$**)** registers a significant negative coefficient in this specific micro-enterprise sample. This counter-intuitive finding often manifests in traditional rural and semi-urban labour markets where formal education levels do not align with micro-enterprise skill requirements; highly educated women may face restricted occupational choices or underemployment in traditional

sectors, whereas grassroots experience heavily dictates practical managerial competence at the micro-tier.

- **Policy Recommendations:** The econometric findings underscore the need for targeted interventions. Policy frameworks must focus on mitigating informal debt dependency, facilitating formal credit access, and providing continuous skill-enhancement and digital literacy programs. This will help bridge the competency gap for long-standing micro-enterprises and accelerate sustainable growth across the region.

RECOMMENDATIONS:

Based on the empirical findings of this study regarding the financial ecosystems, credit choices, and entrepreneurial competencies of women-led micro-enterprises in the Nalgonda district, the following policy recommendations are proposed:

1. **Streamlining Formal Credit and Reducing Informal Debt Dependency:** Since a significant portion of women entrepreneurs rely on high-cost private borrowing (exceeding 12% interest rates) to bypass banking hurdles, formal financial institutions must simplify loan sanction procedures, reduce documentation friction, and expand collateral-free working capital loans (such as enhanced Mudra Yojana limits) to protect vulnerable enterprises from debt distress.
2. **Targeted Awareness Campaigns for Specialized Schemes:** Given the low awareness levels regarding state-level incubation and specialized schemes (such as WE Hub, Udyogini, and the Indira Mahila Shakti Mission), district authorities and financial institutions should conduct grassroots awareness camps, utilize regional media channels, and leverage Self-Help Group (SHG) networks to bridge information asymmetries and ensure credit subsidies reach rural micro-entrepreneurs.
3. **Enhancing Managerial and Financial Literacy:** To address the negative relationship between prolonged micro-tenure and static competency, structured training programs focusing on digital accounting, modern marketing strategies, inventory management, and business expansion planning should be regularly organized by regional development agencies and academic institutions.
4. **Promoting Digital and Institutional Inclusion:** State and local administration should establish dedicated single-window facilitation cells for women entrepreneurs at the mandal and district levels to provide continuous mentorship, legal guidance, and technical support, thereby accelerating the transition of micro-enterprises into sustainable, growth-oriented businesses.

CONCLUSION:

This empirical study provides a comprehensive evaluation of the financial ecosystems, credit choices, institutional awareness, and entrepreneurial competencies of women-led micro and small enterprises in the Nalgonda district of Telangana. The findings reveal that while women entrepreneurs exhibit strong foundational motivation primarily launching ventures with capital investments between ₹1 to 5 lakhs and utilizing hybrid equity-debt models they face severe structural and financial hurdles.

A critical takeaway from the study is the heavy reliance on high-cost private borrowing (with interest rates exceeding 12% per annum) driven by cumbersome formal banking procedures, which heavily compresses net profit margins and exposes vulnerable businesses to debt distress. Furthermore, while national credit schemes like Mudra Yojana enjoy moderate visibility, specialized state-level incubation and support frameworks (such as WE Hub and Udyogini) suffer from significant information asymmetries at the grassroots level.

The econometric analysis further demonstrates that overall entrepreneurial competency is significantly influenced by experiential maturity, business profitability, and expansion intentions, while informal debt dependency and stagnant operational tenures act as key deterrents. Ultimately, addressing these challenges through simplified institutional credit access, targeted awareness campaigns, and structured managerial training is vital. Empowering women-led micro-enterprises with the right financial and institutional support will not only enhance individual business sustainability but also foster broader regional economic development, family stability, and inclusive growth across Telangana.

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