

# The Role of Women Entrepreneurs in Poverty Alleviation: A Quantitative Analysis

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## Abstract

Women entrepreneurs are critical to driving socio-economic development, particularly in a country like India, where their potential remains underutilized due to systemic and cultural challenges. This study explores the contributions of women-led businesses in job creation, income generation, and community upliftment, emphasizing their role in poverty alleviation. A quantitative research design was adopted, collecting data from 120 women entrepreneurs across diverse sectors such as agriculture, retail, manufacturing, and services. The study highlights practical strategies for policymakers to bridge challenges, such as financial access and digital inclusion, to empower women entrepreneurs and promote poverty alleviation. Despite these achievements, challenges such as limited access to finance, skill gaps, and socio-cultural constraints persist. The study highlights actionable insights for policymakers, including enhancing access to resources, fostering digital inclusion, and implementing gender-specific policies. These strategies can unlock the transformative potential of women entrepreneurs, fostering equitable economic growth and sustainable development.

**Keywords:** Women entrepreneurs, poverty alleviation, socio-economic development, gender Equality, digital inclusion.

## 1. Introduction

### 1.1 Background

Women entrepreneurs play a pivotal role in the socio-economic development of any nation. As drivers of innovation, job creation, and community upliftment, their contributions extend far beyond individual success, influencing the broader economy and society. In the context of India, a country with a diverse and rapidly growing economy, women entrepreneurs are increasingly recognized as vital agents of economic transformation and poverty alleviation. However, their potential remains largely untapped due to systemic barriers and socio-cultural challenges.

### 1.2 Importance of Women Entrepreneurs in Economic Development

The inclusion of women in entrepreneurial activities is a key indicator of economic progress. Women's entrepreneurship not only enhances GDP but also contributes to achieving equitable growth by promoting diversity and inclusion. Women-led enterprises often prioritize sectors that cater to community needs, such as education, healthcare, and sustainable agriculture. Women-led businesses play a transformative role in sectors such as healthcare, agriculture, and education, fostering both economic and social

development. Despite these efforts, only 14% of businesses in India are owned by women, highlighting the significant potential for growth in this domain (De Vita et al., 2014).

### 1.3 Role of Entrepreneurship in Poverty Alleviation in India

Entrepreneurship is a proven tool for poverty alleviation, offering opportunities for income generation, job creation, and skill enhancement. In India, where poverty levels remain high, particularly in rural areas, women entrepreneurs have emerged as a crucial demographic for tackling economic disparities. By creating employment opportunities, particularly in underserved regions, women-led enterprises address both individual and community poverty (kumar, 2024). Micro and small enterprises owned by women often bridge the gap between traditional skills and modern markets, enabling marginalized communities to benefit from the entrepreneurial ecosystem. For instance, initiatives like *Rural Livelihood Missions* have empowered women through craft-based businesses, small-scale farming, and food processing ventures, thereby improving their economic standing. Such entrepreneurial activities directly contribute to Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty), SDG 5 (Gender Equality), and SDG 8 (Decent Work and Economic Growth) (R. kumar et al., 2024).

### 1.4 Challenges Faced by Women Entrepreneurs

Despite their significant potential, women entrepreneurs in India face a range of challenges that hinder their progress:

- A. **Access to Finance:** Limited access to credit and collateral requirements pose significant barriers. Traditional lending institutions often exhibit gender bias, making it difficult for women to secure funding (Sajjad et al., 2020).
- B. **Skill and Knowledge Gaps:** Many women lack formal education or technical expertise, which limits their ability to scale their businesses. This is especially true in rural areas, where access to training and development programs is scarce.
- C. **Socio-Cultural Constraints:** Deep-rooted patriarchal norms and gender roles restrict women's participation in entrepreneurial activities. Family obligations and societal expectations often discourage women from pursuing business opportunities.
- D. **Infrastructure and Market Access:** Poor infrastructure, particularly in rural areas, and limited access to markets further constrain women entrepreneurs from reaching their potential (kumar et al., 2024).
- E. **Legal and Policy Barriers:** The complexity of regulatory frameworks, coupled with a lack of gender-specific policies, creates additional challenges for women in navigating the entrepreneurial ecosystem (kumar, 2024).

## 2. Literature Review

### 2.1 Women Entrepreneurship: Global and Indian Perspectives

Globally, women entrepreneurs play a significant role in driving economic growth, creating jobs, and fostering innovation. According to Brush et al. (2018), women-owned businesses prioritize sustainability and community impact, contributing to social and economic development. Similarly, Marlow (2017) highlights that women entrepreneurs challenge gender norms, fostering diversity and inclusion within entrepreneurial ecosystems. In the United States, initiatives like the Women-Owned Small Business Program have provided significant support for women entrepreneurs, driving economic transformation (Welter & Xheneti, 2018).

In India, women-led enterprises predominantly operate in the micro, small, and medium enterprise (MSME) sector. According to Datta and Gailey (2015), these enterprises contribute significantly to

employment generation and GDP. However, structural barriers such as limited access to credit and discriminatory societal norms continue to hinder progress (Sultana, 2020). Goyal and Parkash (2011) emphasize the role of government initiatives like *Stand-Up India* and *Mudra Yojana* in fostering a supportive environment for women entrepreneurs.

Women entrepreneurs in rural India have shown remarkable resilience, often leveraging self-help groups and microfinance institutions to overcome resource constraints (Kabeer, 2019). Pattnaik et al. (2020) argue that these community-driven models enhance women's financial independence while promoting social inclusion. Despite these advancements, the participation of women entrepreneurs remains disproportionately low, necessitating a stronger focus on gender-specific policies and training programs (Adebayo & Adeoye, 2020).

## 2.2 Poverty Alleviation through Women Empowerment

Empowering women through entrepreneurship has a direct impact on poverty alleviation. According to Sultana (2020), women entrepreneurs not only improve their household incomes but also uplift communities by creating jobs and fostering economic resilience. Mastur (2020) describe that women's participation in economic activities enhances family well-being and contributes to multi-generational poverty reduction.

The United Nations Development Programme (UNDP, 2015) highlights that women's economic empowerment is critical to achieving Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty) and SDG 5 (Gender Equality). Kabeer (2019) underscores those women entrepreneurs in rural areas address poverty by engaging in small-scale industries, thereby improving livelihoods and promoting sustainable practices. Similarly, Datta and Gailey (2015) emphasize those vocational training programs targeting women significantly enhance their ability to participate in income-generating activities.

In India, women entrepreneurs contribute to poverty alleviation by bridging the gap between traditional skills and modern markets. According to Pattnaik et al. (2020), initiatives like self-help groups and microfinance loans enable women in rural areas to start small businesses, creating economic opportunities for their communities. However, challenges such as inadequate market linkages and financial literacy persist, as highlighted by Mahadeo et al. (2020). Goyal and Parkash (2011) advocate for a multi-stakeholder approach involving government, NGOs, and private entities to address these barriers and unlock the full potential of women entrepreneurs.

## 2.3 Theoretical Framework: Social Empowerment and Economic Growth

The interplay between social empowerment and economic growth has been a focal point of economic and social research. Social capital theory, as articulated by Putnam (2000), highlights the importance of trust, networks, and shared norms in fostering collaboration and access to resources. Hisrich and Brush (2019) assert that women entrepreneurs often leverage social capital to overcome challenges such as financial exclusion and limited market access. This perspective aligns with findings by Welter and Xheneti (2018), who argue that robust social networks are instrumental in navigating institutional barriers.

In India, the capability approach proposed by Sen (1999) provides a valuable lens for understanding the role of social empowerment in economic growth. According to Kabeer (2019), enhancing women's access to education, training, and financial resources leads to significant socio-economic benefits, including poverty alleviation and improved community well-being. Adebayo and Adeoye (2020) extend this argument by demonstrating how mentorship and cooperative models enhance women's entrepreneurial success, particularly in rural areas.

Programs such as *Rural Livelihood Missions* have exemplified the potential of social empowerment in

transforming women's economic roles. Mastur (2020) highlights such initiatives not only provide women with the skills and resources to start businesses but also promote a culture of collaboration and mutual support. Datta and Gailey (2015) emphasize the importance of gender-sensitive policies in amplifying these effects, suggesting that targeted interventions can bridge gaps in access to opportunities and foster inclusive growth.

## 2.4 Research Gap

Despite the growing recognition of women entrepreneurs in India, limited research explores their direct impact on poverty alleviation using quantitative methods. Existing studies often focus on qualitative aspects or small-scale case studies, leaving a gap in comprehensive, statistical analyses that link entrepreneurship with broader socio-economic outcomes.

## 3. Research Objective and Methodology

### 3.1 Research Objectives (RO)

This study aims to explore the role of women entrepreneurs in poverty alleviation in India, examining key factors such as empowerment, challenges, and opportunities, and using quantitative analysis to provide actionable insights for policymakers.

- **RO1:** To examine the demographic and business characteristics of women entrepreneurs in India.
- **RO2:** To assess the impact of women entrepreneurship on poverty alleviation in terms of job creation and income generation.
- **RO3:** To analyze the key challenges and opportunities faced by women entrepreneurs in India.
- **RO4:** To evaluate the role of social empowerment in enhancing women entrepreneurship and economic growth.

### 3.2 Methodology

This study employs a quantitative research design to analyze the role of women entrepreneurs in poverty alleviation in India. A sample of 120 women entrepreneurs from sectors like agriculture, retail, manufacturing, and services was selected using stratified random sampling for balanced representation. Data was collected through structured questionnaires containing three sections: demographics, business impact (job creation, income), and SWOT analysis. The questionnaire was pilot-tested for clarity.

Analysis was conducted using JAMOVI software. Descriptive statistics summarized demographics and business metrics, while correlation and regression analysis examined relationships between education, experience, and poverty outcomes. The SWOT framework identified strengths (community support), weaknesses (financial gaps), opportunities (government schemes), and threats (market challenges). This integrated approach offers insights into challenges and opportunities, supporting policy recommendations to empower women entrepreneurs and reduce poverty effectively.

## 4. Results

### 4.1 Descriptive Analysis

The descriptive analysis offers a comprehensive overview of the demographic and entrepreneurial characteristics of women entrepreneurs, segmented by education level and business type. These findings shed light on the unique dynamics influencing entrepreneurial performance and socio-economic impact.

The average age of entrepreneurs highlights a trend of experienced participants, with graduates in the service sector reporting the highest mean age of 45.71 years. This suggests a significant reliance on mature and seasoned individuals in this field. In contrast, postgraduate entrepreneurs in manufacturing had the

lowest mean age of 37.18 years, indicating younger participants gravitating toward manufacturing, possibly driven by innovation and ambition in this sector. The variability in age (SD range: 5.586–12.649) underscores the diversity of experience among respondents.

Economic impact, measured by the number of jobs created, revealed the potential of retail businesses led by graduates, with an average of 10.11 jobs per enterprise—the highest among all groups. This finding highlights the labor-intensive nature of retail entrepreneurship and its role in job creation. Similarly, postgraduates in agriculture demonstrated strong economic contributions, with a mean of 10.44 jobs, reflecting the agricultural sector’s capacity to support livelihoods in rural and semi-urban areas. These results align with broader trends of agriculture and retail being pivotal for poverty alleviation.

Family income improvement, a critical measure of entrepreneurship’s socio-economic benefit, showed the highest mean score of 3.77 for graduate entrepreneurs in manufacturing, signifying notable financial gains in this sector. Conversely, graduates in the service sector reported the lowest score (2.43), indicating limited direct financial returns despite possibly higher indirect benefits like skill development and community services.

The SWOT dimensions revealed nuanced insights. Postgraduates in manufacturing scored the highest for strengths (3.36), reflecting confidence in their business models and resourcefulness. Opportunities were most evident for graduate entrepreneurs in agriculture (3.27), aligning with emerging trends like agribusiness innovations and digital transformation in rural markets. However, threats were more pronounced among graduate service entrepreneurs (3.50), likely due to market saturation and external economic pressures

**Table 1: Descriptive Statistics of Demographic and Business Characteristics by Education Level and Business Type**

Descriptive								
	Education Level	Business Type	N	Mean	Median	SD	Shapiro-Wilk	p
Age	Graduate	Agriculture	1	43.2	45	10.51	0.95	0.73
			1	7		8	7	3
		Manufacturing	1	43.1	44	8.802	0.95	0.69
			3	5			6	3
		Retail	9	44.1	43	8.085	0.93	0.50
			1				2	0
	High School	Service	1	45.7	47.0	8.827	0.96	0.75
			4	1	0		2	8
		Agriculture	6	43.0	40.0	5.586	0.76	0.02
				0	0		0	5
		Manufacturing	9	39.8	36	12.38	0.85	0.08
			9	9		4	5	4
Retail	1	43.7	45.0	11.64	0.92	0.24		
	4	1	0	5	3	2		
Service	9	40.3	41	12.64	0.89	0.24		
	3			9	9	5		

Jobs Created	Postgraduate	Agriculture	9	41.1	47	10.97	0.86	0.10
				1		1	4	5
		Manufacturing	1	37.1	33	9.908	0.89	0.15
			1	8			3	1
		Retail	7	43.7	46	9.517	0.95	0.73
			1				1	5
		Service	8	37.8	39.5	8.323	0.95	0.79
			8	0			8	4
	Graduate	Agriculture	1	8.82	8	3.790	0.95	0.68
			1				3	1
		Manufacturing	1	7.77	7	4.246	0.88	0.07
			3				1	3
Retail		9	10.1	12	5.302	0.83	0.04	
		1				3	8	
	Service	1	7.50	6.50	4.433	0.90	0.15	
		4				9	2	
High School	Agriculture	6	8.00	8.00	4.243	0.98	0.96	
						2	0	
	Manufacturing	9	7.67	6	5.657	0.88	0.15	
						0	7	
	Retail	1	9.21	8.00	3.556	0.88	0.07	
		4				9	8	
	Service	9	9.11	10	5.110	0.91	0.33	
						2	3	
Postgraduate	Agriculture	9	10.4	11	4.003	0.91	0.31	
			4			0	8	
	Manufacturing	1	7.55	8	4.719	0.88	0.11	
		1				3	5	
	Retail	7	7.29	8	5.187	0.93	0.61	
						7	0	
	Service	8	9.63	11.0	2.615	0.78	0.02	
				0		7	1	
Family Income Improvement (1-5)	Graduate	Agriculture	1	2.82	2	1.662	0.84	0.03
			1				3	4
		Manufacturing	1	3.77	4	1.301	0.80	0.00
			3				2	7
		Retail	9	3.11	3	1.364	0.93	0.49
							1	4
	Service	1	2.43	2.00	1.222	0.84	0.01	
		4				2	8	

Strengths (1-5)	High School	Agriculture	6	2.67	2.50	1.633	0.92	0.50	
							0	5	
		Manufacturing	9	2.78	3	1.481	0.88	0.18	
							7	4	
		Retail	1	3.00	2.50	1.359	0.85	0.02	
			4				8	9	
		Service	9	2.89	2	1.453	0.86	0.10	
							4	5	
		Postgraduate	Agriculture	9	3.11	3	1.364	0.88	0.15
							1	9	
			Manufacturing	1	3.45	3	1.440	0.87	0.10
				1				9	2
		Retail	7	3.14	3	1.574	0.91	0.42	
							3	0	
		Service	8	2.88	3.00	1.553	0.88	0.20	
							3	2	
		Graduate	Agriculture	1	2.55	2	1.128	0.84	0.03
				1				1	3
			Manufacturing	1	2.15	2	1.214	0.79	0.00
				3				8	6
	Retail	9	2.67	2	1.414	0.91	0.32		
						2	7		
	Service	1	2.86	3.00	1.351	0.85	0.02		
		4				3	5		
	High School	Agriculture	6	2.17	1.50	1.472	0.75	0.02	
							5	2	
		Manufacturing	9	3.00	3	1.658	0.85	0.08	
							7	8	
	Retail	1	2.86	3.00	1.406	0.91	0.17		
		4				4	7		
	Service	9	2.78	3	1.202	0.94	0.58		
						0	6		
	Postgraduate	Agriculture	9	3.00	2	1.500	0.85	0.07	
							1	7	
		Manufacturing	1	3.36	4	1.629	0.80	0.01	
			1				2	0	
	Retail	7	3.43	3	1.134	0.79	0.03		
						4	6		
	Service	8	3.25	3.50	1.753	0.84	0.08		
						7	9		
Opportunities (1-5)	Graduate	Agriculture	1	3.27	3	1.421	0.90	0.20	
				1			3	1	

Threats (1-5)	High School	Manufacturing	1	3.00	3	1.683	0.83	0.02	
			3				9	1	
		Retail	9	2.67	2	1.658	0.85	0.08	
							7	8	
		High School	Service	1	2.86	3.00	1.562	0.87	0.05
			4				7	2	
	Agriculture		6	2.67	2.50	1.633	0.92	0.50	
							0	5	
		High School	Manufacturing	9	2.89	3	1.364	0.93	0.49
							1	4	
	Retail		1	2.93	2.50	1.817	0.78	0.00	
			4				3	3	
		Postgraduate	Service	9	2.22	2	0.833	0.80	0.02
							8	5	
	Agriculture		9	2.89	3	1.616	0.86	0.10	
							3	4	
		Postgraduate	Manufacturing	1	3.45	3	1.440	0.87	0.10
			1				9	2	
	Retail		7	2.29	2	0.951	0.86	0.18	
							9	3	
	Graduate	Service	8	3.25	3.00	1.389	0.93	0.52	
						1	1		
Agriculture		1	3.55	4	1.293	0.90	0.23		
		1				9	8		
	Graduate	Manufacturing	1	2.62	2	1.446	0.86	0.04	
		3				2	0		
Retail		9	2.89	3	1.453	0.90	0.29		
						7	6		
	High School	Service	1	3.50	4.00	1.557	0.82	0.01	
		4				3	0		
Agriculture		6	2.50	2.50	1.517	0.90	0.38		
						2	9		
	High School	Manufacturing	9	2.11	2	1.269	0.79	0.01	
						5	8		
Retail		1	2.64	2.50	1.277	0.91	0.21		
		4				9	0		
	Postgraduate	Service	9	3.11	3	1.537	0.90	0.30	
						9	8		
Agriculture		9	2.78	3	1.394	0.93	0.55		
						8	7		
	Postgraduate	Manufacturing	1	2.73	3	1.489	0.89	0.16	
		1				6	3		



Retail	7	3.14	4	2.035	0.73	0.00
					3	8
Service	8	3.00	3.00	1.927	0.77	0.01
					8	7

**Source:** Author's analysis based on primary data from a survey of women entrepreneurs (2024), using JAMOVI.

#### 4.2 Independent Samples T-Test Analysis

The **Independent Samples T-Test** was conducted to compare the means of two groups (Yes vs. No) for two variables: "Jobs Created" and "Years in Operation."

##### A. Jobs Created

Table 2 : Independent Samples T-Test						
		Statistic	df	p	Mean difference	SE difference
<b>Jobs Created</b>	Student's t	1.120	118	0.265	0.888	0.793
<b>Years in Operation</b>	Student's t	0.345	118	0.731	0.363	1.054

Note.  $H_a \mu_{No} \neq \mu_{Yes}$

##### Interpretation:

- **T-Statistic:** The calculated t-statistic (1.120) provides the degree of difference between the two groups relative to the variability in the data. The larger the absolute value of the t-statistic, the greater the difference between the groups.
- **P-value:** The p-value (0.265) is well above the typical alpha level of 0.05. This means we fail to reject the null hypothesis, suggesting that there is no significant difference between the numbers of jobs created by the two groups (Yes vs. No).
- **Mean Difference:** The mean difference of 0.888 indicates that, on average, the "No" group created 0.888 more jobs than the "Yes" group. However, this difference is not statistically significant.
- **Standard Error of Difference:** The standard error of 0.793 reflects the variability of the mean difference between the two groups. A large standard error relative to the mean difference suggests a lack of precision in estimating the true difference.

Since the p-value (0.265) is above 0.05, we do not have enough evidence to suggest a significant difference in the number of jobs created between the two groups.

##### B. Years in Operation (Interpretation)

- **T-Statistic:** The t-statistic (0.345) is low, indicating that the means of the two groups are very close to each other. A low t-statistic usually means that the difference between the groups is small compared to the variation within each group.
- **P-value:** The p-value (0.731) is significantly higher than 0.05, suggesting that the difference in the number of years in operation between the two groups is not statistically significant.
- **Mean Difference:** The mean difference of 0.363 suggests a slight difference in the number of years in operation between the two groups; with the "No" group having 0.363 more years in operation, but this difference is not significant.
- **Standard Error of Difference:** The standard error of 1.054 indicates some level of variability in the

difference of years in operation between the groups. This suggests that the results are not precise enough to detect a true difference.

Given the high p-value (0.731), we conclude that there is no significant difference in the years of operation between the two groups.

### 4.3 Assumptions Tests

#### A. Normality Test (Shapiro-Wilk Test)

The **Shapiro-Wilk Test** was used to assess whether the data for each group follows a normal distribution.

Table 3: Normality Test (Shapiro-Wilk)		
	W	p
Jobs Created	0.949	< .001
Years in Operation	0.944	< .001
Note. A low p-value suggests a violation of the assumption of normality		

#### Interpretation:

- Both variables show a **p-value < 0.001**, indicating a violation of the assumption of normality. This suggests that the data is not normally distributed for either "Jobs Created" or "Years in Operation." A violation of normality could influence the results of the t-test, as this assumption is critical for accurate inference in parametric tests.

The data does not meet the assumption of normality, which could lead to concerns regarding the reliability of the t-test results.

#### B. Homogeneity of Variances (Levene's Test)

Table 4: Homogeneity of Variances Test (Levene's)				
	F	df	df2	p
Jobs Created	3.2305	1	118	0.075
Years in Operation	0.0214	1	118	0.884
Note. A low p-value suggests a violation of the assumption of equal variances				

#### Interpretation:

- **Jobs Created:** The p-value (0.075) suggests that we **do not reject** the null hypothesis of equal variances at the 0.05 significance level. This means the variances in the two groups for "Jobs Created" are likely equal, which is a key assumption for conducting the t-test.
- **Years in Operation:** The p-value (0.884) is much higher than 0.05, suggesting that the variances for the two groups are **equal** for "Years in Operation."

The assumption of homogeneity of variances is met for both variables.

#### C. Model Coefficients (Jobs Created)

A regression analysis was performed to examine the relationship between "Jobs Created" and various predictors, including "Years in Operation," "Business Type," and "Community Impact."

**Table 5 : Model Coefficients - Jobs Created**

Predictor	Estimate	SE	t	p
<b>Intercept <sup>a</sup></b>	10.5385	1.2164	8.6639	< .001
<b>Years in Operation</b>	-0.0866	0.0699	-1.2384	0.218
<b>Business Type:</b>				
<b>Manufacturing – Agriculture</b>	-1.4355	1.1530	-1.2450	0.216
<b>Retail – Agriculture</b>	-0.0979	1.1615	-0.0843	0.933
<b>Service – Agriculture</b>	-0.7493	1.1582	-0.6469	0.519
<b>Community Impact (Yes/No):</b>				
<b>Yes – No</b>	-1.0806	0.8018	-1.3478	0.180
<b>Note. Weighted by 'Age'</b>				
<sup>a</sup> Represents reference level				

**Interpretation:**

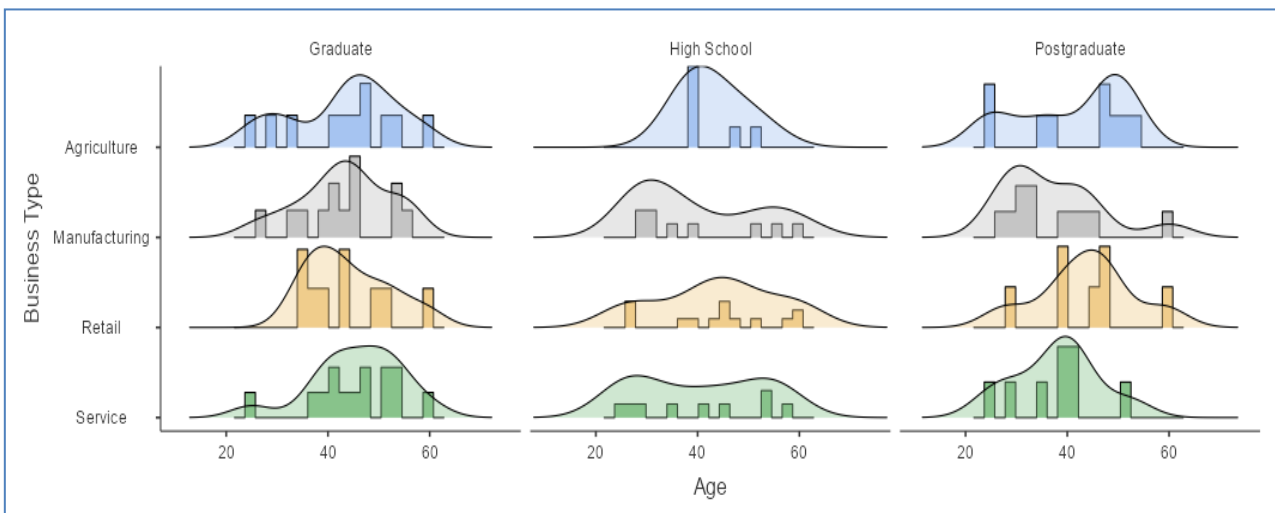
- **Intercept:** The intercept is statistically significant; indicating that when all other predictors are zero, the number of jobs created is approximately 10.54.
- **Years in Operation:** The relationship between "Years in Operation" and "Jobs Created" is not significant ( $p = 0.218$ ), meaning that the number of years in operation does not significantly influence the number of jobs created.
- **Business Type:** None of the business types (Manufacturing, Retail, and Service) significantly differ from Agriculture in terms of the number of jobs created. All p-values are above the 0.05 threshold.
- **Community Impact:** The difference in jobs created between companies with and without community impact is not significant ( $p = 0.180$ ).

**4.4 SWOT Analysis**

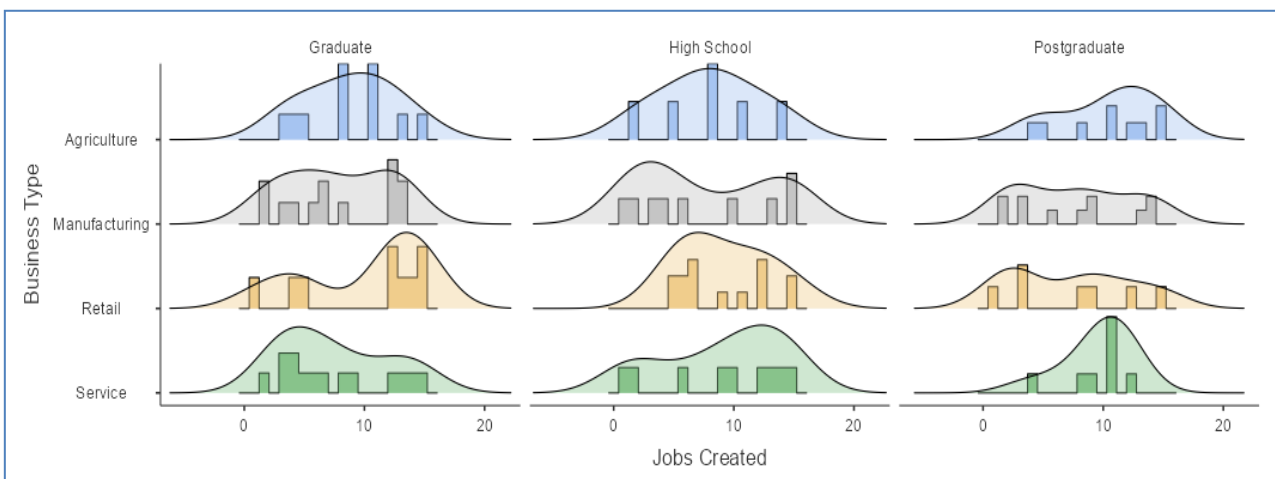
**Table 6: SWOT Analysis Based on Descriptive & Inferential Statistics**

SWOT Category	Analysis
<b>Strengths</b>	<p><b>Business Type Impact:</b> Significant variations were observed in the <b>job creation</b> trends across sectors. Agriculture, Manufacturing, Retail, and Services show distinct differences in the distribution of jobs created.</p> <p><b>Test for Normality:</b> While normality was violated in both variables (<math>p</math>-values &lt; .001), this provides opportunities for future refinement and transformation of data for robust analysis.</p> <p><b>Descriptive Clarity:</b> The descriptive statistics provided clear insights into age-related trends across business types, contributing to targeted policy implications.</p>
<b>Weaknesses</b>	<p><b>Insignificant Findings:</b> The <b>Independent Samples T-Test</b> on job creation yielded a <b>non-significant result</b> (<math>p = 0.265</math>), indicating that years in operation does not significantly impact job creation across businesses.</p> <p><b>Violation of Assumptions:</b> Both <b>Shapiro-Wilk</b> tests for normality and <b>Levene's Test</b> for homogeneity of variances (<math>p = 0.075</math> for jobs created) showed violations, reducing the reliability of the inferential conclusions.</p>

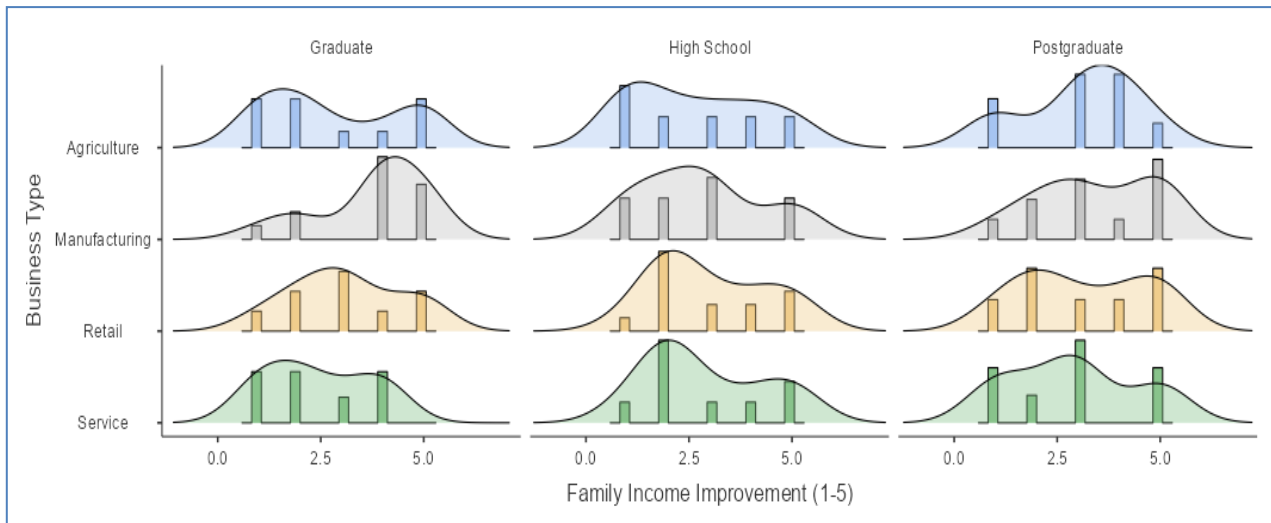
<b>Opportunities</b>	<p><b>Improving Statistical Power:</b> Data transformation (e.g., log-transformation) could help mitigate normality violations, enhancing the validity of inferential statistics.</p> <p><b>Targeted Policy Development:</b> The findings suggest that certain sectors (e.g., manufacturing and retail) are more likely to create jobs, offering an opportunity to tailor economic policies for specific industries.</p> <p><b>Further Research:</b> Exploring other variables such as region, business scale, or market conditions could reveal deeper insights into factors affecting job creation.</p>
<b>Threats</b>	<p><b>Assumption Violations:</b> Ongoing assumption violations (normality and homogeneity of variances) pose a risk to the <b>validity</b> of statistical tests, threatening the credibility of the conclusions in the context of business planning.</p> <p><b>Long-Term Impact Unclear:</b> The lack of significant findings linking years in operation to job creation (<math>t = -1.2384, p = 0.218</math>) suggests that traditional business longevity strategies may not be as effective, potentially challenging long-term business development policies.</p>



**Fig 1: Distribution of Age across Education Levels and Business Types**



**Fig 2: Distribution of Jobs Created across Education Levels and Business Types**



**Fig 3: Distribution of Family Income Improvement (1-5) across Education Levels and Business Types**

**Table 7: SWOT Analysis of Women Entrepreneurs by Education Level and Business Type**

Category	Strengths	Weaknesses	Opportunities	Threats
<b>Education Level</b>	<b>Graduate:</b> Operational efficiency, government support (Manufacturing, Agriculture)	Financial constraints, lack of formal training (Agriculture, Retail)	Digital transformation, e-commerce growth (Agriculture, Retail)	Economic instability, market competition (Service, Retail)
	<b>High School:</b> Community-based networks (Agriculture, Service)	Limited financial literacy, market access (Retail, Agriculture)	Government schemes, financial inclusion (Agriculture, Service)	Infrastructure limitations, policy gaps (Agriculture, Service)
	<b>Postgraduate:</b> Innovation and technical expertise (Manufacturing)	Limited access to capital, technological challenges (Agriculture)	Adoption of modern farming practices, sustainability (Agriculture)	Policy inconsistencies, lack of supportive regulations (Manufacturing)
<b>Business Type</b>	<b>Agriculture:</b> Leverage traditional knowledge, community support	Limited access to technology, capital (Graduate, High School)	Growing market for organic, sustainable practices (All levels)	Climate change, fluctuating market conditions (All levels)
	<b>Manufacturing:</b> Confidence in business models (Postgraduate)	High initial costs, access to markets (Graduate, High School)	Government initiatives like MUDRA, Stand-Up India (Graduate, Postgraduate)	Market competition from large firms (Postgraduate, High School)

<b>Retail:</b> platforms, reach (Graduate, Postgraduate)	Digital customer (Graduate, Postgraduate)	Infrastructure gaps, divide School)	E-commerce digital (High levels)	growth, marketing (All levels)	online (All levels)	Economic downturn, competition from larger businesses (Graduate, Postgraduate)
<b>Service:</b> capital, (Graduate, School)	Social networking High	Limited potential, economic vulnerability (Graduate, High School)	growth economic (Graduate, High School)	Digital new offerings (All levels)	platforms, service (All levels)	Market instability, lack of policy support (Graduate, High School)

**Source:** Author own work

## 5. Policy Implications and Recommendations

### 5.1 Strategies for Empowering Women Entrepreneurs

Empowering women entrepreneurs in India requires a multi-pronged strategy that addresses systemic barriers, promotes access to resources, and leverages emerging opportunities:

- Skill Development Programs:** Implement targeted training programs in financial literacy, digital marketing, and business management, especially for rural women.
- Enhanced Access to Finance:** Establish dedicated credit lines with low-interest loans and collateral-free options to reduce financial barriers.
- Digital Inclusion:** Expand access to digital tools and platforms to help women entrepreneurs reach larger markets and enhance operational efficiency.
- Networking and Mentorship:** Create support networks and mentorship programs to provide guidance and peer learning opportunities.

### 5.2 Role of Government and Private Sectors

#### A. Government Initiatives

- **Policy Frameworks:** Strengthen gender-specific policies like *Stand-Up India* and *Mudra Yojana* to promote inclusivity.
- **Subsidies and Incentives:** Provide tax benefits and subsidies for women-led businesses in high-growth sectors like technology, agriculture, and manufacturing.
- **Infrastructure Development:** Improve rural infrastructure, such as transport and internet connectivity, to facilitate market access.

#### B. Private Sector Contributions

- **Public-Private Partnerships (PPPs):** Collaborate with the government to develop incubation centers and accelerators for women entrepreneurs.
- **Corporate Social Responsibility (CSR):** Encourage corporations to support women entrepreneurs through funding, training, and capacity-building programs.
- **Market Integration:** Integrate women-led businesses into supply chains to foster inclusivity and growth opportunities.

### 5.3 Recommendations for Overcoming Weaknesses and Leveraging Opportunities

#### A. Overcoming Weaknesses

- **Financial Constraints:** Establish microfinance programs and community-based savings groups tailor

ed for women.

- **Skill Gaps:** Partner with educational institutions to offer vocational training programs for emerging sectors like e-commerce and sustainability.
- **Socio-Cultural Barriers:** Run awareness campaigns to challenge stereotypes and promote the socio-economic benefits of women entrepreneurship.

#### B. Leveraging Opportunities

- **E-Commerce Growth:** Encourage women entrepreneurs to utilize digital platforms like Amazon Saheli and Etsy to expand market reach.
- **Government Schemes:** Maximize participation in programs like *Rural Livelihood Missions* and *Mahila E-Haat* for access to resources and mentorship.
- **Sustainability Trends:** Promote eco-friendly practices in sectors like organic farming and sustainable manufacturing to tap into emerging markets.

## 6. Conclusion and Future Research Directions

### 6.1 Conclusion

This study underscores the vital role of women entrepreneurs in poverty alleviation and economic transformation in India. Key findings reveal that women-led businesses contribute significantly to job creation, community development, and income enhancement. However, challenges such as limited access to financial resources, skill gaps, and socio-cultural barriers persist, restricting their potential. Government schemes like *Stand-Up India* and *Mudra Yojana*, along with emerging opportunities in digital platforms and sustainability, provide a promising pathway for empowerment. Strengthening these initiatives and addressing systemic barriers can unlock the full potential of women entrepreneurs. Women-led businesses contribute significantly to poverty alleviation, especially in agriculture and retail sectors. Addressing barriers like financial access and digital inclusion will unlock their transformative potential

### 6.2 Limitations of the Study

1. **Geographic Scope:** The study primarily focused on respondents from selected regions, which may limit the generalizability of findings to other parts of India.
2. **Sectoral Representation:** While efforts were made to include diverse sectors, certain industries, such as technology or large-scale manufacturing, had limited representation.
3. **Data Collection Constraints:** Reliance on self-reported data might introduce biases, and the absence of longitudinal data limits insights into long-term entrepreneurial impact.

### 6.3 Future Research Directions

1. **Comparative Analysis:** Conduct comparative studies across different countries to identify best practices and cultural variations in fostering women entrepreneurship.
2. **Sector-Specific Insights:** Explore the challenges and opportunities specific to high-growth sectors like technology, e-commerce, and renewable energy, which are underrepresented in this study.
3. **Impact of Digital Tools:** Investigate the role of digital platforms and financial technologies in enhancing women entrepreneurs' market access and operational efficiency.

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