

## Women in Supply Chain and Retail Management: A Study on Their Economic Impact in Thoothukudi District

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### Abstract:

Thoothukudi, a key coastal hub in Tamil Nadu, has a thriving retail and supply chain ecosystem, particularly in fisheries, textiles, and small-scale enterprises. Women play a crucial role in these sectors, yet their contributions often go unrecognized in formal economic analyses. This chapter explores the impact of women in supply chain and retail management in Thoothukudi, highlighting their role in business operations, decision-making, and economic stability.

Through surveys and case studies, the study examines challenges such as gender biases, limited access to financial resources, and policy gaps affecting women entrepreneurs and employees. It also identifies opportunities for empowering women through skill development, digitalization, and government initiatives. The findings offer insights into strengthening gender-inclusive business practices in Thoothukudi, contributing to both regional and national economic growth.

**Keywords:** Women Entrepreneurs, Retail Management, Supply Chain, Thoothukudi, Economic Impact

### 1.1 Introduction:

The role of women in supply chain and retail management has been a subject of growing interest in global business research. Various studies suggest that gender diversity enhances operational efficiency, innovation, and business resilience (Carter & Rogers, 2008). However, despite their contributions, women remain underrepresented in decision-making roles, particularly in developing economies where socio-cultural and economic barriers persist (Brush et al., 2006).

Thoothukudi, a key economic hub in Tamil Nadu, presents a unique case for examining women's contributions to supply chain and retail management, particularly in sectors like fisheries, textiles, and small-scale enterprises. This section reviews existing literature on women's roles, challenges, and opportunities in these domains, drawing on global, national, and regional perspectives.

## **1.2 Women in Retail Management:**

### **1.2.1 Global and National Perspectives on Women in Retail:**

Retail is one of the largest employment sectors for women worldwide, with studies indicating that women-led retail businesses often demonstrate higher customer engagement, trust, and service quality (Sundaresan, 2011). Globally, women make up nearly 40% of the retail workforce, but only a small fraction hold leadership positions (World Economic Forum, 2022). In India, the retail sector has seen increasing female participation, particularly in micro and small enterprises. A study by Ghosh (2020) found that women-owned retail businesses contribute significantly to household income and community development. However, their businesses often face financial instability due to limited access to credit and market linkages.

### **1.2.2 Women in Retail Management in Thoothukudi:**

Thoothukudi's retail landscape is dominated by small businesses, including grocery stores, textile shops, and seafood markets. Women entrepreneurs in these sectors play a critical role in sustaining local trade. However, existing literature suggests several barriers:

- Financial Constraints: Women face difficulties in securing loans due to lack of collateral and restrictive lending policies (Ramasamy, 2021).
- Socio-Cultural Barriers: Gender norms and family responsibilities limit women's ability to expand their businesses (Das, 2019).
- Digital Divide: Limited digital literacy restricts access to online retail and e-commerce opportunities.

Empirical research in similar markets suggests that digitalization, financial inclusion, and policy support can enhance women's retail participation (Kabeer, 2020).

## **1.3 Women in Supply Chain Management:**

### **1.3.1 Women's Role in Supply Chains: Global Trends:**

Women's involvement in supply chain management (SCM) is gaining attention in global business research. Studies show that gender diversity in supply chains improves risk management, operational efficiency, and sustainability (Chopra & Meindl, 2016). However, women remain significantly underrepresented in logistics, procurement, and distribution roles due to structural and systemic challenges (OECD, 2021).

In developing economies, women play a crucial role in informal supply chains, particularly in agriculture, fisheries, and handicrafts. A study by FAO (2020) highlighted that women in food supply chains contribute significantly to food security and economic stability but face challenges such as poor infrastructure, limited market access, and gender-based discrimination.

### **1.3.2 Women's Participation in Supply Chains in Thoothukudi**

Thoothukudi's supply chain ecosystem is driven by fisheries, agriculture, and small manufacturing enterprises. Women are actively involved in procurement, processing, and

distribution, particularly in the fisheries sector, where they contribute to sorting, packaging, and sales. However, literature highlights several challenges:

- Market Access Limitations: Women struggle to connect with larger supply chain networks (Kumar & Raj, 2022).
- Lack of Institutional Support: Policy gaps result in inadequate support for women's participation in formal supply chain roles (Singh, 2021).
- Workplace Safety Concerns: Poor infrastructure and safety issues deter women from engaging in logistics and transportation (Basu & Sen, 2020).

Research suggests that targeted interventions, such as supply chain training programs and access to financial resources, can improve women's participation in SCM (OECD, 2021).

### ***1.4 Government Policies and Support for Women Entrepreneurs***

#### ***1.4.1 Policy Framework for Women in Business***

The Indian government has introduced several initiatives to support women entrepreneurs, including:

- MUDRA Yojana: Provides microfinance support for women-led businesses.
- Stand-Up India Scheme: Facilitates loans for women entrepreneurs in supply chain and retail businesses.
- Tamil Nadu Women Development Corporation (TNWDC): Offers financial aid and training programs.

Despite these efforts, gaps in policy implementation persist, limiting their effectiveness.

#### ***1.4.2 Policy Implementation Gaps and Challenges***

While policies exist, several challenges hinder their impact:

- Awareness Deficit: Many women entrepreneurs are unaware of financial assistance programs (Ramasamy, 2021).
- Bureaucratic Hurdles: Complicated application processes discourage women from accessing government support (Das, 2019).
- Lack of Tailored Training: Generic entrepreneurship training programs fail to address the specific needs of women in retail and supply chain sectors (Kabeer, 2020).

### ***1.5 Statement of the Problem:***

The role of women in supply chain and retail management has gained increasing recognition as a crucial driver of economic development, particularly in regional economies such as Thoothukudi District. Women engaged in these sectors contribute significantly to household income, job creation, and local economic sustainability. However, their participation is often influenced by multiple challenges, including financial limitations, restricted market access, digital illiteracy, and work-life balance struggles. Despite various government initiatives and support programs aimed at empowering women entrepreneurs and employees, the effectiveness of these interventions remains debatable.

This study aims to explore the economic impact of women in supply chain and retail management in Thoothukudi District. It seeks to assess how their participation influences household financial stability, business sustainability, and local economic growth. Additionally, the research investigates key challenges faced by women in these sectors, including access to capital, policy effectiveness, and the need for strategic interventions such as financial literacy programs, mentorship, and digital transformation.

Through an in-depth analysis of women's economic contributions, challenges, and policy support mechanisms, this study aims to provide data-driven recommendations for enhancing gender inclusivity in supply chain and retail management. By identifying factors that facilitate or hinder their success, the findings will offer valuable insights for policymakers, business stakeholders, and development agencies to foster a more equitable and sustainable business environment for women in Thoothukudi District.

### ***1.6 Objectives of the Study:***

- To analyze the role of women in supply chain and retail management in Thoothukudi District.
- To assess the economic impact of women entrepreneurs and employees in these sectors.
- To identify challenges faced by women in accessing resources and managing businesses.
- To examine the effectiveness of existing government policies in supporting women's participation.
- To suggest strategic interventions for improving gender inclusivity in retail and supply chain management.

### ***1.7 Methodology:***

The research follows a mixed-methods approach, combining both quantitative and qualitative techniques to ensure a well-rounded understanding of the topic. Primary data was collected using a structured questionnaire designed exclusively for this study. Data collection was carried out through direct interviews, allowing for detailed responses, while online forms were also used wherever necessary to improve accessibility and convenience for the participants.

**1.7.1 Sample Size:** A total sample of 237 respondents were selected from the total population women entrepreneur, employees and business personals of thoothukudi district

**1.7.2 Sampling technique:** Stratified random sampling has been considered as one of the major techniques for this study. Given the fact that the respondents belong to varied sectors such as retail, wholesale, logistics, supply chain, and manufacturing, stratification becomes essential. This method allows the population to be divided into smaller, homogenous groups based on their area of work. Following this, random samples are selected from each group, ensuring fair representation from every sector. This not only enhances the accuracy of the study but also helps minimize possible sampling errors.

### ***1.7.3 Tools Used:***

The study used Percentage analysis, Bar graphs, pie charts, chi square and Correlation as tools for analysis

### 1.7.4 Hypothesis:

**H<sub>0</sub>:** There is no significant relationship between the years of experience in the sector and the business growth's impact on family financial stability.

**H<sub>1</sub>:** There is a significant relationship between the years of experience in the sector and the business growth's impact on family financial stability.

**H<sub>0</sub>:** There is no significant relationship between education level and business revenue

**H<sub>2</sub>:** There is a significant relationship between education level and business revenue

**H<sub>0</sub>:** There is no significant relationship between major challenges faced by women in business and the impact of business growth on their family's financial stability

**H<sub>3</sub>:** There is a significant relationship between major challenges faced by women in business and the impact of business growth on their family's financial stability

### 1.8 Review of Literature:

[1] Kontinen, T. & Ojala, A. (2010). The internationalization of family businesses: A review of extant research published in Journal of Family Business Strategy, 1 (2), 97-107 states the varies strategies followed for the growth and survival of family businesses undertaken by the successors of family. This article portrayed the internationalization of Family Businesses as a sequential process followed by the Upsala model of internationalisation in contrast to where some businesses were considered to have born again with best updated strategies.

[2] Kosmas X. Smyrniotis, Panikkos Z. Poutziouris, Sanjay Goel proposed in, "Handbook of research on family business" Second edition, Edward Elgar Publishing Ltd, 2013 a variety of entrepreneur who shares a common dedication to family business research. They broadly state the efforts put in by varies affluent entrepreneurs in uplifting their existing businesses either in the same moto or with difference of goal.

[3] Mattias Nordqvist, Leif Melin in their studies, "Entrepreneurial families and family firms", exposes about the family business which has a great extent of independency and also reveals the traditional practices of family business.

[4] Jennifer E Jennings, Rhonda S Breitzkreuz and Albert E James in their article, "when family members are also business owner: Is entrepreneurship good for families?" present about the families which are engaged in entrepreneurial activity of ancestors and also the effect of business families in the society.

### 2 Analysis and Interpretation:

**Table 2.1 Challenges Faced by Women in Supply Chain and Retail Management**

Particulars	Frequency	Percentage
Financial Support	88	37
Market Access	69	29

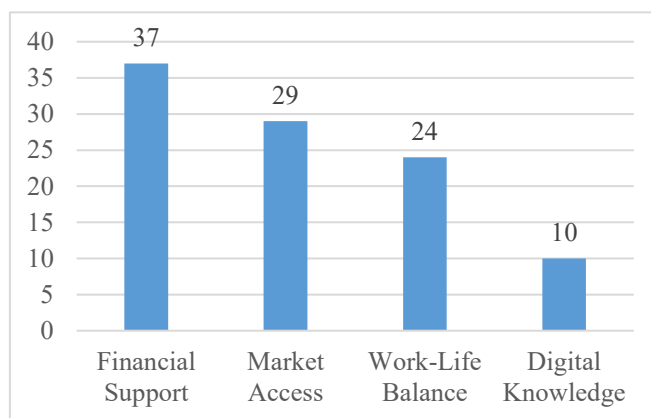
Work-Life Balance	56	24
Digital Knowledge	24	10
<b>Total</b>	<b>237</b>	<b>100</b>

**Source:** Primary Data

**Inference:**

From the table data it is evident that financial support emerges as the most significant challenge faced by women in supply chain and retail management. A total of 88 respondents, accounting for 37% of the respondents, reported financial support as their primary concern. This indicates that access to capital, credit, or other financial resources remains a major hurdle in sustaining and expanding their business activities. Following this, access to market is found as a challenge by 69 respondents, representing 29% of the total respondent. Work-life balance is another considerable challenge reported by 56 women, which makes up 24% of the respondents. Digital knowledge gaps are reported by 24 respondents, which is 10% of the total respondent.

**Chart 2.1 Challenges Faced by Women in Supply Chain and Retail Management**



**Table 2.2 Aware of Government Schemes**

Particulars	Frequency	Percentage
Aware	109	46%
Unaware	128	54%
<b>Total</b>	<b>237</b>	<b>100%</b>

**Table 2.2.1**

**Utilization of the benefits of government scheme among those that are aware**

Particulars	Frequency	Percentage
Utilized	31	28%
Not Utilized	78	72%
<b>Total</b>	<b>109</b>	<b>100%</b>

**Source:** Primary Data

**Inference:**

The above tables 2.2 and 2.2.1 denotes that Out of 237 respondents, 128 women, or 54%, indicated that they were unaware of any government programs intended to assist female

entrepreneurs in this field. Conversely, 109 respondents, representing 46%, reported being familiar with such programs, highlighting a troubling yet nearly equal divide in the flow of information. For those who are aware, another obstacle arises with the actual usage of these government programs. Among the 109 women knowledgeable about the schemes, only 31 respondents, or 28%, confirmed that they had accessed the benefits. The remaining 78 women, comprising 72%, indicated that they did not take advantage of the schemes, despite their awareness of them. This pattern implies that awareness alone does not guarantee effective usage, potentially due to complicated procedures, a lack of clarity, or challenges in accessing the benefits.

Chart 2.2

## Aware of Government Schemes

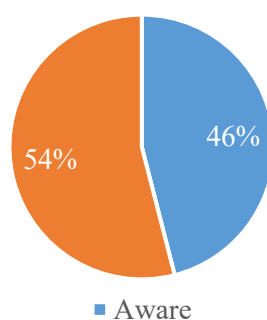


Chart 2.2.1

## Utilization of the benefits of government scheme among the 109 respondents that are aware

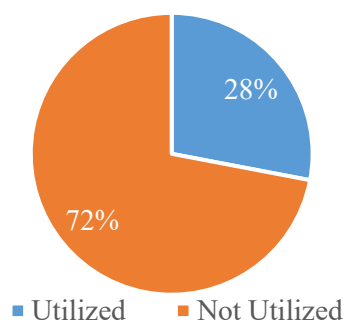


Table 2.3

Variable	N	Mean	Std. Deviation
Age	237	2.71	1.065
Education	237	3.58	1.135
Years of Experience	237	2.89	1.003

Average Revenue	237	2.35	0.871
Financial Access	237	1.38	0.486

**Source:** Primary Data

### **Inference:**

A glimpse into the demographic and economic characteristics of women involved in supply chain and retail management within Thoothukudi District. The respondents' average age, with a mean of 2.71 and a standard deviation of 1.065, indicates that most women are situated within middle age categories, showcasing a reasonable variation in age distribution. This reflects a diverse combination of both younger and older contributors to the sector. The educational qualifications of the respondents, averaging 3.58 with a standard deviation of 1.135, reveal that a majority have achieved at least a secondary education or higher. The variation in responses show that while some participants have limited access to formal education, a notable number have advanced degrees, which may impact their business management and decision-making abilities more. Concerning years of experience in the field, the mean value of 2.89 and a standard deviation of 1.003 signify that most women possess multiple years of engagement in their respective areas, the respondents are generally not novices to the industry, though they do not represent a workforce overwhelmingly filled with highly experienced individuals. The moderate variation points to a well-rounded mix of those who are just starting and those with more extensive experience. Regarding average revenue, a mean of 2.35 and a standard deviation of 0.871 indicates that many women earn within the lower to mid-revenue range, with some disparity among respondents. The economic stability of these enterprises may hinge on various factors including market access and outside financial assistance. The aspect of financial access, with a mean of 1.38 and a standard deviation of 0.486, suggests that a significant number of respondents' experience limited or no access to financial options such as loans, credit, or business funding. The relatively low standard deviation signifies that most responses are closely grouped, reinforcing that limited financial access is a widespread issue faced by women in this field.

**Table 2.4.1**

### **Years of Experience \* Impact of Business growth on Family's Financial Stability**

			Impact of business growth on family's financial stability				Total
			Moderate	No impact	Significant	Slight	
Years of Experience	1 year or less	Count	19	15	11	18	63
		Expected Count	17.0	15.7	15.4	14.9	63.0
		Experience	30.2%	23.8%	17.5%	28.6%	100.0%
	More than 1 year	Count	17	16	18	11	62
		Expected Count	16.7	15.4	15.2	14.6	62.0

	and up to 5 years	% within Years of Experience	27.4%	25.8%	29.0%	17.7%	100.0%
	More than 10 years	Count	11	17	12	9	49
		Expected Count	13.2	12.2	12.0	11.6	49.0
		% within Years of Experience	22.4%	34.7%	24.5%	18.4%	100.0%
	More than 5 years and up to 10 years	Count	17	11	17	18	63
		Expected Count	17.0	15.7	15.4	14.9	63.0
		% within Years of Experience	27.0%	17.5%	27.0%	28.6%	100.0%
Total		Count	64	59	58	56	237
		Expected Count	64.0	59.0	58.0	56.0	237.0
		% within Years of Experience	27.0%	24.9%	24.5%	23.6%	100.0%

Table 2.4.2

## Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.693 <sup>a</sup>	9	.466
Likelihood Ratio	8.823	9	.454
N of Valid Cases	237		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.58.

**Source:** Primary Data

**Inference:**

The analysis yielded a Pearson Chi-Square value of 8.693 with 9 degrees of freedom and a p-value of 0.466. Since the p-value exceeds the conventional significance threshold of 0.05, the findings indicate that there is no statistically significant correlation between business experience and the extent to which business growth contributes to family financial stability. The distribution of responses across different experience levels aligns closely with the expected values, suggesting that years of experience alone may not be a decisive factor in determining financial improvement. Instead, other variables such as the nature of the business, prevailing market conditions, and access to financial resources may play a more influential role in shaping financial outcomes.

Although the data reflects some variation in perceived financial impact across different experience groups, these differences are not statistically substantial enough to establish a clear trend. Consequently, policymakers and financial institutions should consider additional support

mechanisms beyond experience, such as improved financial access and capacity-building initiatives, to enhance the economic stability of women entrepreneurs.

**Table 2.5****Education Level \* Business Revenue**

Particulars		Educational qualification	Average monthly business revenue
Educational qualification	Pearson Correlation		.079
	Sig. (2-tailed)		.226
	N	237	237
Average monthly business revenue	Pearson Correlation	.079	1
	Sig. (2-tailed)	.226	
	N	237	237

**Source:** Primary Data

**Inference:**

The analysis shows a very weak positive correlation (0.079) between a woman's educational qualification and her average monthly business revenue. However, the significance level (p-value) is 0.226, which is higher than the standard threshold of 0.05. This indicates that the relationship is not statistically significant. In other words, a woman's level of education does not have a strong influence on her business revenue. Since the correlation is weak and not significant, education alone cannot be considered a key factor in determining business earnings. Other factors, such as market demand, business experience, access to financial resources, and the overall business environment, may have a greater impact on revenue generation. Therefore, initiatives aimed at improving financial support, skill development, and market access may be more effective in enhancing business success than focusing only on educational qualifications.

**Table 2.5.1**

		How has your business growth impacted your family's financial stability?				Total
		Moderate improvement	No impact	Significant improvement	Slight improvement	
challenges	Digital Knowledge	9	17	14	17	57
	Financial Support	19	16	21	10	66
	Market Access	14	15	15	10	54
	Work-Life Balance	22	11	8	19	60
Total		64	59	58	56	237

**Table 2.5.2**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.525	9	.057
Likelihood Ratio	17.432	9	.042
Linear-by-Linear Association	1.344	1	.246

N of Valid Cases	237		
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**Source:** Primary Data

### **Inference:**

The chi-square test was conducted to examine the relationship between the major challenges faced by women in business and the impact of business growth on their family's financial stability. The Pearson Chi-Square value of 16.525 with a degree of freedom (df) of 9 yields an asymptotic significance (p-value) of 0.057, which is slightly above the conventional significance threshold of 0.05. This suggests that there is no statistically significant relationship at the 5% level, but it is approaching significance. Additionally, the Likelihood Ratio test yields a p-value of 0.042, which falls within the acceptable range of significance, indicating a potential association. From the cross tabulation, it is observed that women facing financial support challenges reported relatively higher instances of moderate or significant improvements in family financial stability. In contrast, those struggling with digital knowledge and market access exhibited a more dispersed impact, with many reporting either no impact or only slight improvements. Notably, women dealing with work-life balance challenges had a relatively balanced distribution across all categories, though a larger proportion indicated moderate improvement. While the results do not establish a strong statistical association between business challenges and financial stability impact, the findings suggest that financial support issues may be more closely linked to moderate or significant improvements, whereas digital knowledge and market access barriers may hinder substantial financial progress.

### **3. Findings and Suggestions of the study:**

#### **3.1 Findings**

- Financial assistance represents the most significant challenge, with 37% of participants encountering barriers when seeking capital, loans, or financial help, which impedes business sustainability.
- Access to markets presents problems for 29% of women, restricting their capacity to broaden their customer base, compete effectively, and integrate into larger supply chains.
- Challenges in achieving a work-life balance affect 24% of women, especially those who are married or mothers, making it harder for them to juggle both work and home duties.
- A lack of digital skills, cited by 10% of respondents, limits women's ability to utilize technology for business development, marketing, and financial transactions.
- Tackling these issues could greatly improve the involvement and success of women in supply chain and retail management in Thoothukudi District.
- A considerable 54% of women do not know about government programs, highlighting a substantial gap in information distribution concerning available support initiatives.
- Although 46% of those surveyed are familiar with these schemes, only 28% have taken advantage of them, indicating a poor conversion rate from awareness to actual use of benefits.

- The mean age (2.71) indicates that most women in the sector belong to middle-age groups, contributing diverse experience levels.
- The education mean (3.58) shows that many respondents have secondary education or higher, aiding business decision-making.
- The experience mean (2.89) suggests that most women have moderate industry exposure but are not highly seasoned.
- The revenue mean (2.35) reflects that many businesses operate within a lower to mid-income range.
- The low financial access mean (1.38) highlights a widespread struggle in obtaining financial support.
- The Pearson Chi-Square test ( $\chi^2 = 8.693$ ,  $p = 0.466$ ) shows no significant link between business experience and financial stability. Also Variations in financial impact across experience levels are not statistically substantial.
- A weak positive correlation (0.079) exists between education level and business revenue, but it is not statistically significant ( $p = 0.226$ ) which means education alone does not strongly influence business earnings; other factors like market demand and financial access play a greater role.
- The Pearson Chi-Square test ( $p = 0.057$ ) indicates no strong statistical relationship between business challenges and financial stability, but the result is close to significance whereas the Likelihood Ratio test ( $p = 0.042$ ) suggests a potential association between financial support challenges and improved family financial stability.

### 3.2 Recommendations:

- Government and financial institutions should provide low-interest loans and streamlined credit options to enhance women's access to financial resources.
- Structured training initiatives focusing on digital competencies, financial literacy, and online business tactics should be offered to women entrepreneurs.
- Policy measures should aim to create market connections, promote e-commerce participation, and establish dedicated trade areas to boost women's market opportunities.
- To assist women in managing professional and family roles, flexible work options, childcare services, and community support initiatives should be implemented.
- Efforts should be made to bolster awareness campaigns and support networks to ensure women are aware of available financial assistance, training programs, and market possibilities.
- Launching mobile applications or helplines to provide straightforward access to information about schemes can help close the knowledge gap.
- Partnering with NGOs and women's business groups can support women in navigating the application and benefit utilization process.
- Regular government evaluations and feedback systems should be established to pinpoint obstacles and enhance scheme accessibility.

- Implementing skill development programs can enhance financial literacy and business expertise among women. Financial institutions should introduce customized loan schemes to improve women's access to capital.
- Collaborations between government and private sectors can help provide mentorship for emerging entrepreneurs. Strengthening market linkage initiatives will enable women entrepreneurs to expand their revenue opportunities. Stream-lining financial aid application processes can make funding more accessible to women in business.
- Policies should focus on financial access and market opportunities rather than just experience also Capacity-building programs can equip women entrepreneurs with better business strategies.
- Business support programs should focus on financial aid, skill development, and market access rather than just education thereby enhancing access to funding and mentorship can help women entrepreneurs achieve better business outcomes.
- Financial aid programs should be prioritized as they may contribute to better financial outcomes for women entrepreneurs and Initiatives focused on improving digital skills and market access could enhance business success and financial growth.

### **3.3 Conclusion:**

The study highlights the significant role of financial support in shaping the economic stability of women entrepreneurs in the supply chain and retail sector. While statistical analysis does not establish a definitive correlation between business challenges and financial stability, findings suggest that financial access plays a crucial role in driving moderate to significant improvements in household income. Challenges related to digital knowledge and market access appear to hinder business growth, indicating the need for targeted interventions. Although education and experience alone do not directly impact business success, other factors such as financial resources, market opportunities, and skill development hold greater influence. Strengthening financial assistance programs, enhancing digital literacy, and improving market accessibility could foster better economic outcomes for women in the sector.

### **Reference:**

- [1] (Kontinen, 2010)
- [2] (Kosmas X. Smyrnios, 2013)
- [3] (Melin, 2010)
- [4] (Jennifer E. Jennings, 2013)