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Gender Disparities In Credit Access And Sustainable Micro-Entrepreneurship: Evidence From The PMFME Scheme In India

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Abstract
The Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME) Scheme has emerged as a key national intervention to strengthen micro-entrepreneurship, enhance financial access, and increase credit flow to India's unorganized food processing sector. The timely and adequate access of institutional finance under PMFME scheme plays an important role in survival of enterprise, stabilizing income of entrepreneurs and the supports the long term sustainability of the micro food enterprises. This study empirically examines the determinants of bank loan sanctioning and gender-based disparities in credit approval among PMFME beneficiaries using a multi-method analytical framework. Drawing on a dataset of 523 beneficiaries across various districts, the analysis integrates descriptive statistics, correlation matrix, multiple regression modelling, independent samples t-tests, and chi-square tests, classification to evaluate the financial, demographic, and scheme-related predictors of sanction decisions. The results indicate extremely high correlations between capital investment, working capital, and total proposed project cost, demonstrating structural consistency across DPR and sanction processes. Regression outputs confirm that total proposed cost significantly predicts sanctioned amounts, while working capital requirements exert a negative but significant effect. T-test results reveal a statistically significant gender gap in sanction ratios, favouring male entrepreneurs, though chi-square results show no categorical association between gender and sanction status. The study contributes empirical insights for policymakers by identifying financial, structural, and gender-related factors affecting sanction decisions, offering evidence-based recommendations to strengthen inclusive, sustainable, and resilient micro-enterprise entrepreneurship under PMFME.

Keywords: PMFME Scheme, Credit Access, Loan Sanction, Gender Disparities, Micro Food Processing Enterprises, Financial Inclusion, Entrepreneurial sustainability.

1. Introduction:

India's food processing industry has undergone a rapid transformation, influenced by its agricultural base, domestic culture, and government policies. This evolution has increased opportunities for micro-entrepreneurs and small-scale producers, enabling better access to finance, digital tools, and institutional support. Notably, food processing is a priority sector under the MAKE IN INDIA vision. The Ministry of Food Processing Industries has launched various schemes to develop micro, small, and medium businesses and to attract investment and infrastructure development. Over the past eight years, the industry's average annual growth rate has reached 5.35%. Furthermore, the ministry increased its budget allocation to the sector by 30.19% compared to the previous year. According to the Ministry's Annual Report for 2023-24, exports of processed food and FDI investments have grown significantly, with exports at 23.4% in 2023-24 compared to 13.7% in 2014-15. The Pradhan Mantri Formalisation of Micro Food Processing Enterprises Scheme (PMFME), launched in 2020, marked the first-ever government initiative focused on micro food processing enterprises. The most important concept of PMFME scheme is that it is not merely a credit delivery mechanism but it is a comprehensive micro – entrepreneurship development scheme focused specifically on formalization, capability enhancement and long term business sustainability. The aim of the scheme is to support 200,000 enterprises through credit-linked subsidies and the One District One Product approach, PMFME offers financial, technical, and marketing assistance to help entrepreneurs formalize and expand. PMFME scheme seeks to strengthen entrepreneurial capabilities and improve the resilience of micro food processing enterprises within the formal value chain by integrating financial access with capacity building programs. As digital and financial infrastructure expands, predicting how benefits reach the population remains uncertain. Evaluating who benefits most and who is left behind is especially important for government-led programs, particularly PMFME, which seeks to uplift unorganized sector units through formal credit, training, and capacity-building. Assessing equity and inclusion in scheme access has become an urgent priority, especially regarding disparities in credit and support among rural populations.

As we discussed, the food processing sector is one of India's most employment-intensive sectors. The domination of micro-scale enterprises often has limited capital, less access to credit and low digital literacy. In this segment, women entrepreneurs face more challenges in accessing credit with low collateral, limited mobility and digital exclusion. These challenges influence their ability to secure a loan and participate in the business by actively utilizing government schemes. The survival of the enterprise depends on the credit access available for the entrepreneurs in the business. The growth and competitiveness also equally depend on the credit access of the entrepreneurs. PMFME scheme provides credit access functions as a key gateway for broader entrepreneurial services, disparities in loan sanctioning may lead to unequal opportunity for enterprise survival and long term business growth.

This study seeks to provide a clear, data-driven analysis of the influence of gender on credit access under the PMFME scheme. By identifying disparities and interpreting statistical relationships and patterns, the research aims to inform policy reforms that promote equitable financial support for all micro food processing entrepreneurs benefiting from the scheme.

Problem Statement:

To understand the effectiveness of the PMFME scheme and the inclusiveness, gender based inequalities in access to credit may be undermining. Without an evidence based evaluation, we cannot conclude the effectiveness of the scheme. And it remains unclear whether the scheme is meeting its objective of supporting both male and female micro entrepreneurs equally. The study argues the systematic evaluation of gender disparities in PMFME scheme in accessing credit, which is very essential for the equity of the scheme and informs targeted improvements. Using the district level data from Virudhunagar, the study investigates whether significant gender based differences exist in sanctioning loans and examine broader implication for policy and practices.

Objectives of the study:

1. To assess whether the average capital investment differs significantly between male and female beneficiaries under the PMFME scheme in Virudhunagar district.
2. To examine the extent of gender and product category (ODOP versus non-ODOP) on term loan sanctioned under the PMFME scheme.
3. To determine the influence of total proposed project cost and working capital requirement on the total loan sanctioned by bank under PMFME scheme.
4. To evaluate gender-based disparities in access to credit, within the PMFME scheme in Virudhunagar district.

Structure of the Article:

- Section 1: Introduction – understands background of the PMFME scheme, problem statement and vision of the study
- Section 2: Literature Review – discusses about government schemes, financial inclusion, gender disparities, and credit access among micro enterprises in India.
- Section 3: Methodology – outlines the data of PMFME scheme, variables, sampling method, and statistical techniques used.
- Section 4: Results and discussion– presents empirical findings on gender and credit sanction and interprets the result and PMFME scheme effectiveness.
- Section 5: Conclusion & Policy Implications – highlights recommendations to enhance inclusiveness and reach of the PMFME scheme.

2. Review of literature:

The review of literature helps to understand how public schemes and financial policies like PMFME scheme are effective with main focus on gender. The literature on financial inclusion of women entrepreneurs has highlighted recurring themes like differential access to finance and capital, role of formalization and institutional interventions and potential digital channel and institutional linkage in improving outcome of the particular scheme which are relevant to our study. The access to institutional finance is widely recognized as a important determinant of enterprise resilience which enable women entrepreneurs to withstand income shocks, operational risk and continuity of business overtime.

Financial inclusion will boost women's financial empowerment by providing them with easy access to credit, saving, and formalizations of financial activities. This will promote economic sustainability and growth via job creation, economic development, lifestyle changes and improved financial activities. A substantial body of studies with empirical work documents shows a persistent gender gap in access to formal credit and finance and the size of capital invested in the women led firms. The studies related to cross countries and India specific studies shows that women are likely to receive less amount of credit and they are given low capital investment even their project estimates a higher amount. The women faces challenges like lack of collateral, smaller size of business and lenders hesitant to provide loan with a perception of risk (World Development Studies). Therefore the sanction of capital is not only individual choice but also reflects systematic barriers in credit market. (Shahriar et al., 2025). This study justifies testing mean difference and modeling determinants because of capital investment gap which reflects the structural constraint rather than random variations. Regarding the scheme, formal registration at Udyam portal and specific scheme like one district one product ODOP are the best proposed path for increased access to credit and market linkage. Adequate and timely credit allows women entrepreneurs to invest in assets, smooth cash flows and adopt growth oriented strategies that enhance long term sustainability. Various researches prove that formalizations increase the engagement of bank with the particular scheme and the beneficiaries may get proper sanction of loans and they can avail subsidy. They need to provide proper documentation and show the legitimacy of the business. But the bank rely more on the collateral and scale of business to issue loan rather than formalization. The work done by development economics and SME literature recommend assessing whether registration status mediates the scheme outcome. To investigate whether gender influence ODOP participation the high quality empirical studies employ regression framework, which uses processing tie analysis to determine the sanction and approval of the loan. These studies find a strong correlation between firm size and approval of capital investments. While socio-demographic controls like gender and location often remain significant predictors in the research model. The recent work on the implications of the schemes shows that robust model diagnostics are used to check for heteroskedasticity, leverage, and skewed, heavily tailed distributions in loan sanction and disbursement. Various studies have found that digital portal submissions, e-KYC, and mobile payments are changing the speed of inclusiveness of service delivery. Systematic review and digital financial inclusion have reduced the transaction cost and increased the reach of benefits to the rural population. But the benefit of inclusion can be well understood only if the rural population has the knowledge of digital literacy, network access, and government control over devices and the usage of the products. Digital submission of the document for the required schemes can reduce the processing time of the document and help to increase the inclusiveness of the minority population in rural areas, where gender remains a barrier to the implementation. (Gallego-Losada et al., 2022). To understand the combination of the digital submission and bank submission, chi-square test, mean comparison test, and multivariate analysis were used to triangulate the findings. Several recommendations have been made to structure the findings with the administrative data, with a small targeted survey to understand the measures like income and business turnover, which were absent in administrative sources. The literature also stresses careful treatment of the skewed financial variables and the effect size, in addition to the p-value. (Shahriar et al., 2025)

Despite the broad literature on the financial inclusion of women entrepreneurs, there is very limited scheme level empirical evidence on the particular focus on the PMFME scheme. The use of micro level administrative applicable records and link formal registration status addresses the gap by providing district level evaluation of capital allocation, sanction pattern, and process efficiency. The main focus on the study is on women entrepreneurs within the rural district allows insight into both equity and efficiency in the implementation and effectiveness of the PMFME scheme. By situating gendered credit access within an entrepreneurship sustainability framework, the study contributes to understanding how institutional finance under PMFME shapes the resilience and long-term viability of women-led micro food processing enterprises.

3. Methodology

3.1 Research Design:

The present study employs a descriptive and analytical research design to explore the factors influencing the implementation, adoption and outcomes of the PMFME (Pradhan Mantri Formalisation of Micro Food Processing Enterprises) scheme in the Virudhunagar district. This design facilitates an in-depth investigation of patterns, associations, and disparities among scheme beneficiaries. The research particularly focuses on digital financial inclusion, accessibility to credit and gender-based differences among individuals availing the benefits of the scheme. The design supports both a systematic description of beneficiary characteristics and an empirical assessment of inter-variable relationships, thereby providing insights into the extent of gender-inclusive participation in the PMFME scheme within Virudhunagar, a predominantly rural district of Tamil Nadu. To achieve the study objectives, statistical techniques such as independent samples t-test, correlation analysis, regression analysis, ANOVA and chi-square test are employed to verify the reliability of selected factors and to examine gender disparities.

3.2 Data Source:

The study relies completely on the secondary data which was obtained from the DISTRICT INDUSTRIAL CENTRE (DIC) Virudhunagar district. The secondary data consist of consolidated list of beneficiary's information from the period of 2020 to 2024 submitted under PMFME scheme. It includes demographic profile, enterprise details, loan sanction status and other relevant financial and operational information. The scope of the data set help to understand the empirical evaluation of research objective with the real world government implementation records.

3.3 Sampling frame and size:
The data set contains 523 beneficiaries which comprises a census based sample, as all the individuals were registered beneficiaries of PMFME Scheme during the last reporting period. The sampling errors were eliminated thereby strengthening the reliability of the findings.

3.4 Hypothesis formulation:
To understand the impact of PMFME scheme in Virudhunagar district among women entrepreneurs, the following null hypothesis were framed.
$H1_0$: There is no significant difference in capital investment proposal made by DPR between male and female beneficiaries.
$H2_0$: There is no significant effect on term loan sanctioned by bank based on gender and ODOP/NON ODOP products classification under PMFME scheme.
$H3a_0$: The total proposed project cost does not significantly impact the term loan sactioned by banks under PMFME scheme.
$H3b_0$: Working capital requirement does not significantly influence the term loan sanctioned by bank under PMFME scheme.
$H4a_0$: There is no significant difference between male and female beneficiaries in loan sanction ration under PMFME scheme.
$H4b_0$: The sanction of loan status is independent of gender

4. Analysis and Finding of the study
4.1 Independent Samples T-Test:

Table 4.1.1– Description of the group of samples

Group Descriptives						
	Group	**N**	**Mean**	**Median**	**SD**	**SE**
Capital Investment as per DPR (in INR)	**Female**	317	544652	195800	926732	52050
	Male	349	764231	404150	1.02e+6	54535

From the table 4.1, we understand that female beneficiaries (N=317) which shows a mean of capital investment as per DPR the value of (M=544652) and the male beneficiaries (N=349) which has the higher mean value of (M=764231) . Prior to run the independent sample T test to examine the capital investment proposed in the Detailed Project Report, group descriptive of the beneficiaries were assessed. From this both group displayed a high variability in investment amounts, which shows diverse business profile and financial requirements.

Table 4.1.2 – Independent sample T-Test - To analyze gender-based differences in capital investment proposed in the DPR under the PMFME scheme

Independent Samples T-Test						
		Statistic	**df**	**p**	**Mean difference**	**SE difference**
Capital Investment as per DPR (in INR)	**Student's t**	-2.90^{a}	664	0.004	-219579	75731
Note. H_a $\mu_{Female} \neq \mu_{Male}$						

The table 4.2 shows the result of the Independent Sample T-Test which reflects statistically significant difference between male and female beneficiaries in DPR Capital investment (t(664)= -2.90,p=0.004). The statistics shows negative value because female beneficiaries are less compared to men. The mean difference amounts to 2,19,579 demonstrates that male applicants proposed substantially higher capital investment compared to female applicants.
Thus these findings suggest that gender is a determining factor in the scale of investment proposed under the PMFME scheme. The women entrepreneurs generally apply for lower capital investment than the men in Virudhunagar district. This disparity may reflect difference in entrepreneurial risk appetite, financial awareness, asset ownership, collateral availability or socio – economic constraints' that affects the women entrepreneurs in the rural area of Virudhunagar district.

4.2 Two- way ANOVA
Table 4.2 represents the influence of gender and product category on term loan sanction under PMFME scheme

ANOVA - Term loan sanctioned by bank (in INR)						
	Sum of Squares	**df**	**Mean Square**	**F**	**P**	**η^2**
Overall model	4.3912	3	1.4612	3.685	0.012	
Gender	4.0612	1	4.0612	9.061	0.003	0.023
Product (ODOP/Non-ODOP)	1.6611	1	1.6611	0.371	0.543	0.001
Gender ∗ Product (ODOP/Non-ODOP)	1.6811	1	1.6811	0.375	0.540	0.001
Residuals	1.7014	380	4.4811			

Table 4.2 represents the two-way Analysis of Variance (ANOVA) to determine whether the term loan sanction differ significantly across gender and product catergory(ODOP/non ODOP) as well as the combined interation effect on both factors.
The result shows that gender has statistically significant effect on the term loan sanctioned under PMFME scheme (F(1.380)=9.061,P=0.003,n^2=0.023). The effect size n^2=0.023 shows a small yet meaningful variance in sanctioning attributable to gender. The result indicates male and female beneficiaries' don't receive equal amount of term loan sanction under PMFME scheme. The main impact on product category on the term loan sanction was not statistically significant (F(1.380)=0.371,p=0.543,n^2=0.001). This shows that an enterprise produces the one district one product category products does not receive any influence on the level of term loan sanctioned by banks.
The interaction effect of gender and product category was not significant (F(1.380),p=0.540,n^2=0.001). This shows that product category does not amplify or reduce gender based difference in sanctioning of term loan by banks under PMFME scheme. The findings highlights that gender continues to be a determining factor in access to formal credit even within a government schemes designed for financial inclusion. While PMFME scheme maintain balance between product category, and the statistically significant gender effect suggest that systematic or institutional bias may influence sanctioning pattern.

4.3 Correlation Analysis

Table 4.3.1 - The influence of proposed working capital and proposed project cost on sanction of bank loan

		Capital Investment as per DPR (in INR)	Term loan as per DPR (In INR)	Capital Investment approved by bank (in INR)	Term loan sanctioned by bank (in INR)	Working capital as per DPR (in INR)	Total Proposed Cost (CI as per DPR+ WC as per DPR)	Total amount sanctioned by Bank (TL + WC)
Capital Investment as per DPR (in INR)	**Pearson's r**	—						
	df	—						
	p-value	—						
Term loan as per DPR (In INR)	**Pearson's r**	0.998	—					
	df	664	—					
	p-value	<.001	—					
Capital Investment approved by bank (in INR)	**Pearson's r**	0.993	0.994	—				
	df	382	382	—				
	p-value	<.001	<.001	—				
Term loan sanctioned by bank (in INR)	**Pearson's r**	0.987	0.988	0.995	—			
	df	382	382	382	—			
	p-value	<.001	<.001	<.001	—			
Working capital as per DPR (in INR)	**Pearson's r**	0.365	0.338	0.293	0.241	—		
	df	664	664	382	382	—		
	p-value	<.001	<.001	<.001	<.001	—		
Total Proposed Cost (CI as per DPR+ WC as per DPR)	**Pearson's r**	1.000	0.998	0.993	0.987	0.365	—	
	df	664	664	382	382	664	—	
	p-value	<.001	<.001	<.001	<.001	<.001	—	
Total amount sanctioned by Bank (TL + WC)	**Pearson's r**	0.987	0.988	0.995	1.000	0.241	0.987	—
	df	382	382	382	382	382	382	—
	p-value	<.001	<.001	<.001	<.001	<.001	<.001	—

Table 4.3.1 represents the correlation analysis on how the project financial requirement influences the loan amount sanctioned by banks under PMFME scheme. The correlation matrix shows a strong and significant positive correlation between the proposed project estimate and total loan amount sanctioned by bank(r=0.987,p<.001). The working capital requirement shows a significant but comparatively very weak correlation with sanction of loan amount values (r=0.241,p<.001) which indicates project that need huge investment tend to receive higher loan approval by the banks.

Table 4.3.2 – Multiple linear Regressions

Model Fit Measures		
Model	**R**	**R^2**
1	0.989	0.978
Note. Models estimated using sample size of N=384		

Model Coefficients - Total amount sanctioned by Bank (TL + WC)				
Predictor	**Estimate**	**SE**	**T**	**p**
Intercept	12347.3929	6430.85842	1.92	0.056
Total Proposed Cost (CI as per DPR+ WC as per DPR)	0.8285	0.00659	125.69	<.001
Working capital as per DPR (in INR)	-0.0176	0.00210	-8.37	<.001

Table 4.3.2 represents the multiple regressions with total proposed cost as per DPR and working capital requirement as per DPR which impacts on the total sanction loan amount. The model shows a excellent fit ($R=0.987, R^2=0.974$) which indicates 97.4% of variance in the amount of loan sanctioned by bank. Total proposed cost emerged as a strong factors that confirms higher project estimates attract proportionally higher loan disbursement ($\beta = 0.8285$, $p < .001$). Whereas working capital requirement as per DPR shows a small but significant negative effect that implies the project with large share on working capital tends to receive low sanctioned amount by banks. Thus the finding suggests that bank provide loan sanction proportionate to the magnitude of project investments; prioritize high capital investments projects than those require high working capital for the business.

4.4.1 – Independent sample T-Test

Table 4.4.1 – Independent sample T-Test - To understand the credit sanction ration based on gender

		Statistic	df	p	Mean difference	SE difference		Effect Size
Sanction ratio	**Student's t**	-2.55[a]	609	0.011	-0.0820	0.0322	Cohen's d	-0.206
Note. H_a $\mu_{Female} \neq \mu_{Male}$								

Assumptions

Normality Test (Shapiro-Wilk)		
	W	**p**
Sanction ratio	0.777	<.001
Note. A low p-value suggests a violation of the assumption of normality		

Group Descriptives						
	Group	**N**	**Mean**	**Median**	**SD**	**SE**
Sanction ratio	**Female**	294	0.412	0.523	0.403	0.0235
	Male	317	0.494	0.719	0.393	0.0221

Table 4.4.1 indicates the result of t- test which shows a statistically significant gender based variation in the sanction ratio of loans approved by banks. Female beneficiaries (N=294) received a low mean of sanction ratio where compared to male beneficiaries who achieved higher mean sanction ratio of (M=0.494, SD=0.393). The independent sample T- test confirms that the difference is significant, $t(609)=-2.55, p=0.011$, with small effect size (cohen's d=-0.206). The result suggest that men received a relatively a higher proposition of loan sanction than women which indicate gender difference in credit approval in Virudhunagar district.

4.4.2 – Chi –Square test – Sanction status by gender

Contingency Tables			
	Is_Sanctioned		
Is_Female	**0**	**1**	**Total**
0	261	23	284
1	216	23	239
Total	477	46	523

χ^2 Tests			
	Value	**df**	**p**
χ^2	0.376	1	0.540
N	523		

Table 4.4.2 helps to determine whether sanction of loan outcome differ by gender. The Chi-square result has revealed that sanction status is not statistically significant with gender where $x^2(1,N=523) = 0.376$, $p=0.540$. This indicates that both men and women have similar probability of receiving loan approval in binary terms.

Thus the combined finding of both the analysis provides a clear understanding of gender disparity in PMFME credit access. The loan approval of both gender result is not significant as it shows that both gender receive similar loan sanction status but regarding the extend of loan sanctioned or requested result shows a significant represents men receive a larger share of amount applier for loan compared to women under PMFME scheme in Virudhunagar. Although female applicants are not disadvantaged in basic approval decision but they tend to receive low proposition of requested amount of loan compared to male applicant. This indicates the subtle yet meaningful gender gap in credit allocation intensity.

5. Result and Discussion

The present study was carried out to examine the implementation and outcome of the PMFME scheme, which is one of the most efficient schemes offered for food processing sector entrepreneurs through SME's. The area of the study focuses particularly at Virudhunagar district, and special attention regarding the scheme has been given to capital investment, allocation pattern, determinants of sanctioning decisions and gender based disparities' among beneficiaries. The statistical analysis was employed to derive the empirical evidence. The descriptive and inferential statistics, including independent sample t-test, ANOVA, regression and correlation analysis and chi-square test were used.

An independent sample t-test was conducted to assess gender variation in capital investment allocation under the Detailed Project Report (DPR). The results indicate a statistically significant difference in capital investment between male and female entrepreneurs, with male entrepreneurs receiving a higher mean capital investment. This finding suggests that female entrepreneurs tend to have lower project cost estimates than their male counterparts, potentially reflecting differences in scale of operation, financial risk tolerance, or social preferences. Although the PMFME scheme aims to promote inclusive entrepreneurship, disparities in DPR capital investments highlight persistent structural and behavioral factors influencing financial planning. Since initial capital investment often determine enterprise size, market reach and these disparities weaken the long term growth of the women owned micro enterprises even before loan appraisal takes place.

ANOVA was conducted to analyse whether loan sanctioned by banks differed across gender and product category, like one district one product VS non-ODOP products. The overall model is significant that reveals gender significantly influence term loans sanctioned by banks, whereas product category and the interaction effect between product category and term loan sanction were not statistically significant. This indicates that the sanction decision of the term loan does not depend on the category of the product based on ODOP classification, but the loan amount sanctioned varies in order to show favoritism towards male beneficiaries. The women entrepreneurs may not be able to leverage scheme-based advantages as same as men entrepreneurs, therefore they have hindrance in expanding their operation, diversification of products or withstand in the market fluctuations.

Correlation analysis was performed to understand the association between the proposed project cost and sanctioned loan values. The result revealed a strong positive correlation among the total proposed project cost, Capital investment as per DPR and approved financial components. Regression analysis confirms that the total amount sanctioned indicates the total proposed cost strongly influence the amount sanctioned for loan, While working capital shows a negative correlation that implies banks may be more interested in sanctioning loan to fixed capital, which is used for investment purpose than working capital, which is for short-term duration. This lending pattern disrupts the enterprise continuity, where insufficient working capital will make constraint in day to day operation in the business particularly for micro enterprises operating in volatile rural market.

Multiple statistical techniques were used to understand the gender disparities in access to credit under the PMFME scheme. The sanction ratio between men and women differs significantly. The male beneficiaries receive a higher sanction rate than females. This suggests that female applicants experience lower sanction efficiency. However Chi-Square test was used to examine whether the sanction approval depends on gender. The result shows no significant association that indicates approval probability is similar across male and female beneficiaries. Thus, the disparities exist in the amount of loans sanctioned between genders, rather than a loan gets sanctioned or not.

The combined statistical evidence reveals that while PMFME promotes financial inclusion like access to formal credit, there is structural gap available in the scale of support women and certain social groups. Capital investment proposed in DPR favors male led enterprises across multiple indicators. There is strong correlation between proposal of loan amount and approval where gender disparity highlights the sanction of credit to particular group. There need to be a targeted support to female entrepreneurs to ensure equitable outcomes in the society. These gender gaps in capital investment and sanction of loan have direct implication for entrepreneurial capacity and continuity of business. Therefore the government should reinforce the need for gender responsive financial appraisal mechanism and targeted support mechanism.

5. Conclusion and Policy implication:

The study analyzed the implementation, adoption and outcome of the PMFME (Pradhan Mantri Formalisation of Micro Food Processing Enterprises) scheme in Virudhunagar district with special focus on financial inclusion, capital accessibility and gender based disparities. The findings of the study show a significantly facilitated access to institutional credit and promoted enterprise development among micro food processors. Capital investment as per DPR showed a higher proposed project value, which influences the decision of approval and sanction of the loan by banks. Correlation and Regression analysis further reinforced that the critical alignment of cost and credit assigned for the project was completely depend on the report of the DPR estimates by the bank while allocating financial resources under the PMFME scheme.

The empirical evidence on the inclusion of gender showed a mixed pattern. There is a significant difference in the sanction ratio among men and women in an independent sample t-test. It implies that women entrepreneurs get less credit sanction compared to male entrepreneurs despite being eligible for the scheme. However Chi-Square test indicates no significant association between gender and the sanction status. Although the sanction status is similar and equal among male and female entrepreneurs, the amount of finance sanctioned remains unequal. Thus, gender disparity in access to credit and allocation of credit under the PMFME scheme is still an unresolved challenge.

Based on the findings, the study recommends the following policy intervention to strengthen the impact of the PMFME scheme. Although there is no difference in sanction status by gender, the sanction amount remains lower for female applicants. Therefore, policymakers can consider providing a special interest subvention scheme for female entrepreneurs. There should be a gender-sensitive credit scoring system to reduce collateral-based bias. The capital investments as per DPR strongly predict the bank loan sanction amount; therefore, proper training support for DPR preparation through DIC, PMFME nodal agencies or consultancy partners is required. The government should provide emphasis on training programs for digital financial literacy among rural entrepreneurs to encourage them to fill out online documentation and real-time grievance redressal. There should be improved coordination between Banks and implementing agencies. The district industrial centre has to assess whether sanctioned credit leads to functional and sustainable enterprise. To achieve this, the DIC must introduce post disbursal monitoring for enterprise performance and encourage progress reports through digitalized PMFME portals.

From the sustainability perspective, the access to adequate and timely credit under PMFME scheme is essential for women entrepreneurs for sustainable micro entrepreneurship. A small and micro enterprise works with thin margin of income and vulnerable to market risk therefore under financing can compromise business continuity. Policy intervention must move beyond formal inclusion to ensure enterprise growth, sufficient investment and working capital needs. The government should integrate gender based financial products, mentorship support to enhance business capability. The government should align PMFME implementation with broader goals of sustainable livelihood and inclusive rural development require continuous monitoring of gender based outcomes and enable the policymakers to adopt strategies to promote economic resilience and sustainable entrepreneurial development.

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