Research Article

Evaluating The Role of Pmegp in Women Entrepreneurship Development: Effects of Financial Assistance, Entrepreneurial Training, And Institutional Support on Business Sustainability

Shweta Mulge[1], Dr. Rajshekhar Basavapattan[2], Nagesh Walikar[3]

[1]Research Scholar, Department of Management Studies, Visvesvaraya Technological University Regional Centre Kalaburagi, Karnataka, India. Email: shwetamulge37@gmail.com ORCID: 0009-0000-2586-6749
[2]Assistant Professor, Department of Management Studies (MBA), Visvesvaraya Technological University Regional Centre Kalaburagi, Karnataka, India. Email: rajshekhar7007@gmail.com ORCID: 0000-0003-2264-3931
[3]Research Scholar, Department of Management Studies, Visvesvaraya Technological University Regional Centre Kalaburagi, Karnataka, India. Email: nageshv7262@gmail.com

Abstract
Evaluating the role of the Prime Minister's Employment Generation Programme (PMEGP) in women's entrepreneurship requires looking beyond the number of units financed to whether those units last. This study examines how financial assistance, entrepreneurial training and institutional support affect the business sustainability of women-owned PMEGP enterprises in the Kalyana Karnataka region of India. Data were collected with a structured questionnaire from 200 women entrepreneurs selected by purposive sampling and analysed with descriptive statistics, Cronbach's alpha, correlation, multiple regression with robust standard errors, and one-way ANOVA. All scales were reliable (alpha 0.852 to 0.906). Respondents rated financial assistance highest (mean 3.35 on a five-point scale) and institutional support lowest (3.14). The three inputs explained 29.3 per cent of the variance in business sustainability. Entrepreneurial training had the largest effect (beta = 0.392, $p < 0.001$), followed by institutional support (beta = 0.177, $p = 0.008$) and financial assistance (beta = 0.135, $p = 0.037$); the last was not significant once respondent and enterprise characteristics were added. Sustainability did not differ significantly by location, sector, ownership form, enterprise age or investment size. The subsidy appears necessary but not sufficient: stronger training and post-sanction support offer the clearest route to longer-lived women-led enterprises.

Keywords: PMEGP; women entrepreneurship; financial assistance; entrepreneurial training; institutional support; business sustainability.

JEL classification: L26 (Entrepreneurship); J16 (Economics of Gender); M13 (New Firms; Startups); L25 (Firm Performance); O53 (Asia including Middle East)

I. Introduction

Women-led enterprises now account for a growing share of PMEGP units, but a unit that is set up is not the same as a unit that survives. In 2023-24, 36,806 of the 89,118 micro-enterprises assisted under the programme, about 41 per cent, were women-assisted units, up from about 38 per cent in 2021-22 (Lok Sabha, 2024). Counting units says little about how long they last, how much they earn or whether they keep employing people. This paper asks what, inside the programme, helps women's enterprises last.

The Prime Minister's Employment Generation Programme (PMEGP) is a credit-linked subsidy scheme of the Ministry of Micro, Small and Medium Enterprises, implemented nationally by the Khadi and Village Industries Commission (KVIC). Women belong to the special category under the scheme: they contribute 5 per cent of project cost and receive a margin-money subsidy of 25 per cent in urban areas and 35 per cent in rural areas, against 10 per cent and 15 to 25 per cent for general-category applicants (State Bank of India, n.d.). The scheme therefore lowers the financial barrier for women more than for most other applicants. It also provides entrepreneurship development training and works through a network of banks, KVIC and state agencies.

The research literature gives reasons to expect that money alone will not be enough. Women entrepreneurs face a particular mix of constraints in finance, skills, networks and institutional support (Marlow and Patton, 2005; Brush, de Bruin and Welter, 2009). Capital creates the enterprise, but capability and a supportive institutional setting decide whether it is sustained (Sen, 1999; Welter and Smallbone, 2011). Evaluations of PMEGP usually report the number of units financed or jobs created. Fewer studies compare the three main programme inputs, subsidy and credit, training, and institutional support, in a single model with business sustainability as the outcome.

Objectives

1. To describe the profile of the women entrepreneurs and the enterprises supported under PMEGP.
2. To assess how respondents rate financial assistance, entrepreneurial training, institutional support and business sustainability.
3. To measure the effect of financial assistance, entrepreneurial training and institutional support on business sustainability.
4. To test whether business sustainability differs across enterprise and respondent characteristics.

II. Literature review and hypotheses

2.1 Theoretical lens

Three perspectives frame the study. The resource-based view treats a firm's capital, skills and relationships as the resources from which durable performance comes (Barney, 1991). Human capital theory adds that knowledge acquired through training raises the productivity of the entrepreneur and of the enterprise (Becker, 1964). Institutional theory holds that the rules, agencies and support structures around a firm shape which ventures start and which survive (North, 1990; Welter and Smallbone, 2011). Sen's (1999) capability approach links the three: resources matter only to the extent that people can convert them into valued activity.

2.2 Financial assistance

Access to finance is the most frequently cited barrier to women's enterprise. Marlow and Patton (2005) argue that women face disadvantages in dealing with lenders, and that these show up in the terms and amount of credit. Brush, de Bruin and Welter (2009) include money among the elements of a gender-aware framework for women's entrepreneurship. For a micro-enterprise, a subsidy that cuts the owner's contribution to 5 per cent lowers the cost of entry and leaves more working capital. Initial financial capital also predicts new-venture performance (Cooper, Gimeno-Gascon and Woo, 1994). This leads to the first hypothesis.

H1: Financial assistance has a positive effect on business sustainability.

2.3 Entrepreneurial training

Training builds the skills in costing, marketing, record-keeping and compliance that a first-time entrepreneur lacks. Meta-analytic evidence links entrepreneurship education to human capital and to entrepreneurial outcomes (Martin, McNally and Kay, 2013). Studies of new-firm survival also find that the founder's human capital improves survival chances (Brüderl, Preisendörfer and Ziegler, 1992). Because PMEGP sanctions are linked to an entrepreneurship development programme, training is the input that most directly builds capability in Sen's sense. This leads to the second hypothesis.

H2: Entrepreneurial training has a positive effect on business sustainability.

2.4 Institutional support

Women's enterprises depend on banks, district industries centres, KVIC offices and local networks for sanction, follow-up, market linkage and problem resolution. Where these institutions are responsive, an enterprise faces lower transaction costs and fewer interruptions. Welter and Smallbone (2011) show that the institutional environment shapes entrepreneurial behaviour, particularly in difficult settings. Brush, de Bruin and Welter (2009) place the meso and macro environment inside the framework for women's entrepreneurship. This leads to the third hypothesis.

H3: Institutional support has a positive effect on business sustainability.

2.5 Enterprise characteristics

Survival studies often find that firm characteristics, such as sector, size and age, are associated with performance. Whether this holds for subsidised micro-enterprises is an empirical question. A programme designed to serve all women entrepreneurs works best if sustainability does not depend heavily on where or in what sector an enterprise operates. This leads to the fourth hypothesis.

H4: Business sustainability differs significantly across respondent and enterprise characteristics.

2.6 Conceptual model

Financial assistance, entrepreneurial training and institutional support are the independent variables. Business sustainability is the dependent variable. Respondents' overall assessment of PMEGP is measured as a separate

construct and is used to describe how the three inputs relate to the programme as a whole. Respondent and enterprise characteristics are treated as grouping variables.

III. Research methodology

3.1 Design and respondents

The study is descriptive and explanatory, and it uses a cross-sectional survey. The study area is the Kalyana Karnataka region. The respondents are 200 women entrepreneurs in this region who had applied for or received assistance under PMEGP. Of these, 170 (85 per cent) had received assistance and established their business, 13 had a sanction but had not yet received the funds, 12 had an application under process and 5 reported another status. Purposive sampling was used to select women entrepreneurs who had received PMEGP assistance and established their enterprises.

3.2 Instrument and measures

Data were collected with a structured questionnaire in two parts. Part A recorded ten profile variables: age, education, marital status, enterprise location, enterprise type, ownership form, years in operation, PMEGP assistance status, initial project investment and number of employees. Part B measured five constructs on a five-point scale (1 = strongly disagree, 5 = strongly agree). Each construct score is the mean of its items.

Each construct was operationalized as a set of statements that respondents rated on the five-point scale. All statements are positively worded, so a higher score is always more favorable and no item was reverse-coded. The statements are listed in Table V. A construct score is the mean of its items and is read as follows: 1.00 to 2.49 is low, 2.50 to 3.49 is moderate and 3.50 to 5.00 is high.

- **Financial assistance (FA, 6 items; independent).** The extent to which the credit and margin-money subsidy received under PMEGP was adequate, timely, manageable to repay and sufficient for fixed assets and working capital.
- **Entrepreneurial training (ET, 6 items; independent).** The extent to which the entrepreneurship development training under PMEGP was relevant and improved the respondent's technical, marketing, financial-management and compliance skills and her confidence.
- **Institutional support (IS, 6 items; independent).** The extent to which banks, KVIC, the state Khadi and Village Industries Board and district industries centres were cooperative, gave guidance, followed up after start-up, supported marketing, resolved problems and made information accessible.
- **Business sustainability (BS, 8 items; dependent).** The extent to which the enterprise has continued to operate, covered its costs, grown, earned a profit, repaid its loan from income, kept its employment, reinvested in the business and is expected to continue for the next five years.
- **Overall PMEGP assessment (PM, 4 items; descriptive).** The respondent's overall judgement of PMEGP's usefulness for self-employment, its suitability for women, the simplicity of its procedures and her satisfaction with it.

3.3 Analysis

The analysis follows five steps. First, frequencies and percentages describe the respondent and enterprise profile. Second, means, standard deviations, skewness and kurtosis describe each construct, and Cronbach's alpha tests internal consistency, with 0.70 as the usual threshold (Nunnally and Bernstein, 1994). Third, Pearson correlations show the association between constructs. Fourth, multiple linear regression estimates the effect of the three programme inputs on business sustainability, as in equation (1), where BS is business sustainability, FA financial assistance, ET entrepreneurial training, IS institutional support and the subscript i indexes respondents:

$$BS_i = \beta_0 + \beta_1 FA_i + \beta_2 ET_i + \beta_3 IS_i + \varepsilon_i \tag{1}$$

Fifth, one-way ANOVA compares business sustainability across respondent and enterprise groups, and Kruskal-Wallis tests check the result for non-normality. Effect sizes are reported as standardised coefficients and Cohen's f-squared, where 0.02, 0.15 and 0.35 mark small, medium and large effects (Cohen, 1988). Multicollinearity is checked with variance inflation factors (VIF), for which values below 5 are acceptable (Hair et al., 2019). The 5 per cent level is used throughout.

3.4 Data quality and regression diagnostics

The sheet had no missing values. Skewness and kurtosis of the variables do not by themselves show that regression inference is valid, so the fitted model was checked directly. The results are reported in section 6.2.

- **Normality of errors.** The assumption concerns the residuals, not the variables. Residuals are close to normal (Shapiro-Wilk W = 0.994, p = 0.604; skewness 0.03, kurtosis -0.05). The construct scores themselves are not exactly normal (Shapiro-Wilk p = 0.027 for institutional support and 0.048 for business sustainability), which does not affect inference when the residuals are well behaved.
- **Linearity and specification.** Ramsey's RESET test finds no omitted non-linearity (F(2, 194) = 0.45, p = 0.639).
- **Constant error variance.** The Breusch-Pagan test (Koenker version) points to mild heteroscedasticity (LM = 8.69, p = 0.034), while the White test does not (p = 0.235). Because of the Breusch-Pagan result, heteroscedasticity-consistent (HC3) standard errors and bootstrap confidence intervals are reported alongside the ordinary least squares (OLS) estimates.
- **Multicollinearity.** Variance inflation factors are 1.16 to 1.20 and the condition number of the standardised predictors is 1.58.
- **Influential cases.** The largest Cook's distance is 0.045, the largest standardised residual is 2.6 and no case has a Cook's distance above 1.
- **Ordinal measurement.** Each item is a five-point rating. Construct means are treated as interval scores, as is usual in survey research, and the main result is checked with Spearman correlations and a rank-based regression that do not make that assumption.
- **Independence.** Respondents were surveyed individually. The data carry no cluster identifier, so any clustering by village or district could not be modelled.

IV. Respondent and enterprise profile

The typical respondent is a married woman aged 25 to 45 with a graduate degree, running a rural, sole-proprietor micro-enterprise that she set up with PMEGP assistance. Sixty-three per cent of respondents are aged 25 to 45, 60 per cent hold a graduate or postgraduate degree and 67 per cent are married (Table I).

Table I. Personal profile of respondents (n = 200)

Variable	Category	Frequency	Per cent
Age	Below 25	18	9.0
	25–35	74	37.0
	36–45	52	26.0
	46–55	41	20.5
	Above 55	15	7.5
Education	Below SSLC	27	13.5
	SSLC / PUC	38	19.0
	Graduate	78	39.0
	Postgraduate	42	21.0
	Professional / other	15	7.5
Marital status	Married	134	67.0
	Unmarried	42	21.0
	Widowed	15	7.5
	Other / prefer not to say	9	4.5

Note: Percentages are shares of the 200 respondents. SSLC = Secondary School Leaving Certificate; PUC = Pre-University Course. Source: Survey data (n = 200); authors' calculations.

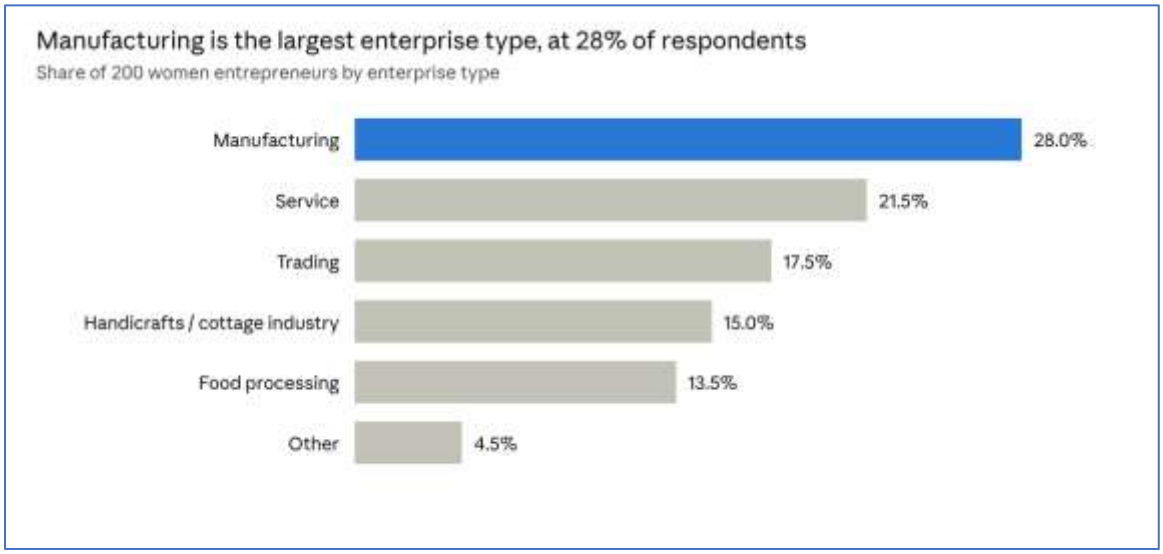
Half of the enterprises (50.5 per cent) are in rural areas and another 20 per cent are semi-urban, so the sample reflects the rural emphasis of the scheme. Manufacturing (28.0 per cent) and services (21.5 per cent) are the largest sectors (Table II, Figure 1). Fifty-nine per cent are sole proprietorships, and 15 per cent are run by self-help groups or other collectives. Nearly three-quarters (72.5 per cent) have operated for six years or less, which makes the question of survival relevant.

Table II. Enterprise profile (n = 200)

Variable	Category	Frequency	Per cent
Location	Rural	101	50.5
	Urban	59	29.5
	Semi-urban	40	20.0
Enterprise type	Manufacturing	56	28.0
	Service	43	21.5
	Trading	35	17.5
	Handicrafts / cottage industry	30	15.0
	Food processing	27	13.5
	Other	9	4.5
Ownership form	Sole proprietorship	118	59.0
	Partnership	39	19.5
	Self-help group / collective	30	15.0
	Other	13	6.5
Years in operation	Less than 1 year	25	12.5
	1–3 years	64	32.0
	4–6 years	56	28.0
	7–10 years	37	18.5
	More than 10 years	18	9.0

Note: Percentages are shares of the 200 respondents. Source: Survey data (n = 200); authors' calculations.

Figure 1. Distribution of respondents by enterprise type



Survey data, 200 respondents (Demographic_Profile sheet)

Note: Bars show the share of the 200 respondents in each enterprise type; the largest category is highlighted. Source: Survey data (n = 200); authors' calculations.

Eighty-five per cent of respondents had received assistance and established their business, and 72.5 per cent had invested ₹10 lakh or less. Nearly four in five enterprises (78.5 per cent) employ at least one person besides the owner, which shows the job-creating role of the programme (Table III).

Table III. PMEGP status, investment and employment (n = 200)

Variable	Category	Frequency	Per cent
PMEGP assistance status	Assistance received and business established	170	85.0
	Assistance sanctioned but not yet received	13	6.5

Variable	Category	Frequency	Per cent
	Application under process	12	6.0
	Other	5	2.5
Initial project investment	Below ₹1 lakh	29	14.5
	₹1–5 lakh	65	32.5
	₹5–10 lakh	51	25.5
	₹10–25 lakh	37	18.5
	Above ₹25 lakh	18	9.0
Number of employees	No employees	43	21.5
	1–5 employees	93	46.5
	6–10 employees	43	21.5
	11–20 employees	14	7.0
	More than 20 employees	7	3.5

Note: Percentages are shares of the 200 respondents. One lakh = 100,000 rupees. Investment is the initial project investment. Source: Survey data (n = 200); authors' calculations.

V. Descriptive statistics and reliability

Respondents rate every programme input only moderately, within the 2.50 to 3.49 band defined in section 3.2: construct means lie between 3.14 and 3.35 on the five-point scale, and between 16 and 21 per cent of respondents average 4 or above on any of them (Table IV). One-sample t-tests show that every mean is above the scale midpoint of 3.0 ($p < 0.01$ in all cases), so respondents are more positive than neutral, but not strongly so.

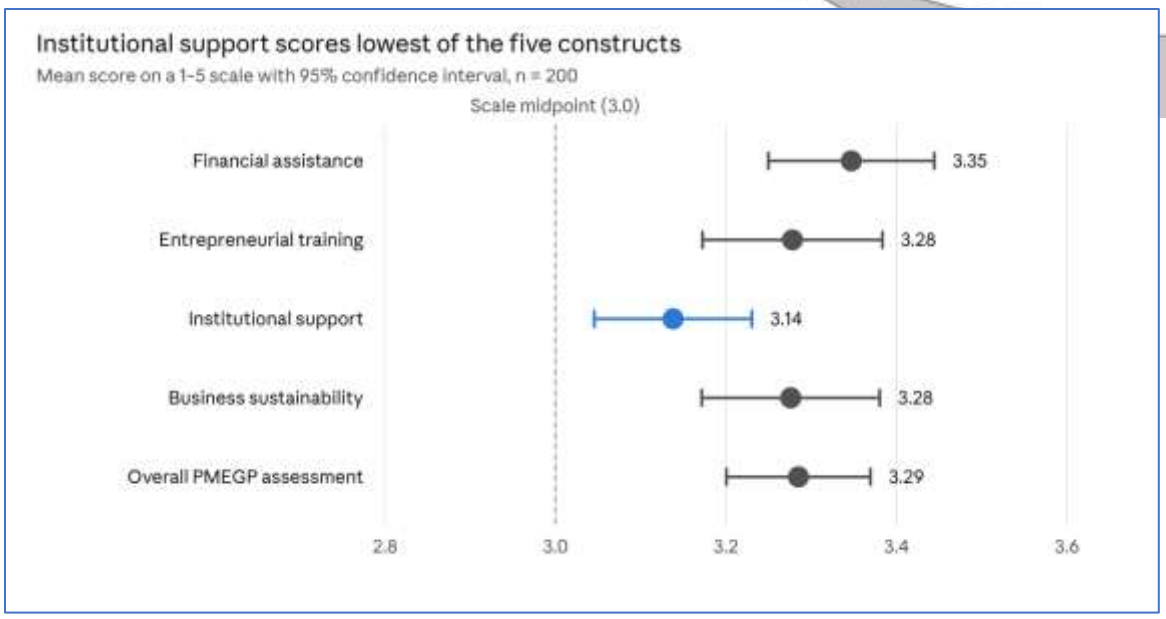
Table IV. Descriptive statistics and reliability of the constructs (n = 200)

Construct	Items	Mean	SD	Skewness	Kurtosis	Cronbach's alpha	Scoring 4 or above (%)	Scoring below 3 (%)
Financial assistance	6	3.347	0.698	0.11	-0.26	0.869	18.5	28.5
Entrepreneurial training	6	3.278	0.757	0.05	-0.43	0.889	21.0	32.5
Institutional support	6	3.138	0.663	0.19	-0.26	0.852	16.0	42.0
Business sustainability	8	3.276	0.748	-0.21	-0.25	0.906	20.5	31.5
Overall PMEGP assessment	4	3.285	0.606	-0.04	-0.10	0.697	17.0	22.0

Note: Construct scores are means of the items on a five-point scale (1 = strongly disagree, 5 = strongly agree). The last two columns give the share of respondents whose construct mean is 4 or above, and below 3. Source: Survey data (n = 200); authors' calculations.

Financial assistance has the highest mean (3.35, $t = 7.02$) and institutional support the lowest (3.14, $t = 2.95$, $p = 0.004$). Institutional support is also the construct on which most respondents are unfavourable: 42 per cent average below 3, against 28.5 per cent for financial assistance (Figure 2). The subsidy is therefore the part of PMEGP that respondents find most satisfactory, and the support around it the least.

Figure 2. Construct means with 95% confidence intervals



Survey data, 200 respondents; means and SDs from the Construct_Descriptives sheet

Note: Dots are construct means on the five-point scale and lines are 95% confidence intervals. The dashed line marks the scale midpoint (3.0), and the lowest mean is highlighted. Source: Survey data (n = 200); authors' calculations. All four multi-item scales are reliable, with Cronbach's alpha between 0.852 and 0.906, above the 0.70 threshold. The four-item overall assessment scale has an alpha of 0.697, which is at the threshold. It is used only descriptively and is not a predictor in the regression. The item-level results are consistent with the construct scores (Table V, Figure 3). Item means vary little within each construct, so no single question drives a construct score. The highest item is FA5 (3.375) and the lowest is IS4 (3.105). All six institutional support items fall below every financial assistance item.

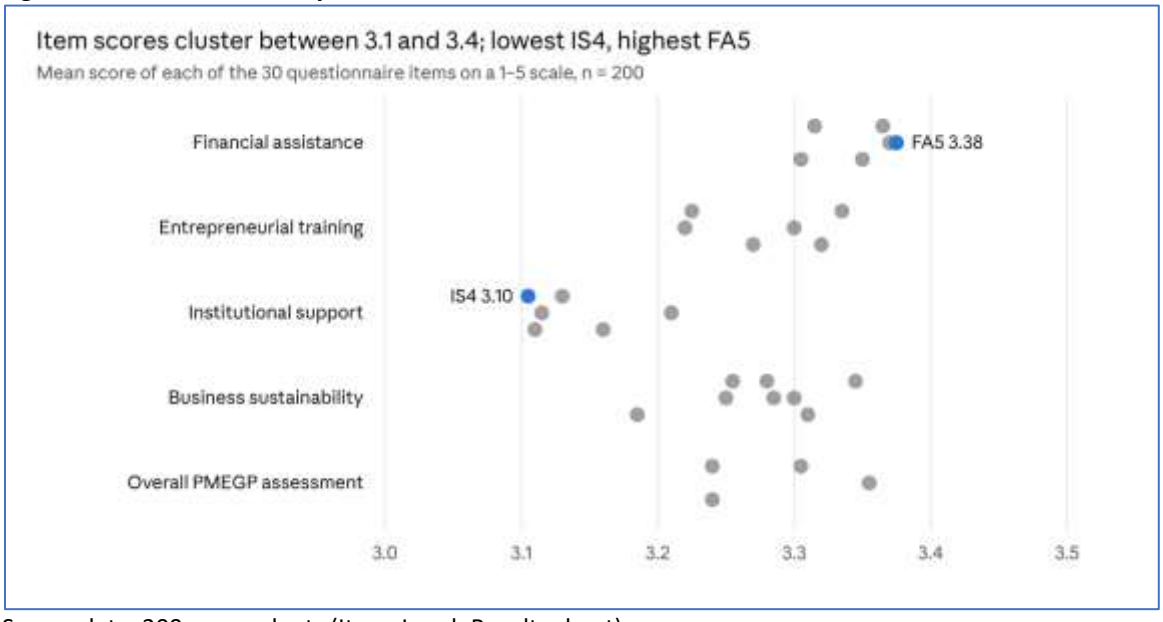
Table V. Questionnaire items with item-level means and standard deviations (n = 200)

Construct	Item	Statement (rated 1 to 5)	Mean	SD
Financial assistance	FA1	The loan amount sanctioned under PMEGP was adequate for setting up my enterprise.	3.365	0.931
	FA2	The margin-money subsidy reduced my own financial burden at start-up.	3.370	0.881
	FA3	The loan was released on time.	3.305	0.881
	FA4	The repayment terms (instalments and interest) are manageable for my enterprise.	3.315	0.900
	FA5	PMEGP assistance enabled me to buy the machinery or equipment I needed.	3.375	0.859
	FA6	PMEGP assistance helped me meet working-capital needs in the early months.	3.350	0.939
Entrepreneurial training	ET1	The entrepreneurship development training was relevant to my business.	3.335	0.953
	ET2	The training improved my skills in production or service delivery.	3.220	0.936
	ET3	The training improved my knowledge of marketing and customer handling.	3.270	0.976
	ET4	The training taught me how to keep accounts and manage finances.	3.225	0.905
	ET5	The training gave me knowledge of loans, subsidies and legal compliance.	3.300	0.930

Construct	Item	Statement (rated 1 to 5)	Mean	SD
	ET6	The training increased my confidence to run the enterprise.	3.320	0.966
Institutional support	IS1	Bank officials were cooperative during loan processing.	3.130	0.926
	IS2	KVIC, KVIB or district industries centre officials guided me during application and sanction.	3.210	0.842
	IS3	The agencies followed up with me after the unit started.	3.160	0.865
	IS4	Support was available for marketing and market linkages.	3.105	0.865
	IS5	My problems and grievances were resolved promptly.	3.115	0.875
	IS6	Information about schemes and procedures was easy to obtain.	3.110	0.873
Business sustainability	BS1	My enterprise has operated continuously since it started.	3.345	0.917
	BS2	My enterprise earns enough to cover its costs.	3.285	0.953
	BS3	My enterprise's sales have grown since it started.	3.185	0.935
	BS4	My enterprise earns a regular profit.	3.280	0.978
	BS5	I repay my loan instalments regularly from enterprise income.	3.250	0.976
	BS6	My enterprise has retained or increased its employment.	3.310	0.994
	BS7	I am able to reinvest part of the income in the business.	3.255	0.997
	BS8	I expect my enterprise to continue operating for the next five years.	3.300	0.951
Overall PMEGP assessment	PM1	PMEGP has helped me become self-employed.	3.240	0.822
	PM2	PMEGP is suitable for women entrepreneurs.	3.355	0.814
	PM3	The procedures of PMEGP are simple.	3.240	0.852
	PM4	Overall, I am satisfied with PMEGP.	3.305	0.858

Note: Each item was rated on a five-point scale (1 = strongly disagree, 5 = strongly agree). SD = standard deviation.
Source: Survey data (n = 200); authors' calculations.

Figure 3. Item-level means by construct



Survey data, 200 respondents (Item_Level_Results sheet)
Note: Each dot is the mean of one questionnaire item on the five-point scale; the highest and lowest items are labelled. Item wording is given in Table V. Source: Survey data (n = 200); authors' calculations.

VI. Correlation and regression analysis

6.1 Correlation

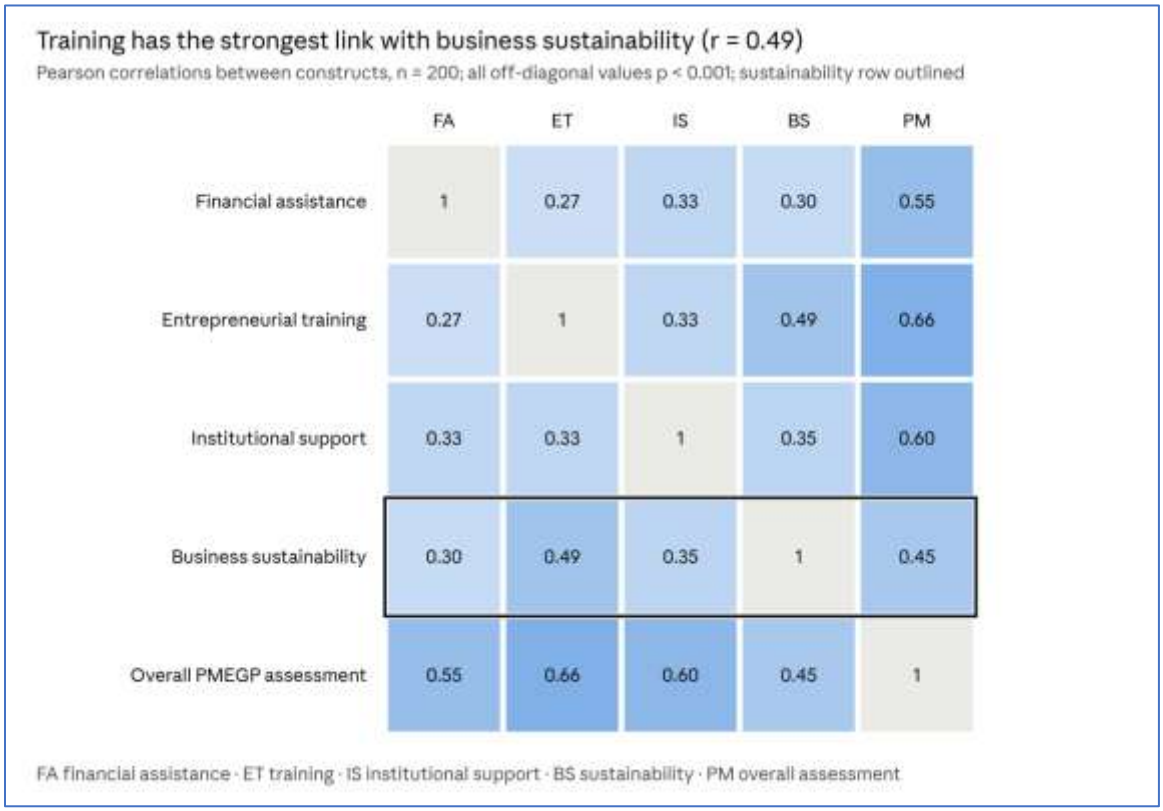
Entrepreneurial training has the strongest association with business sustainability (r = 0.487), followed by institutional support (r = 0.350) and financial assistance (r = 0.298). All three relationships are positive and significant at p < 0.001 (Table VI, Figure 4). The three inputs correlate with each other at between 0.268 and 0.330, so they are related but distinct, and multicollinearity is unlikely. The overall PMEGP assessment correlates most strongly with training (r = 0.656), then institutional support (0.598) and financial assistance (0.546), which suggests that respondents judge the programme largely by the training and support they receive.

Table VI. Pearson correlation matrix (n = 200)

Construct	1	2	3	4	5
1. Financial assistance	1				
2. Entrepreneurial training	0.268	1			
3. Institutional support	0.326	0.330	1		
4. Business sustainability	0.298	0.487	0.350	1	
5. Overall PMEGP assessment	0.546	0.656	0.598	0.453	1

Note: All coefficients are significant at p < 0.001. Source: Survey data (n = 200); authors' calculations.

Figure 4. Correlation heat map of the five constructs



Survey data, 200 respondents (Correlation sheet; recomputed from raw responses)

Note: Shading is proportional to the correlation coefficient. All off-diagonal coefficients are significant at p < 0.001. The row for business sustainability is outlined. Source: Survey data (n = 200); authors' calculations.

6.2 Multiple regression

The three programme inputs together explain 29.3 per cent of the variance in business sustainability (R-squared = 0.293, adjusted R-squared = 0.282). The model is significant, $F(3, 196) = 27.07$, $p < 0.001$ (Table VII).

Table VII. Regression model summary (dependent variable: business sustainability)

Statistic	Value
Observations (N)	200
Multiple R	0.541
R-squared	0.293
Adjusted R-squared	0.282
F (3, 196)	27.071
Significance of F	p < 0.001

Note: The dependent variable is business sustainability; the predictors are financial assistance, entrepreneurial training and institutional support. Source: Survey data (n = 200); authors' calculations. All three coefficients are positive and significant (Table VIII). Holding the other two inputs constant, a one-point rise in the training score is associated with a 0.387-point rise in business sustainability, against 0.199 for institutional support and 0.145 for financial assistance. In standardised terms, training (beta = 0.392) has more than twice the effect of institutional support (0.177) or financial assistance (0.135) (Figure 5). Variance inflation factors of 1.16 to 1.20 confirm that collinearity does not affect the estimates.

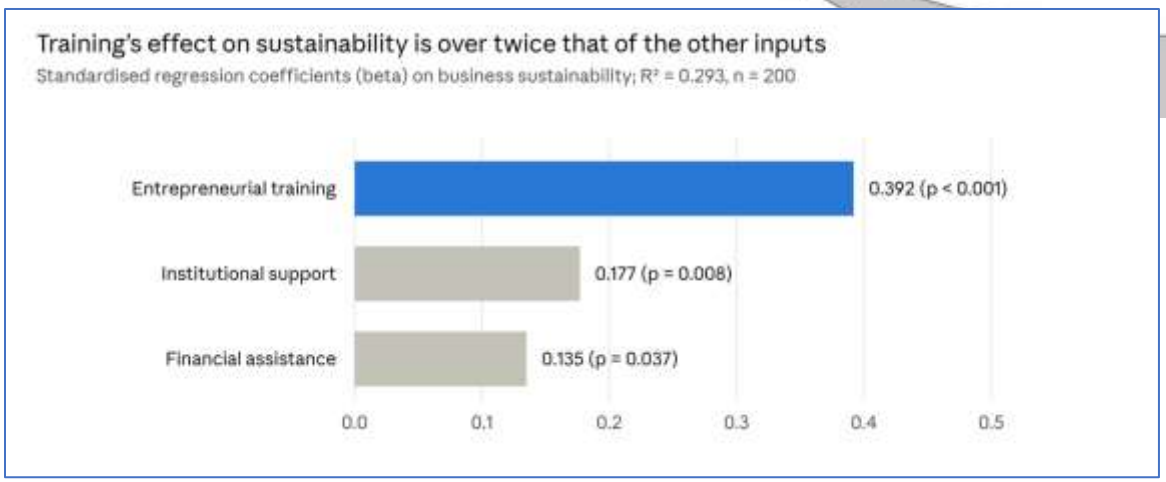
Table VIII. Regression coefficients

Predictor	B	SE	Beta	t	p	HC3 SE	HC3 p	Bootstrap 95% CI for B	VIF	Cohen's f-squared
Constant	0.896	0.287		3.124	0.002	0.305	0.004	0.298 to 1.484		
Financial assistance	0.145	0.069	0.135	2.095	0.037	0.064	0.024	0.022 to 0.272	1.16	0.022
Entrepreneurial training	0.387	0.064	0.392	6.064	< 0.001	0.065	< 0.001	0.259 to 0.514	1.16	0.188
Institutional support	0.199	0.074	0.177	2.682	0.008	0.073	0.007	0.058 to 0.339	1.20	0.037

Note: The dependent variable is business sustainability. SE and p are from OLS; HC3 = heteroscedasticity-consistent standard error; the bootstrap interval is from 5,000 resamples of respondents (percentile method). Source: Survey data (n = 200); authors' calculations.

The conclusions do not depend on the OLS assumptions. The Breusch-Pagan test points to mild heteroscedasticity ($p = 0.034$), so Table VIII also reports HC3 robust standard errors, and all three predictors remain significant (financial assistance $p = 0.024$, training $p < 0.001$, institutional support $p = 0.007$). Bootstrap 95% confidence intervals exclude zero for every coefficient. A rank-based regression, which does not treat the ratings as interval data, gives the same ordering of effects (training $t = 5.90$, institutional support 2.32, financial assistance 2.15; all $p < 0.05$), and Spearman correlations with business sustainability (0.473, 0.325 and 0.290) agree.

Figure 5. Standardised effects on business sustainability



Survey data, 200 respondents (Regression_Coefficients sheet; standardised coefficients computed from raw responses)

Note: Bars are standardised coefficients from the regression in Tables VII and VIII (R-squared = 0.293). The p values shown are from ordinary least squares. Source: Survey data (n = 200); authors' calculations.
By Cohen's (1988) benchmarks, the effect of training is medium (f-squared = 0.188), while those of institutional support (0.037) and financial assistance (0.022) are small. Removing training from the model lowers R-squared by 13.3 percentage points, compared with 2.6 points for institutional support and 1.6 points for financial assistance. About 70.7 per cent of the variance in sustainability is not explained by the three inputs. This study cannot say what accounts for it. It could reflect factors that were not measured, error in the self-reported ratings, or non-linear and interaction effects, and the data do not allow these to be separated. The respondent and enterprise profile variables do not fill the gap: adding all ten of them (36 dummy variables) raises R-squared from 0.293 to 0.410 but lowers adjusted R-squared to 0.266, and the added block is not significant ($F(36, 160) = 0.88$, $p = 0.664$). With that block included, training ($p < 0.001$) and institutional support ($p = 0.009$) remain significant, but financial assistance does not ($p = 0.114$), so the evidence for H1 is the weakest of the three.

VII. Hypothesis testing and group differences

The data support H1, H2 and H3 and do not support H4 (Table IX). Each programme input has a significant positive effect on business sustainability, and sustainability does not vary significantly with respondent or enterprise characteristics.

Table IX. Summary of hypothesis tests

Hypothesis	Relationship	B	Beta	t	p	Decision
H1	Financial assistance → business sustainability	0.145	0.135	2.095	0.037	Supported
H2	Entrepreneurial training → business sustainability	0.387	0.392	6.064	< 0.001	Supported
H3	Institutional support → business sustainability	0.199	0.177	2.682	0.008	Supported
H4	Sustainability differs across respondent and enterprise characteristics	See Table X				Not supported

Note: B = unstandardised coefficient; Beta = standardised coefficient. Decisions are made at the 5 per cent level. The test of H4 is reported in Table X. Source: Survey data (n = 200); authors' calculations.

One-way ANOVA compared business sustainability across ten grouping variables (Table X). None of the differences is significant at the 5 per cent level, and the share of variance explained by group membership (eta-squared) never

exceeds 4.1 per cent. The tests that come closest are education (F = 2.08, p = 0.085) and PMEGP assistance status (F = 2.42, p = 0.068). The Kruskal-Wallis test, which does not assume normality, gives p = 0.049 for education, but this rests on a small "professional / other" group (n = 15, mean 3.72) against postgraduates (n = 42, mean 3.09). With ten tests, one result near 0.05 is not reliable evidence of a real difference.

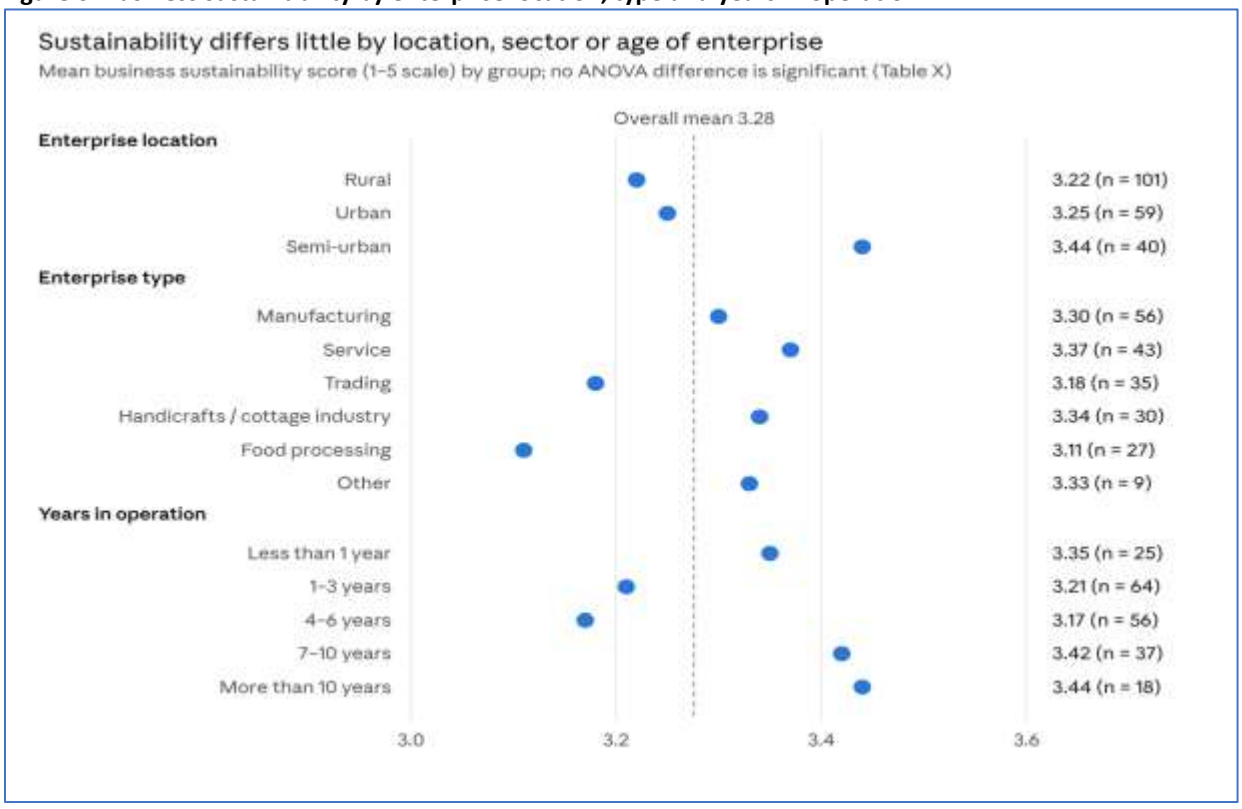
Table X. One-way ANOVA of business sustainability by respondent and enterprise characteristics

Grouping variable	Groups	F	df	p	Eta-squared	Kruskal-Wallis p
Age	5	1.694	4, 195	0.153	0.034	0.170
Education	5	2.077	4, 195	0.085	0.041	0.049
Marital status	4	0.390	3, 196	0.760	0.006	0.875
Enterprise location	3	1.283	2, 197	0.279	0.013	0.344
Enterprise type	6	0.598	5, 194	0.701	0.015	0.566
Ownership form	4	0.183	3, 196	0.908	0.003	0.920
Years in operation	5	0.973	4, 195	0.423	0.020	0.375
Initial project investment	5	0.826	4, 195	0.510	0.017	0.419
Number of employees	5	1.143	4, 195	0.338	0.023	0.343
PMEGP assistance status	4	2.416	3, 196	0.068	0.036	0.141

Note: Groups are the categories of each variable shown in Tables I to III. Eta-squared is the share of variance in business sustainability explained by group membership. The Kruskal-Wallis test is a non-parametric check. Source: Survey data (n = 200); authors' calculations.

Figure 6 shows the pattern for three of the variables. Semi-urban enterprises (3.44) and those older than seven years (3.42 to 3.44) score slightly higher, and food processing (3.11) and trading (3.18) slightly lower, but the groups are small and none of these gaps is significant. Respondents whose assistance had been received and whose business was established scored 3.32 on sustainability, against 3.03 for the 30 respondents whose assistance was pending or in another status. This gap is also not significant (Welch t = 1.75, p = 0.089), although the pending group is small.

Figure 6. Business sustainability by enterprise location, type and years in operation



Survey data, 200 respondents; group means computed from the 200_Respondents sheet
Note: Dots are group means of business sustainability on the five-point scale; n is the group size. The dashed line is the overall mean. None of the group differences is significant (Table X). Source: Survey data (n = 200); authors' calculations.

VIII. Discussion

The central result is that what PMEGP teaches women entrepreneurs matters more for their survival than what it lends them. Training has a medium effect on sustainability (beta = 0.392, f-squared = 0.188), while financial assistance has a small one (beta = 0.135, f-squared = 0.022). This agrees with the human capital argument that skills raise the productivity and survival chances of new ventures (Becker, 1964; Brüderl, Preisendörfer and Ziegler, 1992; Martin, McNally and Kay, 2013). It also fits Sen's (1999) point that resources help only when people can convert them into lasting activity. Financial assistance still matters. H1 is supported in the main model, although the effect is not significant once all profile variables are added (section 6.2), and respondents rate it the best part of the programme (mean 3.35). This is consistent with the view that capital is a precondition for starting (Cooper, Gimeno-Gascon and Woo, 1994; Marlow and Patton, 2005). The small effect size suggests that, once the subsidy has been received, additional variation in how respondents perceive the financial component adds little to sustainability. Every respondent in the programme receives or expects the same type of subsidy, so differences in survival are more likely to come from skills and support than from the subsidy itself. This is an interpretation, and the design does not test it directly.

Institutional support has the weakest rating (mean 3.14, with 42 per cent of respondents below the midpoint) but a significant effect on sustainability (beta = 0.177, p = 0.008). The inputs the programme delivers least well are therefore ones that do influence outcomes. This is in line with institutional perspectives that treat the support environment as part of the conditions for entrepreneurship (North, 1990; Welter and Smallbone, 2011; Brush, de Bruin and Welter, 2009). The absence of significant group differences (H4 not supported) is a useful finding for programme design. Business sustainability scores do not differ meaningfully between rural, semi-urban and urban enterprises, across sectors, between sole proprietors and collectives, or by investment size. A single training and support model may therefore serve most women entrepreneurs, although the sample may be too small to detect modest differences in some groups. Finally, the three inputs explain 29.3 per cent of the variance in sustainability. That is substantial for a survey of perceptions, but most of the variation in sustainability is not accounted for by these three inputs. What explains the rest cannot be determined from these data, because no other determinants were measured.

IX. Implications, limitations and future research

9.1 Implications for policy and practice

1. **Make training a condition of release, not a formality.** Training has the largest effect on sustainability. Programme agencies should lengthen and strengthen entrepreneurship development training, with content on costing, marketing, digital payments, record-keeping and compliance, and should assess what trainees learn.
2. **Invest in post-sanction handholding.** Institutional support is the lowest-rated input and has a significant effect. Banks, district industries centres and KVIC offices could assign a named contact to each women-led unit and schedule follow-up visits in the first three years.
3. **Keep the subsidy, but do not rely on it alone.** The special-category subsidy lowers the cost of entry, and respondents value it. It should be paired with training and support rather than expanded on its own.
4. **Use one design with local adaptation.** Because sustainability does not differ significantly by location or sector, programme design can be common across them, with local partners adapting the content.
5. **Monitor survival, not only sanctions.** Reporting on units set up and jobs created should be supplemented with enterprise survival and turnover after one, three and five years.

9.2 Limitations

- The sample was chosen purposively, so the results cannot be generalised statistically to all women PMEGP beneficiaries. The design is also cross-sectional, so the regression shows association and not causation.

- All constructs, including business sustainability, are self-reported perceptions from the same respondent, which may raise common-method bias. Objective measures such as turnover, profit and survival would strengthen the results.
- The sample has 200 respondents, and several groups are small (for example 9 respondents in the "other" sector and 15 in the "professional / other" education group).
- Ten ANOVA tests were run without correction for multiple comparisons.
- The four-item overall assessment scale has an alpha of 0.697, just under the usual threshold, and was therefore used descriptively.
- The model explains 29.3 per cent of the variance, so a large share of the variation is unexplained, and the data cannot show why.

9.3 Future research

Longitudinal studies could follow PMEGP women entrepreneurs over several years and measure survival directly. Future studies could measure additional possible determinants, such as owner characteristics, household support, market access and digital capability, to see how much of the remaining variance they explain, and could test whether training moderates the effect of financial assistance. Comparisons with male PMEGP beneficiaries, and with women supported under other schemes, would show whether the pattern is specific to women or to the programme.

X. Conclusion

For the 200 women entrepreneurs surveyed, entrepreneurial training, institutional support and financial assistance each have a positive and significant effect on business sustainability, and training has the largest. The three inputs together explain 29.3 per cent of the variance in sustainability, and sustainability does not differ significantly by location, sector, ownership form, age of enterprise or investment size. Respondents rate financial assistance highest and institutional support lowest. PMEGP's credit-linked subsidy opens the door for women entrepreneurs, but the quality of training and of follow-up support determines how long their enterprises stay open. Strengthening those two inputs is the most direct way to raise the survival of women-led PMEGP enterprises.

References

1. Barney, Jay B. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99–120.
2. Becker, Gary S. (1964). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. New York: National Bureau of Economic Research and Columbia University Press.
3. Brush, Candida G., de Bruin, Anne, and Welter, Friederike (2009). A gender-aware framework for women's entrepreneurship. International Journal of Gender and Entrepreneurship, 1(1), 8–24.
4. Brüderl, Josef, Preisendörfer, Peter, and Ziegler, Rolf (1992). Survival chances of newly founded business organizations. American Sociological Review, 57(2), 227–242.
5. Cohen, Jacob (1988). Statistical Power Analysis for the Behavioral Sciences (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
6. Cooper, Arnold C., Gimeno-Gascon, F. Javier, and Woo, Carolyn Y. (1994). Initial human and financial capital as predictors of new venture performance. Journal of Business Venturing, 9(5), 371–395.
7. Hair, Joseph F., Black, William C., Babin, Barry J., and Anderson, Rolph E. (2019). Multivariate Data Analysis (8th ed.). Andover, Hampshire: Cengage Learning.
8. Lok Sabha (2024). Unstarred Question No. 2920, answered on 12 December 2024, Ministry of Micro, Small and Medium Enterprises. New Delhi: Lok Sabha Secretariat. Retrieved 16 October 2026 from eparlib.sansad.in.
9. Marlow, Susan, and Patton, Dean (2005). All credit to men? Entrepreneurship, finance, and gender. Entrepreneurship Theory and Practice, 29(6), 717–735.
10. Martin, Bruce C., McNally, Jeffrey J., and Kay, Michael J. (2013). Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes. Journal of Business Venturing, 28(2), 211–224.
11. North, Douglass C. (1990). Institutions, Institutional Change and Economic Performance. Cambridge: Cambridge University Press.
12. Nunnally, Jum C., and Bernstein, Ira H. (1994). Psychometric Theory (3rd ed.). New York: McGraw-Hill.
13. Sen, Amartya (1999). Development as Freedom. Oxford: Oxford University Press.

14. State Bank of India (n.d.). Prime Minister's Employment Generation Programme (PMEGP). Mumbai: State Bank of India. Retrieved 16 October 2026 from sbi.co.in.
15. Welter, Friederike, and Smallbone, David (2011). Institutional perspectives on entrepreneurial behavior in challenging environments. Journal of Small Business Management, 49(1), 107–125.