Female entrepreneurship in rural areas between challenges and opportunities: What self-efficacy?

EL OUAFI Faycal[1], BOUGROUM Mohammed[2]

[1]Cadi Ayyad University Marrakesh, Morocco

[2]Cadi Ayyad University Marrakesh, Morocco

Abstract: This article analyzes the role of self-efficacy in the entrepreneurial performance of women in rural areas, mobilizing Bandura's (1986) perspective and articulating it with complementary levers: skills, observation of models, mastery experiences, relational support, and motivational regulation. The study is based on a survey conducted in the Marrakech-Safi region with 259 women entrepreneurs, collected through snowball sampling, and on an ordered Logit model explaining a perceived performance measured on a Likert scale. Specification, normality, heteroscedasticity, and collinearity tests attest to the robustness of the estimations. The results show that performance is mainly associated with psychological and social resources (self-confidence, skills, role models, community and institutional support, emotional regulation), while the accumulation of past experiences and the size of the activity do not appear decisive in this context. Education plays a favorable role, whereas age may slow perceived progress. The main contribution of the article is twofold: theoretically, it integrates a behavioral reading of rural female entrepreneurship; empirically, it offers contextualized evidence for Morocco.

Keywords: Self-efficacy; female entrepreneurship; rural area; entrepreneurial performance; skills; role models; social support; Marrakech-Safi.

1   Introduction

Female entrepreneurship in rural areas is generating growing interest as a lever for economic and social development, particularly in contexts where strong structural constraints persist, such as geographical isolation, limited access to financial and technical resources, or the weight of sociocultural norms. In Morocco, and particularly in the Marrakech-Safi region, rural women play an essential role in value creation through handicrafts, agriculture, or community-based tourism, but their initiatives often remain fragile and scarcely recognized institutionally. Classical approaches to entrepreneurial analysis, centered on the endowment of material resources or on structural market conditions, are not sufficient to explain why some women entrepreneurs manage to

transform constraints into viable opportunities, while others remain limited in their trajectory. In this context, it becomes necessary to mobilize theoretical frameworks that highlight immaterial and behavioral dimensions in order to better understand the determinants of entrepreneurial success. The self-efficacy theory developed by Bandura (1986) offers a relevant angle to apprehend these dynamics. It posits that the belief in one's ability to effectively mobilize one's skills influences perseverance, resilience, and performance, independently of the objective resources available.

This approach makes it possible to shed light on rural female entrepreneurship by integrating three complementary dimensions: the construction of skills and personal capacities, progressive learning nurtured by experiences and inspiring models, and the social and motivational anchoring provided by support networks and emotional regulation. Self-efficacy is therefore not a simple individual belief, but the result of a cumulative process that articulates personal potential and relational environment. It helps to understand why some women, despite scarce resources, manage to initiate and sustain durable projects, while others encounter persistent difficulties. In the Moroccan case, where public policies encourage women's economic participation but struggle to reach remote rural areas, the study of self-efficacy provides new answers. It allows not only the connection of psychological factors to perceived entrepreneurial performance, but also the identification of actionable levers to strengthen the resilience and autonomy of rural women entrepreneurs. This paper is thus situated in a dual perspective: enriching the literature on female entrepreneurship in constrained contexts, and proposing practical avenues to guide support mechanisms and public policies toward solutions adapted to local realities.

2   Literature review

Fielden and Dawe (2004) explain that women entrepreneurs must deal with internal and external obstacles, ranging from gender stereotypes to tensions linked to domestic responsibilities. These constraints are amplified in rural areas where family and social pressure weighs more heavily, which limits women's ability to engage sustainably in an economic activity. In this perspective, Buttner and Moore (1997) observe that women's motivations oscillate between push factors, such as economic insecurity or professional dissatisfaction, and pull factors, such as the search for independence and personal fulfillment. This combination partly determines their organizational performance and influences the sustainability of their initiatives. Singh (1992) reinforces this idea by highlighting persistent barriers: lack of networks, bank discrimination, and weak institutional support. He proposes that the development of micro-enterprises and a relaxation of formal frameworks constitute effective means of addressing these difficulties. The institutional, social, and financial environment shapes the trajectory of rural women entrepreneurs, and structured support can transform these constraints into opportunities, fostering both access to resources and the economic legitimacy of women.

Ahl (2006) highlights that entrepreneurship remains imbued with a masculine vision that marginalizes women in institutional representations and support mechanisms, which implies limiting from the outset the space in which rural women can develop economic initiatives. In this continuity, Bock (2004) shows that, despite this insufficiently inclusive framework, women develop entrepreneurial strategies adapted to their daily realities, founded on flexible activities such as handicrafts or the processing of local products; however, she emphasizes that structural and symbolic barriers persist and limit their access to markets and financing, which restricts the growth prospects of their projects. The results of El Hamidi and Ed-Dib (2020) provide insights by revealing, through the capability approach of Amartya Sen, that economic empowerment depends on interactions between individual capacities, the socioeconomic environment, and social inclusion, implying that the mobilization of favorable public policies, access to education, the reduction of structural obstacles, and the improvement of living conditions constitute more decisive levers than simple access to credit. This reading aligns with the observations of Anthopoulou (2010), who shows that rural women's initiatives, particularly in agri-food, rely on knowledge transmitted from generation to generation and respond to the need to supplement household income; however, they do not fundamentally modify domestic roles, indicating that economic autonomy depends on women's ability to transform this tacit knowledge into sustainable activities supported by a favorable institutional environment.

Soysal (2013) highlights the importance of structural and cultural factors that shape the paths of rural women entrepreneurs, recalling that social and gender inequalities reinforce the difficulties of access to resources. In this line, JayaKumar and Kannan (2014) note that women assume a particularly constraining double role, having to

reconcile professional and family responsibilities. They also point to illiteracy, low risk tolerance, and lack of information as major obstacles, while noting that the government's growing interest in this type of entrepreneurship constitutes a significant opportunity. Mason and Brown (2014), for their part, introduce the notion of entrepreneurial ecosystem, bringing together actors, institutions, and networks that structure local dynamics. They explain that entrepreneurial performance depends on the configuration of this ecosystem, which varies across territories and sectors, and is particularly relevant for rural areas. This converges to show that the success of women entrepreneurs cannot be isolated from their socio-institutional environment, and that only a coherent articulation between public support, community-based accompaniment, and economic networks can mitigate persistent barriers and strengthen their position in the local economy.

Kishor and Choudhary (2011) emphasize that female entrepreneurship becomes empowering only if it enables genuine capacity building and an improvement in well-being. Otherwise, when it stems solely from necessity and encounters a lack of public support, it risks worsening women's workload. Isenberg (2011) extends this reflection by stressing six fundamental dimensions of the entrepreneurial ecosystem: finance, markets, policy, human capital, institutional support, and culture. According to him, these dimensions evolve in a way specific to each context, including rural areas, and condition the growth of women's initiatives. Yilmaz, Ozdemir, and Er Ulker (2019) confirm this structuring role of the environment by identifying obstacles linked to financing, lack of training, and domestic workload. They insist on the necessity of cooperatives and adapted programs to strengthen the economic integration of rural women. This illustrates that women's economic autonomy does not depend solely on their individual efforts but rests on the interaction between personal dynamics and collective structures capable of removing institutional and cultural barriers.

Chandar and Arora (2013) show that women entrepreneurs face significant financial obstacles from the very start-up phase, notably due to restricted access to capital and low awareness of public programs, which compromises the viability of their initiatives. Ed-Dib and El Hamidi (2019) extend this perspective by emphasizing that, in the Moroccan rural context, formal and informal institutions strongly shape entrepreneurial paths: sociocultural norms and patriarchal traditions reduce women's access to credit, networks, and training, while adequate legal and economic infrastructures constitute facilitating factors. Their study implies that the effectiveness of public policies depends on their coherence with local realities, and that a mismatch between policy instruments and the sociocultural context aggravates constraints rather than alleviating them. Becker (1964) provides a useful complement by recalling that investment in human capital increases productivity and the ability to seize economic opportunities, which reinforces the idea that training is an essential lever for strengthening women's autonomy. Roomi and Rehman (2018) nevertheless show that deeply rooted social norms limit the mobility and economic participation of rural women, restricting their place in decision-making. As such, the combination of accessible financing, adapted training, and a relaxation of sociocultural constraints constitutes an indispensable condition for transforming entrepreneurship into a sustainable vector of autonomy for rural women.

Bock (2004) explains that rural women mobilize resistance strategies to circumvent constraints linked to traditional gender images, thereby transforming social pressures into economic opportunities. In the same vein, Shortall (2006) shows that the traditional roles attributed to women in agriculture and the family sphere reduce their integration into entrepreneurship, and that rural development policies often fail to incorporate a gender-sensitive approach, limiting their effectiveness. At the same time, Dasgupta (2000) highlights the impact of collective microfinance mechanisms, which facilitate access to credit, improve repayment, and foster the empowerment of poor women. He argues that these mechanisms, in addition to mobilizing local savings, make it possible to consolidate women's initiatives and secure their place within the economic fabric. Thus, faced with structural and institutional constraints, women resort to collective forms of support and adaptation strategies to maintain their activities, which underscores the importance of inclusive mechanisms and policies that take into account the social and gendered realities of rural areas.

Pezikoglu (2012) indicates that rural tourism, ecotourism, and agritourism open economic perspectives for women by generating income and fostering sustainable local dynamics, even though these activities involve risks linked to social norms and environmental constraints. Parveen (2014) adds that training workshops combining financial support, entrepreneurial education, and mentoring play a central role in strengthening the skills of rural women entrepreneurs and facilitating their integration into markets. Leitch, Welter, and Henry (2018) recall that access to

financing remains a major structural constraint, with women often disadvantaged due to lack of collateral and limited control over assets. These findings converge to show that opening new economic opportunities in rural areas—whether in tourism or other activities—requires sustained support in terms of financing and training. Women must be able to benefit from an environment that reduces structural inequalities and promotes the development of appropriate skills, so that their initiatives become real levers of economic and social development in rural territories.

Brush et al. (2018) recall that women entrepreneurs contribute not only to economic growth and innovation, but also to job creation, which makes them key actors in development. Their capacity to transform local dynamics into economic opportunities also contributes to challenging certain gender stereotypes. In the same spirit, Ahl (2006) had already noted that the exclusion of women from dominant representations of entrepreneurship marginalized them in policy and research, thus underlining the importance of recognizing them as legitimate actors. For her part, Bock (2004) had highlighted the flexibility of rural women's activities, allowing economic autonomy without entirely disrupting the existing social order. Female entrepreneurship in rural areas is not only an economic vector but also a space where social and symbolic transformations take place. These transformations, although incomplete, strengthen the visibility and legitimacy of women in the public sphere and open perspectives for a progressive redefinition of gender relations in rural territories.

3   Methods

3.1   Construction of the Research Hypotheses

The theory of self-efficacy, introduced by Bandura (1986), highlights the decisive influence of individual beliefs on the perceived ability to accomplish a task or achieve a goal. It is based on the idea that it is not only the possession of objective skills that guarantees success, but above all the personal conviction of being able to mobilize and use these skills effectively in real situations. The stronger the sense of efficacy, the more individuals persevere, maintain their efforts despite constraints, and manage to transform difficulties into opportunities for progress. This approach finds a particularly relevant field of application in female entrepreneurship in rural areas, marked by the scarcity of resources, the influence of social norms and the weakness of institutional support. In such a context, self-efficacy helps explain why some women entrepreneurs succeed in building viable and resilient projects despite constraints. It directly links personal confidence to entrepreneurial performance through the following levers:

• Personal development and skills: Female entrepreneurship in rural areas relies largely on women's ability to strengthen their personal capacities and acquire skills adapted to their context. Self-confidence constitutes an essential driver that pushes them to initiate and maintain projects despite social and material constraints. It enables them to overcome the fear of failure and transform difficulties into learning opportunities. Moreover, mastery of technical, organizational and managerial skills contributes to increasing the legitimacy of women entrepreneurs and ensuring the viability of their activities. These skills become strategic instruments to improve productivity, guarantee better resource management and integrate into local development dynamics. The articulation between personal conviction and practical skills thus illustrates the importance of human capital as a foundation of entrepreneurial performance. This axis highlights that women's empowerment begins with the strengthening of their individual potential and knowledge.

• Learning and formative experiences: A second essential axis of self-efficacy refers to the role of learning and lived experiences in the entrepreneurial journey. The observation of successful figures in the local or community environment provides women with inspiring and accessible models that stimulate their confidence and motivation. These references show them that it is possible to overcome obstacles and build a viable project even in constrained contexts. Furthermore, accumulated personal experiences play an equally decisive role. Each step taken, each challenge met and each success, even partial, reinforces the perception they have of their abilities. This gradual learning, based on experimentation, nourishes a virtuous circle in which confidence strengthens as evidence of success accumulates. In the rural environment, often marked by the scarcity of resources and isolation, this combination of inspiring models and personal achievements constitutes a powerful lever of resilience and entrepreneurial perseverance.

• Relational support and motivation: The third axis highlights the relational and motivational dimension of self-efficacy. Support received from family, community networks, or local institutions plays a decisive role in strengthening the confidence of rural women. This moral, material or institutional support not only reduces the feeling of isolation but also reinforces the social legitimacy of projects. At the same time, emotional regulation and personal motivation appear as essential intangible resources. The ability to manage stress, maintain enthusiasm and persevere despite temporary failures is indispensable in unstable and constrained environments. Together, relational support and individual motivation create a favorable climate in which entrepreneurial initiative can develop and become rooted over time. This axis therefore underscores that the success of women in rural areas depends as much on their internal resources as on the support they find in their social and institutional environment.

The three axes presented show that self-efficacy is not limited to an individual psychological dimension, but results from a combination of personal factors, progressive learning and relational support. These elements jointly contribute to strengthening women's confidence in their ability to undertake and ensure the success of their projects despite the constraints linked to the rural environment. The theory of self-efficacy thus makes it possible to link personal beliefs to observed entrepreneurial behaviors, emphasizing that performance results from the simultaneous mobilization of internal and external resources. Based on this conceptualization, the hypotheses are given as follows:

- *H1: The development of personal self-efficacy has a positive impact on the entrepreneurial performance of rural women.*
- *H2: The acquisition and enhancement of skills positively influence the entrepreneurial performance of rural women.*
- *H3: Vicarious learning through the observation of models has a positive effect on the entrepreneurial performance of rural women.*
- *H4: Mastery experiences exert a positive impact on the entrepreneurial performance of rural women.*
- *H5: Social and institutional support contributes positively to the entrepreneurial performance of rural women.*
- *H6: Emotional and motivational regulation has a positive effect on the entrepreneurial performance of rural women.*

3.2 The Econometric Model

The theory of self-efficacy developed by Bandura (1986) offers a relevant framework for analyzing female entrepreneurship in rural areas. It highlights the importance of individual beliefs in the ability to act effectively, beyond the sole objective resources available. This perspective sheds light on the way in which personal confidence fosters perseverance and the transformation of constraints into opportunities. On this basis, the model is given as follows:

$$PERF = \beta_0 + \beta_1 \cdot AUTO + \beta_2 \cdot COMP + \beta_3 \cdot MODE + \beta_4 \cdot EXPE + \beta_5 \cdot SOUT + \beta_6 \cdot MOTI + \gamma_1 \cdot AGEE + \gamma_2 \cdot EDUC + \gamma_3 \cdot FSIZ + \varepsilon$$

The dependent variable, Entrepreneurial Performance (PERF), is defined as the ability of rural women to generate economic outcomes. It is measured through a 5-point Likert scale that captures the degree of perceived success. To explain this performance, six main variables are retained. Personal self-efficacy (AUTO) reflects women entrepreneurs' confidence in their ability to plan, manage, and successfully develop their activity, which conditions their perseverance and initiative-taking. Acquired and enhanced skills (COMP) refer to technical knowledge (handicrafts, agriculture, hospitality) and managerial skills (management, marketing, accounting) mobilized to improve quality and innovation in the offer. The observation of successful role models (MODE) measures the influence of the experiences of other local or regional women entrepreneurs whose trajectories inspire and foster vicarious learning. Mastery experiences (EXPE) reflect the cumulative effect of past successes (for instance a successful project or an income-generating activity), which strengthens resilience and confidence in new projects. Social and institutional support (SOUT) encompasses assistance received from family, associations, cooperatives, or public programs, which reduces isolation and facilitates access to resources. Finally, emotional and motivational

regulation (MOTI) assesses the ability to manage stress associated with rural constraints and to maintain motivation to achieve objectives despite difficulties. Each of these main variables is measured by six items on a 1-to-5 Likert scale, with the average serving as the indicator. The model also includes three control variables: the entrepreneur's age (AGEE), expressed in years, which reflects life experience and its potential effect on performance; the level of education (EDUC), in number of years of schooling, which captures the influence of educational capital on business management; and the size of the activity (FSIZ), measured by the number of employees, allowing control for the effect of organizational scale on entrepreneurial performance.

3.3 Choice of the Econometric Method (Ordered Logit)

The use of an ordered Logit model is justified in this research, because the dependent variable under study, namely perceived entrepreneurial performance, is measured through a Likert scale with several ordered categories. Unlike classical linear models, which assume a continuous variable, the ordered Logit model is specifically designed to handle qualitative ordered variables, thus preserving the hierarchical nature of the responses while avoiding biased estimations. This model takes into account that the gaps between response categories (for example between "low," "medium," and "high" performance) are not necessarily equidistant and instead reflect a qualitative progression. Moreover, the ordered Logit model makes it possible to link the different dimensions of self-efficacy to the probability of reaching a higher level of performance, without reducing the richness of the information contained in the measurement scale.

3.4 Presentation of the Sample

The sample of this study was constituted in the Marrakech-Safi region, a territory where female entrepreneurship in rural areas is developing despite strong structural constraints related to access to resources, social norms, and the weakness of institutional support. In order to reach the targeted population, which is often difficult to identify in official records and dispersed across remote rural areas, the sampling method used was the "snowball" technique. This method consists of identifying a first group of women entrepreneurs, then progressively enlarging the sample through successive recommendations, thus making it possible to overcome the difficulties of direct access. In the field, 300 questionnaires were distributed to rural women entrepreneurs. However, not all responses could be used: a number of questionnaires were excluded due to non-responses or invalidity, for example because of incompleteness or lack of coherence in the answers provided. Ultimately, 259 valid questionnaires were retained, representing the effective basis of the empirical analysis. This sample size is sufficient to ensure the statistical robustness of the model while reflecting an appreciable diversity of profiles in terms of age, level of education, entrepreneurial experience, and size of activities.

4 Results

4.1 Robustness Analysis

The analysis of Table 1, which presents the results of the Ramsey RESET specification test, makes it possible to verify the validity of the estimated model linking the entrepreneurial performance of rural women to the dimensions of self-efficacy. The results indicate that the t-statistic (0.920650) and the F-statistic (0.847597; probability 0.3581) are not significant, which implies that the null hypothesis of no omitted variables cannot be rejected. Moreover, the likelihood ratio (0.883683; probability 0.3472) confirms this conclusion. The very small gap between the Restricted SSR (475.0176) and the Unrestricted SSR (473.3997) shows that the introduction of the additional terms does not significantly improve the explanatory power of the model. Thus, the chosen specification appears correct and does not suffer from bias related to the omission of relevant variables or to an incorrect functional form.

Table 1. Results of the Ramsey RESET specification test

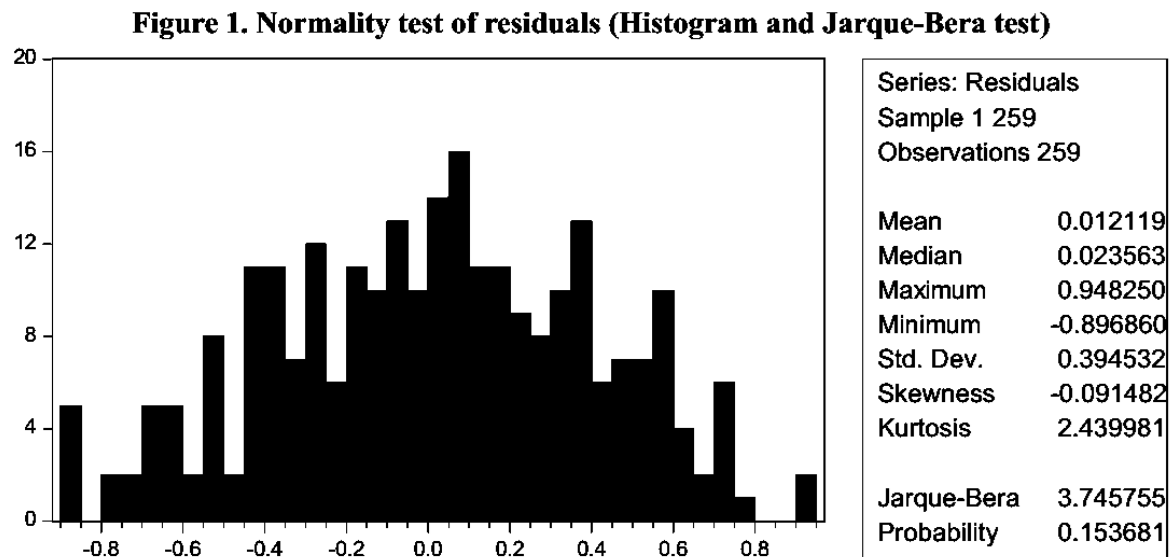| Specification: PERF C AUTO COMP MODE EXPE SOUT MOTI AGEE EDUC FSIZ			
Omitted Variables: Squares of fitted values			
	Value	df	Probability
t-statistic	0.920650	248	0.3581
F-statistic	0.847597	(1, 248)	0.3581
Likelihood ratio	0.883683	1	0.3472
F-test summary			
	Sum of Sq.	df	Mean Squares
Test SSR	1.617952	1	1.617952
Restricted SSR	475.0176	249	1.907701
Unrestricted SSR	473.3997	248	1.908870

Source: authors

The analysis of Table 2, relating to the multicollinearity test through the Variance Inflation Factors (VIF), shows that the model does not suffer from serious collinearity problems between the explanatory variables. Indeed, the values of the Centered VIF all remain very close to 1, with a minimum of 1.011031 for AUTO and a maximum of 1.101252 for EDUC, which is far below the commonly accepted critical threshold of 10. This stability indicates that the main variables (AUTO, COMP, MODE, EXPE, SOUT, MOTI) as well as the control variables (AGEE, EDUC, FSIZ) each provide a distinct contribution without excessive redundancy. Even if the Uncentered VIF are higher (between 3.79 and 4.38), they do not pose a problem insofar as the diagnosis relies on the centered values. Consequently, the estimated coefficients of the model can be interpreted reliably, without risk of statistical instability due to multicollinearity.

Table 2. Results of the multicollinearity test (Variance Inflation Factors – VIF)

Variance Inflation Factors Sample: 1 259 Included observations: 259			
Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.197759	26.84885	NA
AUTO	0.085699	3.820987	1.011031
COMP	0.096358	3.972364	1.020338
MODE	0.093547	4.003109	1.014433
EXPE	0.089560	4.017507	1.015669
SOUT	0.085684	3.799377	1.021614
MOTI	0.088059	4.267559	1.074685
AGEE	0.090218	4.228049	1.030411
EDUC	0.094054	4.383150	1.101252
FSIZ	0.096641	4.330798	1.026424

Source: authors

The examination of Figure 1, which illustrates the histogram of the residuals accompanied by the Jarque-Bera normality test, shows that the residuals of the model follow a distribution close to normal. The mean is very small (0.012119) and the median (0.023563) is also close to zero, reflecting good symmetry. The extreme values range between a minimum of –0.896860 and a maximum of 0.948250, which remains within a reasonable interval. The standard deviation of 0.394532 confirms moderate dispersion. The skewness coefficient (–0.091482) and the kurtosis coefficient (2.439981) indicate, respectively, a slight negative asymmetry and a distribution slightly flatter than the normal distribution. Finally, the Jarque-Bera statistic (3.745755) and its associated probability (0.153681) do not allow rejection of the hypothesis of normality. These results validate the quality of the model by confirming that the residuals are globally normal, an essential condition for the robustness of the estimations.

Figure 1. Normality test of residuals (Histogram and Jarque-Bera test)

Source: authors

The analysis of Table 3, which presents the results of the Breusch-Pagan-Godfrey heteroskedasticity test, shows that the model does not suffer from problems of non-constant variance of the residuals. The value of the F-statistic (1.519006; probability 0.1415) is not significant, which indicates that the null hypothesis of homoskedasticity cannot be rejected. Likewise, the Obs*R-squared statistic (13.47999; probability 0.1421) confirms this conclusion, suggesting that the variance of the errors remains stable across the different observations. Finally, the result of the Scaled explained SS (5.019363; probability 0.8326) also supports the absence of heteroskedasticity. All of these convergent tests validate the idea that the model's errors exhibit homogeneous variance, an essential condition for the reliability of the Maximum Likelihood estimators used in the ordered Logit model. Thus, the estimated coefficients can be interpreted without risk of bias related to problems of irregular dispersion.
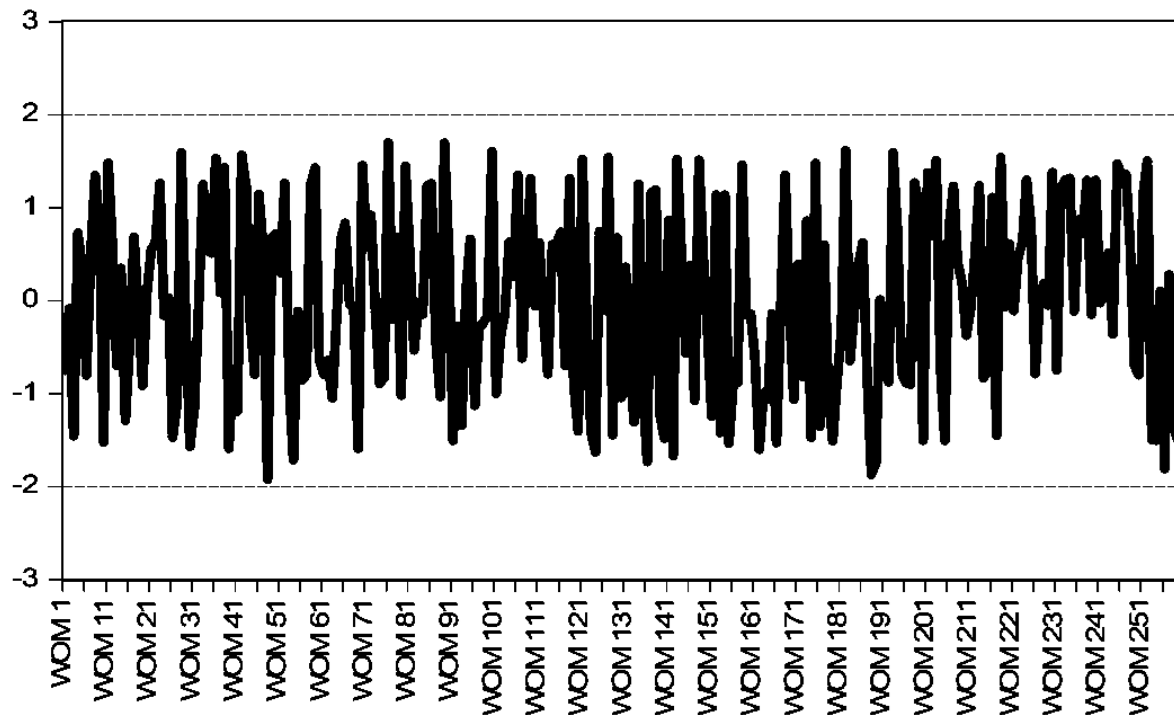
Table 3. Results of the Breusch-Pagan-Godfrey heteroscedasticity test

Statistique	Valeur	Test associé	Probabilité
F-statistic	1.519006	F(9, 249)	0.1415
Obs*R-squared	13.47999	Khi-deux (9)	0.1421
Scaled explained SS	5.019363	Khi-deux (9)	0.8326

Source: authors

The examination of Figure 2 presents the studentized residuals (RStudent). The values range between –2 and +2, which means that no observation exerts a disproportionate influence likely to bias the estimations. The dispersion of the residuals around zero remains homogeneous and random, reflecting a good distribution of errors across the entire sample. This configuration confirms that the model is correctly specified and does not suffer from instability related to atypical data or influential points. Moreover, the absence of excessive concentrations or visible breaks in the series reinforces the idea that the estimated coefficients are robust and can be interpreted reliably. In sum, the analysis of the RStudent not only confirms the absence of major influential observations, but also the overall stability of the ordered Logit model.

Figure 2. Analysis of the influence of observations based on studentized residuals (RStudent)

Source: authors

The Ramsey RESET specification test showed the absence of functional form errors or omitted variables, indicating that the relationships established between entrepreneurial performance and the dimensions of self-efficacy are correctly specified. Next, the examination of multicollinearity through the variance inflation factors (VIF) revealed centered values close to 1, ruling out any risk of excessive redundancy between the explanatory variables and confirming the independence of their contribution to the model. Furthermore, the Jarque-Bera normality test of the residuals highlighted a distribution close to normal, which strengthens the reliability of the statistical inferences. In addition, the Breusch-Pagan-Godfrey test confirmed the homoskedasticity of the residuals, excluding any heteroskedasticity likely to bias the estimators. Finally, the analysis of the studentized residuals showed that almost all observations fall within the critical interval, indicating the absence of influential points and the stability of the estimates. All of these convergent results attest that the ordered Logit model is robust, well specified, and capable of providing reliable and generalizable conclusions.

4.2   Regression Results

Table 4 presents the results of the estimation of the ordered Logit model, whose dependent variable is entrepreneurial performance (PERF). The model was estimated using the Maximum Likelihood (ML) method with the Newton–Raphson algorithm and Marquardt adjustments. The dependent variable PERF is measured on an ordered scale with five categories, which justifies the use of this type of model. The estimation process proceeded correctly since convergence was reached quickly, after only three iterations, which confirms the numerical stability of the model. The covariance of the coefficients was calculated from the observed Hessian matrix, ensuring the reliability of the estimates and the associated standard errors.

Table 4. Results of the ordered Logit model estimation (dependent variable: PERF)

Dependent Variable: PERF				
Method: ML - Ordered Logit (Newton-Raphson / Marquardt steps)				
Sample: 1 259				
Included observations: 259				
Number of ordered indicator values: 5				
Convergence achieved after 3 iterations				
Coefficient covariance computed using observed Hessian				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	3.340242	1.277237	2.615208	***0.0094
AUTO	12.564682	4.827667	2.602641	***0.0098
COMP	10.515074	3.705086	2.838011	***0.0049
MODE	7.096689	3.745905	1.894519	*0.0593
EXPE	-2.694564	3.865698	-0.697045	0.4864
SOUT	4.808397	1.669393	2.880326	***0.0043
MOTI	11.883714	4.645851	2.557920	**0.0111
AGEE	-9.594089	3.392141	-2.828328	***0.0050
EDUC	6.603972	2.336771	2.826110	***0.0051
FSIZ	-3.532098	4.860833	-0.726644	0.4681

Source: authors; *** significant at 1%; ** significant at 5%; * significant at 10%.

The variable AUTO, representing personal self-efficacy, shows a positive and significant sign at the 1% level (p = 0.0098), which validates H1. This result shows that women entrepreneurs' confidence in their ability to manage and develop their activities promotes higher entrepreneurial performance. This finding highlights the importance of strengthening personal conviction as a determining factor in project success. Similarly, the variable COMP, measuring the acquisition and enhancement of skills, displays a positive effect that is highly significant at the 1% level (p = 0.0049), which validates H2. Technical and managerial know-how directly contributes to improving performance. This result underscores the key role of training adapted to the rural context. For the variable MODE, related to the observation of inspiring models, the sign is positive and significant at the 10% level (p = 0.0593), which leads to the partial acceptance of H3. This shows that vicarious learning constitutes a relevant support, and that promoting local success stories can encourage women to persevere in their activities.

The variable EXPE, measuring mastery experiences, shows a negative sign and is not significant (p = 0.4864), which leads to the rejection of H4. The accumulation of past experiences therefore does not seem to directly explain entrepreneurial performance. In contrast, the variable SOUT, which reflects social and institutional support, shows a positive and significant sign at the 1% level (p = 0.0043), validating H5. Support from family, community, or institutional networks appears as a central lever for success. The variable MOTI, related to emotional and motivational regulation, is also positive and significant at the 5% level (p = 0.0111), confirming H6. It shows that the ability to manage stress and maintain motivation promotes performance. As for the control variables, AGEE is negative and significant at the 1% level (p = 0.0050), indicating that older age may reduce the chances of success. Conversely, EDUC is positive and significant at the 1% level (p = 0.0051), demonstrating the role of educational capital. Finally, FSIZ is negative but not significant (p = 0.4681), which reveals that the size of the activity does not directly determine women entrepreneurs' performance. Overall, the results highlight the predominance of psychological dimensions, skills, and external support in explaining performance.

5   Discussion

The analysis of the results highlights that the entrepreneurial success of rural women cannot be reduced to the mere availability of material resources, but relies on a set of psychological, social, and educational dimensions. Self-confidence appears as a fundamental condition, as it fuels the capacity to initiate projects and maintain commitment despite the constraints of the rural context. At the same time, the strengthening of skills—whether technical, organizational, or managerial—emerges as a major lever for consolidating the viability and legitimacy of local initiatives. These two closely linked dimensions show that performance does not result solely from external

support, but also from the ability of women entrepreneurs to mobilize their inner potential and equip themselves with appropriate tools. The presence of inspiring and accessible role models also plays an important role in spreading a more inclusive entrepreneurial culture, by offering women reference points that stimulate their motivation and perseverance. This observation calls for greater recognition of successful trajectories and the creation of spaces for sharing experiences that foster collective learning.

The discussion also highlights that the success of rural women is strongly conditioned by the social and institutional environment. Support from families, communities, and accompanying structures constitutes a foundation that reduces isolation and confers legitimacy on projects. Added to this are essential intangible resources such as emotional regulation and the capacity to maintain constant motivation, which allow women to withstand difficulties and anchor their initiatives over time. Conversely, accumulated experience or activity size does not necessarily guarantee better performance, suggesting that structural constraints limit the impact of these factors. Finally, the role of education appears as a key element, as it facilitates access to new knowledge, modern management practices, and broader networks. These findings open clear perspectives for public action: investing in the strengthening of individual and collective capacities, consolidating support networks, and promoting better alignment between human capital, institutional support, and social recognition. It is through this balanced combination that female entrepreneurship in rural areas can become a sustainable vector of development and territorial transformation.

6   Conclusion

The results highlight that the entrepreneurial performance of rural women is not conditioned solely by material endowments or the size of activities, but largely results from personal confidence, the strengthening of skills, progressive learning, and relational support. Self-efficacy appears as a central determinant, as it directly links individual conviction to the ability to transform structural constraints into opportunities for progress. The role of inspiring models and emotional regulation completes this process by fostering perseverance in the face of difficulties and nurturing a virtuous circle of confidence and motivation. These results confirm that the understanding of rural female entrepreneurship must go beyond a strictly economic or structural view to integrate psychological and social factors that are inseparable from the entrepreneurial dynamic. They also shed light on the limitations of certain approaches that tend to reduce performance to purely financial indicators, neglecting the internal and relational mechanisms that support women's resilience in constrained environments.

The strengthening of self-confidence, the professionalization of skills, the promotion of local role models, and psychosocial support appear as priority levers for consolidating the performance of rural women entrepreneurs. Public policies would benefit from integrating more of these immaterial dimensions in the design of training programs, technical support, and financing, ensuring that support mechanisms are tailored to the specific realities of the territories. Moreover, education proves to be a determining factor, highlighting the need to promote rural women's access to schooling and continuous training. Finally, the results show that female entrepreneurship in rural areas is not merely a survival strategy, but a potential vector of economic and social transformation, provided that institutional and community environments offer a sustainable support framework. Thus, self-efficacy emerges not only as an explanatory concept but also as an actionable key for strengthening the resilience and autonomy of rural women within a perspective of inclusive and territorial development.

REFERENCES

[1] Ahl, H. (2006). Why Research on Women Entrepreneurs Needs New Directions. Entrepreneurship Theory and Practice, 30(5), 595–621.

[2] Anthopoulou, T. (2010). Rural women in local agrofood production: Between entrepreneurial initiatives and family strategies. A case study in Greece. Journal of Rural Studies, 26(4), 394–403.

[3] Becker, G. S. (1964). Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education. New York: Columbia University Press.

[4] Bock, B. (2004). Fitting in and multi-tasking: Dutch farm women's strategies in rural entrepreneurship. Sociologia Ruralis, *44*(3), 245–260.

[5] Brush, C., Greene, P., Balachandra, L., & Davis, A. (2018). The gender gap in venture capital—progress, problems, and perspectives. Venture Capital, 20(2), 115–136.

[6] Buttner, E.H. & Moore, D.P. (1997). Women Entrepreneurs: Moving beyond the Glass Ceiling. Sage.

[7] Chandar, S., & Arora, D. (2013). Study of Financial problems of women entrepreneurs. International Journal of Social Sciences & Interdisciplinary Research, 2(4).

[8] Choudhary, K. N., & Rayalwar, A. (2011). Opportunities and challenges for rural women entrepreneurship in India. Variorum Multi-Disciplinary e-Research Journal, 1(3), 1-4.

[9] Dasgupta, R. (2001). An informal journey through self-help groups. Indian Journal of Agricultural Economics, 56(3), 370-386.

[10] Ed-Dib, M., & El Hamidi, N. (2019). Duality of formal and informal institutions and women's entrepreneurship in rural areas. Revue du Contrôle de la Comptabilité et de l'Audit, 3(1), 70 86.

[11] El Hamidi, N., & Ed-dib, M. (2020). Economic empowerment of Moroccan women: an analysis using Amartya Sen's capabilities approach. Revue Internationale du Chercheur, 1(2), 120 136.

[12] Fielden, S.L. & Dawe, A. (2004). Entrepreneurship and social inclusion. Women in Management Review, *19*(3), 139-142.

[13] Isenberg, D. (2011). The Entrepreneurship Ecosystem Strategy as a New Paradigm for Economic Policy: Principles for Cultivating Entrepreneurship. Presentation at the Institute of International and European Affairs.

[14] JayaKumar, P., & Kannan, J. (2014). Challenges and Opportunities for Rural Women Entrepreneurs. Economic and Business Review, 2(1), 35-39.

[15] Leitch, C., Welter, F., & Henry, C. (2018). Women entrepreneurs' financing revisited: taking stock and looking forward: New perspectives on women entrepreneurs and finance. Venture Capital, *20*(2), 103–114.

[16] Mason, C., & Brown, R. (2014). Entrepreneurial Ecosystems and Growth Oriented Entrepreneurship. OECD LEED Programme.

[17] Parveen, K. (2014). Development of Rural Women Entrepreneurs through Workshop Training. Research Journal of Management Sciences, 3(2), 15–18.

[18] Pezikoglu, F. (2012). The Relationship Between Agriculture-Tourism-Rural Area and Results of That in the Concept of Sustainable Agriculture and Rural Development. KMÜ Journal of Social and Economic Studies, 4(22), 83–92.

[19] Roomi, M. A., & Rehman, S. (2018). Exploring the normative context for women's entrepreneurship in Pakistan: a critical analysis. International Journal of Gender and Entrepreneurship, 10 (2), 158–180.

[20] Shortall, S. (2006). Gender and farming: An overview. In B. Bock & S. Shortall (Eds.), Rural Gender Relations: Issues and Case Studies (pp. 19–26). CABI Publishing.

[21] Singh, K. (1992). Women Entrepreneurs. Ashish Publishing House.

[22] Soysal, A. (2013). Women's Entrepreneurship in Rural Areas: Situation Assessment for Turkey. Eskisehir Osmangazi University Journal of libf, 8(1), 163–189.

[23] Yilmaz, E., Ozdemir, G., & Er Ulker, F. (2019). Women in Rural Areas and Analytical Approaches to Empowerment of Women. In Women's Economic Empowerment in Turkey (1st ed., p. 12). Routledge.