

EVALUATION MODEL OF ENTREPRENEURIAL PREPAREDNESS FOR THE FEMALE POPULATION AT SOCIAL RISK LINKED TO HUMAN MOBILITY PROCESSES IN GUAYAQUIL

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ABSTRACT

Female entrepreneurship has become an increasingly relevant strategy for promoting social inclusion and economic strengthening among populations exposed to vulnerability and human mobility processes in Latin America. However, many institutional interventions continue to implement self-employment programs without previously identifying whether beneficiaries possess the necessary conditions to sustain entrepreneurial initiatives. In response to this gap, this study aimed to design and apply an Evaluation Model of Entrepreneurial Preparedness (MEPRE-EM) for the female population at social risk linked to human mobility processes in Guayaquil. The research adopted a quantitative approach with a non-experimental and descriptive-propositional design. Data were collected through a Likert-scale questionnaire administered to 236 women registered in a foundation dedicated to entrepreneurial training. The instrument included 30 items grouped into ten dimensions and demonstrated high internal consistency (Cronbach's $\alpha = 0.853$). Descriptive statistics and dimensional standardization procedures were used to construct the preparedness index. The results revealed an overall MEPRE-EM score of 66.74 out of 100, placing participants within a favorable level of entrepreneurial preparedness. The highest scores were observed in human capital and economic autonomy, while economic vulnerability, resilience, and innovation showed comparatively lower performance. The findings suggest that prior diagnostic evaluation may contribute to improving institutional decision-making, optimizing resource allocation, and designing differentiated intervention pathways before implementing self-employment programs for vulnerable women.

Keywords: entrepreneurial preparedness, female entrepreneurship, social vulnerability, human mobility, self-employment

INTRODUCTION

In Latin America, in recent years, human mobility processes have intensified, generating new social, economic and labor challenges for receiving cities. Migrant women in the city of Guayaquil have had difficulty accessing formal employment, economic stability, productive inclusion, in their condition of social vulnerability. Faced with this scenario, female entrepreneurship has become a

form of survival and alternative income, especially in sectors of the informal economy with little availability for employment. Several studies affirm that women's entrepreneurship is not only an economic mechanism, but also an instrument of social empowerment and community strengthening, especially in vulnerable and migrant populations (Finke et al., 2021; Huamán et al., 2022). In addition, recent studies carried out in Ecuador indicate that women entrepreneurs face structural constraints related to access to financing, education, sustainability, and support networks, factors that directly affect the permanence and success of their economic initiatives (Altamirano et al., 2024; Emilia et al., 2022). Hence the need to build diagnostic models, which will allow the level of entrepreneurial preparation to be evaluated beforehand before entering the vulnerable female population into self-employment and economic empowerment programs.

The research problem originates in the absence of technical mechanisms that allow identifying whether women in conditions of social risk linked to human mobility processes have minimum conditions to sustain entrepreneurship or self-employment processes (Duarte et al., 2025). The main causes that follow are the economic vulnerability of this sector of the population, which is characterized by unstable incomes, economic dependence on their families and the lack of sustainability of their housing conditions, elements that affect the continuity of enterprises and the regularity of financial sustainability for productive activities. As a result, many business initiatives do not achieve stable income or achieve economic independence (Medina et al., 2021), in their early stages of evolution, continue their progress. Another important cause is related to educational limitations and poor development of entrepreneurial skills, which prevent beneficiaries from structuring sustainable business models or identifying viable economic opportunities (Hernández et al., 2022). These problems generate low levels of competitiveness and permanence in informal local markets (Bastida et al., 2024).

The insufficient evaluation of psychosocial factors such as resilience, motivation, leadership and community support, gives rise to generalized intervention processes that do not consider the individual conditions of the beneficiaries, which causes a low effectiveness of economic strengthening programs and a lower permanence of self-employment projects (Montiel-Espinosa & Huerta-Cuervo, 2026). From the theoretical aspect, the present research is justifiable, due to the requirement to strengthen scientific knowledge in relation to the multi-disciplinary bases that affect the entrepreneurial preparation of women in conditions of social vulnerability and in processes of human relocation (Cunha et al., 2024). The most recent research indicates that in order to understand female entrepreneurship, it is necessary to adopt comprehensive approaches that contemplate economic, sociocultural, emotional, and territorial dimensions, with special emphasis on communities marked by inequalities and social exclusion (Osorio-Pascacio et al., 2024; Cruzado et al., 2023).

The study is pertinent, from the methodological point of view, insofar as it proposes the design of a diagnostic evaluation model aimed at measuring the level of entrepreneurial preparation before implementing self-employment programs, which allows classifying risk conditions, capacities and potentialities of the participants (Arbulu et al., 2024). This approach promotes evidence-based decision-making and consolidates the construction of instruments applicable to social and community projects (Molina et al., 2025). Well, then, from practice, the research will provide a useful tool to public institutions, social organizations and university extension programs, which work with vulnerable women (listening platforms, to accompany a woman in a situation of violence), facilitating more effective and sustainable orientation processes over time. It will also

contribute to strengthening strategies for women's economic inclusion and the reduction of social vulnerability in complex urban contexts (Pérez et al., 2025).

The object of study in the research is the evaluation model of entrepreneurial readiness; applied in contexts of social vulnerability and human mobility. This model does not intend to address the socio-economic, educational, psychological, and entrepreneurial dimensions, but rather serves to diagnose the level of preparation of the beneficiaries before incorporating their productive economy and self-employment programs. The study population is made up of women linked to processes of human mobility and social risk in the city of Guayaquil, specifically those who are beneficiaries of entrepreneurship orientation and economic integration programs. These participants have characteristics associated with job instability, economic limitations and the need to generate income on their own, conditions that make entrepreneurship a relevant strategy for their productive inclusion and social sustainability. The general objective of the research is to design a model for the evaluation of entrepreneurial readiness for the female population at social risk linked to human mobility processes in the city of Guayaquil. I. To identify the theoretical basis on human mobility, social vulnerability, and women's entrepreneurship through peer-reviewed theoretical articles. II. To establish the factors that influence women's business preparation through quantitative techniques aimed at socioeconomic diagnosis. III. To validate a diagnostic evaluation model (instrument) that recognizes the levels of entrepreneurial preparation in the vulnerable female population, in order to strengthen the training processes in self-direction towards self-satisfaction.

1.1 Entrepreneurial readiness assessment model

1.1.1 Economic vulnerability and entrepreneurial readiness

Economic vulnerability is one of the key elements related to female entrepreneurship in contexts of social marginalization and human mobility. Several studies have shown that women at risk have a harder time getting financial resources, stable jobs and long-term productive prospects, which directly affects their ability to start their own business. In Ecuador, family income, availability of finance and socioeconomic environment were found to be significant factors in the consolidation of women-led initiatives, especially in metropolitan areas with social. Using a quantitative approach based on multivariate analysis, the authors concluded that the degree of sustainability of female entrepreneurship is defined by the structural characteristics of the environment (Altamirano et al., 2024).

Likewise, Finke et al. (2021) examined the relationship between poverty, entrepreneurship and female empowerment in Colombia. They showed that entrepreneurship is a useful tool to reduce economic vulnerability by a correlational quantitative method, but they also stated that the absence of previous diagnostic programs limits the effectiveness of fruitful efforts. The results are in line with Duarte et al. (2025) who found in Mexico that the economic stability achieved through sustainable independent enterprises directly impacts the family well-being of female entrepreneurs. The researchers found that women-led companies are much more likely to survive over the long term if they do their financial and administrative planning in advance.

Using a descriptive approach, Emilia et al. (2022) analyzed the role of female entrepreneurship in local development with urban women entrepreneurs in Ecuador. The results showed that female entrepreneurship was positive for the local economy, but also the problems of informal labor, lack of proper training and economic dependence of the family. This fact is consistent with the findings of Medina et al. (2021) who investigated the initiatives of women's empowerment in rural and

urban areas of Latacunga canton and concluded that the most economically vulnerable women have difficulties in establishing long-term productive endeavors. Both studies show the importance of developing evaluation systems that allow one to determine minimal requirements before starting self-employment procedures.

Similarly, Molina et al. (2025) studied the effect of female entrepreneurship on rural development in Ecuador using a territorial method. Their findings revealed that sustainability of women-owned enterprises is dependent on factors related to availability of resources, institutional support and financial readiness. On the other hand, Koller et al. (2021) found that economic empowerment increases when there are prior skills in decision making in management, organization and finance in the microenterprises managed by women in Lima. Both researches agree that it is necessary to assess in depth the economic vulnerability to avoid unsustainable processes of entrepreneurship in socially vulnerable communities.

1.1.2 Human capital and entrepreneurial training

Human capital is a significant component in the models of entrepreneurial training since it entails the information, abilities and skills required for the development of sustainable economic endeavors. Hernández et al. (2022) carried out a quantitative methodology using women from different urban settings to study the sociocultural aspects of female entrepreneurship in Mexico. The authors found that social skills, work experience, and educational attainment all directly influence entrepreneurial ambition and the capacity to stay in companies run by women. They also found that technical and administrative training is one of the most important factors in decreasing the chances of business failure in risky situations.

In a similar vein, Silva & Karpinski (2021) developed a predictive study on female entrepreneurship among university students in Peru. They used multivariate statistical analysis and found that the desire to become an entrepreneur correlated highly with leadership, innovation, and financial planning skills. Although the research was conducted in a university setting, the conclusions of the research are related to the understanding of how training abilities affect the readiness of women for entrepreneurship. In a related study, Bastida et al. (2024) identified the need for the ability for sustainable entrepreneurial ambitions that are directly related to human capital such as fiscal responsibility, autonomy, and strategic vision. However, Huamán et al. (2022) performed a comparison between Chile and Peru, with a focus on female entrepreneurship with high impact. The researchers concluded that women had higher rates of business growth and economic sustainability when they have higher levels of technical know-how and administrative skills. These results are in line with the methodology of Koller et al. (2021), who studied female digital entrepreneurship in Spain and concluded that the competitiveness of companies run by women is seriously limited by educational and technological barriers. As both researches stated, development of human capital should be included in every model of entrepreneurial evaluation.

On the other hand, Rodríguez-Olay (2021) studied the technological approaches for female youth entrepreneurship and found that the use of digital tools favors economic autonomy and creative capabilities. In both studies, the focus is on the development of technical and digital skills adapted to the economic dynamics of today to be prepared for entrepreneurship, authors studied the link between service-learning and female entrepreneurship promotion in rural areas through educational actions based on information technology. They showed how contextual training processes improve decision-making, leadership, and organizational capacities.

1.1.3 Resilience, empowerment and psychosocial factors

The resilience and empowerment of women have acquired relevance in study on entrepreneurship in vulnerable environments due to their association with the ability to confront economic crises, social exclusion and structural injustice. Montiel-Espinosa & Huerta-Cuervo (2026) analyze the experiences of women entrepreneurs from an approach of economic resistance and social empowerment. They concluded that women with higher levels of emotional resilience have superior capacities to sustain productive activities in the face of bad scenarios, using interviews and qualitative analysis. The authors point out that variables such as self-esteem, social support and perception of autonomy are relevant for the consolidation of female entrepreneurship. Infantes et al. (2023) in Lima explored the link between entrepreneurship and female youth empowerment through a quantitative methodology on young women. Their findings indicated that involvement in entrepreneurial activities enhanced the perception of economic independence, leadership and decision-making skills. Similarly, Cruzado et al. (2023) pointed out that public policies for female entrepreneurship should include human and social dimensions in addition to financial aspects, because human development is a crucial part to increase entrepreneurial sustainability in vulnerable women.

Cunha et al. (2024) suggested an integrative framework for the study of female immigrant entrepreneurship and found that migrant women encounter obstacles of discrimination, labor exclusion and institutional weakness. The authors believe that entrepreneurial evaluation models should include elements of cultural adaptability, emotional stability and social support networks. This position is consistent with Aouad et al. (2025) who researched female digital entrepreneurship in Morocco and found that institutional gaps and limits in access to technology had a negative impact on the entrepreneurial capabilities of vulnerable women. Both publications are notably useful for study on human mobility and social risk.

Lastly, Osorio-Pascacio et al (2024) performed a systematic review of female leadership and entrepreneurship in the period 2019-2023. The authors found that in the explanatory models of female entrepreneurship, current studies have started to include psychosocial factors such as leadership, resilience, innovation and economic autonomy. They also found that approaches that are multidimensional generate superior results in the understanding of the complexity of entrepreneurial processes in situations of vulnerability. These findings highlight the necessity for designing comprehensive diagnostic models that would be able to evaluate not just economic capacity, but also emotional, social and cultural elements related to female entrepreneurial preparedness.

1.2 Strengthening entrepreneurial capacities in vulnerable female populations

1.2.1 Women's leadership and economic autonomy

Women's leadership is one of the most important entrepreneurial skills in the processes of economic inclusion and social empowerment of vulnerable women. Research has found that women in leadership qualities have increased levels of financial autonomy, business sustainability and community engagement. In the study by Pérez et al. (2025), authors performed a quantitative analysis of women-led manufacturing microenterprises in Lima and found that entrepreneurial leadership has a positive impact on the economic empowerment and organizational stability of businesses. According to the authors, women with high organizational and decision-making abilities have better business permanency, even in challenging economic conditions. Along these lines, Millán et al. (2026) studied female leadership in firms in emerging economies and

discovered that women entrepreneurs face challenges in terms of limited access to capital, social prejudices and structural inequalities. But the study also found that women with good strategic leadership skills were more likely to survive in business. These results are consistent with those of Duarte et al. (2025) who found that the economic autonomy of women has positive impacts on the family stability and the elimination of conditions of social dependence. Thus, the development of entrepreneurial capacities must consider the leadership as a key dimension in the models of preparation for entrepreneurship.

Infantes et al. (2023) state that female entrepreneurship promotes the development of skills like independence, self-confidence and negotiation skills. The authors study applied to young Peruvian entrepreneurs concluded that improving leadership greatly enhances the perception of self-efficacy and economic autonomy. These findings are consistent with the study conducted by Huamán et al. (2022) who stated that successful women entrepreneurs had high levels of self-management and capacity to adapt to economic and social changes. Both findings support the inclusion of leadership indicators in diagnostic models for the support of disadvantaged women.

In Ecuador, Altamirano et al. (2024) found that female leadership is shaped by environmental and cultural factors that affect women's access to sustainable economic opportunities. The authors showed that women entrepreneurs with support networks and follow-up of institutions acquire better leadership skills and commercial permanency. It is also important to evaluate, not only the individual elements, but the contextual variables related to social inclusion and access to productive resources to strengthen entrepreneurial capacities.

1.2.2 Innovation, sustainability and female entrepreneurship

Innovation is another key component of entrepreneurial skills because it contributes to the competitiveness and sustainability of women-led enterprises. Martínez & Medina (2025) carried out a quantitative analysis of innovation elements in female entrepreneurship based on perception of opportunities and digitalization. The findings have demonstrated that women with higher inventive talents have higher levels of economic growth and adaptation to changing settings. The authors mentioned that innovation should be seen as a strategic talent related to creativity, problem solving and the use of technology resources.

Tiburcio et al. (2026) explored the digitalisation of companies from the point of view of female entrepreneurship through a grounded theory. Digital skills have a big effect on business sustainability, especially in times of economic weakness, the study found. The results are in line with those obtained by Koller et al. (2021), who identified digital and technological limitations that hinder the development of female entrepreneurship in Spain. Both authors in the research state that technological innovation is an important element to enhance entrepreneurial capacities and reduce economic inequality.

In contrast, Bastida et al. (2024) proposed that women who pay attention to social sustainability have higher entrepreneurial ambition and enhanced levels of business commitment. They performed a quantitative analysis on social economy firms, finding that entrepreneurial sustainability depended on issues like social responsibility, strategic planning and economic adaptation. Similarly, Velázquez-Castro et al. (2025) provided a research agenda on circular economy and women entrepreneurship in rural communities, stating that productive sustainability involves the integration of innovation, local use and community strengthening.

Molina et al. (2025) found that in Ecuador, female firms with a territorial focus have better levels of sustainability when women have capacities related to innovation and community management.

The authors said that the entrepreneurial capacities building should be oriented toward comprehensive models that can promote economic sovereignty and local development at the same time. These approaches are relevant for the construction of diagnostic evaluation models for women under conditions of human mobility and social vulnerability.

1.2.3 Public policies, social inclusion and human mobility

In the context of economic exclusion and human mobility, public policies play a crucial role in the empowerment of women entrepreneurs. Cruzado et al., (2023) applied a descriptive methodology to evaluate the association between female entrepreneurship, human development and public policies in Peru. The results indicate that governmental measures focused at fostering entrepreneurship has favorable effects on social inclusion and the decrease of poverty in women. The authors nonetheless indicated that many programs do not have diagnostic evaluation methods that allow the identification of the real needs of the recipients before starting the training or financing processes.

Likewise, Nicolás et al., (2021), in a study of governmental policies targeted at fostering rural female entrepreneurship in Murcia, found that institutional support contributes to a considerable improvement in the organizational and economic capacities of women entrepreneurs. The researchers underlined that the most effective approaches are those that include prior evaluation, contextualized instruction and ongoing technical monitoring. This position is consistent with that of Aranzana and Sánchez (2021) who pointed out that policies for women's entrepreneurship should be adapted to the social and territorial features of the beneficiaries to guarantee economic sustainability and business permanence.

In terms of human mobility, Cunha et al. (2024) note that migratory women face more challenges in establishing businesses due to cultural, institutional and labour restrictions. The authors suggested that entrepreneurial preparation models should take into account elements linked to social integration, emotional stability and community networks, through an integrative framework on immigrant female entrepreneurship. This reality is accompanied by the results from Aouad et al. (2025) who found that the restrictions for vulnerable women entrepreneurs are linked to access to technology, informality and institutional inadequacy.

Frende & Salgado-Canto (2024) performed a bibliometric analysis of 23 years of research on female entrepreneurship and business growth. The authors stated that contemporary research has shifted to multidimensional methodologies integrating economic, social and psychological elements. They also noted a notable surge in studies focused on female vulnerability, social inclusion and human mobility, particularly in Latin American countries. The results obtained confirm the scientific pertinence of this study and reinforce the necessity to construct diagnostic models that allow a global assessment of the entrepreneurial preparation of women at social risk.

MATERIALS AND METHODS

2.1 Design and approach

The research was produced from a quantitative approach because it intended to quantify, in an objective way, the dimensions connected with entrepreneurial readiness in the female population at social risk linked to human mobility processes in Guayaquil. The design was non-experimental, cross-sectional and descriptive-propositional in scope, so variables were not altered, but socioeconomic, formative and entrepreneurial contexts were specified to establish a diagnostic evaluation model. This methodological decision is justified by the fact that studies on female

entrepreneurship have used structured measurements to identify predictive factors, barriers, capacities and sustainability conditions, especially on vulnerable and Latin American populations (Altamirano et al., 2024).

2.2 Population and sample

The study population was made up of women linked to entrepreneurial training processes and economic strengthening in the city of Guayaquil. For the development of the research, we worked with a sample of 236 women registered in a foundation dedicated to the training and accompaniment of women entrepreneurs, who voluntarily participated by answering the questionnaire designed to evaluate the level of entrepreneurial preparation.

Because access to the participants was conditioned by institutional availability and voluntary participation, a non-probabilistic sampling was applied for convenience. This type of selection is considered pertinent in research aimed at the design and initial validation of instruments when the main objective is to identify relationships between dimensions and to verify the statistical behavior of the proposed model before future population applications.

The number of 236 participants was considered sufficient for the application of the instrument because the methodological literature recommends having at least between five and ten observations per item when exploratory factor analysis is intended. Considering that the MEPRE-EM instrument was made up of 30 items, the sample size exceeded the minimum recommended for initial structural validation studies.

The internal consistency of the instrument was estimated using Cronbach's alpha coefficient, obtaining an expected value of 0.89, interpreted as a high level of reliability and suitable for applied social research. Subsequently, the internal structure of the instrument can be evaluated by exploratory factor analysis and, at a later stage, by structural equation models.

2.3 Procedure

The data will be processed using SPSS and Jamovi through sequential statistical procedures aligned with the objective of validating the proposed evaluation model. Initially, descriptive statistics will be applied to characterize the sample and summarize the behavior of the dimensions through frequencies, percentages, means and standard deviations. Subsequently, the internal consistency of the instrument will be assessed using Cronbach's alpha coefficient, considering values equal to or greater than 0.70 as acceptable for social science research and values close to 0.90 as indicative of high reliability.

Once reliability is verified, an Exploratory Factor Analysis (EFA) will be conducted in Jamovi to examine the internal structure of the instrument and identify the grouping of items according to the theoretical dimensions proposed in the MEPRE-EM model. Prior to factor extraction, sampling adequacy will be evaluated using the Kaiser–Meyer–Olkin (KMO) index and Bartlett's test of sphericity. After confirming construct validity, correlational analysis using Pearson's coefficient will be applied to identify associations between entrepreneurial preparation and entrepreneurial capacity strengthening according to data distribution and scale characteristics.

Finally, as a subsequent stage of model consolidation, the study proposes the future application of Structural Equation Modeling (SEM) using AMOS to confirm the theoretical relationships between latent variables and evaluate model fit through indicators such as RMSEA, CFI, TLI and SRMR, following recent approaches in predictive and multidimensional studies on female

entrepreneurship, leadership, innovation and sustainability (Osorio-Pascacio et al., 2024; Frende Vega & Salgado-Canto, 2024; Martínez & Medina, 2025).

2.4 Validation

To validate the research instrument, an exploratory factor analysis (AFE) will be used, since this technique will allow us to identify the internal structure of the dimensions related to the model of assessment of entrepreneurial preparedness and to verify the grouping of the items according to the proposed theoretical constructs. Factor analysis is relevant for quantitative studies directed to the design and validation of social instruments, especially when it is aimed at measuring multidimensional variables related to vulnerability, resilience, leadership and entrepreneurial sustainability (Osorio-Pascacio et al., 2024; Frende Vega & Salgado-Canto, 2024). Statistical indicators will be employed to assess the adequacy of the factor model, such as the Kaiser-Meyer-Olkin index (KMO) and the Bartlett sphericity test. Subsequently, in a higher validation phase and with a larger sample, it is projected the application of structural equation models (SEM) through the AMOS program, with the intention of confirming the causal relationships between dimensions and setting the degree of fit of the theoretical model proposed, considering the indices such as RMSEA, CFI, TLI and SRMR, which are widely used in current research on entrepreneurship and social behavior (Martínez & Medina, 2025; Huamán et al., 2022).

Table 1. *Operationalization*

Variable	Dimension	Contextual definition	Reference
Entrepreneurial readiness assessment model	Economic vulnerability	Material condition that limits the ability to start or sustain an economic activity on one's own account.	Altamirano Aguirre et al. (2024); Finke et al. (2021)
	Personal resilience	Ability to face economic, social and family difficulties without abandoning the productive project.	Montiel-Espinosa & Huerta-Cuervo (2026)
	Human capital	A set of knowledge, education, work experience and useful skills for entrepreneurship.	Hernández et al. (2022); Huamán et al. (2022)
	Social support	Family, community or institutional networks facilitate the permanence of the enterprise.	Cunha et al. (2024); Aouad et al. (2025)
	Sustainability of self-employment	A condition that allows an economic activity to be maintained over time with resources, organization and market.	Bastida et al. (2024); Molina Barzola et al. (2025)
Strengthening entrepreneurial capacities	Leadership	Ability to make decisions, guide actions and assume responsibility for the business.	Pérez Ramos et al. (2025); Infantes et al. (2023)
	Economic autonomy	Ability to generate own income and reduce economic dependence on third parties.	Duarte et al. (2025); Finke et al. (2021)
	Planning	Ability to order goals, resources, costs, times and activities of an enterprise.	Marco Agustín et al. (2024)
	Innovation	Ability to propose improvements, differentiate products or services and adapt to the environment.	Martínez & Medina (2025); Koller et al. (2021)
	Self-management	Ability to organize resources, time, responsibilities and actions without permanent supervision.	Huamán et al. (2022); Cruzado et al. (2023)

Note: The measurement scale is based on 1 total disagree and 5 strongly agree.

Source: Own elaboration

2.5 MEPRE-EM Model

The MEPRE-MS Model was structured as a composite index of multidimensional evaluation aimed at measuring the level of entrepreneurial preparation in the female population in a situation of social risk linked to human mobility processes. The construction of the model simultaneously considered an independent variable called the entrepreneurial readiness assessment model and a dependent variable called entrepreneurial capacity strengthening. Both variables were operationalized in five dimensions each, making up a total of ten evaluative dimensions.

Since the instrument is still in the initial stage of validation and empirical factor loads derived from factor analysis or structural equations are not available, a uniform weighting criterion was applied. Consequently, each dimension received the same relative weight within the total index. Considering that the model is composed of ten dimensions (Table 1):

$$Peso = \frac{100}{10}$$

$$Peso = 10\%$$

Each dimension therefore contributes a maximum of 10 points to the overall index. The mathematical expression of the model was defined as:

$$MEPRE-EM = \sum_{i=1}^{10} D_i$$

where:

- *MEPRE-EM*: Global Entrepreneurship Readiness Index
- D_i : score obtained in each dimension

Each dimension is calculated by:

$$D_i = \frac{P_o}{P_m} \times 10$$

Where:

- P_o : observed score in the dimension.
- P_m : maximum score for that dimension
- 10: Weight assigned to each dimension

The level classification of the MEPRE-MS model was constructed by equal intervals on a standardized scale from 0 to 100 points. Each of the five levels represents a twenty-point range that facilitates the interpretation of the level of entrepreneurial preparation observed in the participants. The categorization does not intend to establish clinical diagnoses or classifications of social risk, but to identify the relative degree of preparation to participate in processes of entrepreneurial strengthening and orientation to self-employment. Obtaining a total score between 0 and 100. To interpret the result, five diagnostic levels were established:

Table 2. Entrepreneurship Readiness Levels Score

Score	Level
0–20	Extremely low entrepreneurial preparation

Score	Level
21–40	Low entrepreneurial readiness
41–60	Moderate entrepreneurial preparation
61–80	Favorable entrepreneurial preparation
81–100	High entrepreneurial preparation

Source: Own elaboration

Note: This procedure will allow both the initial conditions of vulnerability and the potential level of development of entrepreneurial capacities to be integrated into a single diagnostic index.

2.6 Technique and Instrument

The approach employed was the survey and the instrument was a questionnaire with a five-point Likert scale, aimed at measuring economic vulnerability, resilience, human capital, social support, sustainability, leadership, autonomy, planning, innovation and self-management. The population under study was constituted by women linked to human mobility processes, social risk and orientation for self-employment in Guayaquil, having as a precedent the socioeconomic report of the economic integration project carried out with beneficiaries assigned by HIAS Project Ecuador, a non-profitable organization. The report shows that the direct beneficiaries were women of the human mobility population and local, these were selected to engage in a process of information gathering and evaluation of productive needs.

Table 3. Coded items

Code	Dimension	Item
VE1	Economic vulnerability	My current income allows me to cover basic needs and think about entrepreneurship.
VE2		I have sufficient economic stability to start a productive activity.
VE3		I have the minimum resources to sustain a business during its early stages.
RP1	Personal resilience	I maintain my goals even when I face financial difficulties.
RP2		I adapt easily to unexpected changes in my personal or work situation.
RP3		I believe that I can recover when an economic activity does not work as I expected.
CH1	Human capital	I consider that I have useful knowledge to manage an economic activity.
CH2		My previous experience can help me develop a business.
CH3		I feel prepared to learn new business-related skills.
AS1	Social support	I have people close to me who will support me if I decide to become an entrepreneur.
AS2		I know institutions or programs that could guide me to start a business.

AS3		I believe that I have sufficient support to maintain economic activity.
SA1		I think I could sustain a business for several months.
SA2	Sustainability of self-employment	I have the capacity to organize resources and continue economic activity.
SA3		I believe my environment supports the long-term sustainability of a business.
LI1		I feel capable of making decisions related to an economic activity.
LI2	Leadership	I can organize people or activities to achieve productive goals.
LI3		I believe that I can lead an economic initiative of my own.
AE1		Entrepreneurship can help me become less financially dependent on other people.
AE2	Economic autonomy	I feel able to generate income through my own work.
AE3		I believe that I can support myself financially with an independent activity.
PL1		I could define realistic economic goals.
PL2	Planning	I meticulously organize time and resources to meet objectives.
PL3		Before starting an economic activity, I usually plan my actions.
IN1		I frequently propose new ideas to improve economic activities.
IN2	Innovation	I look for alternatives when economic difficulties arise.
IN3		I consider myself a person open to change and new opportunities.
AU1		I can fulfill responsibilities without permanent supervision.
AU2	Self-management	I can organize my daily activities autonomously.
AU3		I maintain discipline to achieve personal economic goals.

Source: Own elaboration

RESULTS

Table 4 presents the results obtained through the application of the Entrepreneurial Readiness Assessment Model (MEPRE-EM), built to measure the level of entrepreneurial readiness in the female population linked to processes of human mobility and social vulnerability. The index was calculated from ten dimensions grouped into two variables: entrepreneurial readiness assessment model and entrepreneurial capacity building. Each dimension was made up of three items assessed using a five-category Likert scale and then transformed to a standardized scale from 0 to 10 to facilitate comparison between components.

The results show that all dimensions obtained scores above 6 points, indicating homogeneous behavior and a favorable general perception regarding the necessary conditions to develop entrepreneurial processes. The dimensions with the highest scores were human capital (6.83) and economic autonomy (6.83), evidence that the participants perceive strengths related to knowledge,

experience, learning and ability to generate income through independent activities. These findings suggest that the evaluated group presents positive conditions to assume economic strengthening processes and develop initiatives aimed at self-employment.

In a complementary way, dimensions such as planning (6.77), sustainability of self-employment (6.73) and leadership (6.68) also registered high values, reflecting skills associated with organization, continuity of economic activities and decision-making. This behavior allows us to infer that the participants have a favorable functional base to join entrepreneurial orientation programs, although they still require technical support and progressive strengthening to consolidate these capacities in real entrepreneurship scenarios.

On the other hand, the dimensions with the lowest relative score corresponded to economic vulnerability (6.49), personal resilience (6.57) and innovation (6.59). Although these dimensions remain within the favorable level, their results suggest opportunities for improvement related to economic stability, adaptation to adverse contexts, and generation of new productive alternatives. These findings allow us to interpret that entrepreneurial preparation does not depend exclusively on personal skills, but also on structural and social conditions that can influence the future sustainability of enterprises.

Finally, the model's global index reached a value of 66.74 points out of 100, classifying it within the level of favorable entrepreneurial preparation. This result indicates that, on average, the participants present adequate initial conditions to participate in processes of economic strengthening and orientation to self-employment. However, the result does not imply full preparation or guarantee of entrepreneurial success, but rather a positive disposition that requires complementary processes of training, monitoring and institutional support to consolidate capacities and promote long-term economic sustainability.

Table 4. Calculation of MEPRE EM

Dimension	Items	Half-dimensional	Development of the calculation	Score 0–10	Level
Economic vulnerability	VE1–VE3	3.25	$(3.25 \div 5) \times 10$	6.49	Favorable
Personal resilience	RP1–RP3	3.28	$(3.28 \div 5) \times 10$	6.57	Favorable
Human capital	CH1–CH3	3.42	$(3.42 \div 5) \times 10$	6.83	Favorable
Social support	AS1–AS3	3.29	$(3.29 \div 5) \times 10$	6.59	Favorable
Sustainability of self-employment	SA1–SA3	3.36	$(3.36 \div 5) \times 10$	6.73	Favorable
Leadership	LI1–LI3	3.34	$(3.34 \div 5) \times 10$	6.68	Favorable
Economic autonomy	AE1–AE3	3.42	$(3.42 \div 5) \times 10$	6.83	Favorable
Planning	PL1–PL3	3.39	$(3.39 \div 5) \times 10$	6.77	Favorable

Innovation	IN1– IN3	3.30	$(3.30 \div 5) \times 10$	6.59	Favorable
Self-management	AU1– AU3	3.33	$(3.33 \div 5) \times 10$	6.66	Favorable
MEPRE-MS Global Index	30 items	3.34	$\Sigma(\text{Dimension 1–10})$	66.74/100	Favorable preparation

Source: Surveys carried out on women interested in entrepreneurship

DISCUSSION

The main finding of the study shows that the Entrepreneurial Readiness Assessment Model (MEPRE-EM) made it possible to identify a favorable overall level of entrepreneurial readiness (66.74/100) in the evaluated female population linked to processes of human mobility and social vulnerability in Guayaquil. This result indicates that the participants present positive initial conditions to join economic strengthening programs and orientation to self-employment; however, the dimensional behavior shows that entrepreneurial preparation is not evenly distributed among all the factors evaluated. From this perspective, the main contribution of the study is not only to classify the participants, but also to demonstrate the usefulness of a diagnostic model that allows guiding institutional decisions before implementing training or social investment processes.

One of the most relevant findings corresponds to the dimensions of human capital (6.83) and economic autonomy (6.83), which registered the highest values of the model. These results coincide with Altamirano Aguirre et al. (2024), who argue that female entrepreneurial preparation depends on the development of knowledge, previous experience, and the ability to adapt economically. Likewise, Huamán et al. (2022) concluded that sustainable female entrepreneurship is associated with adequate levels of training and acquisition of skills oriented to economic management. The results obtained in this research suggest that the participants have a base of personal and work capacities that favor the development of productive initiatives, a situation that represents a strategic opportunity for support organizations to move from schemes focused only on basic training to processes aimed at consolidation, scaling and sustainability of enterprises.

In relation to the dimension of economic autonomy, the results are also consistent with the approaches of Finke et al. (2021), who demonstrated that female entrepreneurship acts as a mechanism for empowerment and reduction of economic vulnerability. Similarly, Duarte et al. (2025) pointed out that autonomous income generation produces positive effects on family stability and strengthening the female economic role. Under this logic, the favorable result observed in the present research suggests that the participants perceive entrepreneurship as a viable alternative to improve their living conditions. From a managerial perspective, this finding allows us to recommend that foundations and support programs direct efforts towards business incubation, technical support and strengthening of commercial networks, instead of concentrating resources exclusively on introductory awareness processes.

However, the model also made it possible to identify dimensions with lower relative scores, particularly economic vulnerability (6.49), personal resilience (6.57) and innovation (6.59). Although these dimensions remained within the favorable range, their results show that there are still structural and personal limitations that could affect the sustainability of the ventures. This behavior coincides with Medina et al. (2021), who identified that initial economic conditions continue to be one of the main factors of female business abandonment. Similarly, Montiel-

Espinosa and Huerta-Cuervo (2026) argue that resilience is a critical capacity to face scenarios of economic uncertainty and sustain entrepreneurial processes in vulnerable contexts. From an institutional point of view, these results suggest that future interventions should incorporate psychosocial support, financial education, and strategies aimed at reducing vulnerabilities prior to the initiation of self-employment.

Regarding the innovation dimension, the results obtained show similarities with Martínez and Medina (2025), who concluded that women entrepreneurs tend to have strengths in execution and commitment, but lower levels of innovation and differentiation of productive proposals. Likewise, Koller et al. (2021) pointed out that restrictions on access to technological tools and training processes limit the ability to generate sustainable competitive advantages. Consequently, the finding obtained in this research allows us to propose that programs aimed at women linked to human mobility incorporate content related to applied creativity, value proposition design, digitalization and commercial adaptation, strengthening capacities beyond the immediate generation of income.

Another relevant aspect of the research corresponds to the methodological approach adopted. Unlike previous studies that only evaluate post-entrepreneurship economic results, this study proposes a model aimed at measuring entrepreneurial readiness prior to the intervention. This perspective is related to the approaches of Osorio-Pascacio et al. (2024), who point out that contemporary research on female entrepreneurship is migrating from descriptive approaches to multidimensional models capable of anticipating behaviors and supporting institutional decisions. Similarly, Frende Vega and Salgado-Canto (2024) identified a growing international trend towards the development of diagnostic instruments to understand complex phenomena related to entrepreneurship and sustainability.

Finally, the study shows that the prior evaluation of entrepreneurial capacities can become a strategic tool for foundations and organizations that work with vulnerable populations. The results suggest that applying diagnostic models such as MEPRE-EM would allow segmenting beneficiaries according to levels of preparation, allocating resources more efficiently, and designing differentiated routes for economic strengthening. Consequently, the contribution of the study transcends the academic field and proposes a practical alternative to improve the effectiveness of self-employment programs aimed at women in contexts of human mobility and social vulnerability in Guayaquil.

CONCLUSIONS

The research allowed the design and application of the Entrepreneurial Readiness Assessment Model (MEPRE-EM) as a diagnostic tool aimed at identifying the level of entrepreneurial preparation in the female population linked to processes of human mobility and social vulnerability in Guayaquil. The results showed that the model managed to integrate economic, social, personal and entrepreneurial dimensions within a single evaluation structure, allowing them to overcome traditional approaches focused exclusively on post-entrepreneurship economic indicators. In this sense, the study shows that assessing preconditions of preparation is a useful strategy to improve the targeting of programs aimed at economic strengthening and self-employment.

In relation to the first specific objective, it is concluded that the theoretical review confirmed that female entrepreneurship in contexts of vulnerability should be understood as a multidimensional phenomenon where factors associated with human capital, economic autonomy, social support,

resilience and sustainability of self-employment intervene simultaneously. The literature reviewed showed that entrepreneurial success does not depend only on individual capacities, but also on structural and contextual conditions that influence the permanence and consolidation of economic activities led by women.

Regarding the second specific objective, it is concluded that the selected dimensions and indicators allowed the construction of an instrument with the capacity to adequately represent the concept of entrepreneurial preparation. The application of the questionnaire evidenced consistent levels of response among participants and allowed obtaining a high reliability of the instrument through a Cronbach's alpha coefficient of 0.853, a result that supports the internal stability of the model and its potential use in processes of social diagnosis and entrepreneurial strengthening.

Regarding the third specific objective, it is concluded that the global index obtained through the MEPRE-EM model reached a value of 66.74 points out of 100, classifying the evaluated population within the level of favorable entrepreneurial preparation. This result indicates that the participants present positive initial conditions to join economic strengthening programs and orientation to self-employment; however, the analysis by dimensions made it possible to identify opportunities for improvement, particularly in aspects related to economic vulnerability, resilience and innovation, which shows the need to maintain complementary processes of accompaniment and strengthening.

In general, it is concluded that the main contribution of the study is not only to measure entrepreneurial capacities, but also to demonstrate that the incorporation of previous diagnostic models can contribute to optimizing institutional decisions within foundations and social programs aimed at women in vulnerable situations. The application of the MEPRE-MS model offers an alternative to classify levels of preparedness, direct resources and design differentiated intervention routes before promoting self-employment initiatives, thus strengthening the sustainability of the actions undertaken and increasing the potential for social impact of economic support programs.

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