

ORIGINAL ARTICLE

Are cooperatives gender sensitive? A confirmatory and predictive analysis of women's collective entrepreneurship

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Abstract

The literature on entrepreneurship has developed a huge body of fruitful research to explain why women do not engage in business as often as men. However, relatively little is known about the role that different business models may play in driving women's entrepreneurial activity, which is examined in this study.

In this paper we develop a model to empirically test the relationship between women's motivations to become entrepreneurs and their willingness to embark on business through cooperatives, a particular organizational model. We find that the fit between women's needs and expectations and the guiding principles of cooperatives is decisive for the materialization of female entrepreneurship. Furthermore, we explore the role that institutions can play in fostering this link. In doing so, we extend the literature on women's entrepreneurship by highlighting key factors to better channel the development of this potential resource for economic development. Our confirmatory model highlights the role of cooperatives as a type of organization particularly suited to the interests and needs of women entrepreneurs. Thus, the promotion of this business model can be

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useful to improve the number of women entrepreneurs and, in turn, enhance economic development.

KEYWORDS

collective entrepreneurship, cooperative enterprises, women entrepreneurship

JEL CLASSIFICATION

J54, L26, P13, R58

1 | INTRODUCTION

In recent years both academics and institutions have become increasingly interested in entrepreneurship, broadly understood as “any attempt at new business or new venture creation, such as self-employment, a new business organisation, or the expansion of an existing business, by an individual, a team of individuals, or an established business” (Elam et al., 2019). Countries around the world are encouraging entrepreneurship as a driving force for their development and economic growth (Ács et al., 2018; Sutter et al., 2019; Urbano et al., 2019). In parallel, women have entered entrepreneurship in recent decades to the extent that they form one of the fastest growing entrepreneurial populations worldwide (Brush and Cooper, 2012; Cabrera and Mauricio, 2017). Governments and institutions have therefore focused on women as a source of entrepreneurship, and this focus has been accompanied by growing interest from researchers (Brush and Cooper, 2012).

Despite the logical variation in the rate of women entrepreneurs across countries, there is a broad consensus that women’s contribution to entrepreneurship is considerably lower than that of their male counterparts (e.g., Elam et al., 2019; Guzman and Kacperczyk, 2020; Marlow, 2019). For example, the latest World Women’s Report (2019) showed that the global average of women’s intentions to start a business is 17.6% (four percentage points lower than that of men). This glaring difference between men’s and women’s intentions to start a business remains a key issue for scholars and practitioners.

Researchers have explored the reasons for these gender differences in entrepreneurial intentions. Among the hypotheses suggested are different—and often more intense—barriers to women’s entry into entrepreneurship, as well as different motives for starting a business. Regarding the former, the research by Brush et al. (2009) was a landmark in the investigation of women’s constraints to becoming entrepreneurs. They proposed a gendered framework to identify women’s specific barriers to starting a business, including difficulties in accessing markets and financial resources (Balachandra et al., 2019; Gupta et al., 2014), lower provision of organizational resources (Brush et al., 2017), life domain-related constraints and exclusion from entrepreneurial networks (Bogren et al., 2013; Welsh and Kaciak, 2018). The motivations that underlie women entrepreneurs’ intention have received relatively less attention from researchers (Verheul et al., 2012; Zisser et al., 2019). Studies conclude that motives for entrepreneurship are similar between women and men, although some factors such as family-related motives (e.g., the need for flexibility) seem to be particularly important for women (Zisser et al., 2019).

Previous research has also explored the role of institutions in fostering women’s entrepreneurship (Urbano et al., 2019; Brush et al., 2017), as well as female characteristics that may explain

entrepreneurial intentions, such as higher risk aversion or lower self-confidence than men (Zisser et al., 2019). Each of these areas has produced several streams of research, many of which are actively pursued and often highly controversial. For example, it has been highlighted that most research has not explicitly addressed the role of gender, which limits the ability to describe the reasons that constrain or motivate women to enter entrepreneurship (Henry et al., 2016). More recently, research has suggested that entrepreneurship also varies across business structures (Díaz-Foncela and Marcuello, 2015). For example, a recent study by Zisser et al. (2019) noted that female entrepreneurs show a certain communal tendency, suggesting that a deeper understanding of this prosocial motivation could be useful in promoting female entrepreneurship. Supporting this finding, Bastida et al. (2021) found that some specific characteristics of cooperatives—in particular, their organizational culture and governance model—suggest that this model of collective entrepreneurship is particularly attractive to women entrepreneurs. This is particularly important, since cooperatives have been also seen as a way to contribute to economic development, especially in developing countries (Guzman et al., 2020; Paudel and Acharya, 2021).

Several conclusions can be drawn from this enormous scientific output. First, entrepreneurship remains a topic of interest, or in the words of Ács et al. (2014, p. 476) “entrepreneurship matters”. Secondly, entrepreneurship starts with entrepreneurs, people who intend to enter the business world. Therefore, understanding entrepreneurs and their motivations and challenges is a crucial step to better understand entrepreneurship (van der Zwan et al., 2016). Third, female entrepreneurs face different barriers and respond to relatively different motivations than male entrepreneurs. Moreover, the lower participation of women entrepreneurs should be seen as an untapped source of economic growth and development (Minniti, 2010). Finally, recent findings suggest the desirability of exploring how collective business models, such as cooperatives, can favour the materialization of women’s entrepreneurship (Bastida et al., 2021; Zisser et al., 2019).

Building on these conclusions, this study contributes to the overlapping streams investigating women’s entrepreneurship, their motivations for becoming entrepreneurs and the role that business models can play as a driver of women’s entrepreneurial activity. This paper proposes a model to empirically test the relationship between women’s individual motivations to become entrepreneurs and their willingness to do so through a collective business model, namely, cooperatives. Additionally, it explores the role that institutions can play in fostering this link. The model is tested in Spain, a country that offers a suitable scenario for two reasons. First, recent data from GEM (2018) showed that Spanish women are as active as men in entrepreneurship. Second, this study serves in practice as a confirmatory analysis of the model provided by Bastida et al. (2021) on the factors that favour women’s entrepreneurship through cooperative societies. As these authors highlighted, the number of women in this business model is particularly important in Spain. Therefore, this country is suitable for testing the suggested relationships between the motivations of women entrepreneurs and the suitability of collective business models for developing their entrepreneurial potential.

The study proceeds as follows. After this introduction, the theoretical background to this research is presented, including the hypotheses and the research model. The model is then tested using the partial least squares (PLS) technique, a variance-based structural equation modelling approach. After discussing the main results of this analysis, the conclusions and implications of the research are provided. The results make new contributions to previous literature by shedding light on the question of how women’s entrepreneurship can be fostered. They provide new lines of research for academics, as well as implications for public policy makers to enable a more effective framework for promoting women entrepreneurs by highlighting key factors to better channel the development of this potential resource.

2 | THEORETICAL BACKGROUND

2.1 | Women's motives for becoming entrepreneurs

The belief that entrepreneurship enables economic growth and the creation of new employment opportunities (Conroy and Weiler, 2016) led to a stream of research focusing on women's entrepreneurship as a potential source for driving economic development (Brush and Cooper, 2012; Cabrera and Mauricio, 2017). Early research observed that women-owned businesses grew more slowly and with lower profitability and success than male-owned businesses, the so-called women's underperformance hypothesis (Du Rietz and Henrekson, 2000; Fairlie and Robb, 2009; Yousfzi et al., 2018). Consequently, studies focused on a male-female comparative framework (Ahl and Marlow, 2021) on the basis that there are "female characteristics" that can explain this alleged underachievement (Lewis, 2006; Marlow and Swail, 2014). However, although women were assessed with normative masculinized assumptions on entrepreneurship, more similarities than differences were found between female and male entrepreneurs (Ahl, 2006; Ahl and Nelson, 2015; Foss et al., 2019). In parallel, Marlow and McAdam (2013) noted the importance of socio-economic conditions for business growth, concluding that the underperformance hypothesis was more of a "myth" than evidence.

Subsequent studies delved deeper into the role of the business systems in which entrepreneurs start their businesses (Brush et al., 2017; Hughes and Jennings, 2020; Hughes and Yang, 2020). In this line, the key question is not so much *who* the entrepreneur is, but *where* he or she is. It is therefore a question of context rather than gender. Moreover, since Ahl's (2006) influential article, studies have highlighted the gendered nature of entrepreneurship, understanding gender as "social practices and representations associated with femininity or masculinity" (Ahl, 2006, p. 596). This approach involves broadening the study of gender gaps to include both the social and material implications of gender. Therefore, the business gender gap cannot be limited to simple comparative frameworks of differences between women and men (Ahl and Marlow, 2021).

Research has also approached the study of entrepreneurial motivations through two main frameworks. The first identifies three groups of motivations, namely, classical, forced and work- and family-related motivations. Classical reasons for starting a business include independence, autonomy, self-control or being one's own boss. Forced entrepreneurs start businesses mainly for reasons of necessity, such as looking for a job or getting out of unemployment, while family or life domain factors relate to the need to balance family and work or to improve flexibility (Van der Zwan et al., 2016; Hilbrecht, 2016; McGowan et al., 2012).

The second framework relates entrepreneurial motivations to push and pull factors (Hughes, 2003; 2006; Van der Zwan et al., 2016). Push factors are those that attract people to start a business, such as unemployment or work practices that have eroded previous jobs. Under these conditions, entrepreneurship is a means to improve the individual's economic situation (Ács et al., 2018). Pull factors, on the other hand, assume that entrepreneurship is driven by personal factors such as autonomy, independence, self-fulfilment, financial need, the pursuit of work-life balance, or family-related factors (Foss et al., 2019; Solesvik et al., 2019; Sutter et al., 2019).

Reconsideration of the importance of gender in entrepreneurship led to a line of research analysing its influence on these motivations (Blackburn and Kovalein, 2009). In this context, some reasons for enrolling in entrepreneurial activities vary according to the gender of the entrepreneur. For example, in her study of self-employed Canadian women, Hughes (2003, 2006) found that women seem to be more attracted than pushed into self-employment. Moreover, while

family-related factors are important for both genders worldwide (Verheul et al., 2012), they have also been recognized as critical for women's entrepreneurship (De Bruin et al., 2007; Patrick et al., 2016). Other studies focus on factors of recent attention such as the importance of emancipation as a driver of female entrepreneurship (Sutter et al., 2019) or emotional factors such as work engagement and the need for social networking (Choukir and Hentati, 2013). Other authors have focused on the importance of empowerment as an outcome of female entrepreneurship (Digan et al., 2019), while in the last decade some authors have argued that the barriers women face in their careers might push them into entrepreneurship (Knörr, 2011; Patterson and Mavin, 2009).

In sum, research on women's motives for becoming entrepreneurs has brought to light some tensions. First, some researchers have found that entrepreneurial motivations are similar for men and women (Santos et al., 2016), while others have found differences in these motives (Hughes, 2003; Shmailan, 2016). Second, where differences are found—as in the case of flexibility, family issues and the “glass ceiling”—research has criticized that these motives have been labelled as “feminine” (Ahl and Marlow, 2021). Third, the tendency to dichotomize individual choices may overlook several factors (Hughes, 2003). This seems to be the case for the possible influence of the business model (Bastida et al., 2021) and the context of the entrepreneurial ecosystem (Brush et al., 2017; Hughes and Jennings, 2020; Hughes and Yang, 2020). A final and relevant limitation is that the availability of quantitative analyses to explore the heterogeneity of motives that women have when making entrepreneurial decisions are limited (Hsieh et al., 2016). This paper builds on these gaps to devise a comprehensive model that includes this heterogeneity to better understand women's entrepreneurial decisions.

2.2 | The importance of the context

Research has highlighted that entrepreneurship is institutionally, socially, and culturally embedded (Ács et al., 2018; Ahl and Nelson, 2015; Brush et al., 2017), whereby the conditions of a firm's environment greatly affect its development (Henry et al. 2016; Hughes and Jennings, 2020; Hughes and Yang, 2020). The belief that exogenous factors can drive or inhibit the entrepreneurial decision has focused researchers' attention on entrepreneurship ecosystems, that is, interdependent factors that enhance entrepreneurship within a specific context (Ács et al., 2018). Seminal research has supported that a rich entrepreneurial ecosystem fosters entrepreneurship (Ács et al., 2014, 2018).

In parallel to the rise of the study on entrepreneurship systems, the influence of the immediate environment, that is, the organizational context, seems to have been relatively neglected (Provance et al., 2011). Generally, researchers seem to be convinced that responses to entrepreneurial ecosystems are homogeneous across different types of business models, despite some evidence that the formal, legal, and financial requirements for setting up a firm may be decisive for choosing a specific type of organization (Bjørnskov and Foss, 2016). For example, in their study on the energy industry, Provance et al. (2011) found that external factors can influence the configuration of business models. Despite this influence, other authors have highlighted that it is possible for innovative ventures to emerge independently of the existence of an institutional ecosystem (Moulick et al., 2019), or even with such an ecosystem against them, as is the case for women entrepreneurs in Arab countries (Hunt and Ortiz-Hunt, 2018; Panda, 2018). Consequently, studies have recently suggested that business models also have a potential influence as a contextual dimension on entrepreneurial activity, although research has neglected the impact of organizational characteristics (Bjørnskov and Foss, 2016).

Researchers have highlighted that the lack of a differential focus on the gender of the entrepreneur is an important shortcoming of this analysis of influencing factors (Ahl and Marlow, 2021; Hughes and Yang, 2020). For example, Jennings and Brush (2013) noted that there is little research on the relationship between public policy and the growth of women-owned businesses, as well as on the decisions that underlie women's choice of a particular type of business model. In this regard, a recent study by Zisser et al. (2019) found that US women scored significantly higher than men on their communal tendency, concluding that women were more prone to collective entrepreneurship. Although both women and men engage in prosocial behaviour, women tend to engage in more relational prosocial behaviour (Eagly, 2009). The community tendency includes relational concepts such as cooperation, which may explain women's higher scores. Most interestingly, this suggests that women find alternative motivations for entrepreneurship, such as more community-oriented approaches.

In the same vein, Lee and Huang (2018) pointed out that women feel rewarded when they focus their goals on collectivist ends. For example, in their study on Spanish women in worker cooperatives, Bastida et al. (2020, 2021) noted that they prioritize mutual aid, collaborative work, and non-profit objectives over economic profit—motivations that are to some extent inconsistent with the classic individualistic behaviour attributed to entrepreneurs (Ahl and Marlow, 2021). In these circumstances, it can be hypothesized that collective business models may be attractive to women entrepreneurs. Collective entrepreneurship is based on the synergy of the members of an organization, who pool their efforts, talents, and creativity. Here, entrepreneurship is a capacity that extends to all members of the organization (Comeche and Loras, 2010).

Previous research has highlighted that some business models, in particular cooperatives, are particularly suited to collective entrepreneurship (Mazzarol et al., 2018), which has considered an alternative approach to sourcing entrepreneurship especially in the case of small businesses (Yan and Yan, 2016). Marlow (2019) also noted that collective businesses—especially in the social sphere—can attract more women entrepreneurs than individualistic microenterprises, something contrasted for the case of cooperatives (Datta and Gailey, 2012). Cooperatives generate social value in addition to economic value, such as social cohesion and high levels of job satisfaction (Guzman et al., 2019). In support of these arguments, Bastida et al. (2021) have recently found that several specific characteristics of cooperatives can act as drivers for attracting women entrepreneurs. In particular, in their study on Spanish women members of worker cooperatives, they found that participants particularly valued the cooperative's principles, as well as its governance model and the facilities to implement work-life balance policies. Their results support previous research indicating that the principles of cooperatives are the main factors driving women to choose this business model (Meier zu Selhausen, 2016).

Based on this line of research, it is to be expected that business models may influence the conditions for entrepreneurship. To further explore this effect, and in response to Ahl and Marlow's (2021) call for further exploration of the role of gender in entrepreneurship, this study aims to understand the reasons behind women's presumed preference for collective models of entrepreneurship (Bastida et al., 2021; Zisser et al., 2019). In doing so, we contribute to studies on entrepreneurship based on different business models (e.g., Díaz-Foncea and Marcuello, 2015;), as well as to a better understanding of the drivers of business creation, which is considered key to improving economic public policies (Ács et al., 2014).

3 | HYPOTHESIS

Based on the assumption that business models can influence entrepreneurial intentions, this study identifies the motivations of entrepreneurs who have chosen cooperatives to develop their entrepreneurial activity, analysing whether this business model is particularly suitable to female entrepreneurial intentions (Bastida et al., 2021; Datta and Gailey, 2012; Meier zu Selhausen, 2016).

First, it is assumed that individuals have different motives for entrepreneurship, whether they are considered push or pull factors (Van der Zwan et al., 2016). Additionally, potential entrepreneurs have expectations about the outcomes they will get from the business, and the satisfaction of needs is an important motivational driver for entrepreneurship (Hsu et al., 2019). For example, they expect to meet their financial needs, develop a career, or satisfy personal goals such as autonomy, independence, self-fulfilment, pursuing a work-life balance or family-related factors (Ahl, 2006; Hilbrecht, 2016; Humbert and Drew, 2010; Knörr, 2011; McGowan et al., 2012; Solesvik et al., 2019). Second, cooperatives are business models characterized by a strong organizational culture, based on a set of values such as mutual aid, self-responsibility, democracy, equality and solidarity, social responsibility, and concern for others (Chaves and Monzón, 2018). These values are translated into seven principles to be applied in cooperatives, which according to the International Co-Operative Alliance (ICA) are (1) voluntary and open membership; (2) democratic management and control; (3) economic participation; (4) autonomy and independence; (5) cooperation; (6) concern for the community; and (7) education and training. It is therefore to be expected that individuals will find in these principles a way to satisfy their personal needs. For example, Bastida et al. (2021) found that the fit between cooperative principles, social orientation, and individual expectations contributes to explaining the link between individual interests and cooperative principles. Based on this argument, the following hypothesis is put forward:

H1: Women perceive a positive match between their individual interests and cooperative principles.

Second, cooperative principles—and the appropriateness of these principles to individual interests—can act as a driver for choosing cooperatives as a business model. For example, “open doors” is perceived as a way to enter the business, while “autonomy, democratic management, and independence” are seen as an opportunity to control the work process. This control, in turn, can be useful to impose family-friendly work arrangements. Furthermore, “education and training” serve as a tool to meet the individual’s interest in development, while “community concern and social orientation” can be seen as a driver to meet social orientation interest. Finally, since cooperatives are a form of business entrepreneurship, they provide a way of earning sustainable income and meeting economic needs. In this respect, recent research has noted that perceived person-entrepreneurship fit relates to entrepreneurial intentions (Hsu et al., 2019) and this relationship is stronger for women than for men (Shinnar et al., 2014). In summary, the set of intrinsic values and operating principles of cooperatives can drive people’s commitment to this business model, as supported by Bastida et al. (2021). Accordingly, the following hypothesis is added:

H2: Cooperative principles affect women’s willingness to engage in entrepreneurship through cooperatives.

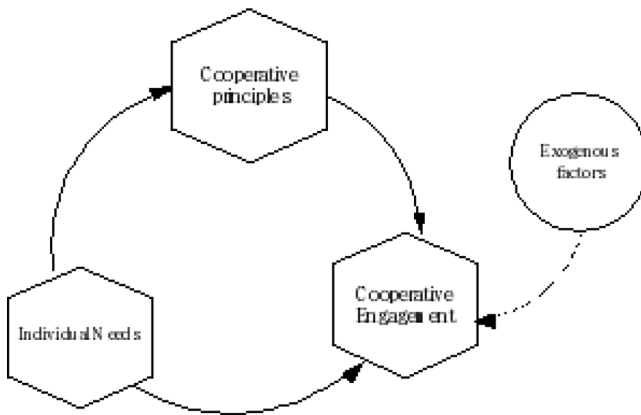


FIGURE 1 Suggested model

Third, environmental conditions greatly affect business development (Ács et al., 2014, 2018) and formal, legal, and financial requirements are key in choosing one specific type of organization over another (Bjørnskov and Foss, 2016). Consequently, exogenous factors such as the availability of resources, the provision of consultancy services or government support programmes for cooperatives can also be expected to help explain the preference for this business model. However, Bastida et al. (2021) found a low effect of these exogenous factors on the selection of cooperatives as a business model. To address this issue, we introduce a new perspective by arguing that different levels of exogenous factors can have different effects. This approach assumes that situational variables have an indirect influence on intentions, in line with what is proposed by intention-based models such as Shapero's (1982) model of the entrepreneurial event, which is an intention model specific to the field of entrepreneurship (Krueger et al., 2000). These models argue that exogenous influences modify intentions and, in turn, venture creation. This indirect influence was supported in subsequent studies, which highlighted the moderating role of exogenous variables in the development of entrepreneurial intentions, with weak predictive power (Krueger et al., 2000; Schlaegel and Koenig,).

Along these lines, it is reasonable to hypothesize that the existence of exogenous factors might favour the predisposition to form a cooperative when women perceive that this business model can be useful to meet their individual interests and expectations. Therefore, the final hypothesis of the study is the following:

H3: Exogenous factors moderate the relationship between women's individual interests and their willingness to engage in entrepreneurship through cooperatives.

Figure 1 presents the model summarizing these hypotheses.

4 | METHODOLOGY

4.1 | Sample and data collection

The study population consisted of Spanish cooperatives, a country where cooperatives account for more than 10% of Spanish GDP and provide around 12.5% of total employment (Spanish Social Economy Confederation, 2020). This region was selected for two main reasons: first, because of

the authors' ease of access to the cooperative sector and to Spanish cooperative associations, which allow for a reliable distribution of the questionnaires to the target population. Secondly, because a comparable framework is necessary to estimate the effect of a support ecosystem. In this regard, since 2011, the Spanish government has been promoting an aid programme aimed at the creation of cooperative societies. This programme comprises a set of financial, promotional, and advisory measures to boost this sector and provides a suitable analytical framework to test the hypotheses. Therefore, 264 cooperatives created between 2011 and 2020 and eventually supported by a similar support ecosystem were the target population of this study.

An online questionnaire was designed for this study. These questionnaires allow data to be collected at a reasonable cost when the target population is difficult to reach and the number of participants is unknown (Dillman, 2011). The questionnaire included the survey measures and several personal questions (e.g., gender, age, and education) as well as questions related to cooperatives (size and sector of activity). The items were randomly ordered to minimize any potential problems of bias. In some cases, scores were reversed to reduce the likelihood of uniform responses (Podsakoff et al., 2012). The instrument was pilot-tested with five co-operators to test its comprehension and relevance.

The questionnaire was then distributed to the co-operators. A presentation was included detailing the objectives of the study and informing potential participants of the confidentiality of the data, which would only be used in research. Data were collected between May and September 2020. A total of 151 valid responses from different organizations were collected—115 women and 36 men. This higher female presence corroborates the results of previous studies, according to which women seem to be particularly attracted to cooperatives as a business model (Bastida et al., 2021; Datta and Gailey, 2012; Meier zu Selhausen, 2016). Respondents were on average close to 40 years old, and eight out of ten were part of worker cooperatives. A large majority worked in the service sector, in various forms of employment. Table 1 summarizes the profile of the survey participants. Since we are interested in analysing the factors favouring women's participation in cooperatives, we only use the data of the female respondents in our analysis.

4.2 | Measures

For measuring the constructs analysed in the study—that is, the underlying variables to be measured by the survey questions—the factor analysis scales of Bastida et al. (2021) were adopted to measure the motives for the intention to participate in cooperatives. The reliability of all constructs was acceptable, as their Cronbach's alphas were above 0.70 (Nunnally, 1978). Further details on the constructs and scales are given below.

In the case of the control parameters, direct questions were used, either on a dichotomous scale or a choice scale. Thus, *gender and age* were assessed through one item, asking whether the participant was male (1) or female (0) and their age (in years). *Educational level* was measured by choosing five categories—higher education (doctorate or master's degree), bachelor's degree, secondary education, vocational training, or other studies. *Seniority* was also measured through a single item, asking how long (in months) they had been in their current organization. Participants were also asked to indicate the *type of cooperative* and the *activity* in which they were conducting their professional activity. Once the responses had been analysed, they were reclassified according to their homogeneity. Thus, for example, cooperatives that carry out activities related to the extraction or processing of products from the agricultural sector are grouped together as agrarian cooperatives.

TABLE 1 Sample characteristics

	N	Gender		Age		Type of cooperative						Seniority		Size	
		Male	Female	M	SD	Work associated	Agrarian	Consumers	Financial	Housing	N/A	M	SD	M	SD
Male	36	23.84%		38.58	8.89	80.56%	5.56%	0.00%	0.00%	11.11%	2.78%	3.75	3.94	9.65	30.87
Female	115		76.16%	39.71	8.43	82.61%	3.48%	6.09%	0.87%	1.74%	5.22%	4.35	3.61	10.21	31.66
Overall sample	151			39.19	8.52	82.12%	3.97%	4.64%	0.66%	3.98%	4.64%	3.82	3.18	9.30	27.31

Note: M: mean; SD: standard deviation; N/A: unavailable.

Source: own elaboration.

TABLE 2 Scale: Items and constructs

Cooperative principles
PP1. Personal fit to cooperative principles
PP2. Open doors
PP3. Education
PP4. Cooperation
PP5. People's primacy
PP6. Non-discrimination
GOB1. Democratic member control
GOB2. Member economic participation
GOB3. Autonomy and independence
Individual interests
III1. Interest in labour relationships
II2. Interest in social relationships
II3. Concern for community
II4. Adjustment to economic necessities
IG1. Facilities to implement reconciliation measures
Exogenous factors
E1. Consultancy
E2. Financial support
E3. Friendly environment

As mentioned above, the constructs were measured using the four-factor structure provided by Bastida et al. (2021). They provided a scale based on their literature review that is comprised by four groups of factors, namely (i) the underlying philosophy of the cooperative model; (ii) the individual interests addressed by the cooperative model; (iii) equality of opportunities; and (iv) exogenous drivers for joining a cooperative. However, as people's primacy and equality are also part of the cooperative principles, and facilities for family-friendly work arrangements can be considered an individual interest, we adapted the scale by regrouping these items into cooperative principles and individual interests. Thus, respondents were asked to rate the influence that each of the items had on their decision to join a cooperative. They rated this perception on a seven-point Likert-type scale, ranging from 1 (not at all important) to 7 (very important). The initial scale consisted of 17 items, each of which referred to different constructs. However, after eliminating collinear items, the scale was limited to 13 items that are shown in bold in Table 2.

Initial predisposition to join a cooperative. Shapero (1982) conceptualized "propensity to act" as the personal disposition to act on one's decisions. Conceptually, propensity to act on an opportunity depends on control perceptions. Thus, to measure this variable, we used a scale aimed at estimating the extent to which participants had a certain predisposition towards entrepreneurship through cooperatives. The scale had a single item, selecting between 1 (*I was clear that I will form a cooperative*), 2 (*I conducted an analysis, but I was clear that I prefer a cooperative*) to 3 (*I decided to form a cooperative after analysing possible business models*).

4.3 | Data analysis

As can be seen from the measures proposed in Table 2, our research proposal attempts to explain how the factors are interrelated. To do so, a structural equation model is required. Among the available techniques for structural analysis, partial least squares (PLS)—a variance-based structural equation modelling approach (Roldán and Sanchez-Franco, 2012)—was chosen. The variables included in the model—namely, cooperative principles, individual interests, and exogenous factors—are estimated from a causal–predictive perspective (Hair et al., 2019; Henseler, 2017) and both theoretical contributions (Henseler, 2017; Henseler et al., 2013) and empirical simulation studies (Becker et al., 2018) have demonstrated that hypotheses PLS path modelling estimates are consistent and there is no bias.

Once the technique has been chosen, it is found that PLS can be used to analyse the relationships proposed in the hypotheses. A rough estimation of the goodness of fit of the model is performed. The normalization value of the residual root mean square root (SRMR) of the model is 0.069 and therefore lower than the acceptability threshold set by Hu and Bentler (1998) at 0.08. This confirms the appropriateness of the use of PLS.

We then check that the items chosen to measure the constructs are statistically reliable and move on to the analysis of the relationships between these variables. This is done by following the procedure proposed by Henseler et al. (2016), in two steps: (1) evaluation of the measurement model (to check the adequacy of the items and the constructs); and (2) evaluation of the structural model (to analyse the relationships among the factors). The significance of the parameters is tested through the resampling technique known as bootstrap (Chin, 1998), which allows determining the significance of the fit indices, the *path* coefficients and indicator weights and loadings for each composite. Furthermore, the predictive power of the model was tested outside the study sample using the procedure described by Shmueli et al. (2010). SmartPLS 3.2.8 (Ringle et al., 2015) was the PLS software used to test the model.

5 | RESULTS

5.1 | Measurement model

Four constructs are involved in the model, each corresponding to a group of factors: cooperative principles, individual interests, the predisposition to engage in business through cooperatives, and a set of support measures, which we include in the group of exogenous factors. To measure these constructs, it is essential to ensure statistically that we are using indicators that measure them adequately. In other words, we have to check that the items actually measure each of the constructs. Therefore, in the first part of the study we focus on the measures (measurement model). Cooperative principles were estimated in Mode Bⁱ (formative construct) because each cooperative principle was identified and did not assume the existence of correlated items (Ringdom, 2016). Initially, although the questionnaire design followed the recommendations of Podsakoff et al. (2012)

ⁱ The PLS requires the identification of the type of construct to be used in order to proceed with the estimation. When items are expected to be correlated, constructs are estimated in Mode A. Conversely, when items do not need to be correlated, Mode B is applied. While the former are applied to reflective measurement models, Mode B estimates are traditionally applied to formative measurement models (see Henseler et al., 2016 for more information).

TABLE 3 Measurement model result (Principles^a)

Item	GOB1	PP1	PP2	PP3	PP4	PP5
VIF	1.396	1.200	1.348	1.426	1.177	1.116
Weight	0.134***	0.314***	0.235***	0.263***	0.447***	0.278***

* $\rho < 0.05$;** $\rho < 0.01$;*** $\rho < 0.001$

^a GOB1: Democratic member control; PP1: Personal fit to cooperative principles; PP2: Open doors; PP3: Education; PP4: Cooperation; PP5: People's primacy

to avoid potential common variance method problems, a full collinearity test based on variance inflation factors (VIFs) was performed to detect potential problems, following the guidelines provided by Kock and Lynn (2012). All VIFs had values below 3.3 (Table 3), allowing this problem to be ruled out. The magnitude and significance of the weights were then tested. The weights provide information on how each item contributes to the construct, while a significance level of at least 0.05 suggests that a measure is relevant for constructing the composite (Roldán and Sánchez-Franco, 2012). Here, cooperation and personal fit to cooperative principles are the items with the highest contribution to the construct. All the items included in the composite are relevant, since their ρ value is 0.000 (< 0.05).

On their part, both Individual Interests and Predisposition to form a cooperative were estimated in Mode A due to the presence of high correlations between their indicators (Rigdon, 2016). Therefore, traditional measures of internal consistency, reliability, and validity (Henseler et al., 2016) were applied to test their appropriateness. The results (Table 4) show that the measurement model meets all commonly stipulated requirements. First, all individual items are reliable, as their standardized loadings are above the threshold of 0.7 (Hair et al., 2019). Second, internal consistency was assessed by three measures, namely, ρ_A (Dijkstra-Henseler's rho), composite reliability and Cronbach's alpha (Hair et al., 2017). The construct is reliable as all values were higher than 0.7 (Nunnally and Berstein, 1994). The average variance extracted (AVE) serves as a measure of convergent validity, which is attained when AVE is greater than 0.5, as in the case of individual interests (Fornell and Larcker, 1981). Additionally, bootstrapping (5000 samples) was performed to test the significance of these values. As shown in Table 4 (values in brackets), the original values for internal consistency, reliability, and validity are included in the confidence intervals, which reinforce their adequacy. Finally, discriminant validity was tested by analysing both the heterotrait-monotrait correlation ratio (HTMT) and the traditional Fornell-Larcker criterion (Hair et al., 2019). In this case, the value for HTMT (0.897) was lower than the cut-off point (0.90), supporting the proposition that the construct has discriminant validity (Gold et al., 2001).

Consequently, the set of tests performed confirms that indicators (items) have been used that make the latent variables (constructs) reliable measures by satisfying the required values (Cronbach's alpha, variance extracted, composite reliability and Dijkstra-Henseler's rho, Table 4); that the selected items actually measure the latent variables (convergent validity, first column of Table 4) and that the indicators (items) of each latent variable measure only that variable of the model, and not another (discriminant validity, HTMT). Therefore, once the adequacy of the measures has been ensured, we can proceed to analyse the relationships between the variables as stated in the research hypotheses.

TABLE 4 Validity and reliability of measurement constructs

Composite	Item	Loads	Dijkstra-Henseler's rho (ρ_A)	Composite reliability (ρ_c)	Cronbach's alpha	Average extracted variance (AVE)
Individual interests			0.798 (0.757; 0.839)	0.863 (0.837; 0.888)	0.789 (0.74; 0.831)	0.613 (0.564; 0.665)
	IG1	0.815***				
	II2	0.735***				
	II3	0.841***				
	II4	0.797***				
Predisposition (SI)	SI	n/a	n/a	n/a	n/a	n/a

* $p < 0.05$;** $p < 0.01$;*** $p < 0.001$

Note. Values in brackets show the results from bootstrapping (5000 resamples).

SI: single item; n/a not applicable.

5.2 | Structural model

Once the reliability of the measurement of the model has been assured, the relationships between the variables (constructs) are analysed. To do this, we carry out a structural analysis of the direct and indirect effects of the variables on the outcome variable, that is, on the predisposition to entrepreneurship through the cooperative model. This is done through the structural model study. As Table 5 shows, both individual interest and cooperative principles have a positive effect on the predisposition to join a cooperative. Additionally, according to Hair et al. (2017) the use of bootstrapping (5000 resamples) produces standard errors and *t*-statistics that allow us to assess the statistical significance of the hypothesized effects (path). Both the effect of individual interest on cooperative principles and that of cooperative principles on the predisposition to form a cooperative are statistically significant since the *p*-values and percentiles at the 95% confidence interval confirm the result. However, it should be noted that there is a weak and non-significant relationship between individual interests and the predisposition to form a cooperative ($\rho = 0.116$). This relationship is stronger and significant when considering the indirect effect through the personal link to cooperative principles ($\rho = 0.682$). Thus, the total effect of individual interest on the predisposition to form a cooperative is 0.817, where 0.135 is a direct effect and 0.682 is an indirect effect.

As the direct effect is not significant, there is a full mediation (Sarstedt et al., 2020). Additionally, the Variant Account For (VAF) allows the estimation of the size of this indirect effect. The VAF in this case reaches 0.834 ($VAF > 0.80$), which means that 83.4% of the effect of individual interest on the predisposition to form a cooperative is indirect, reinforcing the fact that there is a full mediation (Hair et al., 2014). Moreover, our model gave an R^2 of 0.757 for the predisposition construct, indicating that the model achieved a substantial level of predictive power within the sample (Hair et al., 2019). The variance decomposition shows that individual interest explains 11.03% of the predisposition to form a cooperative, while 64.67% of this effect comes from the appropriateness of cooperative principles. Finally, Table 5 also indicates the size of the effects by using Cohen's f^2 values. As can be seen, the effect of individual interests on the predisposition to form a cooperative is low ($0.02 < f^2 < 0.15$), while the rest of the effects is high ($0.35 < f^2$).

Consequently, based on the above results, support was found for our hypotheses 1 and 2 (Figure 2). As can be seen, women find in cooperative principles a set of values that fit with their personal interests and needs. In turn, the fit of cooperative principles favours the predisposition to form a cooperative. Moreover, this predisposition is also influenced by women's individual interests, but only when there is a link with the cooperative principles.

Hypothesis 3 suggested that the perception of exogenous factors moderates the relationship between individual interests and the intention to form a cooperative. We conducted two analyses to test it, both an orthogonalization approach along the lines of Little et al. (2006) and Henseler and Chin (2010) and a two-stage analysis (Becker et al., 2018). As shown in Table 6, Table 7, the moderating effect of exogenous factors—namely, consulting services, financial support, and the perception of a cooperative-friendly environment—are significant regardless of the used approach. Moreover, the exogenous factors have a large effect on the relationship between individual interest and the predisposition to form a cooperative, as the f^2 values are well above the base level of 0.02. Thus, if there is an effective perception of support measures to form cooperatives, the moderating effect of these measures will be stronger, and the predisposition to form cooperatives will be increased by individual interest. Consequently, our third hypothesis is also supported.

TABLE 5 Significance of effects

	Direct effect	p-values	5.0%	95.0%	Explained variance	f ²
INDIVINT → PREDISP	0.135	0.116	-0.064	0.315	11.03%	0.012
INDINT → PRINCIP	0.915	0.000***	0.896	0.936	-	0.517
PRINCIP → PREDISP	0.745	0.000***	0.579	0.929	64.67%	0.371
INDINT → PRINCIPILES → PREDISP	0.682	0.000***	0.527	0.851		

* $p < 0.05$;** $p < 0.01$;*** $p < 0.001$

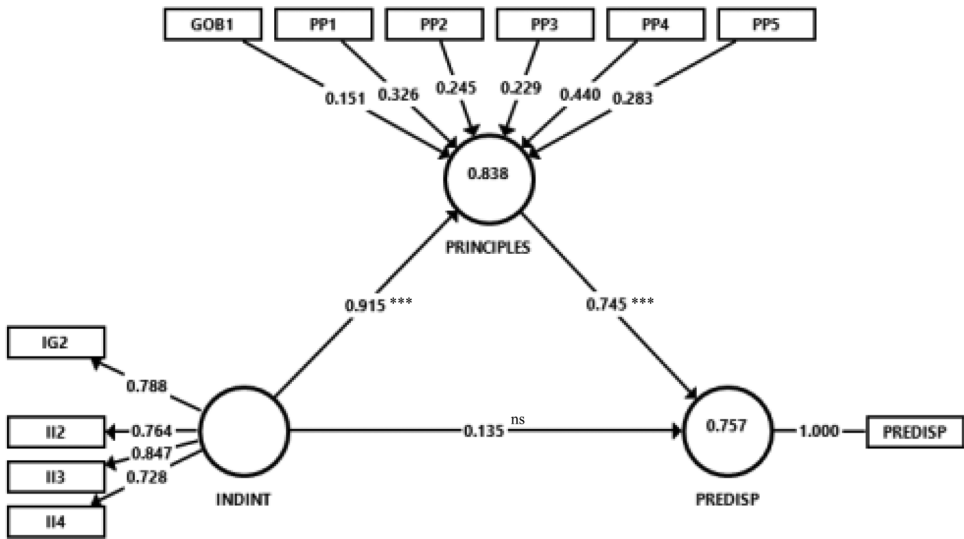


FIGURE 2 Model tested. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

TABLE 6 Moderating effect

	Effect	p-values	f ²
ORTHOGONALIZING			
EXOMOD → PREDISP	0.133	0.028***	0.051
TWO-STEP			
EXOMOD → PREDISP	0.132	0.022***	0.038

* $p < 0.05$;
** $p < 0.01$;
*** $p < 0.001$

TABLE 7 Overall goodness of fit, bootstrap-based composite confirmatory analysis (95% and 99% quantiles)

Measure	Estimated model	Hi95	Hi99	Saturated model	Hi95	Hi99
SRMR	0.069	0.078	0.083	0.061	0.071	0.073
Duls	0.317	0.296	0.32	0.309	0.297	0.325
dG	0.299	0.273	0.313	0.278	0.275	0.313

Note: SRMR: Standardized root mean; Duls: Unweighted least squares discrepancy; dG: Geodesic discrepancy

5.3 | Robustness

Two additional analyses have been performed to make these results more robust. First, the goodness of fit of the measurement model is tested using bootstrap-based tests, including the geodesic discrepancy between the empirical correlation matrix and that implied by the model (Dijkstra and Henseler, 2015); the standardized root mean square residual (SRMR) (Henseler et al., 2014); and the unweighted least squares discrepancy (Dijkstra and Henseler, 2015). The model has a good fit when these values are lower than 95% or 99% bootstrap quantiles, which is the case in this model

TABLE 8 Predictive capability of the model

	Q ² _predict	PLS		LM		PLS-LM	
		RMSE	MAE	RMSE	MAE	RMSE	MAE
PREDISP	0.657	0.429	0.332	0.43	0.336	-0.001	-0.004
PP1	0.315	0.514	0.383	0.518	0.383	-0.004	0
PP2	0.238	0.617	0.466	0.567	0.433	0.05	0.033
PP3	0.267	0.625	0.472	0.581	0.44	0.044	0.032
PP4	0.392	0.677	0.507	0.625	0.43	0.052	0.077
PP5	0.208	0.639	0.499	0.618	0.46	0.021	0.039
GOBI	0.233	1.615	1.324	1.62	1.349	-0.005	-0.025

for the three indicators (Henseler et al., 2016). Therefore, the model has a good fit and can be considered as a confirmatory model with PLS-SEM (Henseler, 2017).

Second, the predictive performance of the model (out of-sample prediction), or its ability to predict accurate values of unseen individual observations (Hair et al., 2019) is tested following the cross-validation approach with retained samples proposed by Shmueli et al. (). Table 8 shows the results of the predictive power of the dependent variables. As can be seen, four of the residual errors for the items in the PLS are larger than on the linear model (LM) and therefore we can state that our model has medium predictive power (Shmueli et al.,). However, when focusing on the dependent variable (namely, the predisposition to form a cooperative) the model shows a satisfactory predictive performance. Thus, our model improves—or, failing that does not worsen—the predictive power of the indicator data. This means that individual interests and fit to cooperative principles can predict the predisposition to form cooperatives in additional samples, which implies additional support for our model.

In view of these results, what the model tells us is that the fit between women's individual interests and cooperative principles drives the decision to choose the cooperative as an entrepreneurial model. In addition, the perceived existence of external support (financial or otherwise) acts as a catalyst for this decision. Although these relationships are found in the sample we have selected for the study, the model has predictive capacity in different samples.

6 | DISCUSSION

The basis of this research was to analyse the factors that explain women's selection of cooperatives as a model for entrepreneurship. Based on the four-factor structure of Bastida et al. (2021), we conducted a confirmatory study to better understand the effect of the underlying philosophy of the cooperative model, individual interests and expectations, and exogenous drivers for joining a cooperative on the predisposition to form this type of society. As hypothesized, it was found that personal fit with cooperative principles—namely cooperative organizational philosophy—plays an important role in the intention to form a cooperative. Additionally, individual interests and expectations were also found to have a positive relationship with the intention to enter business through cooperatives, although most of this effect is produced precisely through the cooperative principles.

This study has considered women's individual interests as an antecedent of both personal fit with cooperative principles and the predisposition to form a cooperative. On the one hand, our

result connects with the classical dichotomization on push or pull factors for entrepreneurship (Van der Zwan et al., 2016), as we find that women expect to satisfy their financial needs or fulfil personal goals such as the pursuit of work-life balance or family-related factors through their entrepreneurial activity (Ahl, 2006; Humbert and Drew, 2010; Solesvik et al., 2019). Similarly, we find evidence to support recent studies on the effect of perceived person-entrepreneurship fit and entrepreneurial intention (Hsu et al., 2019). Additionally, our results connect to the suggestion by Zisser et al. (2019) that collective business models may be particularly suitable for women. As shown in our model, both community concern and social relationships are key indicators of women's individual interest and needs, so it seems that women do indeed tend to engage in more relational prosocial behaviour (Eagly, 2009). Alternatively, from our model it can be argued that women are likely to adopt cooperative principles (Bastida et al., 2021; Datta and Gailey, 2012; Meier zu Selhausen, 2016). Regarding this point, an important result of our study is that we find that cooperative principles fully mediate the relationship between individual interests and the intention to form a cooperative. This means that women may think that they can fulfil their expectations by joining an enterprise, but it is only when they realize that the cooperative organizational culture fits their personal interests when they decide to form such an organization. This result is particularly important because it supports previous studies suggesting that a specific type of organization is key to enhancing entrepreneurial intentions (e.g., Bjørnskov and Foss, 2016). However, based on our results, the effect of the business model depends more on the particular attractiveness of the underlying organizational culture than on the requirements for setting up a business.

Earlier studies have shown that environmental conditions strongly affect entrepreneurial development (Ács et al., 2014; 2018). However, in this study these conditions have been found to moderate the aforementioned relationships. According to our results, the relationship between individual interests and willingness to form a cooperative is weaker for lower levels of perceived support measures. As the level of support increases, the relationship between interests and intentions to form a cooperative becomes stronger. This result is important, as it seems to employ two alternative pathways to increase the predisposition to form a cooperative. On the one hand, the important role of cooperative principles in driving women's intentions suggests that the promotion of cooperative organizational culture can be instrumental in increasing the number of cooperatives run by women. However, as the perception of support measures increases, so does the intention to undertake an enterprise collectively. This result partially supports the results of the study by Bastida et al. (2021), which showed that exogenous factors had the least powerful effect in explaining entrepreneurial intentions through cooperatives, as these factors do moderate the effect of other factors. This result also shows that external factors condition entrepreneurial activity (Henry et al., 2016; Wheadon et al., 2019) and that a rich entrepreneurial ecosystem fosters entrepreneurship (Ács et al., 2014, 2018).

Importantly, these findings echo previous research on the critical factors for women to enrol cooperatives (i.e., Bastida et al., 2021). As has been previously argued, the cooperative principles and the adequacy of these principles for individual preferences can be powerful drivers for collective entrepreneurship. Our findings provide support for this major role of cooperative principles, both for the governance process that gives people opportunities to control the work process and for the objectives intended to prioritize social results. Additionally, supportive measures to create a cooperative sector are a kind of catalyst in the perception of being able to satisfy personal interests and needs through a cooperative, and the intention to do so.

This study also lends some support to previous criticism on the need to examine entrepreneurial systems through a gendered lens (Hughes and Yang, 2020;). Drawing on our results, it can be suggested that promotion measures aimed at disseminating the philosophy of cooperatives, as well

as those aimed at fostering collective entrepreneurship, are particularly suitable for encouraging women's entrepreneurship, particularly through cooperatives. This finding opens the door to further study on the role that governments can play in empowering women's entrepreneurship, and the convenience of reviewing traditional supportive measures.

This study has sought to contribute to the literature on women's collective entrepreneurship using specific measures of their motivations. First, the study contributes to exploring the importance of a particular organizational culture, which researchers have surprisingly overlooked. Second, the predictive ability of women's individual interest and the need to explain the predisposition to form cooperatives was estimated. On this point, while previous research has largely supported the importance of individual interest for entrepreneurship, this study contributes by adding that different business models can effectively respond to these needs and expectations. It appears that no other study has examined the relationship between an individual's interest and preference for a particular business model, which merits further research.

The results of the study highlight the mediating role of cooperative principles, which is the variable that explains individual interest in the predisposition to form a cooperative. To date, scholars have suggested the particular suitability of cooperatives for female entrepreneurship. This research contributes to understanding "how" and "when" this link occurs. To this end, (a) we have measured "how" this effect on the predisposition to form cooperatives occurs—the results indicate that there is no direct effect, but a positive indirect effect through cooperative principles; and (b) we have analysed "when" this indirect effect occurs, namely when there is a perception of a favourable environment. In other words, these results suggest the importance of both clarifying the underlying philosophy of a cooperative and highlighting the set of supportive measures to create these entities.

The results have theoretical and practical implications for organizations. From a theoretical perspective, the results provide empirical support for the idea that there are specific drivers for enhancing women's entrepreneurship as a collective activity. Furthermore, this study also provides empirical support for Bastida et al.'s (2021) four-factor structure of cooperative drivers, as it is a confirmatory analysis of their model. From an applied viewpoint, the results suggest that governments can improve the overall effectiveness of support measures by enhancing promotional measures to better explain the benefits of collective entrepreneurship. This can be done by creating conditions that trigger women's expectations that can be fulfilled through collective entrepreneurship.

Like all studies, this one has some limitations that need to be highlighted. The first is that the study was conducted in a set of organizations within a specific geographical context. The effects of cultural variables were not examined and therefore the present findings should not be generalized to other organizations and countries without considering possible cross-cultural differences. A particularly important derivative of this limitation is that the set of measures that has been considered as exogenous factors responds to a specific context, in this case Spain. Therefore, in other contexts with different support, or where it is not possible to establish lines of support, different results could be found. It is also true that most of the studies used to identify the factors that influence women's entrepreneurship are geographically centred on Western countries, so it would be worth exploring these relationships based on literature focusing on women entrepreneurship and its constraints in other contexts, such as in the Global South. The second main limitation is that, although the sample size was sufficiently large, the potential effects of gender differences could not be examined because the number of men in the sample was small. Along the same lines, the sample size does not allow us to explore possible differences in motivations according to the type

of cooperative, or other variables that might be relevant, such as the size of the cooperative or the sector of activity. Future studies should examine these issues.

7 | CONCLUSIONS

Recently, both academics and institutions have become increasingly interested in female entrepreneurship. Scholars have highlighted the need to examine the entrepreneurial ecosystem through a gender lens (Hughes and Yang, 2020), as well as highlighting the fact that there is little research on the relationship between public policy and women's entrepreneurship (Jennings and Brush, 2013). More interestingly, Foss et al. (2019) argued that "the policy implications of research on female entrepreneurship are, for the most part, vague, conservative and focus on identifying skill gaps in women entrepreneurs that need to be fixed" (Foss et al., 2019, p. 1). Furthermore, in her study with 25 technicians from an EU-funded support programme, Pardo del Val (2010) found that policies to support women entrepreneurs should strengthen motivators and concentrate on the type of business, focusing on long-term initiatives.

This paper addresses all these concerns. We explore women's motivations for starting businesses by shaping collective business models, highlighting the role of organizational culture and management processes to better respond to women's expectations and needs. Furthermore, we explicitly argue that support measures should be deployed, both from a financial and advisory approach. Additionally, we argue that more information on business models is needed to show the benefits that some entities can present as tools to achieve individual interest. Therefore, this study aims to understand "how and why" the influence of individual interest and needs can translate into business creation, demonstrating that this is a process in which organizational culture is the mediating variable, but also that entrepreneurship support measures can act as a driver.

In summary, the main contribution of this study is to provide a roadmap for improving women's entrepreneurship, with a special focus on collective entrepreneurship. In this way, public administrations hold the key to better exploiting the role of women as potential sources of successful entrepreneurship.

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