Analysing the links between cooperative principles, entrepreneurial orientation, and performance.

Carmen Guzmán

Department of Applied Economics I
Faculty of Economics and Business Sciences
University of Seville
Av. Ramón y Cajal 1
41018 Seville, Spain
Phone: +34 954557557
cguzman2@us.es
ORCID: 0000-0002-5290-8841
(corresponding author)

Francisco Javier Santos

Department of Applied Economics I
Faculty of Economics and Business Sciences
University of Seville
Av. Ramón y Cajal 1
41018 Seville, Spain
Phone: +34 954557641
fjsantos@us.es
ORCID: 0000-0003-4453-7048

María de la O Barroso

Department of Economics
Faculty of Business Sciences
University of Huelva
Plaza de la Merced 11
21071 Huelva, Spain
Phone: +34 959217865
barroso@uhu.es
ORCID: 0000-0002-1507-4745

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Abstract

Cooperatives are enterprises characterised by certain principles, such as cooperation, democratic decision-making, and training that define their entrepreneurial behaviours. Several of these cooperative principles appear to exert a positive influence on the performance of these firms and on the three dimensions that define the entrepreneurial orientation of companies: proactiveness, innovativeness, and risk-taking. This study builds a theoretical model that relates cooperative principles, entrepreneurial orientation, and performance from the perspective of corporate governance and Human Resource Management practices, in order to study the links that may exist between these elements. Using data from a survey on 155 worker cooperatives in the Basque Country (Spain) and applying the Partial Least Squares technique, we find that cooperative principles positively affect the performance of cooperatives, both directly and via entrepreneurial orientation.

1. Introduction

In recent years, the interest in cooperatives, enterprises which are driven not just by profit but also by social values, has grown among academics in various fields of research, such as economics, management, and entrepreneurship (Novkovic 2008; Cheney et al. 2014; Díaz-Foncea and Marcuello 2015). This interest has evolved in parallel with a higher presence in the markets of cooperatives, which compete with conventional firms. According to the World Cooperative Monitor, the 300 most important cooperatives at international level generate a combined turnover of USD 2.5 trillion (ICA 2017) and create 280 million jobs (10% of the entire employed population) (CICOPA 2017).

Two major issues regarding cooperatives should be borne in mind before establishing the research questions of this article. Firstly, cooperatives tend to be small and medium-sized enterprises that base their activity on certain principles, the so-called cooperative principles (CPs), whose implementation entails the values of self-help, self-responsibility, democracy, equality, equity, and solidarity. Secondly, although types of cooperatives do vary (consumer cooperatives, credit cooperatives, teaching cooperatives, etc.), *worker cooperatives* (WCs), whose workers are also the owners of the enterprise, are present in practically all economic sectors and, therefore represent one of the most common types of cooperatives in the world (Birchall 2013; Cheney et al. 2014). These two factors make cooperatives, and particularly WCs, a special case study.

The specific literature on cooperatives in general, and on WCs in particular, highlights that the applications of their CPs lead to the adoption of certain behaviour of a social content, such as prioritising the preservation of jobs over the maintenance of high profits (Núñez-Nickel and Moyano-Fuentes 2004). Other major social outcomes of WCs include the promotion of the sustainable development of local communities, social participation and integration, and higher levels of job satisfaction and trust (Novkovic 2008; Sabatini et al. 2014).

Furthermore, analyses of the influence on performance of the implementation of certain CPs can also be found in the literature. In this context, Corporate Governance Theory should be highlighted, since it offers the key to understanding these relationships. Hence, as stated in several contributions, democratic participation is a cooperative value itself and the most competitive WCs in the market are those in which members hold the same status inside the firm, thereby obviating any conflict of interest. Consequently, there is no cost of collective decision-making, which positively affects the performance of the members (Hansmann 1996). In addition to this, and according to the other specific corporate governance theories such as Agency Theory, the principle of worker participation can improve performance because the functions of ownership and management coincide in the same person and it is therefore not necessary to incur any monitoring costs (Spear 2004).

Despite the positive influences of democratic and economic participation on performance, the corporate governance literature pays insufficient attention to the influence of other CPs. These CPs include the concern for the community, education, and co-operation (ICA 1995). These CPs may, as a whole, exert an aggregate influence on performance. Therefore, this incomplete perspective constitutes a first gap in the literature regarding CPs and performance of cooperatives, which could be filled through the perspective of other theories related to Corporate Governance or through the Human Resource Management (HRM) literature. In this respect, stewardship theory, resource dependency theory, and stakeholder theory also constitute theories related to Corporate Governance that could provide a theoretical framework to explain the aggregate and positive influence of all the CPs on performance (Cornforth 2004). Regarding HRM practices, these involve a series of initiatives for the improvement of the efficiency of workers in a company (Pfeffer 1998) and demonstrate whether there is a direct or indirect positive influence on performance (Zehir et al. 2016).

A second gap in the literature regarding CPs and performance involves the role that the entrepreneurial orientation (EO) of these enterprises could play. It is well known that EO can

improve performance through the development of three important strategies: innovativeness, proactiveness, and risk-taking (Miller 1983; Lumpkin and Dess 2001). Certain meta-analyses reveal the relevance attributed to EO in various economic sectors, contexts and cultures (Rauch et al. 2009), whereby EO plays a wide range of roles in the entrepreneurial activity (Khedhaouria et al. 2015). Specifically, in the field of cooperatives, EO has barely been considered, although findings suggest that it may play a mediating role between CPs and performance (Kyriakopoulos et al. 2004; Padilla-Meléndez et al. 2014).

Therefore, the objective of the article is to provide responses to the aforementioned issues while studying both the role of CPs and EO in promoting the performance and growth of this type of company in a single framework. This article particularly strives to answer the following research questions: Do CPs as a whole influence the business performance of cooperatives? If that is the case, does this influence take place directly or through the EO as a mediating variable? And to what extent is this influence? In order to answer these research questions, this paper proposes a theoretical model based on a wider range of literature on corporate governance than that frequently used, and the HRM perspective is also incorporated. Furthermore, this theoretical model includes certain aspects rarely considered in the literature regarding cooperatives and their performance, such as a comprehensive approach to CPs (not only participation) and to the EO concept.

This theoretical model is tested using data from a sample of 155 WCs from the Basque Country (Spain), one of the most representative regions of the cooperative movement worldwide. Specifically, we apply the Partial Least Squares technique for the statistical analysis, using the SmartPLS3 software. The results lead to several conclusions and practical implications that shed more light on the performance of cooperatives.

2. Theoretical framework

2.1 Cooperative principles and business performance

Cooperatives are defined by the International Cooperative Alliance (ICA) as "*businesses owned and run by, and for, their members. Whether the members are the customers, employees, or residents, they have an equal say in what the business does and a share in the profits*" (ICA 1995). These businesses are driven not just by profit, but also by values such as self-help, self-responsibility, democracy, equality, equity, and solidarity. In order to incorporate these values into the everyday running of the business, the ICA founded seven CPs to be applied: voluntary and open membership, democratic member control (one member, one vote), member economic participation, autonomy and independence, cooperation among cooperatives, concern for the community, and education, training, and information.

Although types of cooperatives do vary (consumer cooperatives, credit cooperatives, teaching cooperatives, etc.), this article is specifically focused on Worker Cooperatives (WCs), where workers are at the same time the owners of the firm. These type of cooperative represent one of the most numerous in the world, along with agricultural, banking, and education cooperatives, and are present in practically all economic sectors (Birchall 2013; Cheney et al. 2014).

Traditionally, WCs have been largely studied in the field of Labour-Managed Companies (Ward 1958). One of the most visited topics in this field is studying how the workers' participation (either in the ownership, in the decision-making process, or in the profit distribution) affects business performance.To this regard, numerous existing studies have found a positive relationship between these two variables (Jones and Svenejar 1982; Kyriakopoulos et al. 2004; Blasi et al. 2013). Specifically, Kruse and Blasi (1997) reviewed the literature referring to this topic and concluded that the positive link between participation and performance is caused by the motivation, commitment, and information-sharing that employees experience when they participate in decision-making, the distribution of profits, and ownership.

In the particularcontext of WCs, the connection between workers' participation and performance is usually explained through *corporate governance theories.* To this regard,, Hansmann and his "Theory of Ownership" (Hansmann 1996) deserves mention. The author holds that the most successful experiences of WCs are those in which the costs of collective decision-making (related to time or information flows, typical in democratic processes) are averted. To this end, he points out that it is necessary to promote homogeneity among members so that any conflict of interest is obviated. In this respect, evidence suggests that those WCs in which their members perform similar tasks and have essentially the same status, are better positioned and with higher performance. Certain measures to promote this homogeneity are related to the distribution of profits among members (Hansmann 1996).

Moreover, Agency theory is one of the best–known theories in the field of corporate governance that can explain the positive influence of participation on performance. According to this theory, the interests of the owners of the firm (principals) and those of managers (agents) differ, thereby making it necessary to incur monitoring costs in order to prevent the agents from acting in their own interest rather than in that of the principals (Jensen and Meckling 1976). In this respect, these costs are averted in WCs as the owners and workers are the same people with the same interests (Spear 2004). This situation explains why the governance in WCs is not aimed at monitoring activities but instead at improving performance, since both jobs and the profit distribution are maintained.

Nevertheless, beyond participation of workers in the ownership, in decision-making and in profit distribution there are other CPs, such as training, cooperation, and concern for the community, which also contribute towards defining and shaping the entrepreneurial culture of cooperatives and may exert an influence on their business performance (Kyriakopoulos et al. 2004; Novkovic 2008). In this way, it should be borne in mind that there are other corporate governance theories beyond Hansmann's contributions and Agency Theory that are also related to the link between CPs and performance. In fact, according to Hung (1998), although the specific

literature has mostly focused on democracy and monitoring costs, these two aspects constitute just a small part of the governance of these kinds of firms. Other theories, such as Stewardship, Resource Dependency, and Stakeholder theories, highlight additional aspects related to the governance of cooperatives (Cornforth 2004).

According to *Stewardship Theory* (Muth and Donaldson 1998), the WC members are interested in improving the organisational performance. This explains why their governing activities will be aimed at prioritising the training and the quality of their skills in order to professionalise their tasks (Cornforth 2004). Furthermore, *Resource Dependency Theory* (Pfefeer and Salancik 2003) is based on the idea that the organisation is dependent on other organisations to ensure its resources and the information necessary to maintain its place in the market. For that reason, governance implies cooperation and relationships with other firms (Cornforth 2004). Finally, *Stakeholder Theory* is based on the premise that an organisation is not only responsible for the owners or members of the WC, but also for other groups of society, and hence they also have to uphold these groups' interests (Hung 1998). In this respect, the concern for the community leads to the incorporation of these different preferences in the social objective of WCs (Cornforth 2004), which can positively affect their performance, thereby increasing their sales.

Furthermore, in this context of promoting cooperative nature and performance, it is necessary to take into consideration the concept of "management capabilities". This refers to the management knowledge through which the firm is likely to achieve a sustainable competitive advantage (Barney 1991). The low number of existing cooperatives has often been associated to certain weaknesses in management capabilities: a situation that is a direct consequence of a lack of embeddedness of cooperative culture in the management tasks (Meek and Woodworth 1990; Hansmann 1996; Spear 2004). In contrast, there are studies that emphasize the high quality of the management capabilities in successful cooperatives and link this situation to the cooperative culture in which the management process in based (Whyte and Whyte 1988; Meek and Woodworth 1990; Hansmann 1996). Therefore, this literature suggests that the management

capabilities derived from the cooperative culture, whose implementation entails the application of CPs, exert influence in the performance of cooperatives (Basterretxea and Martinez 2012).

In addition to the concepts laid out above, this positive relationship between CPs and performance can also be explained through HRM practices. These practices refer to activities of any kind of firm directed towards managing human resources in order to achieve business performance goals (Pfeffer 1998), and are based on the idea that increasing employees' satisfaction and engagement may lead to better performance of their tasks, and, consequently, to an output that is also higher (Zehir et al. 2016). Taking the list of HRM practices defined by Pfeffer (1998) as a reference, this includes practices related to several CPs. On the one hand, there are practices related to CPs of participation and democracy, such as employment security, reduction in differential status, and higher compensation contingents on business performance. On the other hand, the list also includes several practices related to the rest of the CPs, such as sharing information and extensive training, which are related to cooperation and training respectively (Forcadell 2005; Bretos et al. 2018).

Therefore, given all the previous literature that relates all the CPs to performance, the principles positively affecting cooperative performance cannot be limited to those solely of participation and democratic control. Consequently, Hypothesis 1 is proposed:

H1: The fulfilment of the set of CPs exerts a positive influence on the performance of cooperative companies (Figure 1).

2.2 The mediating role of entrepreneurial orientation

Cooperative performance can also be analysed from the perspective of Entrepreneurial Orientation, a research field which is one of the most fruitful in Entrepreneurship Theory (Rauch et al. 2009).The Entrepreneurial Orientation (EO) of companies has received increasing attention since the concept was first introduced in the literature by Miller (1983) and Covin and Slevin

(1989). This interest arises not only due to theoretical studies, but also to empirical studies, and shows a significant link between the EO of companies and their performance and growth (Rauch et al. 2009; Khedhaouria et al. 2015). In this respect, given the intense competition that exists in the current globalised markets, it is logical that not only academics, but also companies from all sectors and locations, focus their efforts on increasing their EO in order to maintain and increase their market share

Entrepreneurial Orientation is defined as an entrepreneurial strategy characterised by the three following dimensions: proactiveness, innovativeness, and risk-taking (Covin and Slevin 1989; Miller 1983). Firstly, proactiveness refers to the search for new opportunities in order to act in advance in the face of changes in demand. This behaviour requires the entrepreneur be in a continuous state of "alertness" in order to detect opportunities, which at the same time involves the development of certain tasks, such as planning activities and remaining up-to-date regarding any changes in the market (Lumpkin and Dess 1996). Secondly, innovativeness involves taking part in creative and experimental processes whose results include new products and services, new process technologies, new methods of operation, and new business strategies. Innovativeness is considered fundamental since the introduction of any innovation by any company may help to maintain or improve its position in the market with the consequent positive results in its business performance (Covin and Slevin 1989). Thirdly, risk-taking refers to a willingness to dedicate resources to projects whose outcomes are uncertain (Miller 1983). Although risk-taking has always been linked with entrepreneurial activity, entrepreneurs differ in the levels of risk they are willing to tolerate, and riskier decisions are normally associated to greater outcomes (Lumpkin and Dess 1996)

In the context of cooperatives, EO is related to the corporate governance theory. Thus, governance actions are directed at developing certain strategies with the intention of rendering the business more entrepreneurially oriented and which in turn would ultimately affect performance in a positive way (Cornforth 2004; Hung 1998). Moreover, and given the

relationship found between CPs and HRM practices (Forcadell 2005; Bretos et al. 2018), Zehir et al. (2016) found that EO acted as a mediating variable between strategic HRM practices and performance. Therefore, according to these fields of research, EO could constitute a mediator between CPs and performance.

More specifically, links between CPs and EO may well take place thanks to the "managerial capabilities" of the firm (Barney 1991). Thus, if "*management plays a primary role in determining the path a firm takes, the combination of resources it deploys and encourages, and the markets in which it participates*" (Basterretxea and Martinez 2012), then it is also directly connected to EO dimensions of innovation, risk-taking, and proactiveness. Therefore, if, as cited in the previous section, the management capabilities in cooperatives are linked to the cooperative culture (Whyte and Whyte 1988; Meek and Woodworth 1990), then the EO is probably related to the application of this culture, which implies the application of the CPs.

Further to the aforementioned contributions in the literature, other diverse contributions exist regarding the relationships between certain behaviours related to CPs and the dimensions of EO. Firstly, regarding innovation, although a number of studies indicate that cooperatives may experience difficulties in carrying out radical innovations mainly due to their lack of financing (Guzmán et al. 2016), other studies have recently upheld that CPs facilitate innovation through cooperation and training (Rodríguez and Guzmán 2013; Padilla-Meléndez et al. 2014). Moreover, innovations can also be promoted thanks to the CP of concern for the community, since this can constitute a reason for the introduction of innovations dedicated to solving specific problems of the environment (Moulaert 2013).

Secondly, regarding risk-taking, most of the literature recognises that cooperative members have a great aversion to risk (Drèze 1976). The reason suggested is that cooperative members start from a risky situation, since they concentrate their whole workforce, and normally also all their capital, in a single company (Hansmman 1996). Nevertheless, it has been shown that training and education helps all types of companies to become involved in projects that can imply

a higher risk (Caliendo et al. 2009). Similarly, other studies show that cooperation may also positively affect higher-risk-taking behaviours in general (Kaasa 2009). The CP of concern for the community may imply undertaking activities that may involve a higher risk, but which may also generate higher positive impacts not only in their social objective, but also in the member's economic participation in profits, which in turn constitutes another CP (Ajates-González 2017).

Finally, regarding proactiveness, several analyses have revealed certain interesting positive findings. On the one hand, the CP of education can promote the acquisition of knowledge, which can result in the detection of an opportunity (Padilla-Meléndez et al. 2014). And on the other hand, the CP of concern for the community can offer an answer to the social necessities of the environment, finding new market opportunities (Kyriakopoulos et al. 2004; Guzmán et al. 2016; Ajates-González, 2017).

Therefore, we formulate our second hypothesis:

H2: *EO has a mediating (positive) role between CPs and the performance of cooperative enterprises* (Figure 1).

FIGURE 1 AROUND HERE

3. Methodology

3.1 Data

Worker Cooperatives in the Basque Country (Spain) form the target population of this study for the verification of the research hypotheses. In accordance with Basque Law on Cooperatives, WCs are identified as those companies which "associate physical people that, through their work, develop any economic or professional activity to produce in common, goods and services for third parties" (Law 4/1993 on cooperatives). This region was selected due to its

long tradition in the cooperative movement (Whyte and Whyte 1988). In fact, the first law of Basque cooperatives dates from 1982, making it the oldest in Spain. Moreover, in accordance with the data supplied by the Spanish government, the Basque Country has 19.58% of its total employment in cooperatives, thereby raising it to the position of one of the regional leaders (Ministry of Employment and Social Security 2017). In addition to this, the percentage of employees in WCs of the total employees in all types of cooperatives is 52.4%, which reinforces the importance of the Basque Country in the national panorama of WCs (Ministry of Employment and Social Security 2017).

In order to verify our research hypotheses, a survey of these Basque WCs was carried out in 2013 due to the unavailability of the qualitative information upon which this research is based in the official statistical sources. The questionnaire has 20 questions related to CPs, EO, and performance. Although entrepreneurship in cooperatives has a collective nature (Díaz-Foncea and Marcuello 2013), the respondents consisted of the chairpersons of the cooperative companies, since these are the people who best know the companies (Rodríguez and Guzmán 2013).

Table 1 offers the characteristics of the population under study in terms of size, economic sector, and performance, and compares them with those of conventional firms (CF). According to the data, it can be observed that WCs are bigger and that they enjoy a greater presence in the secondary sector. Regarding performance indicators, it can also be perceived that WCs have maintained their level of employment over the last five years, while CFs have decreased their level of employment. This reflects the effects of the economic crisis that began in 2008, and the different nature of these two groups of firms when faced with said crisis. The economic recession also explains the negative nature of the indicator for sales growth for the two groups of companies, which is especially negative in WCs and may be a consequence of their higher presence in the economic sector of industry. Finally, official data also implies that the apparent labour productivity is higher for WCs. All this information reveals that WCs constitute an entrepreneurial

group that differs to that of CFs and, consequently, they must be studied separately and their special characteristics must be taken into consideration.

Having defined and contextualised the focus population of our research, we have selected a representative sample in terms of size and economic sector. It is necessary to clarify that, although the EEC (2004) relates cooperatives to SMEs, large firms are also considered in the study since they constitute a very small percentage of the population universe. Consequently, their inclusion enables us to attain a complete view of the general situation under analysis. The resulting sample was calculated through a proportional stratified random technique with an error level of 6.5 % and a 95 % level of confidence. The final sample therefore included 155 WCs, whose characteristics are shown in Table 2.

TABLE 1 AROUND HERE

TABLE 2 AROUND HERE

3.2 Measures

In order to measure the different variables of the research model, the questionnaire was designed by focusing on three aspects: CPs, activities related to EO, and business performance. These three aspects have been modelled as composites, which can be described as constructs consisting of various indicators (Henseler et al. 2016).

The *dependent variable* is the construct called "*performance*" of companies, which was measured through the indicators "*sales growth*" and "*employee growth*". Each of these variables is considered by certain studies to present a good measure of performance and, specifically, of

the growth of companies (Shepherd and Wicklund 2009). In this analysis, these indicators behave as a continuous variable, taking the value of the percentage of growth (with a positive sign) or decrease (with a negative sign) of both sales and employees for five years (2008-2012).

The independent variable is "*Cooperative Principles*". Taking into consideration that: a) CPs generally refer to abstract and uncountable concepts, and b) the answer to the questions regarding fulfilment of CPs may be in danger of having been led to the "correct answer", this paper is focused on those CPs that can be objectively fulfilled and measured across various practices (Münker 2015; Casas Anguita et al. 2003). Our construct of CPs is therefore composed of:

- *Democratic member control* ("*Democracy*"), which takes value 1 if the percentage of partners frequently attending the general assembly lies within the range of 1-20, value 2 in the range 21-40, 3 in the range 41-60, 4 in the range 61-80, and 5 in the range 81-100;

- *Member economic participation* ("*Economic Participation*"), which takes value 0 if the company has not obtained profits in the last three years, 1 if the percentage of profits distributed among partners on average in the last three years was in the range 1-20%, 2 in the range 21-40%, 3 in the range 41-60%, 4 in the range 61-80%, and 5 in the range 81-100%. (It should be borne in mind that although the Basque Law on Cooperatives stipulates that a part of the profits must be dedicated to the training of employees and to reserve funds, 10% and 20% respectively, in practice many cooperatives distribute all the profits);

- *Education*, which takes value 1 if the cooperative has dedicated an amount of the profits to this aim, and 0 otherwise;

- *Cooperation*, which takes value 1 if the cooperative actually cooperates with other cooperatives, and 0 otherwise; and

• *Concern for community*, which is related to the development and amplification of its social objective. It takes value 0 if the company has not obtained profits on average in the last three years, 1 if the percentage of profits reinvested in the company on average in the last three years was in the range 1-20%, 2 in the range 21-40%, 3 if it was in the range 41-60%, 4 for 61-80%, an, 5 for 81-100%.

In addition, EO is a mediating variable. As was previously mentioned, EO has three dimensions: innovativeness, proactiveness, and risk-taking (Miller 1983; Covin and Slevin 1989). In this study, following Fernández-Serrano and Romero (2013), EO is measured in this analysis using all three indicators:

• *Innovativeness*: this dimension is a Likert variable that measures the degree of innovation of new products introduced into the market within the last three years. It takes values from 0 to 5, whereby 0 is taken if the WC incorporated no new product; otherwise it takes 1 for a low innovation level, up to 5 for a very high innovation level.

• *Proactiveness:* this variable takes values from 0 to 3, depending on whether the company carries out annual formal planning activities to anticipate the future (value 1 or 0 otherwise), to remain up-to-date regarding any changes in the markets (value 1 or 0 otherwise), and are prepared to detect and exploit new market opportunities (value 1 or 0 otherwise). The Proactiveness variable corresponds to the aggregation of the three types of behaviours.

• *Risk-taking*: this third dimension takes five different values in a Likert scale. Specifically, the interviewed members were asked about their level of agreement with the following statement: "*In general, a tendency to undertake high-risk projects exists in my enterprise*". The value 1 means no tendency to undertake any high-risk projects, and the value 5, a high tendency to undertake high-risk projects.

Finally, as is usual in entrepreneurship research, the variables *Size* and *Economic sector* have been selected as control variables. Firstly, regarding the variable *Size*, the commonly accepted classification of the European Union according to the number of employees is used, as explained for Table 1 and Table 2. Variable *Size* takes values from 1 to 4, depending on whether the cooperative is a micro (value 1), a small (value 2), a medium-sized (value 3), or a large (value 4) company. Secondly, the variable called *Economic sector* is a dichotomous variable which takes value 1 when the company belongs to the industry sector and takes value 0 otherwise. Descriptive indicators of the variables included in the analysis are presented in Table 3.

TABLE 3 AROUND HERE

3.3 Data analysis

A variance-based structural equation modelling technique, that of Partial Least Squares (PLS), is applied to test the relationships hypothesised between CPs, EO, and the growth of cooperatives (Hair et al. 2016). This is a suitable tool, given the characteristics of the constructs included in our research model, for at least two reasons. On the one hand, the constructs are composites, which implies that each indicator represents different aspects of the construct and their removal of the measurement model alters the meaning of the construct (Hair et al. 2016). On the other hand, the literature recommends using this type of data analysis when the focus of the study is both exploratory and predictive of the main dependent variable, and when the sample is not overly large (Henseler et al. 2015).

In this way, the CP construct was modelled as a composite and estimated in Mode B (regression weights). The reason for selecting Mode B was that the various CP indicators do not have to be necessarily correlated (Henseler et al. 2015). In turn, Mode A was selected for EO and performance variables, since their indicators tend to be correlated (Henseler et al. 2016). Finally,

Smart PLS 3.2.6 was the software applied in the calculation of the evaluation of the global model fit, the measurement model, and the structural model (Ringle et al. 2015).

4. Results

4.1 Evaluation of global model fit

According to Henseler et al. (2016), it is recommendable to start the assessment of the model with the evaluation of the global model fit. To this end, we performed the following three bootstrap-based tests of model fit: (a) the standardised root mean squared residual (SRMR); (b) the unweighted least squares discrepancy (dULS); and (c) the geodesic discrepancy (dG). If any of these tests exceed bootstrap-based 95% (HI95) and 99% (HI99) percentiles, then the model should be considered as possibly inaccurate. Our results show that the three tests of model fit respect the limits of HI95 and HI99 levels, which shows that the model cannot be rejected. Furthermore, Henseler et al. (2016) warned that the threshold of 0.08 should not be exceeded for the model fit in PLS, which is also met with the value of 0.062 (Table 4).

TABLE 4 AROUND HERE

4.2 Measurement model

The evaluation of the measurement model involves distinguishing between variables modelled in Mode A and those in Mode B. Starting with variables in Mode A, *performance* and EO, internal consistency reliability and validity of the constructs are assessed through the traditional measures defined by Henseler et al. (2016). Regarding *performance*, indicators of sales and employee growth both have loadings above 0.7 (Table 5). Consequently, the individual item reliability is satisfactory. The indicators for EO, however, fail to exceed this value in all the cases (innovativeness and risk-taking have loadings under 0.7) (Table 5). Nonetheless, their figures are very close to the threshold and remain, nevertheless, under 0.4, and hence are kept in the construct

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given their importance in the explanation of the EO variable (Hair et al. 2016). Furthermore, values of composite reliability are over 0.7 in both performance and EO variables, and their values of average variance extracted (AVE) are greater than 0.5. Therefore, the internal consistency and convergent validity are also met in the two constructs. Finally, by applying the Fornell and Larcker (1981) criterion (Table 6), the discriminant validity is also achieved in both cases, meaning that both variables differ from other constructs.

Regarding the "*Cooperative Principle*s" variable modelled in Mode B, this is assessed at two levels: at the construct (discriminant validity) and at the indicator level (multicollinearity and weight assessment). At the construct level, according to Urbach and Ahlemann (2010), if correlations between the composites and all other constructs are lower than 0.7, then the constructs differ sufficiently from one another and discriminant validity is achieved. Table 6 shows how this condition is met. On the other hand, at the indicator level, the analysis of potential multicollinearity is carried out through the examination of the variance inflation factor (VIF) statistic, which should not exceed the value of 3.3 (Petter et al. 2007). In our case, the highest value is 1.369 for the *Concern for Community* indicator*,* which indicates that no problem of multicollinearity exists (Table 5). Finally, the weights allow us to know and to rank the importance and contribution of each indicator in the composite. A significance level of at least 0.05 for an indicator suggests that it is relevant for the construction of the composite variable; which is met for the *cooperation* and *concern for community* indicators (Table 5). However, no significant dimensions should be removed from the model: they explain variance of the CP models and omitting them would imply omitting a part of the composite latent construct (Hair et al. 2016).

TABLE 5 AROUND HERE

TABLE 6 AROUND HERE

4.3 Structural model

Table 7 shows the explained variance (R2) in the endogenous variables (*EO* and *Performance*) and the path coefficients for the research model under study. According to Falk and Miller (1992), the coefficient of determination (R2) of a composite variable has to exceed the minimum value of 0.1 in order to be considered as acceptable for the predictive capacity of the model for that composite. This requirement is met in both OE and performance constructs.

In order to test the relationships hypothesised within the model, a bootstrapping technique (5000 re-samples) is employed to generate standard errors, t-statistics, and 95% bias-corrected confidence intervals (percentile) (Hair et al. 2016). As Table 6 shows, the sign of the size control variable is negative but not significant. In turn, the economic sector is also negative but significant. On the other hand, regarding the formulated hypothesis, the direct effect and the indirect effect are positive (0.2335 and 0.055, respectively) and significant at 95% and 99%, respectively. Consequently, H1, on the positive influence of CPs on performance, and H2, on the mediating role of EO in this relationship, are both confirmed. Furthermore, the figure related to the direct effect of CPs on EO deserves mention and represents the highest value (0.328) of all the relationships considered at a confidence level of 99.99%. This fact, together with the fulfilment of the other necessary statistical criteria, clearly demonstrate the robustness of these results.

TABLE 7 AROUND HERE

5. Discussion and conclusions

The aim of this research is to ascertain whether CPs, which incorporate the specific philosophy of cooperatives, affect the growth of cooperatives, and, if so, to what extent. In

addition, the research studies whether this influence may take place directly or indirectly through the EO as a mediating variable. This approach is based on the previous literature related to corporate governance in cooperatives and HRM practices. The results lead to the following main conclusions: 1) Fulfilment of the CPs does positively influence the performance of the business in terms of both sales and employment growth; and 2) EO reinforces the positive influence of the CPs on business performance, since it acts as a mediating variable.

Regarding the first conclusion, the present article shows that the cooperative philosophy, measured as a single construct, manifests itself in the form of better company results. Furthermore, the putting into practice of CPs is not only translated into higher levels of sales, but also into the creation of new job positions in the firm, which shows the commitment of cooperatives with the community in turning their good results into the creation of new employment instead of simply maximising their profits. In addition, this positive link between CPs and performance may also explain the great survival of cooperatives and their high performance during the economic crisis (Birchall 2013).

From the specific perspective of corporate governance, the results obtained also confirm that governance in cooperatives responds to the integration of several theories. Although corporate governance in cooperatives has been focused on the democratic decision-making process and the importance of the monitoring costs (Hansmann 1996; Spear 2004), this research suggests that additional aspects derived from the stewardship, stakeholders, and resource dependence theories should also be taken into consideration (Cornforth 2004). In this respect, it can be concluded that, according to the results obtained, CPs as a whole incorporate these other aspects of governance, and they positively affect the performance of worker cooperatives.

Regarding the second conclusion, whereby EO reinforces the positive influence of the CPs on the business performance by acting as a mediating variable, this research shows that the cooperative values and idiosyncrasies also strengthen entrepreneurial behaviour composed of innovation, proactivity, and risk-taking. This constitutes a major step forwards in the literature on

cooperatives, since EO has barely been considered in this field of research. Specifically, this contribution shows that these types of firms do not represent an exception to the theory of entrepreneurship. At the same time, it demonstrates that values, such as solidarity, democracy, and equality, which differ greatly from profit maximisation, can also reap benefits in the entrepreneurial activity, and promote the competitiveness of cooperatives through their particularities, with the consequent effects on their results.

Likewise, this conclusion also points towards contemplating the corporate governance of WCs as exerting an influence on performance in an indirect way through the EO; this too has scarcely been addressed in the literature on cooperatives. This research constitutes pioneering work since it jointly studies corporate governance, EO, and performance of cooperatives. Moreover, regarding HRM practices, this conclusion also lends support to research that relates HRM practices and EO (Zehir et al. 2016).

Finally, the two conclusions of this research support the existence of what is called the *cooperative advantage* (Spear 2000, Birchall 2013), which refers to those characteristics of cooperatives which affect local economic development. If CPs positively affect cooperative performance (directly and indirectly via EO), then the consideration of cooperatives in an aggregated manner within a specific region must therefore contribute towards the economic development of that region via employment generation, taxes, and the ripple effect (Vieta and Lionais 2015). Furthermore, on fulfilling their CPs, cooperatives will also promote local economic development through the improvement of their employees' quality of life and through the creation of higher levels of social cohesion, a sense of belonging, and social welfare (Novkovic 2008). The traditional dilemma for cooperatives on choosing between financial results and social welfare of the members (Davis 2006) would therefore disappear.

In this context, the conclusions of this research are in line with those obtained by Schneiberg (2013), who concluded that, despite the good results and advantages of cooperative companies, the lack of knowledge regarding these types of firms and the dominance of

conventional companies generate doubts about their possibilities as a successful business model (Díaz-Foncea and Marcuello 2015). Therefore, this paper contributes towards shedding light on the *black box* of cooperative companies and towards clarifying and quantifying their processes and outcomes.

Regarding the practical implications of these findings, we should first state that these provide an incentive for the cooperative members to put all the CPs into practice. On including these CPs, the members would not only increase their well-being, but also their company's performance and growth (Deng and Hendrikse 2018). Similarly, they would also promote their EO, thereby becoming more competitive, which is crucial in a globalised economy (Bretos et al. 2018). Secondly, the application of CPs would involve an improvement in the quality of the management tasks, thereby increasing the competitive capabilities of these firms and, consequently, assuring their survival (Meek and Woodworth 1990; Barney 1991; Hansmann 1996). Thirdly, practical implications also affect conventional companies. Given the relationship of the CPs with certain HRM practices, directors of conventional companies are also motivated to incorporate such initiatives into their firms in order to reach their corporate goals.. Finally, according to the findings, cooperatives could represent an inspiring tool for policy-makers, since they play the double role of wealth generator and economic development agent.

However, although the results support cooperative entrepreneurship, it would be recommended that the conclusions be approached with caution. In fact, we cannot ignore the great number of previous contributions that question cooperatives as an efficient and viable business model (Alchian and Demsetz 1972; Jensen and Meckling 1979). Furthermore, this research is not exempt of limitations since it is focused on cooperatives from the Basque Country (Spain), whose region is an international reference for the cooperative movement and is characterised by being the region with the highest income per capita in Spain. Consequently, researchers must be careful when extrapolating these results to include alternative scenarios. In addition to this, the static perspective of the research must be borne in mind, since it fails to allow the evolution of the

variables under analysis to be studied, and also the determination of whether the relations between these variables are maintained over time. Notwithstanding, these limitations will be overcome in future research.

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Table 1. Main characteristics of WCs and CFs in the Basque Country (2013).

		WCs		CFs	
		Absolute terms	Relative terms	Absolute terms	Relative terms
Size[1]	Micro (1-9 employees)	428	77%	44.532	82%
	Small (10 a 49)	93	17%	8.265	15%
	Medium(50-249)	30	5%	1.251	2%
	Large (250 or more)	5	1%	326	1%
	Total	556	100%	54.374	100%
Activity Sector[2]	Industry	335	49%	17.944	33%
	Services	354	51%	36.430	67%
	Total	689	100%	54.374	100%
Performance[3]	Employment growth (2008-2013)	0,40%		-11,83%	
	Sales Growth (2008-2013)	-15%		-4,48%	
	Apparent Labour Productivity (in thousand euros)	49,9		47,36	

[1] Definition by the European Union Commission according to the number of employees. [2] The total of WCs do not coincide with the size because the information in this case is provided by official institutions through quotation centers. [3]Data on this variable refers to the set of cooperatives and the whole of the enterprises due to the lack of available data.

Sources: Official data provided by MEYSS, Eustat, Basque Observatory of Social Economy and SABI

Table 2. Distribution by size and by sector of the sample units

		Number of cooperatives	% of cooperatives
Size[1]	Micro (1-9 employees)	113	72.90%
	Small (10-49)	31	20%
	Medium (50-249)	9	5.80%
	Large (250 or more)	2	1.30%
	TOTAL	155	100%
Activity sector	Industry	75	48.39%
	Services	80	51.61%
	TOTAL	155	100%

[1] Definition by the European Union Commission according to the number of employees

Table 3. Descriptive indicators

		Mean	Standard Deviation	Median	Minimum	Maximum
Performance	Sales growth	-13.253	46.218	-16	-90	300
	Employee growth	0.793	83.324	0	-90	900
CPs	Democracy	4.882	0.526	5	1	5
	Economic Participation	0.601	0.918	0	0	5
	Education	0.78	0.41	1	0	1
	Cooperation	0.25	0.44	0	0	1
	Concern for community	1.78	2.24	0	0	5
EO	Innovativeness	1.951	1.888	3	0	5
	Proactiveness	2.161	0.908	2	0	3
	Risk-taking	3.221	1.509	4	1	5
Control variables	Size	1.267	0.563	1	1	4
	Activity sector	0.58	0.494	1	0	1

Table 4. Global Model Fit

	Value	HI95	HI99
SMR	0.062	0.062	0.069
dULS	0.297	0.299	0.367
dG	0.097	0.099	0.116

Notes: SRMR: standardised root mean squared residual; dULS: unweighted least squares discrepancy; dG: geodesic discrepancy; HI95: bootstrap-based 95% percentile; HI99: bootstrap-based 99% percentile.

Table 5. Measurement Model

Construct/dimension/indicator	Weight	VIF	Loading	CR	AVE
Cooperative Principles (Composite Mode B)				n.a.	n.a.
Democratic Member Control	0.064	1.007	0.021		
Economic Participation	-0.083	1.361	0.271		
Cooperation	0.750*	1.042	0.833		
Education	0.231	1.050	0.416		
Concern for community	0.513*	1.369	0.586		
EO (Composite Mode A)				0.774	0.534
Innovativeness	0.423*		0.698		
Proactiveness	0.550*		0.809		
Risk-taking	0.381*		0.678		
Performance (Composite, Mode A)				0.924	0.859
Employee growth	0.477*		0.910		
Sales growth	0.600*		0.944		

Notes: CR: Composite reliability. AVE: Average variance extracted. n.a.: Not applicable. *: significant at $p < 0.05$ (2 tails).

Table 6. Discriminant Validity.

	Size	Industry	EO	Performance	Co-operative Principles
Size	**1.000**				
Activity Sector	-0.116	**1.000**			
EO	0.301	-0.179	**0.731**		
Performance	0.019	-0.257	0.243	**0.927**	
Cooperative Principles	0.204	-0.351	0.328	0.325	**n.a.**

Note: Diagonal elements (bold) are the square root of the variance shared between the constructs and their measures (AVE). Off-diagonal elements are the correlations between constructs. For discriminant validity, diagonal elements should be larger than off-diagonal elements. n.a.: Not applicable.

Table 7. STRUCTURAL MODEL

	Direct Effect	Indirect Effect	p-value	t-value	CI	SD	Support
Performance $(R^2 = 0,155)$							
H1: CP $\rightarrow$ PERF	0.235*		0.016	2.143	(0.060; 0.412) Sig.	2.143	Yes
EO $\rightarrow$ PERF	0.168**		0.006	2.534	(0.063; 0.278) Sig.	0.066	
H2: CP $\rightarrow$ EO $\rightarrow$ PERF		0.055*	0.021	2.034	(0.018; 0.105) Sig.	0.027	Yes
Control variables							
Size	-0.098		0.065	1.517	(-0.198; 0.015) No sig.	0.065	
Activity Sector	-0.156**		0.005	2.560	(-0.254; -0.056) Sig.	0.061	
EO $(R^2 = 0.108)$							
CP $\rightarrow$ EO	0.328***		0.000	4.207	(0.234;0.480) Sig.	0.078	

Notes: CI: Percentile confidence interval. Bootstrapping based on n = 5000 subsamples. Hypothesised effects are assessed applying a one-tailed test for a Student t-distribution (CI 95%). t values: *p < 0.05; **p < 0.01; ***p < 0.001.